

## Term Information

Effective Term Autumn 2022  
*Previous Value* Spring 2017

## Course Change Information

### What change is being proposed? (If more than one, what changes are being proposed?)

Alignment of syllabus to reflect the goals for the new GE

Updating the course ELO in curriculum system

Adding remote campuses to offering

Remove prereq reference to quarter system class

Aligned topic list to syllabus wording

### What is the rationale for the proposed change(s)?

Need to align to new Natural Science GE

### What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

none

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

## General Information

Course Bulletin Listing/Subject Area Entomology  
Fiscal Unit/Academic Org Entomology - D1130  
College/Academic Group Food, Agric & Environ Science  
Level/Career Undergraduate  
Course Number/Catalog 2101  
Course Title Insects and Human Affairs: Pests, Plagues, Poisons and Politics  
Transcript Abbreviation PestsPlagues  
Course Description Insects are a daily fact of life, exerting major influence on human affairs over the course of history. The course analyses the extensive and sometimes uncomfortable relationships between insects and humans, including historical roots of insect/human interactions, impact of insects on development of scientific thought, use of insects as experimental models in drug design and military applications.  
Semester Credit Hours/Units Fixed: 3

## Offering Information

Length Of Course 14 Week, 12 Week, 8 Week, 7 Week, 6 Week  
Flexibly Scheduled Course Never  
Does any section of this course have a distance education component? Yes  
Is any section of the course offered 100% at a distance  
Less than 50% at a distance  
Grading Basis Letter Grade  
Repeatable No  
Course Components Lecture

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Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark, Wooster
<i>Previous Value</i>	<i>Columbus</i>

## Prerequisites and Exclusions

Prerequisites/Corequisites	
Exclusions	
<i>Previous Value</i>	Not open to students with credit for 102.
Electronically Enforced	No

## Cross-Listings

Cross-Listings

## Subject/CIP Code

Subject/CIP Code	26.0702
Subsidy Level	General Studies Course
Intended Rank	Freshman, Sophomore, Junior, Senior

## Requirement/Elective Designation

General Education course:  
Biological Science; Natural Sciences

*Previous Value*

*General Education course:*  
*Biological Science*

## Course Details

### **Course goals or learning objectives/outcomes**

- Explain how insects differ from other arthropod and invertebrate taxa
- Compare and contrast human and insect respiratory, endocrine, digestive, circulatory and reproductive systems
- Interpret insect behaviors within their biological contexts
- Distinguish between scientific, religious, political and popular beliefs
- Integrate biological information and historical perspectives to evaluate the accuracy of insect representations in art, literature and religious texts
- Articulate the positive and negative impacts that insects have had on human and veterinary medicine and well-being
- Predict the best methods for managing insect pests in different historical
- Examine the role that insects have played in the fields of evolutionary biology, molecular genetics, human medicine, and military operations
- Discuss roles played by insects in food webs and as biological control agents

**Previous Value**

- *Goals: Students understand the principles, theories, and methods of modern science, the relationship between science and technology, the implications of sci. to address problems of the*
- *Learning Outcome 1: Students understand the basic facts, principles, theories and methods of modern science.*
- *Learning Outcome 2: Students understand key events in the development of science and recognize that science is an evolving body of knowledge.*
- *Learning Outcome 3: Students describe the inter-dependence of scientific and technological events.*
- *Learning Objective 4: Students recognize the social and philosophical implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world.*

**Content Topic List**

- Insects in myths and literature---the use of insects to explain biological phenomena is explored using the species-scape concept.
- Sound production in insects--students learn about the anatomy and morphology of sound producing organs in insects. The use of insects as inspiration for human music is discussed.
- Insect blood feeding--students learn about the evolution, anatomy, physiology and morphology of insect-borne disease transmission.
- Fear of insects---the evolutionary roots of fear of insects is explored as well as specific psychological conditions, e.g., delusionary psychosis and insects in dreams.
- The Black Death--students study the complex interplay between fleas, rats and the plague bacterium that resulted in one of the most devastating pandemics in human history. The effects on society, medicine and religion are recounted.
- Bugs in Warfare--the importance of insect-borne disease in determining the outcome of armed conflict is studied using Napoleonic campaigns in Egypt, Haiti and Russia as examples.
- DDT- the discovery and history of this pesticide use
- Bugs as food- Role of insects in feeding humans around the globe is considered as well as technological and psychological impediments to using of insects as a human food source, especially in western cultures.
- Insect Functioning- Students will learn about physiological processes of insect growth and sense and relate it to human systems.
- Bugs as drugs---the potential for insect-based products to serve as therapeutics for human disease is explored;the use of insects in medicine is detailed from Pliny's Doctrine of Signatures to the use of maggots to debride wounds in modern hospitals
- Bugs in research- Insects and the modern synthesis--T.H.Morgan's work on mutation in Drosophila and its importance to the establishment of the modern synthesis is covered.
- Pollination--- Students learn how pollination works and about the ecological and pathological threats to pollinators.
- Silk and germ theory- The biology of silk production is covered as well as a taxonomic look at which organisms make it; and silk moth is used to explain the role of insects in elucidating the germ theory of disease
- Insect morphology- Students will learn basic anatomical features of insects and relate it to human structures, including internal anatomy.

**Previous Value**

- *Insects in divine texts, myths and fables---the use of insects to explain biological phenomena is explored using the species-scape concept.*
- *Sound production in insects--students learn about the anatomy and morphology of sound producing organs in insects. The use of insects as inspiration for human music is discussed.*
- *Biology of Insect-vectored disease--students learn about the anatomy, physiology and morphology of insect-borne disease transmission.*
- *Fear of insects---the evolutionary roots of fear of insects is explored as well as specific psychological conditions, e.g., delusory psychosis and insects in dreams.*
- *The Black Death--students study the complex interplay between fleas, rats and the plague bacterium that resulted in one of the most devastating pandemics in human history. The effects on society, medicine and religion are recounted.*
- *Insects at war--the importance of insect-borne disease in determining the outcome of armed conflict is studied using Napoleonic campaigns in Egypt, Haiti and Russia as examples.*
- *The Rise of the Pesticide Industry following successful deployment of DDT in WWII is studied. Technological impediments to synthesizing insecticides on a massive scale are studied. The ecological impacts of insecticides are covered.*
- *Insects as biological weapons of war is covered from biblical times to the advent of the federal agency known as DARPA. Effectiveness of insect-based biological weapons and technological constraints are detailed.*
- *The potential for using insect secondary chemicals for a variety of purposes ranging from warfare to therapeutic drugs is explored. Technological impediments are highlighted.*
- *Role of insects in feeding humans around the globe is considered as well as technological and psychological impediments to using of insects as a human food source, especially in western cultures.*
- *Comparison of insect and human nutrition---anatomy and morphology of insect and human digestive system is studied with emphasis on energy and metabolic requirements of each organism.*
- *Insects in medicine--the use of insects in medicine is detailed from Pliny's Doctrine of Signatures to the use of maggots to debride wounds in modern hospitals.*
- *Bugs as drugs---the potential for insect-based products to serve as therapeutics for human disease is explored.*
- *How insects changed science--the role of insects in elucidating the germ theory of disease is discussed as well as how the nature of science was changed by this discovery.*
- *Insects and the modern synthesis--T.H.Morgan's work on mutation in Drosophila and its importance to the establishment of the modern synthesis is covered.*
- *Pollination services---The economic value of insects is largely unsung and unnoticed. But, the contributions of pollinators is significant. Students learn how pollination works and about the ecological and pathological threats to pollinators.*
- *Silk production is another way in which insects/arthropods benefit the economy. The biology and chemistry of silk production is covered as well as a taxonomic look at which organisms make it.*

**Sought Concurrence**

No

**Attachments**

- Pages from ge-foundations-submission.pdf: GE Nat Science Submission Form  
*(Other Supporting Documentation. Owner: Klinger, Ellen G)*
- ENTMLGY 2101 Syllabus AU22v.3.docx: Revised Syllabus  
*(Syllabus. Owner: Klinger, Ellen G)*
- Response ASC ENTMLGY 2101 2102.docx: Response to ASCCAO  
*(Other Supporting Documentation. Owner: Osborne, Jeanne Marie)*

**Comments**

- Revised syllabus per ASC recommendation regarding CFAES counselor *(by Klinger, Ellen G on 03/25/2022 11:46 AM)*
- See feedback email sent 3/23/22 RLS *(by Steele, Rachel Lea on 03/23/2022 11:07 AM)*
- Please re-check off existing (legacy) GE Natural Science so that students in the legacy GE can still take this to fulfill their Natural Science Biological Science requirement *(by Vankeerbergen, Bernadette Chantal on 03/01/2022 12:20 PM)*
- This is an existing Natural Sciences GE Course. The only changes to the course are to update to fulfill the new GE Learning Goals and Outcomes and clarification on wording of the content topics in curriculum.osu to align with the syllabus. This course is grandfathered into the new GE; and combined with ENTMLGY 2102 that is submitted as a new course request, will be a 3+1 credit hour Natural Sciences GE. Both courses must be taken to satisfy the Natural Sciences GE requirement.

Revise as per COAA via email message 21 February 2022

Revise as per email message 15 February 2022 *(by Osborne, Jeanne Marie on 02/24/2022 12:44 PM)*

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Klinger, Ellen G	02/13/2022 04:22 PM	Submitted for Approval
Approved	Strange, James P	02/14/2022 08:45 AM	Unit Approval
Revision Requested	Osborne, Jeanne Marie	02/15/2022 11:39 AM	College Approval
Submitted	Klinger, Ellen G	02/16/2022 03:12 PM	Submitted for Approval
Approved	Welty, Celeste	02/17/2022 04:16 PM	Unit Approval
Revision Requested	Osborne, Jeanne Marie	02/21/2022 03:03 PM	College Approval
Submitted	Klinger, Ellen G	02/22/2022 02:02 PM	Submitted for Approval
Approved	Strange, James P	02/24/2022 12:33 PM	Unit Approval
Approved	Osborne, Jeanne Marie	02/24/2022 12:44 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	03/01/2022 12:21 PM	ASCCAO Approval
Submitted	Klinger, Ellen G	03/01/2022 02:53 PM	Submitted for Approval
Approved	Klinger, Ellen G	03/01/2022 02:54 PM	Unit Approval
Approved	Osborne, Jeanne Marie	03/01/2022 03:39 PM	College Approval
Revision Requested	Steele, Rachel Lea	03/23/2022 11:07 AM	ASCCAO Approval
Submitted	Klinger, Ellen G	03/25/2022 11:46 AM	Submitted for Approval
Approved	Strange, James P	03/25/2022 12:06 PM	Unit Approval
Approved	Osborne, Jeanne Marie	03/25/2022 02:59 PM	College Approval
Pending Approval	Cody, Emily Kathryn Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Hilty, Michael Vankeerbergen, Bernadette Chantal Steele, Rachel Lea	03/25/2022 02:59 PM	ASCCAO Approval



March 25, 2022

College of Arts and Sciences  
Natural and Mathematical Sciences Panel  
ASC Curriculum Committee  
Columbus, OH 43210

To the panel:

Thank you very much for your review and vote regarding changes to ENTMLGY 2101 and approval of ENTMLGY 2102 courses designed to fulfill the GE requirements for Natural Science starting in the 2022-23 Academic Year. I appreciate your recommendations and feedback. I have altered the course in response to your contingencies, recommendations, and comments. Here is a detailed list of changes:

Contingency regarding use of live insects in university housing: I agree and understand the concern with this issue and apologize for not considering it before submission. The instructor will offer recorded material for students to opt into for the following activities: pollinator observation, diapause observation, insect behavior experiment, fruit fly trap design and insect light trapping. While asynchronous recorded material will always be available each semester, the instructor will also attempt to host live sessions of the light trapping, diapause observation and insect behavior experiment as student interest and instructor time supports. In addition, if supported by resources and space availability, the instructor will provide a repository of insects for students to perform the insect behavior experiment in a department lab space that is open during business hours, if they wish to do so. The offering of recorded material is noted in the syllabus for ENTMLGY 2102 under the "How the Course Works section" as well as in the course schedule and the description of laboratory activities supporting document. In addition, for clarity, I have added a statement about prohibited activities for students in university housing and will make sure directions are clear in each Carmen assignment.

Recommendation regarding CFAES counselor: For the ENTMLGY 2101 and 2102 syllabi, I have added a precursor to the CFAES counselor availability to indicate that this resource is available only for those students in CFAES.

Recommendation regarding availability of insect purchase AND recommendation regarding seasonality for non-Ohio students: The abovementioned changes including asynchronous recorded resources to address the contingency above provide solutions for each of these recommendations.



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Please let me know if there are questions or additional information or documentation is required to accompany this submission. We look forward to hearing from the committee regarding next steps in the approval process.

Sincerely,

Ellen G. Klinger  
Assistant Professor of Professional Practice, Entomology  
[Klinger.80@osu.edu](mailto:Klinger.80@osu.edu)



# SYLLABUS

# ENTMLGY 2101

Insects and Human Affairs: Pests, Plagues, Poisons and Politics  
Autumn 2022

## Course Information

- **Course times and location:** Asynchronous and online
- **Credit hours:** 3
- **Mode of delivery:** Distance Learning

## Instructor

- **Name:** Dr. Ellen Klinger
- **Email:** [klinger.80@osu.edu](mailto:klinger.80@osu.edu)
- **Phone Number:** 614-247-4763 (office)
- **Office location:** 255 Kottman Hall
- **Office hours:** TBA
- **Preferred means of communication:**
  - My preferred method of communication for questions is **email**.
  - My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your [notification preferences](https://go.osu.edu/canvas-notifications) (go.osu.edu/canvas-notifications) to be sure you receive these messages. For announcements that are time sensitive or critical, I may also use e-mail as an additional notification route.

## Course Prerequisites

None





## Course Description

Insects are a daily fact of life, exerting major influence on human affairs over the course of history. The course analyzes the extensive and sometimes uncomfortable relationships between insects and humans, including historical roots of insect/human interactions, impact of insects on development of scientific thought, use of insects as experimental models in drug design and military applications.

## General Education Goals and Expected Learning Outcomes (ELO)

This course fulfills the General Education (GE) rationale for the GE Foundations: Natural Sciences category. ENTMLGY 2101 fulfills Natural Sciences Goals 1 and 2 and Expected Learning Outcome 1.1, 1.2, 2.1, 2.2 and 2.3.

When this 3-credit ENTMLGY 2101 lecture is taken in combination with the 1-credit ENTMLGY 2102 laboratory, together these 4-credits (i.e., 3-credit lecture + 1-credit laboratory) fulfill ALL Goals (i.e., Goals 1 and 2) and ALL Expected Learning Outcomes (i.e., ELOs 1.1, 1.2, 1.3, 2.1, 2.2, 2.3) for the Foundations, Natural Science GE category.

**GE Goal 1:** Successful students will engage in theoretical and empirical study within the natural sciences, gaining an appreciation of the modern principles, theories, methods, and modes of inquiry used generally across the natural sciences.

Expected Learning Outcome 1.1: Successful students are able to explain basic facts, principles, theories and methods of modern natural sciences; describe and analyze the process of scientific inquiry.

Expected Learning Outcome 1.2: Successful students are able to identify how key events in the development of science contribute to the ongoing and changing nature of scientific knowledge and methods.

Expected Learning Outcome 1.3: Successful students are able to employ the processes of science through exploration, discovery, and collaboration to interact directly with the natural world when feasible, using appropriate tools, models, and analysis of data.

**GE goal 2:** Successful students will discern the relationship between the theoretical and applied sciences, while appreciating the implications of scientific discoveries and the potential impacts of science and technology.

Expected Learning Outcome 2.1: Successful students are able to analyze the interdependence and potential impacts of scientific and technological developments

Expected Learning Outcome 2.2: Successful students are able to evaluate social and ethical implications of natural scientific discoveries

Expected Learning Outcome 2.3: Successful students are able to critically evaluate and responsibly use information from the natural sciences



This course fulfills goals 1 and 2, and learning outcomes associated with the goals of the foundations of the Natural Science GE through a variety of activities such as:

Lectures, readings and outside source material to allow students to receive new information in a variety of modalities.

Exploratory exercises investigating concepts in taxonomy and DNA, using insect biology to interpret art, issues of misinformation in insect related diseases and how insects provide medicinal compounds.

Student discussions focusing on the similarities and differences of insect and human anatomy, annotations to Kafka's *Metamorphosis*, designing and critiquing experimental design, and reflecting on pollinator health and their impact to humans.

Questions on exams designed to assess student progress on learning objectives.

Other student generated content in this course (reading assignments, reflection questions, weekly quiz questions) are designed to inform the instructor during the semester on student progress towards the learning outcomes.

Any optional bonus material will supplement student understanding, but is not designed to fulfill learning objectives.

## Course Specific Learning Outcomes

By the end of this course, students should successfully be able to (with reference to the related general education learning objectives (ELO) above):

- Explain how insects differ from other arthropod and invertebrate taxa (ELO 1.1).
- Compare and contrast human and insect respiratory, endocrine, digestive, circulatory and reproductive systems (ELO 1.1).
- Interpret insect behaviors within their biological contexts (ELO 1.1).
- Distinguish between scientific, religious, political and popular beliefs (ELO 2.3).
- Integrate biological information and historical perspectives to evaluate the accuracy of insect representations in art, literature and religious texts (ELO 2.3).
- Articulate the positive and negative impacts that insects have had on human and veterinary medicine and well-being (ELO 2.2).
- Predict the best methods for managing insect pests in different historical contexts (ELO 1.2).
- Examine the role that insects have played in the fields of evolutionary biology, molecular genetics, human medicine, and military operations (ELO 1.1, 2.1).
- Discuss roles played by insects in food webs and as biological control agents (ELO 2.1)

## How this course works

**Mode of delivery:** This course is 100% online. There are no required sessions when you must



be logged in to Carmen at a scheduled time.

**Pace of online activities:** This course is divided into **weekly modules** that are released one week ahead of time. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame. Each module contains a mixture of ways to interact with the subject information. These modules will generally include separate sections that contain:

- Weekly overview of expected work
- Recorded lecture(s)
- Reading Assignment(s)
- Link(s) to access and engage with an outside source
- Link to a bi-weekly discussion or other collaborative assignment
- Weekly Quiz
- Reflection Question

**Credit hours and work expectations:** This is a [3] credit-hour course. According to [Ohio State bylaws on instruction](http://go.osu.edu/credithours) (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, studying for tests, discussions with classmates for example) to receive a grade of [C] average.

**Attendance and participation requirements:** Research shows regular participation is one of the highest predictors of success. With that in mind, I have the following expectations for everyone's 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*.

**Zoom meetings and office hours: optional**

All live, scheduled events for the course, including my office hours, are optional.

**Participating in discussion forums: two or more times per week**

As part of your participation, approximately every three weeks you can expect to post at least three times as part of our substantive class discussion on the week's topics. This discussion may take place via Carmen discussion or an alternate collaborative way as indicated by your instructor. Most discussions will have two due dates, one for a first post and one for any follow up replies.

## Course Materials, Fees and Technologies

### Required Materials and/or Technologies

“**Insects in Human Affairs**” written by Drs. Susan Fisher, Wendy Klooster and Megan Meuti. This book is available in an interactive format and is provided to you FOR FREE on the Carmen course website. This book will be provided as a PDF and most



chapters will be available via online text as well.

*Note about the online text: The textbook includes questions for you to answer to check your understanding of the material presented (usually at the end of each section). These questions are NOT graded. The “points” or stars you earn by answering the questions are just acknowledgement that you answered correctly.*

All other reading assignments will be posted to the Carmen course website

## 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.

If you do not have access to the technology you need to succeed in this class, review options for [technology and internet access](https://go.osu.edu/student-tech-access) (go.osu.edu/student-tech-access).

## Required Software

**Microsoft Office 365:** All Ohio State students are now eligible for free Microsoft Office 365. Visit the [installing Office 365](https://go.osu.edu/office365help) (go.osu.edu/office365help) help article for full instructions.

## CarmenCanvas Access

You will need to use [BuckeyePass](https://buckeyepass.osu.edu) (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 do each of the following:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](https://go.osu.edu/add-device) (go.osu.edu/add-device) help article for step-by-step instructions.
- 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.
- [Install the Duo Mobile application](https://go.osu.edu/install-duo) (go.osu.edu/install-duo) on 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 \(HELP\)](tel:614-688-4357) and IT support staff will work out a solution with you.

## Technology Skills Needed for This Course

- Basic computer and web-browsing skills



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

## Technology Support

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

- **Self Service and Chat:** [go.osu.edu/it](https://go.osu.edu/it)
- **Phone:** [614-688-4357 \(HELP\)](tel:614-688-4357)
- **Email:** [servicedesk@osu.edu](mailto:servicedesk@osu.edu)

## Grading and Faculty Response

### How Your Grade is Calculated

Assignment Category	Points	Percent of grade
Class Intro Materials (Syllabus Quiz; Discussion Rules Agreement)	10	2%
Weekly Quizzes (12, drop lowest 2, 10 points each)	100	20%
Discussion Participation (20 points each)	80	16%
Exploratory Exercises (20 points each)	80	16%
Reading Worksheets (10 points each)	40	8%
Reflection questions (1 point each)	10	2%
Midterm	80	16%
Final Exam	100	20%
<b>Total points</b>	<b>500</b>	<b>100%</b>

See Carmen and course schedule for specific due dates. Weekly work (Quizzes, Exploratory



Assignments, Discussion Posts) will be due **Mondays by 11:59PM**. Discussions will have an **additional deadline of Fridays, 11:59PM** to post your first post in the discussion or collaborative document.

## Descriptions of Major Course Assignments

### Class Intro Materials

**Description:** Each student will be required to take a short quiz on both the syllabus material, and participate in establishing the parameters for group discussions. By completing these quizzes and assignments, students will indicate that they understand and agree to abide by these two documents.

**Academic integrity and collaboration:** These quizzes are open-book and untimed. Students should work on their own for the syllabus quiz but may collaborate on discussion parameters.

### Weekly Quizzes:

**Description:** Each week, students will be assigned a quiz via Carmen. These weekly quizzes will evaluate student understanding of the lecture material, the reading assignments, and the utilization of outside sources.

**Academic integrity and collaboration:** These quizzes are open book and open note. However, they will be timed, and this time limit will require that students prepare in advance to take the quiz. Students must not work with other students when taking the quiz. The two lowest quiz grades will be dropped.

### Discussion Participation

**Description:** Students will be placed into small discussion groups. Four times during the semester you will be given a prompt by the instructor and expected to interact meaningfully with other students in your group, either through Carmen discussion group or an alternate method as specified by your instructor. Guidelines for meaningful interaction will be given.

**Academic integrity and collaboration:** When participating in a discussion, students should abide by the parameters established. Students are allowed to discuss topics with others; however, students should post only original ideas. Students must not post material copied from other sources. If students are expressing ideas gathered from additional sources, they should accurately cite this work.

### Exploratory Exercises

**Description:** Students will engage with class material by completing small projects relevant to the course material. This material will be assigned four times during the semester and can include more creative and in-depth expressions of student learning.

**Academic integrity and collaboration:** Students may discuss these assignments with others, including other students in the class. Students must submit their own work.



## Reading Worksheets

**Description:** As part of modules, students will be expected to complete a reading assignment from the text. **The material in this reading assignment will not be delivered in an alternate way (in lectures, etc.) and will be tested in weekly quizzes and class exams.**

To emphasize the importance of good note taking for this material, students will be given a partial note outline sheet for each of the reading assignments. Students will submit a copy of these notes at the end of each unit. The notes will be graded only on completeness and effort and the instructors will use this opportunity to correct student errors before exams.

**Academic integrity and collaboration:** Students may work together in filling out and devising notes. However, all work should be each student's own.

## Reflection Questions

**Description:** Your instructor will ask brief, 1-point questions of you through an assigned Carmen quiz. Students gain full points for these questions simply by answering, there is no right or wrong answer. These questions will be assigned only for 10 of the 14 weeks. Full credit will be given if a student answers the question, regardless of the response.

**Academic integrity and collaboration:** These questions are meant to assess student opinions and perceptions, and to allow your instructor to fine tune delivered material during the semester. You are not prohibited to discuss your answers or the questions with fellow students, but your answer should be your own work.

## Exams (Midterm and Final)

**Description:** Students will be evaluated on their learning at both the midterm and final periods of the class. These exams will include portions of multiple choice and short answer questions, as well as long answer questions designed to illustrate the student's understanding of the concepts. The midterm (given during Week 7) will cover concepts from Weeks 1-6 while the Final Exam will cover concepts from Weeks 8-14, with the exception of one cumulative essay question.

**Academic integrity and collaboration:** These exams are open note and done at home. Multiple choice and short answer portions will be timed and administered via a Carmen Quiz. Long answers will be done at home and untimed. Long answers will be submitted via an additional Carmen Assignment. Hence, each exam will have two submissions, the timed Carmen Quiz (part 1) and the untimed Carmen Assignment (part 2) Students must not work with others.

## Extra Credit

**Discussions:** Students will have the opportunity to participate in two of three additional discussions. Participation requirements in these discussions will be given by the instructor at the beginning of class via Carmen module page. Student can earn up to 10 extra points for participating in each extra credit discussion, with a maximum of 20 extra credit points total. These discussions are indicated on the course schedule.

## Late Assignments

Please refer to Carmen for specific due dates for each assignment. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments. Late assignments may be subject to a 10% reduction of points per 24-hour period. Quizzes and exams cannot be taken after the instructor releases the answers to the students. If you are unable to turn in an assignment due to an excused absence, please alert the instructor via email as soon as possible and the instructor will discuss a modified due date with you when you submit your excused absence reason.

## 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 \(HELP\)](tel:614-688-4357) at any time if you have a technical problem.

- **Preferred contact method:** If you have a question, please contact me first through my Ohio State email address. I will reply to emails within **24 hours on days when class is in session at the university**.
- **Class announcements:** I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check [your notification preferences](http://go.osu.edu/canvas-notifications) (go.osu.edu/canvas-notifications) to ensure you receive these messages. I may also send important announcements directly to your email if needed.
- **Discussion board:** I will check and reply to messages in the discussion boards once at the end of the week and once at the beginning of the week that the discussion is due.
- **Grading and feedback:** For assignments submitted before the due date, I will try to provide feedback and grades within **seven days**. Assignments submitted after the due date may have reduced feedback and grades may take longer to be posted.

## 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





# Other Course Policies

## Discussion and Communication Guidelines

Each discussion group will set the parameters by which they agree to communicate. However, these are my general expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Excessive spelling and grammar errors may result in a reduction in your discussion grades. A more conversational tone is fine for non-academic topics.
- **Tone and civility:** This class may discuss sensitive topics. 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. I will provide specific guidance for discussions on controversial or personal topics. Abide by your agree upon group discussion rules.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

## Academic integrity policy

See descriptions of course assignments for integrity expectations for specific assignments. Consult your instructor if you have a question about expectations.

## 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](http://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](http://go.osu.edu/coam))
- *Ten Suggestions for Preserving Academic Integrity* ([go.osu.edu/ten-suggestions](http://go.osu.edu/ten-suggestions))
- *Eight Cardinal Rules of Academic Integrity* ([go.osu.edu/cardinal-rules](http://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>). 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](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>
- <http://mcc.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 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. 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 Counseling and Consultation Services (CCS) by visiting [ccs.osu.edu](http://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 through the 24/7 National Suicide Prevention Hotline at 1-(800)-273-TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)

For students in CFAES, David Wirt, [wirt.9@osu.edu](mailto: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](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12th Avenue.

### 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](http://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

(see below)



<b>Week/ Module</b>	<b>Week starting with</b>	<b><u>Online Lecture (OL) Activities</u></b>	<b><u>Reading activities (RA)</u></b>	<b><u>Engaging with outside sources activities (OS)</u></b>	<b><u>Discussions (D) /Exploratory Exercises (EE)</u></b>	<b>Relevant chapters</b>	<b>Due date for assignments and online quizzes</b>
<b>Part 1:</b>	<b>General Entomology</b>						
<b>1</b>	8/23/22	OL1: Taxonomy of the Arthropods	RA1A: Decode Insect Orders (Ch.1)	OS1: BLAST and comparing DNA sequences	EE1: Create phylogenetic trees	Ch. 1	8/29/22; 11:59PM
<b>2</b>	8/29/22	OL2: Insect Morphology <i>Circulation Digestion Excretory</i>	RA1B: Respiration (Ch.2)	OS2: Insect dissection video	D1: Turning a human into an insect.	Ch. 2, 3	9/5/22 (Tue); 11:59PM
<b>3</b>	9/5/22	OL3: Insect Functioning <i>Metabolism Molting Senses</i>	RA1C: Insect sensory perception (Ch.5)	OS3: Scientific literature and the discovery of JH. <i>Salma and Williams paper</i>	<b>Bonus Discussion: Mutant insects</b>	Ch. 4, 5	9/12/22; 11:59PM
<b>Part 2:</b>	<b>Insects and Aesthetics</b>						
<b>4</b>	9/12/22	OL4: Insect sex/Insects in music	RA2A: Types of sounds insects make (Ch. 9)	OS4: Listen to insect sounds online	EE2: Interpreting art with insect biology	Ch. 6,9,10	9/19/22; 11:59PM
<b>5</b>	9/19/22	OL5: Insects in Myths and Literature	RA2B: Insects in Greek Mythology (Ch.7)	OS5: Native American Dances Influenced by Insects	D2: Group annotation of The Metamorphosis	Ch.7	9/26/22; 11:59PM
<b>6</b>	9/26/22	OL6: Insects in religion	RA2C: Natural Theology (Ch.8)	OS6: Jainism	None	Ch. 8	10/3/22; 11:59PM
<b>7</b>	10/3/22	Midterm week	None	None	None	None	<b>Midterm due 10/10/22; 11:59PM</b>
<b>Break</b>	10/10/22	Fall break; no assignments this week.					

Week/ Module	Week starting with	Online Lecture (OL) Activities	Reading activities (RA)	Engaging with outside sources activities (OS)	Discussions (D) /Exploratory Exercises (EE)	Relevant chapters	Due date for assignments and online quizzes
<b>Part 3: Insects as Agents of Historical Change</b>							
<b>8</b>	10/17/22	OL8: Fear of insects and blood feeding	RA3A: Delusional Parasitosis (Ch.11)	OA8: Is fear of insects scientifically proven?	<b>Bonus Discussion- Creating the perfect insect vector.</b>	Ch. 11,12	10/24/22; 11:59PM
<b>9</b>	10/24/22	OL9: Black Death	RA3B: Effects of Plague on Art and Literature (Ch.16)	OS9: Pre vs. post plague art	EE3- Insect plagues	Ch 15, 16, 17	10/31/22; 11:59PM
<b>10</b>	10/31/22	OL10: Malaria, Columbus, and DDT	RA3C: DDT (Ch.19)	None	None	Ch.13, 14, 19	11/7/22; 11:59PM
<b>11</b>	11/7/22	OL11: Silk and Germ theory; Insect toxins	RA3D: Insect toxins (Ch. 21)	OL11: Schmidt pain scales	D3-Scientific method	Ch. 21, 24, 26	11/14/22; 11:59PM
<b>Part 4: Insects Working for Us</b>							
<b>12</b>	11/14/22	OL12: Bugs in warfare; Bugs and Drugs	None	OS 12: Military documents	EE4: Treating patients with insect medicine	Ch. 18, 20, 25	11/21/22 11:59PM
<b>13 (T-giving)</b>	11/21/22	OL13: Bugs in research	RA4A: Punnett Squares (Ch. 25)	None	None	Ch. 22	11/28/22; 11:59PM
<b>14</b>	11/28/22	OL14: Pollination Bugs as food	RA4B: Food insecurity and energy flow (Ch. 23)	None	D4: The pollinators that help make your favorite foods	<b>Ch. 23, 27</b>	12/5/22; 11:59PM

<b>Week/ Module</b>	<b>Week starting with</b>	<b><u>Online Lecture (OL) Activities</u></b>	<b><u>Reading activities (RA)</u></b>	<b><u>Engaging with outside sources activities (OS)</u></b>	<b><u>Discussions (D) /Exploratory Exercises (EE)</u></b>	<b>Relevant chapters</b>	<b>Due date for assignments and online quizzes</b>
<b>15</b>	12/5/22	Time allotted for any exam questions	None	None	<b>Bonus Discussion: TBA</b>		No assignments
<b>Finals week</b>	12/9/22	Final Exam					<b>Final due 12/13/22; 11:59PM</b>



Course Subject & Number: \_\_\_\_\_

**Expected Learning Outcome 2.2: Successful students are able to critically reflect on and share their own experience of observing or engaging in the visual, spatial, literary, or performing arts and design.**

Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

**GE Rationale: Foundations: Natural Science (4 credits)**

Requesting a GE category for a course implies that the course fulfills **all** expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Natural Sciences, please answer the following questions for each ELO.

**A. Foundations**

Please explain in 50-500 words why or how this course is introductory or foundational in the study of Natural Science.

Course Subject & Number: \_\_\_\_\_

## **B. Specific Goals for Natural Sciences**

GOAL 1: Successful students will engage in theoretical and empirical study within the natural sciences, gaining an appreciation of the modern principles, theories, methods, and modes of inquiry used generally across the natural sciences.

**Expected Learning Outcome 1.1: Successful students are able to explain basic facts, principles, theories and methods of modern natural sciences; describe and analyze the process of scientific inquiry.** Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

**Expected Learning Outcome 1.2: Successful students are able to identify how key events in the development of science contribute to the ongoing and changing nature of scientific knowledge and methods.** Please link this ELO to the course goals and topics and indicate specific activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: \_\_\_\_\_

**Expected Learning Outcome 1.3: Successful students are able to employ the processes of science through exploration, discovery, and collaboration to interact directly with the natural world when feasible, using appropriate tools, models, and analysis of data.** Please explain the 1-credit hour equivalent experiential component included in the course: e.g., traditional lab, course-based research experiences, directed observations, or simulations. Please note that students are expected to analyze data and report on outcomes as part of this experiential component. *(50-1000 words)*

Course Subject & Number: \_\_\_\_\_

GOAL 2: Successful students will discern the relationship between the theoretical and applied sciences, while appreciating the implications of scientific discoveries and the potential impacts of science and technology.

**Expected Learning Outcome 2.1: Successful students are able to analyze the inter-dependence and potential impacts of scientific and technological developments.** Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

**Expected Learning Outcome 2.2: Successful students are able to evaluate social and ethical implications of natural scientific discoveries.** Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: \_\_\_\_\_

**Expected Learning Outcome 2.3: Successful students are able to critically evaluate and responsibly use information from the natural sciences.** Please link this ELO to the course goals and topics and indicate *specific* activities/ assignments through which it will be met. (50-700 words)