

**BIO 203 Course Outline**  
**Fall 2021**

<b>Course Number</b>	<b>Course Name</b>	<b>Credits</b>
BIO 203	Entomology	4
<b>Lecture Hours</b>	<b>Lab Hours</b>	<b>Course Duration</b>
3	3	14 weeks

**Required Text**

*How to Know the Insects*; Bland

**Optional Text**

*Entomology and Pest Management*; Pedigo and Rice  
*Field Guide to North American Insects and Spiders*; Audubon Society  
*How to Know the Immature Insects*; Chu and Cutkomp  
*Photographic Atlas of the Entomology Laboratory*; Castner

**Supplemental Materials**

Blackboard  
Zoom

**Course Description**

Comparative anatomy, life cycles, physiology, and economic importance of insects. Includes management, preservation and identification methods.

**Pre-requisites**

BIO 101, BIO 102 or Permission of Course Coordinator

**Learning Outcomes**

The student will be able to:

1. Demonstrate the correct use of a dichotomous key. (Gen-Ed Core Competency B, General Education Goal 3)
2. Properly pin and label insects to be preserved in a collection.
3. Identify insect internal and external structures. (Gen-Ed Core Competency D, General Education Goal 3)
4. Identify common insects by sight and be able to describe management techniques for each insect. (Gen-Ed Core Competency A and D, General Education Goal 3)

5. Understand the theory of integrated pest management, and be able to implement a successful IPM program. (Gen-Ed Core Competency B, C and D, General Education Goal 3)
6. Properly collect and classify various insects. (Gen-Ed Core Competency B, General Education Goal 3)
7. Identify different insect ecological categories. (Gen-Ed Core Competency D, General Education Goal 3)
8. Students will employ the scientific process through the scientific method. (Gen-Ed Core Competency B, General Education Goal 3)

**Course Coordinator**

Professor Amy Ricco

[riccoa@mccc.edu](mailto:riccoa@mccc.edu)

**Grading**

Grades will be based on the following point system:

Midterm Exam	150 points
Final Exam	150 points
Lecture Quizzes	180 points
Assignments	150 points
Insect Collection	250 points
<u>Lab Practical</u>	<u>100 points</u>
Total	980 points

Mercer's Grading System

A	93 – 100
A-	90 – 92
B+	87 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	70 – 76
D	60 – 69
F	0 – 59

**Assessment Activities**

Exams – Exams are based on lecture material, and the final exam is cumulative. The plan is to have these exams in person during our lab time, but if those plans need to change due to COVID-19, we will move them to a remote platform.

Lecture Quizzes – Quizzes will be given during our remote lecture time each week and will cover material from the previous lecture. Each quiz is worth 20 points and the lowest quiz grade will be dropped at the end of the semester.

Lab Practical – One lab practical will be given during the semester. This will require you to identify various insect body parts; use a dichotomous key to identify insects to family; identify insects to order without a dichotomous key; and identify the different tools used throughout the semester to catch, label and preserve insects. The plan is to have this exam in person during lab, but if those plans need to change due to COVID-19, we will move the lab practical to a remote platform.

Assignments – There will be six assignments given during the semester. Specifics will be given about each assignment at a later date. Topics will include:

- Determining Stream Health Based on Specimens Collected
- Insect Anatomy Reinforcement
- Insect Ecological Categories
- Environmental Changes and the Impacts on Pollinators
- An Examination of Trends in Global Insect Populations
- Insect Research Assignment

Attendance – Attendance will be taken in lecture and lab each meeting. Your attendance in both lecture and lab is directly correlated to your success in the course.

Insect Collection – Use the following guidelines to set up your insect collection.

- 15 different Orders of insects within Class Insecta – can be adults or immatures – adult insects should be pinned and immature insects should be preserved in vials of alcohol (10 points/Order = 150 points)
- 25 different Families of insects within Class Insecta – can be adults or immatures – adult insects should be pinned and immature insects should be preserved in vials with alcohol (2 points/Family = 50 points)
- 1 specimen from Class Chilopoda – preserved in a vial with alcohol (5 points)
- 1 specimen from Class Diplopoda – preserved in a vial with alcohol (5 points)
- 1 specimen from Class Arachnida – preserved in a vial with alcohol (5 points)
- 1 specimen from Class Crustacean – preserved in a vial with alcohol (5 points)
- Neatness Counts! – preserve and label all of your specimens correctly. Hand in a typed list of all the specimens found within your collection. This list should be organized by Class, Order and Family with a designation of which insects are pinned and which ones are in the vials. (30 points)

Blackboard – All lectures, assignments, and quizzes will be available for you on Blackboard.

Zoom – All remote meetings will take place via Zoom. A link for these reoccurring meetings will be provided for you via BlackBoard.

Lab Dress Code – You must come prepared to collect insects, and be outside for labs. This includes proper foot wear and proper attire.

Statement of Academic Integrity:

“Any student who a) knowingly represents the work of others as his/her own. B) uses or obtains unauthorized assistance in the execution of any academic work, or c) gives fraudulent assistance to another student is guilty of cheating. Violators will be penalized in accordance with established college policies and procedures.” – If you are caught cheating in this course, you will receive a 0 for the assignment, and you will be turned into the Academic Integrity Committee.

Accessibility

Mercer County Community College recognizes disability as an aspect of diversity. This class has been designed to meet the diverse needs of all learners. Please feel free to schedule an appointment with me to discuss your unique learning needs.

If you feel that you will require academic accommodations, please contact Arlene Stinson [stinsona@mccc.edu](mailto:stinsona@mccc.edu) or visit [https://www.mccc.edu/student\\_services\\_needs.shtml](https://www.mccc.edu/student_services_needs.shtml) for information about obtaining academic accommodations in the remote environment.

Mercer County Community College is in full compliance with both the ADA and section 504 of the Rehabilitation Act.

**Tentative Schedule**

Week 1	Lab: Course Introductions, What to Expect This Semester and COVID Guidelines; Basics of Collecting and Preserving Insects; Start Collecting on Campus Lecture: Introduction to Entomology; Insect Classification; Insect Sampling; Insect Assignments
Week 2	Lab: Insect Collecting at Mercer County Park Lecture: Insect Body Parts and Life Processes (Quiz #1) Chapter 2
Week 3	Lab: Insect Collecting at a Stream Lecture: Insect Body Parts and Life Processes (Quiz #2) Chapter 2

Week 4	Lab: Insect Collecting at a Stream Lecture: Insect Body Parts and Life Processes (Quiz #3) Chapters 2
Week 5	Lab: Insect Pinning Lecture: Insect Life Cycles and Ecology (Quiz #4) Chapters 4 and 5
Week 6	Lab: Using the Dichotomous Key and Making Order Labels Lecture: Insect Life Cycles and Ecology (Quiz #5) Chapters 4 and 5
Week 7	Lab: Using the Dichotomous Key and Making Family Labels Lecture: Insect Life Cycles and Ecology (Quiz #6) Chapters 4 and 5
Week 8	Midterm Exam
Week 9	Lab: Collection Work Lecture: Medical and Veterinary Insect Pests; Insect Presentations
Week 10	Lab: Collection Work Stored Product and Urban Insect Pests; Insect Presentations (Quiz #7) Chapters 7, 8 and 16
Week 11	Lab: Collection Work Lecture: Plant Insect Pests; Insect Presentations (Quiz #8) Chapters 9 – 15
Week 12	Lab: Collection Work Lecture: Managing Insect Populations (Quiz #9)
Week 13	Lab: Lab Practical; Insect Collection Due Lecture: Managing Insect Populations; Final Exam Review Session (Quiz #10)
Week 14	Final Exam