

Mercer County Community College
Science and Health Professions Division
BIO 203 – Entomology
Course Outline
Fall 2007

Credits: 4
Lecture Hours: 3
Laboratory Hours: 3

Course Coordinator: Amy E. Isenecker, Assistant Professor
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Required Text: *Borror and DeLong's Introduction to the Study of Insects*, 7th Edition; Triplehorn and Johnson

Optional Text: *Field Guide to North American Insects and Spiders*; Audubon Society
How to Know the Insects; Bland
How to Know the Immature Insects; Chu and Cutkomp

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

Grading: Grades will be based on the following point system:

Exam #1	100 points
Exam #2	100 points
Final Exam	150 points
Lecture Quizzes	160 points
Lab Assignments	100 points
Insect Collection	250 points

Lab Practical	100 points
Lab Attendance	<u>110 points</u>
Total	1070 points

Explanation of Point System:

Exams – Exams are based on lecture material. The first two exams are not cumulative; however the final exam is cumulative. Exam dates are listed in the course outline. The date of the final exam is to be announced. I reserve the right to re-test you if a grade received is not consistent with your normal performance. You must show up on-time to take your exams. If you are late to class to take an exam, and one of your classmates has already finished the exam and left the room, you will not be allowed to take it. In case of an emergency, you must call within 24 hours of the exam in order to do a make-up. This policy can be applied towards the lab practical also.

Lecture Quizzes – Quizzes will be given in lecture each week and will cover material from the previous lecture. Each quiz is worth 20 points and will be given at the beginning of lecture. The lowest quiz grade will be dropped at the end of the semester. You will not be given extra time to complete the quiz if you show up late and no make-up quizzes will be given.

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.

Lab Assignments – There will be four lab assignments given during the semester. Three of the assignments will be worth 30 points each and one of the assignments will be worth 10 points. Specifics will be given about each lab assignment at a later date.

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)
- 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. (35 points)

Lab Attendance Points – You will receive a maximum of 8 points per lab. You will lose point if you...

- Failure to attend lab = -8
- Show up late to lab = -4
- Leave lab early = -2 to -4
- Failure to come dressed appropriately = -8

Cell Phones – Cell phones must be turned off during lab and lecture unless you have permission to leave them on. If they do go off and you do not have permission, you will lose 5 points off from your semester total for every occurrence.

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

Behavior Statement – I encourage participation in my course. I enjoy you asking questions and sharing your experiences. I, however, will not tolerate any of the following behaviors in my course. These behaviors will result in your dismissal from class for the day.

- Physical or verbal threatening behavior or derogatory remarks towards the instructor and/or fellow classmates.
- Using cell phones during class – this includes text messaging.
- Carrying on side conversations.

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.

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

Course Objectives:

1. Demonstrate the correct use of a dichotomous key.
2. Properly pin and label insects to be preserved in a collection.
3. Identify insect internal and external structures.
4. Identify common insects by sight and be able to describe management techniques for each insect.
5. Understand the theory of integrated pest management, and be able to implement a successful IPM program.

6. Properly collect and classify various insects.
7. Identify different insect ecological categories.

Tentative Schedule:

Tue 8/28:	Course and Lab Introductions; Collecting and Preserving Insects; Lyme Disease and WNV
Thu 8/30:	Introduction to Entomology; Insect Classification and Insect Sampling Chapters 1 and 3
Tue 9/4:	Field Collecting Insects on Campus
Thu 9/6:	Insect Body Parts and Life Processes (Quiz #1) Chapter 2
Tue 9/11:	Stream Sampling and Preserving Aquatic Insects
Thu 9/13:	Insect Body Parts and Life Processes (Quiz #2) Chapter 2
Tue 9/18:	Insect Anatomy – Grasshopper Dissection (Lab Assignment #1 – 30 points); Field Collecting on Campus
Thu 9/20:	Insect Life Cycles and Ecology (Quiz #3) Chapters 4, 5 and 6
Tue 9/25:	Field Collecting at Mercer County Park and Sayen Gardens
Thu 9/27:	Insect Life Cycles and Ecology (Quiz #4) Chapters 4, 5 and 6
Tue 10/2:	Pinning Collected Insects
Thu 10/4:	Catch-up Lecture and Exam Review No Readings
Tue 10/9:	Keying out to Order; Pinning and Labeling
Thu 10/11:	Exam #1 Handouts

Tue 10/16: Keying out to Family; Pinning and Labeling
Thu 10/18: Horticulture and Veterinary Pests (Quiz #5)
Handouts

Tue 10/23: Saturday (10/27) Field Trip to Insectarium (Lab
Assignment #2 – 30 Points)
Thu 10/25: Stored Product and Urban Pests (Quiz #6)
Handouts

Tue 10/30: Pinning and Labeling Insects
Thu 11/01: Managing Insects (Quiz #7)
Handouts

Tue 11/06: Pinning and Labeling Insects
Thu 11/08: Managing Insects (Quiz #8)
Handouts

Tue 11/13: Pinning and Labeling Insects
Thu 11/15: Guest Lecture (Quiz #9)
Handouts

Tue 11/20: Insect Ecological Categories (Lab Assignment #3 –
30 points) (Quiz #10)
Thu 11/22: Happy Thanksgiving
Handouts

Tue 11/27: Insect Collection Due at the End of Lab; Lab
Practical Review Session
Thu 11/29: Exam #2
No Readings

Tue 12/04: Lab Practical
Thu 12/06: “A Bug’s Life” – Accuracies and Inconsistencies
(Lab Assignment #4 – 10 points)
No Readings

Tue 12/11: Lab and Course Wrap Up
No Readings

Final Exam TBA