Mercer County Community College  
B-STEM Division  
BIO 203 Entomology  
Fall 2017  

Credits: 4  
Lecture Hours: 3  
Laboratory Hours: 3  

Instructor: Professor Amy Ricco  
Office Number: MS 124  
Phone Number: 609-570-3372  
E-Mail Address: riccoa@mccc.edu  

Required Text:  
Enteromology and Pest Management; Pedigo and Rice  
How to Know the Insects; Bland  

Optional Text:  
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  

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:  

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>150</td>
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<tr>
<td>Final Exam</td>
<td>150</td>
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<tr>
<td>Lecture Quizzes</td>
<td>200</td>
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<tr>
<td>Lab Assignments</td>
<td>100</td>
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<tr>
<td>Insect Collection</td>
<td>250</td>
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<tr>
<td>Lab Practical</td>
<td>100</td>
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<tr>
<td>Lab Attendance</td>
<td>120</td>
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<tr>
<td>Total</td>
<td>1070</td>
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Explanation of Point System:

**Exams** – Exams are based on lecture material. The final exam is cumulative. Exam dates are listed in the course outline.

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 and provide documentation in order to do a make-up. This policy also includes the lab practical.

**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 five lab assignments given during the semester. 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 Chilopda – preserved in a vial with alcohol (5 points)
- 1 specimen from Class Diploda – 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)
**Lab Attendance Points** – You will receive a maximum of 8 points per lab. You will lose points if you...
- Fail to attend lab = - 8
- Show up late to lab = - 4 (if you miss the instructions at the beginning of lab, you are late)
- Leave lab early = - 2 to - 4
- Failure to come dressed appropriately = - 8

**Cell Phones** – The ringer on your cell phones must be turned off during lab and lecture. If you are expecting an emergency phone call, please sit close to the door so you can excuse yourself without disturbance to the rest of the class. Text messaging is prohibited.

**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.
- 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 conservations.
- One student dominating the class and preventing others from asking questions.

**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.

**Other College Policies to be aware of...**
- Smoking Policy
- Student ID Policy
- Parking Permit Policy
Mercer County Community College is committed to ensuring the full participation of all students in all activities and programs. If you have a documented differing ability or think that you may have a differing ability that is protected under the ADA or Section 504 of the Rehabilitation Act, please contact Arlene Stinson in LB216 {stinsona@mccc.edu} for information regarding academic accommodations and additional support services.

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

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)
Tentative Schedule:

Week 1  Lab: Course and Lab Introductions; Basics of Collecting and Preserving Insects; Setting Up Your Box; Start Collecting!
         Lecture: Introduction to Entomology; Insect Classification; Insect Sampling; Insect Assignments
         Chapters 1, 3 and 6

Week 2  Lab: Collecting and Insect Pinning
         Lecture: Insect Body Parts and Life Processes (Quiz #1)
         Chapter 2

Week 3  Lab: Insect Collecting and Making Collection Labels
         Lecture: Insect Body Parts and Life Processes (Quiz #2)
         Chapter 2

Week 4  Lab: Stream Sampling (Lab Assignment #1 – 25 points)
         Lecture: Insect Body Parts and Life Processes (Quiz #3)
         Chapters 2

Week 5  Lab: Insect Collecting; Insect Anatomy – Grasshopper Dissection (Lab Assignment #2 – 25 points)
         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  Lab: Collection Work
         Lecture: Midterm Exam

Week 9  Lab: Collection Work
         Lecture: Medical and Veterinary Insect Pests; Insect Presentations
         Handouts

Week 10 Lab: Collection Work
          Stored Product and Urban Insect Pests; Insect Presentations (Quiz #7)
          Chapters 7, 8 and 16; Handouts
Week 11  
Lab: Collection Work  
Lecture: Plant Insect Pests; Insect Presentations (Quiz #8)  
Chapters 9 – 15; Handouts

Week 12  
Lab: Collection Work; Insect Ecological Categories (Lab Assignment #3 – 25 points)  
Lecture: Managing Insects (Quiz #9)  
Handouts

Week 13  
Lab: Collection Work  
Lecture: Field Trip – Alampi Beneficial Insect Lab (Lab Assignment #4 – 25 Points)  
Handouts

Week 14  
Lab: Insect Collection Due by the end of Lab; Lab Practical Review Session  
Lecture: Managing Insects  
No Readings

Week 15  
Lab: Lab Practical  
Lecture: Final Exam Review Session (Quiz #10)  
No Readings

Final Exam