

GENERAL BIOLOGY II

Spring 2015 Course Syllabus for BIO 206

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This course is the second semester of a two semester general biology. The intention of this course is to provide a good background in general biological concepts for subsequent science classes. Topics covered will include population genetics, evolutionary theory, population, community and ecosystems ecology, the origins and relatedness among organisms on earth, and a survey of the variety of living organisms.

Credit Hours: 5 (3 lecture, 3 lab, 1 recitation)

Prerequisites: Biology

Lecture Times: Tuesday and Thursday from 9:00 – 10:20 a.m. (3109)

Lab Times: Friday from 9:00 – 11:50 a.m. (3306)

Recitation Times: Thursday from 1:00 – 1:50 p.m. (3409)

Lecture Text: Reece, Urry, Cain, Wasserman, Minorsky & Jackson. (2011). *Campbell Biology*. San Francisco: Benjamin Cummings.

Lab Manual: Reece, Urry, Cain, Wasserman, Minorsky, Jackson, Morgan & Carter. (2011). *Investigating biology lab manual*. San Francisco: Benjamin Cummings.

Instructor: James Bier, Ph.D.

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- **Web:** <http://members.toast.net/bier/mercy.html>
- **Office Hours:** Office hours are set up so that you can discuss concerns about the class, ask for clarification on the classes or reading material, or just to talk about microbiology, biology, or life in general. If the set hours are not convenient, call me so that we can set up a time that is mutually agreeable. Please visit the web site to see the current office hours.

The instructors reserve the right to make changes to the syllabus. All policies in the College Catalog, Program Handbooks and the Mercy College of Ohio Student Handbook are applicable to this course.

GRADING

The classroom portion of the class will make up four-fifths of the course grade. Grades for this portion of the class will be based on the results from several quizzes, three tests, and a comprehensive final. **Note:** Additional assignments may be added if the instructor deems it necessary. Also, the grading system may be adjusted to better measure student performance.

Each quiz, worth 5 points each, consists of true-false, multiple choice and/or fill in questions. These quizzes will cover the material from one or two classes. Only the top twenty quiz scores will be counted and the lowest quiz scores will be dropped. Tests will be multiple choice and short answer essays and will cover three to five chapters of information. The final is comprehensive, will consist of multiple choice and essay questions, and may include any other types of questions I deem useful to determine your level of comprehension. The final exam carries the weight of two tests.

There will be no makeup quizzes or tests. However, missing a quiz or test will not be held against you. If you do not finish the three tests, the missing points will be made up as part of the comprehensive final. That is, the final, which is worth 200 points, would now be worth 300 points (200 points normal weight + 100 points for the missed test).

Grades in the lab will be based on 1) one quiz, 2) written observations and conclusions from lab exercises, 3) preparation of pre-lab assignments, 4) demonstration of lab skills, and 5) participation, cleanliness and maintenance of your work area. Due to the nature of the lab, missed labs are difficult to make up. Therefore, attendance at the regularly scheduled lab time is strongly recommended. If you cannot avoid missing a lab, please contact me ahead of time. I will do my best to provide you with the materials necessary to make up a lab, but I cannot guarantee that a lab can be made up.

The following is a breakdown of the points for this class.

	Points
Lecture (80%)	
• Quizzes (top twenty worth 5 points each)	100
• Tests (three worth 100 points each)	300
• Comprehensive Final Exam	200
Lab (20%)	
• Pre-Lab Exercises (top five worth 5 points each)	25
• Lab Reports (top five worth 20 points each)	100
• Lab Quiz	25

The number of points that you achieve throughout the semester will determine your final grade. The table to the right lists the minimum percentage required for each letter grade. You can determine your grade by dividing the number of points that you have achieved and dividing by the total points available (750 at the end of the semester).

Course Grade	Percent Needed
A	90%
B	80%
C	70%
D	60%

LEARNING OBJECTIVES

1. Describe how organisms can change over time through the process of natural selection and microevolution or quickly through macroevolution.
2. Describe the origin of life and characteristics of biological diversity; prokaryotic and eukaryotic diversity.
3. Compare and examine examples and characteristics of common representatives of all kingdoms of living things.
4. Describe characteristics and structures of major fungal taxa.
5. Describe tissue systems, hormones, and reproductive cycles of plants.
6. Identify structures and explain basic function of all major plant and animal systems.
7. Identify and describe defining characteristics of members of the protist phyla.
8. Identify and describe defining characteristics of members of all major animal phyla and classes.
9. Describe levels of organization and important processes in ecosystems.
10. Describe how populations fluctuate and identify factors that regulate populations.
11. Describe species interactions and their effects.
12. Explain how human impacts have affected various ecosystems.

INSTITUTIONAL LEARNING OUTCOMES

1. Exhibit **proficiency** and competency within one's discipline in service to others – Students will develop expertise in the basics of biology as a foundation for developing a deeper understanding in more advanced courses. For the college, proficiency will be evaluated by specific questions on the exams that assess the group's knowledge on aspects of the learning objectives.

HUMAN BIOLOGY PROGRAM OUTCOMES

2. Apply the **scientific method** to examine and interpret biological questions – Students will describe, set up, run and discuss experiments and their conclusions using appropriate scientific experimental procedures.
3. Demonstrate competency performing **laboratory** techniques – Students will properly utilize scientific instruments, e.g., microscopes, spectrophotometers, to collect accurate and valid experimental data.