

Mississippi Valley State University

Department: Natural Sciences & EH

College: Arts and Sciences

Course Prefix & No.: BI 111H-03
BI 111H-03L

Course Name & Credit: General Biology I and Lab
4 Cr. Hrs.

Instructor: **Dr. Rachel Beecham**

Office Location: STB 2257

Class Days /Time/ Location:
MWF (Lec)/ 1:00-1:50/FLW 128
T (Lab)/8-10:40/ FLW 139

Office Hours:
MWF 8:00-10:00 a.m.; and 11:00-1:00 p.m.,
W 2:00-3:00 pm
R 10:30-11:00 am 12:00-1:00 pm
Other by Appointment

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COURSE DESCRIPTION. The fundamentals of animal life, with emphasis on anatomy, physiology, behavior, evolution and genetics with special reference to animal contributions to ecosystems and to humans. Live animals handled in compliance to with rules of the institutional Animal Care and Use Committee, are used in classroom and laboratory for instruction and to demonstrate ethical and appropriate care of living animals use for instructional purposes. 4 credit hr.

PREREQUISITE

None, but a high school biology would be advantage.

PURPOSE

BI 111 is required by all Biology, Chemistry, and Environmental health majors. It is intended to teach students the basic concepts of animal life with emphasis on anatomy, physiology, behavior, evolution and genetics, with special reference to animal contributions to ecosystems and humans. The course is developed around a Holistic Transformer Model (HTM). Students are expected to demonstrate and relate understanding of the basic concepts of animal life, methods of scientific research, animal organization: growth, functions, and classification.

The laboratory component of the course enables students to learn hands-on application, testing, skill development, and data collection and analysis. Students are expected to demonstrate knowledge of each lab exercise, identify, and relate lab results to animal life.

GENERAL COURSE GOALS

1. To study the essential biological principles of living systems.
2. To study life processes of different living organisms.
3. To develop understanding of unity and diversity in all life forms.

Student Learning Outcomes:

Upon completion of BI 112, the student should be able to:

1. Discuss the major biological concepts, theories, and diversity of life;
2. Give and apply steps of scientific method to a research project;
3. Understand the impact of living things to their natural environment.
4. List and apply lab safety precautions and techniques.
5. Students will be critical thinkers.

TEXTBOOK

1. BI 111: General Biology II (customized from Brooker, Robert J., E. P. Widmaier, L. E. Graham, and Peter D Stiling. (2014). Biology, 3rd ed., McGraw-Hill Higher Education, Dubuque, IA.)

2. General Biology I & II Lab Manual (customized from Vodopich, Darrell S. and Randy Moore. (2014). Biology: *Laboratory Manual, 9th ed, McGraw-Hill Higher Education, Dubuque, IA.*)
Both text books are REQUIRED.

3. Additionally required is McGraw Hill Connect Code with Learnsmart Labs. Comes packaged with book in library or available for purchase through the website. See teacher for website.

COURSE CONTENT

**Please Read the Chapter Summary After Completing a Chapter*

- I. An Introduction to Biology (Ch. 1)
- II. The Chemical Basis of Life I (Ch. 2)
- III. The Chemical Basis of Life II (Ch. 3)
- IV. General Features of Cells (Ch. 4)
- V. Membrane Structure, Synthesis & Transport (Ch. 5)
- VI. Cellular Respiration, Fermentation, & Secondary Metabolism (Ch. 7)
- VII. Animal Bodies & Homeostasis (Ch.40)
- VIII. Nutrition, Digestion and Absorption (Ch.45)
- IX. Circulatory Systems (Ch.47)
- X. Respiration Systems (Ch.48)
- XI. Animal Reproductive (Ch.51)
- XII. Animal Development (Ch.52)
- XIII. An Introduction to Animal Diversity (Ch.32)

USE OF TECHNOLOGY.

Technology is integrated into the course to enhance and facilitate learning and understanding. Type of technology used includes but not limited to:

1. McGraw Hill –Connect –online assignments
2. Dissecting and light compound microscopes with color monitor;
3. Computer and LCD projector, videos, 16 mm films & projector, and charts
4. Use of Internet searches for aspects of lecture & lab materials and for homework assignments
5. Computer applications for collecting, analyzing, and displaying data.

Websites: www.nybg.org

www.anbg.gov/anbg

<http://biology.brookscole.com/starr6>

LABORATORY ACTIVITIES:

Complete the Lab

LABORATORY EXERCISES

DATES

08/22

- 1 Lab safeties and precaution - in class and on connect
- 2 Scientific Method
- 3 Metric Measurements
- 4 Microscopy Biology
- 5 Cell Anatomy
- 6 pH and cells
- 7 Diffusion
- 8 Osmosis
- 9 Cellular Membranes
- 10 Vertebrate Animal Tissues
- 11 Human Skeletal System
- 12 Breathing
- 13 Circulation & Blood Pressure

Paper should address these 5 areas: (*A Grading Rubric Will be Provided*)

1. The common name of your species
2. The scientific name of your species
3. Description of the Ecology of your species?
4. The importance of your species to human community
5. The importance of your species to the environment.

COURSE BASIC REQUIREMENTS.

Each Student is required to:

1. Attend class regularly on scheduled class days, unless there is a death in the family, or that you are under the care of a physician. In either case, a signed excuse from the Student Dean is required.
2. Complete all assigned readings from course text.
3. Turn in each homework on the announced due date.
4. Demonstrate knowledge of course content on each examination.

- Type ALL assignments before submission.

TEACHING/ LEARNING STRATEGY.

The main instructional model for this course is collaborative learning. The instructor will set course content, course objectives, and methods of classroom assessment. The course will incorporate the following instructional strategies: class discussion, online activities, assigned readings, and/or individual projects. Students are encouraged to actively participate in activities, ask questions, and contribute comments for discussion. Students are also encouraged to offer input regarding instructional strategies and assignments. Most importantly, students are expected to be active learners and to ask for clarification when they have questions. In order to be successful in the class, it is important that students, read the assigned material, and submit assignments and be prepared to discuss what they have read. The goal of this approach is to develop active learning environment that addresses a variety of learning styles, promotes critical thinking, and fosters creativity.

EVALUATION METHODS: Lecture grades will be determined by dividing the total points a student has earned in lecture by the total semester points for lecture (600), times a 100. The lab grade will be determined by dividing the total lab points that a student has earned by the total semester points for lab (325), times a 100. Each result is then applied to the grading scale below to determine the letter grade.

Points Breakdown For Class

	Points
Assignments (10)	100
Lecture Quizzes (6)	600
Exams: Midterm & Final	200
Total	900

GRADING SCALE. A = (90-100), B = (80-89), C = (70-79), D = (60-69), and F = (below 60).

CHEATING POLICY. Cheating in any fashion is not be tolerated, including but not limited to plagiarizing another’s words, work or ideas on individual class assignments. To address the situation of plagiarism, the University has implemented *Turnitin* to fight plagiarism and improve reading, writing, and research skills. *Turnitin* is a comprehensive plagiarism prevention system that lets faculty quickly and effectively check all students’ work. Results are based on exhaustive searches of billions of pages from both current and archived instances on the Internet. Plagiarism will result in at least a failing grade for the assignment(s) and/or course. Cheating of any kind is absolutely NOT allowed. Students caught cheating will fail this course for the entire semester (no matter if it is the first test or the final).

EXAMS, QUIZZES, EVALUATION AND GRADING PROCEDURES:

- Students are responsible for, and may be tested on all the material discussed during lectures and discussion sections as well as assigned reading material whether it was covered in lecture or not.
- Students are expected to take exams during the scheduled times. Dates will be announced in advance. A make-up exam or quiz will be given ONLY if a student is GRAVELY ill, can provide an official university excuse., AND has given prior notice (when applicable) -BEFORE THE TEST date. Electronic mail and voice mail messages do NOT constitute official means of notification. Other emergencies will be considered on a case by case basis.

Class rules

1. Please arrive on time and ready to work.
2. No food or drinks are allowed in the labs and preferably not in the classroom.
3. Turn off or silence all mobile devices before coming to the classrooms.
4. At the end of the Lab period, please clean up your work area. Return all equipment to its designated area.
5. Classroom disruption will not be tolerated.
6. If a student misses or is not present for roll call, it is the responsibility of that student to see me immediately after class so that they can be marked present (with a tardy) for that particularly class meeting.
7. No videos or audio recordings maybe conducted during class without my permission.

MAKEUP EXAMINATION. Makeup examination will not be given unless the student has a legitimate excuse for failing to take one on the scheduled day and time. Such a student must make arrangements for a makeup examination within 5 days from the missed exam date.

OFFICE HOURS: The above office hours are reserved for you. Come in and ask questions on lecture or lab materials that you have not already mastered, or use the time to explore aspects of science, careers, academic events, etc., which may be of particular interest to you.

STUDENTS WITH SPECIAL NEEDS

Students having any special needs (i.e., disabilities, handicaps, problems, or any other factors that may affect their performances in class) or who require special instructional strategies should make these special needs known to the instructor during the first week of the course. The instructor will meet with the student to insure access to resources in the University and make appropriate instructional modifications as required. If you feel you are eligible to receive accommodations for a covered disability (medical, physical, psychiatric, learning, vision, hearing, etc.) and would like to request it for this course, you must be registered with the Services for Students

with Disabilities (SSD) program administered by University College. It is recommended that you visit the Disabilities Office located inside the EMAP 5 Computer Lab in the Technical Education (IT) Building to register for the program at the beginning of each semester. If you are determined to be eligible after your confidential consultation, you will be provided with a Memo of Accommodations that must be submitted to each of your instructors.

For more information or to schedule an appointment, please contact Mr. Billy Benson, Jr. via phone or email at 662-254-3005 or billy.benson@mvsu.edu.

SPECIAL POLICIES:

*Attendance: 1 letter grade for every three unexcused absences.

*Cell Phones: To be turned off or on vibrate at all times during class and lab. If phone goes off student may be asked to leave the classroom with no possibility to make up work or points maybe deducted from students caught using electronic device during class.

*Classroom behavior: Negative classroom behavior will not be tolerated and can result in student being asked to leave the class.

*Tardies: 1 letter grade for every three un-excused tardies.

*If you (i.e., student) should arrive to class after class attendance (i.e., roll call) has been taken, it is your responsibility to inform me as the instructor of your presence at the end of lecture/lab on that particular day.

*In order to take exams (i.e., quiz, mid-term, final, etc.), assigned homework must be submitted at the time of the exam.

REFERENCES.

Bray, A., H. Johnson, L. Raff, and R. Walter (2010). *Essential Biology*, 3rd ed., Garland Science, Taylor & Francis Group, N.Y.

Campbell, N. A., J. B. Reece, L. A. Urry, M. L. Cain, S. A. Wasserman, P. V. Minorsky, and R. B. Jackson (2008). *Biology*, 8th ed., Pearson/Benjamin Cummings, N.Y.

Chapman, C. (1999). *Basic chemistry for biology*. 2nd ed. WCB/McGraw-Hill.

Hoefnagel, Marielle (2009). *Biology: Concepts and Investigations*, 1st ed., McGraw Hill Publishers, Dubuque, IA.

Kardong, V. Kenneth (2006). *Vertebrates: Comparative Anatomy, Function, & Evolution*, 4th ed., McGraw Hill Publishers, Dubuque, IA.

Losos, J. B., K. A. Mason, S. R. Singer (2008). *Biology*, 8th ed., McGraw Hill Higher Education, Dubuque, IA.

Mader, S. Sylvia (2008). *Concepts of Biology*, 1st ed., McGraw Hill Publishers, Dubuque, IA.

Russell, P. J., S. L. Wolf, P. E. Hertz, C. Starr, and B. McMillan (2008). *Biology: the Dynamic Science*, 8th ed., Brooks/Cole Cengage Learning, Belmont, CA.

Solomon, E. P., L. R. Berg, and D. W. Martin (2008). *Biology*, 8th ed., Thompson Brooks/Cole, Belmont, CA

As the instructor, I reserve the right to make any changes to this syllabus as found necessary. Further, this document does NOT constitute a contract with the University. It only contains guidelines. Not Completing Your Semester Course Load May Cost You Financially.