



MISSISSIPPI STATE
UNIVERSITY™

COLLEGE OF ARTS & SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

P.O. Box GY
295 E Lee Blvd
Mississippi State, MS 39762

P. 662.325.3120
F. 662.325.7939

www.biology.msstate.edu

Course Syllabus

Fall 2018- BIO 8053: Comprehensive Study of Animals

Instructor: Dr. James A. Stewart, Jr.

Office Hours: Wednesday 5 p.m. – 7 p.m. CDT or by appointment

Office Phone: 662-915-2309

Email: jas1144@msstate.edu

COURSE DESCRIPTION: Three hours video and online. The study of invertebrate and vertebrate animals, which will include reproduction, development, physiology, behavior, ecology and evolution. This course is intended for K-12 science teachers. Course cannot be used to satisfy degree requirements in a non-distance degree program.

COURSE PREREQUISITES: Prerequisites: BIO 6023 or consent of instructor.

REQUIRED CLASSROOM MATERIALS:

- 1) Principles of Animal Physiology, 2nd edition by Moyes and Schulte ISBN:9780321501554
- 2) Integrated Principles of Zoology, 15th (ISBN:9780073040509) or 16th (ISBN: 9780073524214) edition by Hickman, Roberts, Keen, Larson, l'Anson and Eisenhour

Both textbooks are **REQUIRED** for this class. Please be prepared to read assigned chapters and examine the topic areas more extensively than covered in the recorded lectures.

You are also required to have access to a computer that connects to the Internet. The course materials will be accessed through myCourses (<http://myCourses.msstate.edu>), which requires that you have a MSU NetID and password. Each topic discussed in this course will have lectures to listen to, recommended reading from the book, and a quiz associated with the topic.

You are also required to check your MSU email account regularly. This is considered an official means of communication by MSU for distance education students.

LEARNING OBJECTIVES:

- 1) Understand the study of the comparative animal physiology with emphasis in species differentiation.
- 2) Understand a broad overview of body organization from cellular level to whole body system level as it applies to human physiology.

CONTACT INFORMATION:

You may contact the instructor using the email address provided on the myCourses website. If you have any questions, please email the instructor. Regularly scheduled office hours are every Wednesday (5p.m. – 7p.m. CDT) in the Discussion Board on the myCourses website. If you need additional assistance, or are not satisfied with the responses provided by email, you are encouraged to contact me at my office during normal business hours (9a.m. - 5p.m. CDT) at 662-915-2309.

For all technical questions or problems, please contact help@distance.msstate.edu, at the Division of Academic Outreach and Continuing Education.

MSU HONOR CODE: Mississippi State University has approved an Honor Code. It states, “As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.” Upon accepting admission to Mississippi State University, students immediately assume a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment to uphold the Honor Code on all examinations, papers, and other academic work. Ignorance of the rules does not exclude any student from the requirements of the Honor Code. For additional information please visit: <http://www.msstate.edu/dept/audit/1207A.html>. All quizzes and exams will require the student to acknowledge the MSU Honor Code.

ACADEMIC MISCONDUCT: You are expected to do your own work. Academic misconduct (cheating, plagiarism, forgery, etc) of any form can result in serious consequences. Penalties may be as severe as receiving a grade of “F” in this course, suspension, and/or possible expulsion. Faculty members and students are responsible for reporting cases of academic misconduct. Reports to the Academic Honesty Committee are kept for five years for students found guilty of academic dishonesty. Students have the right to appeal decisions by the committee (<http://students.msstate.edu/honorcode/>).

QUIZZES: There will be 12 major topics covered in this course. Throughout the semester, you will be required to take quizzes on the course material posted online. There will be a total of 9 quizzes given throughout the semester. These quizzes will consist of multiple choice, true/false, or short answer questions. All quizzes will be done in a restricted 1-hour time frame. You will not be allowed to use any material to complete your quiz. This includes notes, textbooks, any outside material, the internet, or textbook websites. Additionally, you will not be allowed to communicate with other students during the exam, including chat boards, discussion boards, blogs, texts, phone, or email. All assessments will be open for 72-hours beginning at Friday 8:00 a.m. (CDT) on the opening day and closing at Monday 8:00 a.m. (CDT) on the closing day. Extensions may be granted with documented circumstances.

EXAMS: There will be two exams: one mid-term and one final exam. Exams will consist mostly of multiple-choice, true/false, and short answer questions. All exams will be taken in a restricted 3-hour time frame. You will not be allowed to use any material to complete your notes. This includes notes, textbooks, any outside material, the internet, or textbook websites. Additionally, you will not be allowed to communicate with other students during the exam, including chat boards, discussion boards, blogs, texts, phone, or email. All exams will be open for 7-days beginning at Friday 8:00 a.m. (CDT) on the opening day and close at Friday 8 a.m. (CDT) on the closing day of the following week.

MISSED QUIZZES AND/OR EXAMS: If you are not able to complete your quizzes and/or exams by the indicated time, you must notify the instructor as soon as possible. Make-ups quizzes and/or exams will be given for extreme cases only, with written documentation of the reason the exam was missed. Make-up quizzes and/or exams will consist of discussion questions only. Failure to complete the make-up quizzes and/or exams within one week post quiz and/or exam date will result in the grade of a "0" on the quiz and/or exam. Extensions may be granted with documented circumstances.

ATTENDANCE POLICY:

Even though this is an online course, it is not self-paced. Reasonable deadlines have been posted for completion of each quiz and exam.

****TITLE IX**

MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX/EEO Programs at 325-8124 or by e-mail to titleix@msstate.edu. Additional resources are available at <http://www.msstate.edu/web/security>, or at <http://students.msstate.edu/sexualmisconduct/>.

SUPPORT SERVICES

Students who need academic accommodations based on a disability should visit the Office of Student Support Services, 01 Montgomery Hall, call 662-325-3335, or visit the website at www.sss.msstate.edu.

MAROON ALERT

Maroon Alert is the emergency notification system of Mississippi State University. It includes several methods of notifying the university community of hazards and concerns, including text messages, emails, alerts on web pages, social media, and sirens. To be fully informed, please verify your Maroon Alert subscription information at my.msstate.edu. To report an on-campus emergency, dial 911 or (662) 325-2121. You can find more information about the Maroon Alert system at <http://www.emergency.msstate.edu/maroon-alert/>

COURSE GRADE DETERMINATION:

Grading Scale:

A ≥ 481 points

B 427- 480 points

C 373- 426 points

D 319- 372 points

F < 318 points

Quizzes (9 total; 15 points each) 135 points

Mid-term exam 200 points

Final exam 200 points

There will be **NO** extra credit.

DETAILED COURSE OUTLINE AND ASSOCIATED LECTURES:

A: Introduction to the Study of Animals (Hickman Ch. 9, 10)

1. Architectural Pattern of Animals Lecture A-1
2. Taxonomy and Phylogeny of Animals Lecture A-2

B: Protozoans, Radiata, Flatworms (Hickman Ch. 11, 13, 14)

1. Protozoan Groups Lecture B-1
2. Cnidaria Lecture B-2
3. Ctenophora Lecture B-3
4. Platyhelminthes Lecture B-4

C: Mollusks and Nematodes (Hickman 16, 18)

1. Molluska Lecture C-1
2. Nematoda Lecture C-2

D: Arthropods (Hickman Ch. 19, 20, 21)

1. Arthropod diversity/ Trilobita/ Chelicerata Lecture D-1
2. Crustacea Lecture D-2
3. Hexapods Lecture D-3

E: Chordates (Hickman 23, 24, 25, 26, 27, 28)

1. Chordate characteristics Lecture E-1
2. Fishes Lecture E-2
3. Amphibia Lecture E-3
4. Reptilia Lecture E-4
5. Aves Lecture E-5
6. Mammalia Lecture E-6

F: Cell Signaling and Endocrine Regulation (Moyes Ch. 3)

1. Biochemical Basis of Cell Signaling Lecture F-1
2. Signal Transduction Pathways Lecture F-2
3. Feedback Loops Lecture F-3

G: Nervous System (Moyes Ch. 4, 7)

1. Axons and Action Potentials Lecture G-1
2. Signals Across the Synapse Lecture G-2
3. Evolution of Nervous Systems Lecture G-3
4. Peripheral Nervous System Lecture G-4

H: Cellular Movement and Muscles (Moyes Ch. 5)

1. Cytoskeleton and Motor Proteins Lecture H-1
2. Structure of Vertebrate Muscle Lecture H-2
3. Contraction-Relaxation/ EC-Coupling Lecture H-3

I: Circulatory Systems (Moyes Ch. 8)

1. Characteristics of Circulatory Systems Lecture I-1
2. Vertebrate Heart and the Cardiac Cycle Lecture I-2
3. Control of Contraction/ Blood Vessels Lecture I-3

J: Respiratory Systems (Moyes Ch. 9)

1. Respiratory Strategies Lecture J-1
2. Gas Exchange in Water and Air Lecture J-2
3. Gas Transport to Tissues Lecture J-3

K: Ion and Water Balance (Moyes Ch. 10)

1. Ion and Water Balance Lecture K-1
2. The Kidney Lecture K-2

L: Digestive Systems (Moyes Ch. 11)

1. Nature/ Acquisition of Nutrients Lecture L-1
2. Digestion and Metabolism Lecture L-2

Individual lectures listed above may actually be composed of multiple, shorter, in-topic lectures (such as A-1-1, A-1-2, etc.). Listing below include all in-topic lectures although they are not distinctly identified.

TENTATIVE COURSE SCHEDULE:

Assessment	Material Covered for Assessment	Dates Available
Quiz 1	A-1, A-2, B-1, B-2	Aug 31-Sept 3
Quiz 2	B-3, B-4, C-1, C-2	Sept 14-17
Quiz 3	D-1, D-2, D-3, E1	Sept 21-24
Quiz 4	E-2, E-3, E-4, E-5, E-6	Oct 5-8
MIDTERM EXAM	Lectures A-E	Oct 8-15
Quiz 5	F-1, F-2, F-3	Oct 19-22
Quiz 6	G-1, G-2, G-3, G-4	Oct 26-29
Quiz 7	H-1, H-2, H-3	Nov 2-5
Quiz 8	I-1, I-2, I-3	Nov 9-12
Quiz 9	J-1, J-2, K-1, K-2	Nov 16-19
	L-1, L-2	
FINAL EXAM	Lectures F-L	Dec 3-10