



Course Syllabus  
Physiology  
BIOL 3144  
Lecture: TR 8:00-9:20 AM BO 127  
Lab: W 1:00-3:50 PM BO 201  
W 4:00-6:50 PM BO 201  
Spring 2022

### **Contact Information**

Instructor: Dr. Mike Shipley  
Office: Bolin Science Hall Room 218C  
Office hours: MWF 9:00-10:00 AM; R 9:30 AM-11:30 AM; or by appointment.  
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### **Required Texts**

Silverthorn, Dee. 2016. **Human Physiology: An Integrated Approach**. 7th. ed. Pearson, Boston, MA.

Shipley, Michael. 2022. **Physiology Laboratory Manual**. Midwestern State University Biology.

### **Goals and Objectives**

This course details the function of animal organs and organ systems, with attention to how these functions enable the organism to live in a particular environment. The focus is on physiology of humans. The expected outcome of this course is that the student will achieve a working knowledge of the function of the human body and the constituent organs. Students will be able to apply this information in pre-professional areas such as medical, veterinary, and dental schools, as well as nursing, clinical lab science, and graduate school.

### **Prerequisites**

Biology 2114, Chemistry 2001 and 2003 are required. Biology 3234 and 3334 are recommended.

### **Student Expectations**

Students are expected to attend all scheduled class meetings and be seated at the beginning of class. Class attendance is crucial for maximum performance. Excessive absences may result in a student dropped from the course. Any missed laboratory should be made up as soon as possible. Students should refer to the current MSU Handbook and Activities Calendar for university policy on academic dishonesty, class attendance, student rights and activities.

## Topical Outline

Topic	Chapter
Introduction to Physiology	1
Molecular Interactions (Biomolecules)	2
Compartmentation: Cells and Tissues	3
Membrane Dynamics	5
Communication & Integration	6
<b>EXAM 1</b>	
Neurons: Cellular and Network Properties	8
Central Nervous System	9
Autonomic & Somatic Motor Control	11
Endocrine System	7
Muscles	12
<b>EXAM 2</b>	
Cardiovascular Physiology	14
Blood Flow and Control of Blood Pressure	15
Mechanics of Breathing	17
Gas Exchange & Transport	18
Digestive System	21
<b>EXAM 3 (Final Exam – Not Comprehensive)</b>	

## Examination Material

The major exams will cover material presented in the lecture. Students should study the assigned text chapters, review lecture notes, and work problems in the text in preparation for the exams. Make-up tests will be available only for students with excused absences. The final exam will not be comprehensive but over material since Exam 2.

## Grade Determination

The grade for this class will be based upon student's performance on the major exams, lecture quizzes, and the laboratory (including the research project). The breakdown for the grade is as follows:

Category	Percent of Grade	Grade Range	Letter Grade
Exams (3)	60%	90-100	A
Laboratory Exercises	15%	80-89	B
Laboratory Written Reports (3)	10%	70-79	C
Research Project	8%	60-69	D
Case Studies (6)	7%	< 60	F
	100%		

## Research Project

This course requires a modest research project and presentation on a topic of physiology chosen by the student (and approved by the instructor). Students will need to arrange time outside of regular class meetings to complete the project. The project will be

displayed as a poster presentation on the second floor of Bolin Science Hall during the afternoon of the final lab period. The poster will include an introduction, materials and methods, results, discussion/conclusions, and literature cited sections (see details in Appendix 2 of the Lab Manual). The instructor and teaching assistant will determine the grades for the poster presentation. No more or less than 3-4 students may work together on one research project.

### **Campus Carry**

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to [Campus Carry Rules and Policies](#). If you have questions or concerns, please contact MSU Chief of Police Patrick Coggins at [patrick.coggins@mwsu.edu](mailto:patrick.coggins@mwsu.edu).