

## **BIOL 1107 Biology for Science Majors II (lab)**

### **CREDIT**

1 Semester Credit Hours (1 Lab hours lab)

### **INSTRUCTOR CONTACT INFORMATION**

Instructor: Fadhili Tuguta  
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Office Phone: 409-247-4863  
Office Location: MPC 213  
Office Hours: Monday-Thursday 12:00 PM– 3:00 PM



**LAMAR INSTITUTE  
OF TECHNOLOGY**

### **MODE OF INSTRUCTION**

Online

### **PREREQUISITE/CO-REQUISITE:**

BIOL 1307 Biology for Science Majors II

### **COURSE DESCRIPTION**

This laboratory-based course accompanies Biology 1307, Biology for Science Majors II. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.

### **COURSE OBJECTIVES**

Upon completion of this course, the student will be able to

1. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Distinguish between phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

Learning outcome

Approved: **Initials/date**

1. Critical Thinking Skills: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills: To include effective development, interpretation and expression of ideas through written, oral, and visual communication
3. Empirical & Quantitative Skills: To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. To include the ability to connect choices, actions, and consequences to ethical decision making

## REQUIRED TEXTBOOK AND MATERIALS

Online registration instructions

Go to the following web address and click the “register now” button.

## COURSE POLICIES:

1. You must log into Blackboard and access this course a minimum of 3 times per week.
2. Cheating of any type will not be tolerated.
3. Late assignments will be accepted with a deduction for late penalty. Students will receive a zero for assignments not completed.
4. If you wish to drop this course, you must drop it administratively. If you do not drop you will receive an F for the course.
5. Internet usage- students are to use proper netiquette when participating in course email, assignment submissions and online discussions

## DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

## COURSE CALENDAR

DATE	TOPIC	READINGS	ASSIGNMENTS (Due on this Date)
Week 1 08/26	<ol style="list-style-type: none"> <li>1. Introduction -Virtual tutorial</li> <li>2. Lab Safety: Handwashing</li> <li>3. Personal Safety</li> <li>4. Quiz: Lab safety</li> </ol>	Lab book	09/01 Lab Report
Week 2 09/02	Evolution -Fossil evidence	Lab book	09/06 Lab Report
Week 3 09/09	Evolution -Molecular evidence	Lab book	09/13  Lab Report
Week 4 09/16	Natural selection -Antibiotic resistance	Lab book	09/20 Lab Report

Week 5 09/23	<ol style="list-style-type: none"> <li>1. Assignment: Evolution in the news</li> <li>2. Quiz: Evolution</li> <li>3. Natural Selection -Insects</li> </ol>	Lab book	09/27 Lab Report I
Week 6 09/30	Lab exam I	Lab book	10/04 Lab exam Lab Report
Week 7 10/07	Unknown bacteria identification <ol style="list-style-type: none"> <li>1. Bacteria Unknown #1</li> <li>2. Bacteria Unknown #5</li> <li>3. Bacteria Unknown #10</li> </ol>	Lab book	10/11 Lab Report
Week 8 10/14	<ol style="list-style-type: none"> <li>1. Diversity of Microorganisms</li> <li>2. Assignment: Bacteria &amp; Viruses in the News</li> <li>3. Quiz: Bacteria &amp; Viruses</li> </ol>	Lab book	10/18 Lab Report Quiz
Week 9 10/21	<ol style="list-style-type: none"> <li>1. Microscopy: Euglena</li> <li>2. Microscopy: Pond Water</li> </ol> Quiz: protists & Fungi	Lab book	10/25 Lab Report Quiz
Week 10 10/28	<ol style="list-style-type: none"> <li>1. Dissection Tutorial for animal &amp; Plants</li> <li>2. Microscopy: Plant cells</li> <li>3. Gymnosperm</li> <li>4. Angiosperm reproduction</li> <li>5. Bloom Color and PH</li> <li>6. Gravitropism &amp;Phototropism</li> <li>7. Transpiration</li> <li>8. Trans genetic Organisms</li> <li>9. Assignment: Plant news</li> </ol> Quiz: Plant	Lab book	11/01 Lab Report  Quiz: Plant
Week 11 11/04	Invertebrates Dissection- earthworm Crayfish Mussel	Lab book	11/08 Lab Report
Week 12 11/11	<ol style="list-style-type: none"> <li>1. Invertebrates- sea star</li> <li>2. Lab exam II</li> </ol>	Lab book	11/15 Lab Report Lab exam II

Week 13 11/18	Vertebrates -frog, perch	Lab book	11/22 Lab Report
Week 14 11/25	Fetal Pig 1&2 Group Project Quiz: Animals	Lab book	11/29 Lab Report Group Project Quiz: Animal
Week 15 12/02	1. Biological sampling 2. Population Biology -growth & Competition  3. Comparing Ecosystem 4. Assignment: Ecology in the news 5. Quiz: Ecology	Lab book	12/06 Lab Report Quiz: Ecology
Week 16 12/09	Final Exam		12/11 Final Exam

### Course Evaluation

Final grades will be calculated according to the following criteria:

- Three lab practicums                    30%
- Lab Report                                    25%
- Common Assignment                    20%
- Quizzes                                        25%

### GRADE SCALE

A	89.5-100
B	79.5-89.4
C	69.5-79.4
D	59.5-69.4
F	0-59.4

### TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum->

[computer-requirements](#). A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

### **AI STATEMENT**

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor.

Students are reminded that all submitted work must be their own, original work unless otherwise specified. Students should contact their instructor with any questions as to acceptable use of AI / ChatGPT in their courses.

### **DISABILITIES STATEMENT**

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email [specialpopulations@lit.edu](mailto:specialpopulations@lit.edu). You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

### **STUDENT CODE OF CONDUCT STATEMENT**

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at [www.lit.edu](http://www.lit.edu). Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

### **STARFISH**

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.