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: 409-247-5261
Office Location: MPC 213
Office Hours: Monday-Thursday 10:00 AM– 3:00 PM

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

Week & Date	Topic	Assignments (Due Date)
Week 1 (01/20)	Introduction - Virtual tutorial Lab Safety: Handwashing Personal Safety Quiz: Lab Safety	Lab Report due 01/24 Quiz: Lab Safety
Week 2 (01/27)	Evolution - Fossil evidence	Lab Report due 01/31

Week 3 (02/03)	Evolution - Molecular evidence	Lab Report due 02/07
Week 4 (02/10)	Natural Selection - Antibiotic resistance	Lab Report due 02/14
Week 5 (02/17)	Assignment: Evolution in the News Quiz: Evolution Natural Selection - Insects	Lab Report due 02/21 Quiz: Evolution
Week 6 (02/24)	Lab Exam I	Lab Exam and Lab Report due 02/28
Week 7 (03/02)	Unknown bacteria identification: Bacteria Unknown #1, #5, #10	Lab Report due 03/07
	Spring Break	
Week 8 (03/16)	Diversity of Microorganisms Assignment: Bacteria & Viruses in the News Quiz: Bacteria & Viruses	Lab Report and Quiz due 03/21 Quiz: Bacteria & Viruses
Week 9 03/23)	Microscopy: Euglena Microscopy: Pond Water Quiz: Protists & Fungi	Lab Report and Quiz due 03/28 Quiz: Protists & Fungi
Week 10 (03/30)	Dissection Tutorial for Animals & Plants Microscopy: Plant cells Gymnosperm Angiosperm reproduction Bloom Color and PH Gravitropism & Phototropism Transpiration Transgenic Organisms	Lab Report and Quiz: Plant due 04/04

	Assignment: Plant News Quiz: Plant	
Week 11 (04/06)	Invertebrates Dissection: Earthworm, Crayfish, Mussel	Lab Report due 04/11
Week 12 (04/13)	Invertebrates - Sea Star Lab Exam II	Lab Report and Lab Exam due 04/18
Week 13 (04/20)	Vertebrates: Frog, Perch	Lab Report due 04/25
Week 14 (04/27)	Fetal Pig 1 & 2 Group Project Quiz: Animals	Lab Report, Group Project, and Quiz: Animals due 05/02
Week 15 (05/5)	Biological Sampling Population Biology: Growth & Competition Comparing Ecosystems Assignment: Ecology in the News Quiz: Ecology	Lab Report and Quiz: Ecology due 05/09
Week 16 05/12	Final Exam	Final Exam due 05/12

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. 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. 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.