# Introduction to Microbiology (BIOL 2320)

**For Non-Science Majors**

**CREDIT**
3 Semester Credit Hours (3 hours of lecture)

**MODE OF INSTRUCTION**
Online

**PREREQUISITE/CO-REQUISITE**:
Must be enrolled in BIOL 2120 at the same time

**COURSE DESCRIPTION**
Study of cell types and structure also microbial growth, control, metabolism, and genetics. This course provides information about microbes and human interactions, microbial pathogens and human diseases/ health.

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

1. Identify and describe groups of microbes including prokaryote microbes, eukaryote microbes, and viruses.
2. Explain differences between prokaryotic and eukaryotic cells.
3. Understand importance of microorganisms on agriculture, environment, and human health.
4. Demonstrate microbial metabolism and genetics.
5. Describe interaction between microbes and human, and understand the mechanisms of pathogenesis, diseases transmission, spread, and control.
6. Describe host defense and immunity.
7. Understand microbial growth, manipulation of microorganisms, and control.

## Core Objectives

1. Critical thinking skills and problem-solving skills to make decision in the laboratory.
2. Communication skills to effectively develop, interpret, and express the ideas and results of scientific investigations.
3. Quantitative skills to investigate and analysis data and use scientific tools in the laboratory to collect data.

Approved: Initials/date

**INSTRUCTOR CONTACT INFORMATION**


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| **Instructor:** | **Fadhili Tuguta** |
| **Email:** | **fmtuguta@lit.edu** |
| **Office Phone:** | **409-247-5261** |
| **Office Location:** | **MPC 213** |
| **Office Hours:** | **M: 1:30 pm-4:00Pm** |
| | **T :10 am- 4:00 pm** |
| | **W: 10:30 am-4pm** |
| | **TH :10 am-4:00 pm** |
| | **F :10am-12 pm** |


**REQUIRED TEXTBOOK AND MATERIALS**

**Open stax ISBN-10: 1938168143**

**https://openstax.org/details/books/microbiology**

**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<br>Due date |
|---|---|---|---|
| 08/21-08/27 | Course Overview and Introduction<br><br>(Fundamentals of Microbiology) | Syllabus<br><br>Chapter 1 | 08/27<br><br>Discussion: Introduction<br>Discussion Netiquette<br>Video quiz |
| 08/28-09/03 | Microscopy and Identification of Microbes | Chapter 2 | 09/03<br><br>Discussion: Group selection<br>Video quiz |
| 09/04-09/10 | The cell | Chapter 3 | **09/10**<br>Video quiz<br>Quiz 1 |

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| 09/11-09/17 | **Microbial Diversity**<br>Prokaryotes Diversity | Chapter 4 | **09/17**<br>Discussion: Bioterrorism<br><br>Video quiz |
| 09/18-09/24 | Eukaryotes of Microbiology<br><br>**EXAM I** | Chapter 5 | **09/24**<br>Video quiz<br>Video quiz<br>**EXAM I** |
| 09/25-10/01 | Acellular Pathogens | Chapter 6 | **10/01**<br>Discussion: Vaccine<br>Video quiz |
| 10/02-10/08 | Microbial Metabolism | Chapter 8 | **10/08**<br>Discussion: Antibiotic resistance<br>Video quiz<br>**Quiz II** |
| 10/09-10/15 | Microbial Growth | Chapter 9 | **10/15**<br>Video quiz<br>Individual Presentation |
| 10/16-10/22 | Microbial Control | Chapter 13 | **10/22**<br>Discussion: Pathogen Presentation<br>Video quiz |
| 10/23-10/29 | Microbial Genetics<br><br>**EXAM II** | Chapter 10 | **10/29**<br>Discussion: Antibacterial products<br>Video quiz<br><br>**EXAM II** |
| 10/30-11/05 | Host Defense | Chapter 17 | **11/05**<br><br>Video quiz |
| 11/06-11/12 | Host Defense) | Chapter 18 | **11/12**<br>**Quiz III**<br><br>Video quiz |
| 11/13-11/19 | | | |

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| | Disorders in Immunity<br><br>**EXAM III** | Chapter 19 | **11/19**<br>**EXAM III**<br>Video quiz |
| 11/20-11/26 | Immune response | Chapter 20 | 11/26<br><br>Quiz IV<br>Video quiz |
| 11/27-12/03 | **Group Presentations**<br>**Group Presentations**<br>(finish up everything/ review for Final) | | **12/03**<br>Group Project Due |
| 12/04-12/05 | **Final Exam** | | **12/05**<br>**(Exam IV)** |

## Course Evaluation

Final Grades will be calculated according to the following criteria:

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|---|---|
| 1.4-unit Exams | 30% |
| 2.4 quizzes | 20% |
| 3.video quizzes | 10% |
| 4.Group Presentation | 20% |
| 5.Discussion | 10% |
| 6.Individual project | 10% |

**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.

**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.