BIOL 2041.002/003 Microbiology Syllabus, Fall 2025

Meeting times Dates: 8/18/2025-12/12/2025
Class Time: MWF 1:00 pm to 1:50 pm, face-to-face
Class Location: Life Science Complex Building A -117

Contact Information for Instructor

Dr. Rohan Balakrishnan
Email: rohan.balakrishnan@unt.eu (preferred)
Office Location: Life Science Complex Building A (LSC-A), Room 359
Office Hours: Monday and Wednesday 2:00 pm to 3:00 pm

Course Description

Microbiology is a course intended for majors and minors in the biological sciences. The course content includes survey of the microbial world: classification, ecology, morphology and physiology of microorganisms.

Prerequisites or Other Restrictions

Concurrent enrollment in BIOL 2042 is recommended but not required. The required prerequisites are BIOL 1710 (Principles of Biology I), either BIOL 1750 or BIOL 1760 (may be taken concurrently), and CHEM 1410 - General Chemistry I. and CHEM 1420 – General Chemistry II is highly recommended (may be taken concurrently).

Course Objectives

This course utilizes the Recommended Curriculum Guidelines for Undergraduate Microbiology Education from the American Society for Microbiology. The full list of these guidelines can be found at the following on the ASM Recommended Curriculum Guidelines for Microbiology Education website.

By the end of this course, students will be able to:

- Define scientific terminology relevant to the concepts found in the ASM Curriculum Guidelines
- Describe the concepts found in the ASM Curriculum Guidelines
- Provide examples of microorganisms or their processes which demonstrate the concepts found in the ASM Curriculum Guidelines
- Analyze and interpret results from a variety of microbiological methods and apply these methods to analogous situations.
- Effectively communicate fundamental concepts of microbiology in written and oral format
- Identify and discuss ethical issues in microbiology.
- Identify credible scientific sources and interpret and evaluate the information therein.

Course Materials

The textbook is Microbiology: An Introduction, by Tortura, Funke & Case (14th Ed.). All class reading assignments in this syllabus are identified based on this book. Lecture slides define the scope of the topics covered.

Please check Canvas regularly for announcements, PowerPoints, reviews, assignments and any updates. It is your responsibility to check for announcements and to have notifications on. Course materials provided in this course are reserved for use only by students in this class for educational purposes. These materials should not be shared outside the class in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

Communication & Feedback

- Students should email the instructor with any questions or concerns as soon as they arise. Please don't wait until deadlines have passed or it is too late to remedy the situation. The instructor will respond to email within 24-48 hours (weekends and holidays excluded). The instructor will NOT respond to emails sent from outside of these accounts (such as gmail, yahoo, etc.)

- Communication will be done via emails to your UNT email address, Canvas announcements, or in class. To avoid missing announcements, please check your UNT emails and Canvas email regularly.

- Students facing technical problems with course material or online assignments on Canvas should contact the instructor as early as possible before the deadline. There will be grade penalty for late submission if not contacted earlier.

- All grades are posted within 7 days. The Canvas grade book is set up to calculate the student's grade throughout the semester. Please email the instructor with any questions about any grades, how assignments are graded, or how to calculate the course or lecture grade.

Class Expectations

Respect for others is vital. As a student, you are expected to work individually and with others, to create an atmosphere that is safe, valuing of one another, and conducive to learning. Everyone is expected to show courtesy, civility, and respect for one another.

Course Policies

Attendance: Regular check-in and completion of materials constitutes attendance.
Failure to participate in class for an extended period will lead to a grade of "F". **The last day to withdraw from classes is November 7th, 2025**. Research has shown that students who attend class are more likely to be successful. The only excused absences recognized by the University of North Texas are observation of religious holiday, military service or wherein a student is representing the university in an official capacity such as athletics or band. According to UNT policy: "An activity or event is organized and sponsored by the university when it has been planned, funded and properly approved by the appropriate university official".
`https://policy.unt.edu/sites/default/files/06.039%20Student%20Attendance%20and%20Authorized%20Absences.pdf. A student needing assistance verifying absences due to illness or extenuating circumstances for all courses should contact the Dean of Students office. The Dean of Students office will verify the student's documentation and advocate on the student's behalf, as appropriate, to instructors for excused absences. If you must miss a class period, contact your instructor immediately via email to discuss the reason for your absence. Excused absences must be accompanied by proper documentation. It is also helpful to make connections with other students to form study groups. Do not wait till the last moment to finish the assignments. Roll will be taken each day, and you are responsible for signing your name on the sign-up sheets

Class Schedule

The tentative schedule is given below and may subject to change. Instructor will inform any changes in class or via canvas announcement**. It is the students' responsibility to check for due dates for exams and assignments in Syllabus and come prepared to class accordingly.**

Week	Days	Date	Chapter*	Topic
1	Mon	Aug 18		Syllabus and Course Introduction
	Wed	Aug 20	1	The Microbial World and You
	Fri	Aug 22	1	The Microbial World and You
	Sun	Aug 24		Online assignment 1 due by 10:59 pm
2	Mon	Aug 25	3	Observing Microorganisms Through a Microscope
	Wed	Aug 27	3	Observing Microorganisms Through a Microscope
	Fri	Aug 29	4	Functional Anatomy of Prokaryotic and Eukaryotic Cells **Census date -August 30th**
	Sun	Aug 31		Online assignment 2 due by 10:59 PM
3	Mon	Sep 1		**Labor Day- NO CLASS**
	Wed	Sep 3	4	Functional Anatomy of Prokaryotic and Eukaryotic Cells
	Fri	Sep 5	4	Functional Anatomy of Prokaryotic and Eukaryotic Cells
	Sun	Sep 7		Online Assignment 3 due by 10:59 pm
4	Mon	Sep 8	5	Microbial Metabolism
	Wed	Sep 10	5	Microbial Metabolism
	Fri	Sep12	6	Microbial Growth
5	Mon	Sep 15		**Exam 1**
	Wed	Sep 17	6	Microbial Growth
	Fri	Sep 19	7	Control of Microbial Growth
	Sun	Sep 21		Online Assignment 4 due by 10:59 pm
6	Mon	Sep 22	7	Control of Microbial Growth
	Wed	Sep 24	7	Antimicrobial Drugs
	Fri	Sep 26	7	Antimicrobial Drugs
	Sun	Sep 28		Online Assignment 5 due by 10:59 pm
7	Mon	Sep 29	11	The Prokaryotes: Domains Bacteria and Archaea
	Wed	Oct 1	11	The Prokaryotes: Domains Bacteria and Archaea
	Fri	Oct 3	11	The Prokaryotes: Domains Bacteria and Archaea
8	Mon	Oct 6		**Exam 2**
	Wed	Oct 8	12	The Eukaryotes: Fungi, Algae, Lichens, Protozoa
	Fri	Oct 10	12	The Eukaryotes: Fungi, Algae, Lichens, Protozoa
	Sun	Oct 12		Online Assignment 6 due by 10:59 pm
9	Mon	Oct 13	13	Viruses
	Wed	Oct 15	13	Viruses
	Fri	Oct 17	8	Microbial Genetics

	Sun	Oct 19		Online Assignment 7 due by 10:59 pm
10	Mon	Oct 20	8	Microbial Genetics
	Wed	Oct 22	8	Microbial Genetics
	Fri	Oct 24	8	Microbial Genetics
	Sun	Oct 26		Online Assignment 8 due by 10:59 pm
11	Mon	Oct 27	9	Biotechnology
	Wed	Oct 29	9	Biotechnology
	Fri	Oct 31	9	Biotechnology
12	Mon	Nov 3		Microbial Diseases - Virulence
	Wed	Nov 5	14	**Exam 3**
	Fri	Nov 7	14	Microbial Diseases – Pathogenicity **Last day to drop with a W -Nov 8th**
	Sun	Nov 9		Online Assignment 9 due by 10:59 pm
13	Mon	Nov 10	21-26	Microbial Diseases
	Wed	Nov 12	21-26	Microbial Diseases
	Fri	Nov 14	27	Environmental Microbiology
	Sun	Nov 16		Online assignment 10 due by 11:59 PM
14	Mon	Nov 17	27	Environmental Microbiology
	Wed	Nov 19	28	Industrial Microbiology
	Fri	Nov 21	28	Industrial Microbiology
15	MonFri	Nov 24-30		**Thanksgiving Holiday -No Classes**
	Sun	Nov 30		**Online assignment 11 due 10:59 PM**
16	Mon	Dec 01		**Exam 4**
	Wed	Dec 03		**Pre-Final day**
	Fri	**Dec 05**		**Reading day-No classes**
		tba		**Final Exam**

*Note: chapter numbers based on Tortora 14th edition.

Methods of Evaluation

Exams The grade in this course is determined by the following categories of assessment.

There will be 5 exams for this course (4 in-class exams and a comprehensive final exam). The lowest score you earn on the four in-class exams will be dropped, but NOT the comprehensive final exam grade. **There will be no make-up exams and assignments**. Serious medical emergency may be considered but must be documented by a medical professional. No one will be admitted to an exam after the first person has left that exam. Bring pencils with a decent eraser. NO OTHER ITEMS ARE PERMITTED DURING EXAMS. This includes smart watches and devices, lecture notes, “cheat sheets”, etc. Scantrons will be provided, so there is no need to get it yourself.

Exam dates or coverage subject to change, with reasonable advance notice. PLEASE NOTE THAT THE CLASS TIME IS DIFFERENT FOR THE FINAL!

Assignments There will be 11 online assignments. All assignments are worth 10 points each. **There will be no make-up assignments**. Late assignments will not be counted. Please note the due date for each assignment from the class schedule.

Extra credit: There may be unannounced pop quizzes at the end of some classes covering the topics of the same day. This will give chances for students to earn extra points to be added to the total points.

There are **1000 total possible points, 1100 for honors section.** Grades will be assigned based on how many cumulative points you earn in the class.
• 3 out of 4 exams, 200 pts each = 600 pts (One Lowest grade dropped)
• Mandatory Final Exam (cumulative) =300 pts
• 11 Online assignments =100 pts (Lowest grade dropped)
• For honors students, additionally 1 online assignment (50 pts) and one online essay (50 points)

The grading scale for assigning letter grades in this course is as follows:
A 90% and up
B 89.9- 80%
C 79.9 -70%
D 69.9- 60%
F 59.9% and below

Grade Reviews If you **genuinely** believe there is an error in the grade, you must notify the instructor within 1 week after the grade is posted online. After this time, all grades are final and will not be reviewed. You will not be allowed to review a previous exam after taking the next exam. For example, after taking Exam 2, you will not be able to review Exam 1. Please note that I offer 2 hours of office hours each week. **Do not waste office hours haggling over points**.

UNT Policies: Academic Integrity Policy Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. In this course, each student is expected to work independently on all assignments unless specifically instructed otherwise by the instructor. Academic dishonesty (cheating) will not be tolerated. Students found to be cheating on any work in this course may receive a grade of zero on affected work, be removed from the course, and/or be reported to the university for additional disciplinary action.
ADA Policy

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Access website. You may also contact ODA by phone at (940) 565-4323