



## Course Snapshot

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**Microbiology Laboratory BIOL 2042 508**

**Term: 2026 Fall**

**Modality: In Person**

**Meeting Information: TR, 01:15PM-03:05PM, LIFE A228**

## Instructor Information

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**Name: Syeda Alam**

**UNT Email Address: Syeda.Alam@unt.edu**

**Office Hours and Location**

**LSA227 (Lab Supervisor)**

**Office or Department Phone Number: 9405652627**

**Preferred Contact Method: Email**

## Course Description

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**2042 (BIOL 2121). Microbiology Laboratory. 1 hour (0;4). Laboratory techniques in general microbiology. Survey of microorganisms including bacteria, fungi, protozoa, and algae. Culture, staining, and identification of bacteria. Prerequisite(s) : C or higher in the following: BIOL 1750 or BIOL 1760, and BIOL 2041 (may be taken concurrently).**

## Course Structure

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Laboratory techniques in general microbiology. Survey of microorganisms including bacteria, fungi, protozoa, and algae. Culture, staining and identification of bacteria.

Perform a project to identify antibiotic-producing bacteria from soil.

Prerequisite(s): CHEM 1420 (may be taken concurrently). Co-requisite(s): BIOL 2041

## **Instructor Welcome and Course Orientation**

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**Welcome to BIOL 2042, Microbiology lab. Each lab section meets two times a week. It is student's responsibility to check the schedule for the first few weeks.**

Your lab instructor will go over safety. It is mandatory to **follow all the micro 2042 safety instructions at all times**. You will have to sign a safety roster that states that you understand and will abide by the safety rules.

**YOU WILL NOT BE ABLE TO PROCEED LABS WITHOUT THE SAFETY INFORMATION**, so it is mandatory that you attend the first day of class!

If you are immunocompromised, please come to see me. Room LS A227.

## **Learning Outcomes and Alignment**

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By the end of a standard BIOL 2042 lab, students should be able to:

- - **Master in Aseptic Technique:** Safely manipulate microbial cultures without introducing contamination to themselves, the environment, or their samples
  - **Operate Microscopy Equipment:** Properly focus and use microscopes to observe cellular morphology and arrangements
  - **Isolate and Identify Microorganisms:** Use media, streak-for-isolation methods, and biochemical or staining tests to characterize microbes
  - **Evaluate Antimicrobial Susceptibility:** Perform and interpret assays to measure antimicrobial susceptibility

## **Course Materials**

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**Lab Manual 1**

**Subtitle: Hughes & Hughes, Microorganisms, A Laboratory Manual**

**ISBN: 9798319709424**

**Authors: Roxana Hughes, Lee Hughes, Syeda T. Alam**

**Publisher: Kendall Hunt Publishing company**

**Edition: 3rd**

**Lab Manual 2**

**Subtitle: Tiny Earth Project-A Research Guide to Student sourcing**

**Antibiotic Discovery**

**ISBN: 9781711470726**

**Publisher: Kendall Hunt Publishing company**

## **Course-Specific Technology**

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**A computer or a Laptop**

## **Major Assignments and Assessments**

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- **There are two practical exams.** Exam questions may include short answers, fill-in-the-blank, multiple choice, identification, and practical questions. The duration of the practical exams is 1 hour. **Exam make-up will be given only with documented medical/university excuses**
- **Pre-lab Quizzes** are administered online in Canvas at the beginning of the week based on that week's topics
- **Post-lab Quizzes** are administered in person
- **Quiz or Exam grades will not be dropped.** If you arrive within 10 minutes of the exam starts, you will be allowed to enter the lab and finish the exam without extra time. No students will be allowed after 10 minutes.
- **Report and Lab Notebook**  
Students must bring their lab manuals to every lab to fill out the reports and questions. The points are allocated and will be a part of grade. No late work will be acceptable. There is project introduced in the middle of the semester and lab reports need to be printed and brought during the second half of the semester to be filled out in every class and submitted towards the end of the semester and the points are associated with it. No late lab report is acceptable.

## **Grading and Feedback**

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**Grade Distribution: A>= 360**

**B= 320-359**

**C= 280-319**

**D= 240-279**

**F<= 239**

### Composition of lab grade

Online Prelab Quizzes (10) 30 points  
Post-lab Quizzes (in class) (6) 90 points  
Practical Exam 1 100 points  
Practical Exam 2 100 points  
Lab Manual Report/Questions 20 points  
Attendance 20 points  
Participation 10 points  
Tiny Earth Report 30 points  
**Total 400 points**

**If you have any questions about a graded item or believe there is an error in the grade, you must notify the instructor within 1 week after the grade is posted online.**

## Course Schedule

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| Date | Assignment Name                                  | Type       | Points |
|------|--------------------------------------------------|------------|--------|
|      | <a href="#">Antibiotic and antiseptic</a>        | Assignment | 2      |
|      | <a href="#">BLAST</a>                            | Assignment | 2      |
|      | <a href="#">ESKAPE presentation</a>              | Assignment | 5      |
|      | <a href="#">Lab Manual Report/<br/>Questions</a> | Assignment | 20     |
|      | <a href="#">Participation</a>                    | Assignment | 10     |
|      | <a href="#">Post lab quiz 1</a>                  | Assignment | 15     |
|      | <a href="#">Post-lab quiz 2</a>                  | Assignment | 15     |
|      | <a href="#">Post-lab quiz 3</a>                  | Assignment | 15     |
|      | <a href="#">Post-lab quiz 4</a>                  | Assignment | 15     |

| Date    | Assignment Name                                                           | Type       | Points |
|---------|---------------------------------------------------------------------------|------------|--------|
|         | <a href="#">Post-Lab quiz 5</a>                                           | Assignment | 15     |
|         | <a href="#">Post-lab quiz 6</a>                                           | Assignment | 15     |
|         | <a href="#">Practical Exam 1</a>                                          | Assignment | 100    |
|         | <a href="#">Practical Exam 2</a>                                          | Assignment | 100    |
|         | <a href="#">Review 1</a>                                                  | Assignment | 2      |
|         | <a href="#">Review 2</a>                                                  | Assignment | 2      |
|         | <a href="#">Roll Call Attendance</a>                                      | Assignment | 20     |
|         | <a href="#">Spot evaluation</a>                                           | Assignment | 3      |
|         | <a href="#">Tiny Earth report (Hard Copy)</a>                             | Assignment | 28     |
| 8/24/26 | <a href="#">Pre-lab Quiz 1 (inoculation and media preparation)</a>        | Quiz       | 3      |
| 8/30/26 | <a href="#">Syllabus Quiz</a>                                             | Quiz       | 3      |
| 8/31/26 | <a href="#">Pre-lab Quiz 2 (smear, gram, acid fast, endospore stain)</a>  | Quiz       | 3      |
| 9/14/26 | <a href="#">Pre-lab Quiz 3 (UV, osmolarity, biobag, commensalism, pH)</a> | Quiz       | 3      |

| Date     | Assignment Name                                                                                                | Type       | Points |
|----------|----------------------------------------------------------------------------------------------------------------|------------|--------|
| 9/21/26  | <a href="#">Pre-lab Quiz 4<br/>(antiseptic, antibiotic,<br/>catase, negative stain<br/>and water analysis)</a> | Quiz       | 3      |
| 9/28/26  | <a href="#">Pre-lab Quiz 5 (TE soil<br/>collection, isolating<br/>microbe, fungi)</a>                          | Quiz       | 3      |
| 10/12/26 | <a href="#">Pre-lab Quiz 6 (algae,<br/>protozoa,<br/>cyanobacteria, master<br/>plating)</a>                    | Quiz       | 3      |
| 10/19/26 | <a href="#">Pre-lab Quiz 7 (ESKAPE<br/>pathogens and<br/>antagonism)</a>                                       | Quiz       | 3      |
| 10/26/26 | <a href="#">Pre-lab Quiz 8 (PCR and<br/>Gel electrophoresis)</a>                                               | Quiz       | 3      |
| 11/2/26  | <a href="#">Pre-lab Quiz 9<br/>(Bacteriophage, Starch<br/>hydrolysis,<br/>epidemiology)</a>                    | Quiz       | 3      |
| 11/9/26  | <a href="#">Pre-lab Quiz 10<br/>(Transformation and<br/>Conjugation)</a>                                       | Quiz       | 3      |
| 11/17/26 | <a href="#">Tiny Earth Report<br/>(online)</a>                                                                 | Assignment | 2      |

## Authorized Absences Policy

**An absence will be excused by the university for: a. religious holy day, including travel for that purpose; b. participation in an official university function; c. required military service, including travel for that purpose; d. pregnancy and parenting under Title IX; and e. when the University is officially closed.**

For more details and procedures regarding UNT Authorized Absences, please see [Policy 06.039](#).

**Absences that do not fall under Title IX, Required Military Service, and Official University Absences (religious holy days, participation in an official university function, and when the University is officially closed), are deemed a matter between the student and their faculty member. If the absence is due to an illness or extenuating circumstance that exceeds 5 consecutive days, the faculty member may request for the student to provide documentation through the Dean of Students' office.**

## Course Level Absence Practice

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Microbiology lab meets two times a week (as assigned, Monday and Wednesday or Tuesday and Thursday) **in person**. No online lab is offered. **Attendance in the lab is mandatory.** The BIOL 2042 class is a hands-on, lab-based course, and because a successful laboratory experience is dependent upon regular attendance, the instructor/lab supervisor **reserves the right to drop** any student from the course with a W if the student is absent for **more than two (2) absences** during the semester. If, due to circumstances beyond your control, you have to miss a lab, you must contact your lab instructor prior to the absence (Exceptions are absences that are medical or University-sponsored). Your safety and well-being are important to us. If a lab is missed (unexcused), the student will get a zero for attendance.

A student is considered absent if the student comes to the lab **after 15 minutes** into the lab period. They are not allowed to enter the lab. The door will be closed. The lab will meet the entire duration of the scheduled time. Students leaving early will be marked as absent for that day. No student will attend another section without permission from the supervisor. Permission will be given to the students only with an appropriate excuse. Supervisor has the right to say NO, if the excuse is illegit.

Students are responsible for letting the instructor know of the following absences for make-up:

- **Professional school interviews**
- **Conference attendance**
- **Receiving awards such as scholarships or other academic honors**
- **Missing class due to being waitlisted (only applicable prior to census date)**
- **Personal travel**
- **Short-term illness and doctor appointments (Flu, COVID, Strep, cold etc,) (need doctor's note)**

Dean of students will be only notified if the absences are due to

- **Temporary disability or injury**
- **Extended medical absences or hospitalization**
- **Illness of a dependent family member**
- **Major illness or death of a loved one, which may include immediate family members of the student, spouses/partners, and others as deemed appropriate by the Dean of Students office**
- **Car accident that takes away transportation**
- **Housing emergencies**
- **Significant mental health concerns**

## **UNT Academic Integrity Policy**

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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.

## **Course Specific Academic Integrity Practice**

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No cheating is allowed in Microbiology lab at any time. If someone is caught with cheating, they will receive ZERO for that assessment and will be reported to the university for further action.

### **Unauthorized Aids During Examinations and Assessments**

Students may use only those materials and resources that are expressly authorized by the instructor for a particular examination or assessment. Touching, holding, or accessing any unauthorized aid during the examination period constitutes a violation of the Student Code of Conduct, regardless of whether the aid is used.

Any item that may be considered an unauthorized aid must be kept out of view and in a closed container (e.g. zipped backpack, buttoned purse, etc.) during the entirety of the examination or assessment.

Unless specifically authorized in writing by the instructor, prohibited aids include, but are not limited to:

- Mobile phones and smartphones
- Smartwatches and fitness trackers with communication, recording, or internet capabilities
- Tablets, laptops, and other computing devices
- Earbuds, headphones, and other audio devices
- Smart glasses, cameras, recording devices, and wearable technology
- Artificial intelligence (AI) tools, chatbots, and other generative AI technologies
- Notes, textbooks, study guides, formula sheets, or reference materials
- Any other device, material, or resource not expressly permitted by the instructor

Students are responsible for clarifying any questions about permitted materials before the examination begins.

## AI Use Practice

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In this course, the use of GenAI tools is not permissible. No matter the approach, any attempt to represent GenAI output as a student's own work will be considered fabrication, cheating, and/or academic dishonesty as determined on a case-by-case basis

## Course Level Practices

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Cell phones, smart watches, earbuds

**Cell phones are not allowed** in microbiology 2042 labs. **Cell phones must be turned "off"** and **stored** in your personal bag at all times while working in microbiology labs. If

you have your cell phone with you or in your cubby, you will be asked to leave the lab and will get a **ZERO** in participation for the day. Leaving the lab to take phone calls or text will be considered an absence for the day (Consult TA if it is an emergency).

**All Smart watches and earbuds** must be stored in your personal belongings during **laboratory times and exam dates**. If the student is caught with these gadgets with them during exam time, they will be asked to leave and receive a **ZERO** for that exam.

#### Safety

Students must follow Laboratory Safety Rules (**as always instructed by Lab Instructor**) while working in the Microbiology lab. Failure to do so will result in **points deduction** from your participation grade. \_

**No closed-toe shoes, no long pair of pants = no lab**, students must leave the lab and will be absent for the day. **Gloves and labcoats** should not be worn outside the lab at any time.

**Long hair needs to be tied** up all the time, even during exams.

Students will sign a **safety roster**, stating that the students understand and will follow the safety/lab rules given to them.

#### Lab Policies

If you miss a lab, you are responsible for the information covered that day. All work is done independently unless explicitly instructed otherwise. Students may leave the lab only after checking with his/her lab instructor. Students are responsible for keeping their benches disinfected, clean and re-stocked with any materials needed. (List posted on each bench)

#### Participation:

For participation grade, points will be deducted for each safety violation and violation against UNT and lab policies.

#### Supporting Your Success and Creating an Inclusive Learning Environment:

I value the many perspectives students bring to our campus. Please work with supervisor or your instructor to create a classroom culture of open communication, mutual respect, and inclusion. All discussions should be respectful and civil. Although disagreements and debates are encouraged, personal attacks are unacceptable. Together, we can ensure a safe and welcoming classroom for all. If you ever feel like this is not the case, please stop by my office and let supervisor know. We are all learning together.

Always be respectful of your laboratory instructor and your lab mates. Do not distract or obstruct lab mates when they are carrying out experiments, this can compromise their safety and integrity of their experiments. Disruptive/bad behavior compromises safety of lab participants and will not be tolerated. If such behavior is incurred, points will be deducted from your participation grade, and it will be reported to the UNT Dean of

Students Office. If the student doesn't agree with the instructor, the student should wait till the class is over and talk to the instructor alone and if needed talk to supervisor.

#### Additional Notes

Do not wait until the last minute to ask for help. If you are having trouble with this class, please go to your lab instructor's posted **office hours (3 hours week)**. If you cannot attend your instructor office's hours, schedule an alternate time to meet. If you still have questions, please email or come to the supervisor (me) to discuss. During busy times, my (supervisor's) inbox becomes rather full, so if you contact supervisor and do not receive a response within **two** business days, please send a follow up email. A gentle nudge is always appreciated. Have a great semester!

## Student Success Guidance

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It is students' responsibility (not instructors' responsibility) to check Canvas for class materials and reviews and emails for the announcements every day, Attendance is mandatory. Each student is responsible for reading the lab manual before each lab and perform experiments in class. There will be assessments in the form of practical exams, quizzes, lab reports, assignments. Students are expected to meet instructors outside the lab during office hours to ask for clarification or find support with understanding class material. Your success is our goal.

## Academic Support and Student Services

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### Technology Support

**Part of working in the online environment involves managing the inconveniences and frustrations that can arise when technology breaks down or does not perform as expected. Here at UNT, we have a [Student Help Desk](#) that you can contact for help with Canvas or other technology issues:**

- **Phone: 940-565-2324**
- **Email: [helpdesk@unt.edu](mailto:helpdesk@unt.edu)**
- **Current list of [Student Help Desk hours](#)**

### Academic Support Services

- **The [UNT Academic Resource Center](#) provides links to the bookstore, registration and advising information, tuition information, financial aid, and more.**

- The [UNT Academic Success Center](#) offers academic support services and free individual tutoring.
- [UNT Writing Lab](#)
- [UNT Libraries](#)

## **Student Services**

- [Counseling and Testing Services](#)
- [Student Affairs Care Team](#)
- [Student Health and Wellness Center](#)
- [Student Legal Services](#)
- [UNT Food Pantry](#)

## **Civil Discourse**

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As a leading public university, the University of North Texas has a fundamental responsibility to create enduring value for the public good. The fulfillment of our mission as a university depends upon the free exchange of ideas in the pursuit of knowledge. We bring these commitments into action by centering civil discourse in our culture and curriculum. We define civil discourse as the practice of constructive dialogue to broaden understanding, grounded in our shared values and deep respect for each other's potential. By committing to this practice, we seek to equip every student with skills and mindsets to engage, contribute, and lead—at UNT and throughout your lives.

Engaging with different ideas, asking questions, and debating are essential to a university education. This course may include ideas you disagree with, find unwise, or even find offensive – that we include for purposes of academic inquiry and critical examination. You may be asked to demonstrate understanding of these ideas without being required to believe or endorse them. My role as an instructor is to help you build understanding and foster critical thinking. If any claim – mine, yours, or a fellow student's – seems unclear or unsupported, we should be able to ask each other to explain it. Vigorous debate is welcome. Speech that violates the Student Code of Conduct, including speech that harasses a specific individual or disrupts the course is not. You may expect that views expressed in class will not be attributed to specific individuals outside of

class, and that you will be evaluated fairly based on the learning objectives of this course.

## **University Policies**

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**ADA Accommodation Statement:** UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of 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 accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website at [disability.unt.edu](http://disability.unt.edu).

**Emergency Notification & Procedures:** UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to the UNT Learning Management System (LMS) for contingency plans for covering course materials.

**Retention of Student Records:** Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Blackboard online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the

**Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.**

**Acceptable Student Behavior:** Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at [deanofstudents.unt.edu/conduct](http://deanofstudents.unt.edu/conduct).

**Access to Information – Eagle Connect:** Students' access point for business and academic services at UNT is located at: [my.unt.edu](http://my.unt.edu). All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail: [eagleconnect.unt.edu/](http://eagleconnect.unt.edu/).

**Student Evaluation Administration Dates:** Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" ([no-reply@iasystem.org](mailto:no-reply@iasystem.org)) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website at [spot.unt.edu](http://spot.unt.edu) or email [spot@unt.edu](mailto:spot@unt.edu).

**Survivor Advocacy:** UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and

stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at [SurvivorAdvocate@unt.edu](mailto:SurvivorAdvocate@unt.edu) or by calling the Dean of Students Office at 940-565-2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at [oeo@unt.edu](mailto:oeo@unt.edu) or at (940) 565 2759.

**Pregnancy Modifications Under Title IX and Parenting Resources:** UNT is committed to supporting students who may need pregnancy and parenting modifications in compliance with Title IX. If you are a pregnant student or have a pregnancy related condition, please visit [report.unt.edu](https://report.unt.edu) and complete the 'Request Pregnancy/Parenting Modifications' form. Parenting students who may need resources can seek support and guidance from the Dean of Students and the Eagle Engagement Center. [Pregnant and Parenting Students Policy number 16.008](#).

**Copyright Notice:** Materials used in connection with this course may be subject to copyright protection. Materials may include, but are not limited to: documents, slides, images, audio, and video. Materials in this course website are only for the use of students enrolled in this course, for purposes associated with this course, and may not be retained for longer than the class term. Unauthorized retention, duplication, distribution, or modification of copyrighted materials is strictly prohibited by law. For more information, visit the [UNT Policy Office](#), or [Copyright.gov](https://copyright.gov).

**Web Accessibility & Privacy:** Please find the web accessibility and privacy

statements for UNT and Canvas.

## UNT

- [Web Accessibility Policy](#)
- [Privacy Statement](#)

## Canvas/Instructor

- [Accessibility Statement](#)  
[Privacy Policy](#)

## University Resources

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It is the student's responsibility to be aware of

- **all UNT policies and deadlines**
- **Student Code of Conduct**
- **Dropping courses or withdrawing.**
- All other policies

### Academic Success Resources

UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to [unt.edu/success](https://unt.edu/success) and explore [unt.edu/wellness](https://unt.edu/wellness). To get all your enrollment and student financial-related questions answered, go to [scrappysays.unt.edu](https://scrappysays.unt.edu).

You **must** note that students will be notified by Eagle Alert if there is a campus closing that will impact a class and describe that the calendar is subject to change, citing the [Campus Closures Policy](https://policy.unt.edu/policy/15-006) (<https://policy.unt.edu/policy/15-006>).

## Course Calendar

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**Syllabus is tentative and subject to changes: Any changes to the printed schedule, including pre-lab readings or quizzes will be announced in lab or Canvas in case of weather events.**

Students will be notified by Eagle Alert if there is a campus closing that will impact a class and you will find information in Emergency Notifications and Procedures Policy

(PDF), ([https://policy.unt.edu/sites/default/files/06.049\\_Standard%20Syllabus%20Policy%20Statements\\_supplement.pdf](https://policy.unt.edu/sites/default/files/06.049_Standard%20Syllabus%20Policy%20Statements_supplement.pdf)).

| Days | Date         | Lab Exercise                                                                                                      | Lab Numbers<br>(Hughes/Tiny Earth) |
|------|--------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------|
| M/T  | Aug 17/18    | <b>NO CLASSES</b>                                                                                                 |                                    |
| W/R  | Aug 19/20    | Laboratory Introductions, Lab Safety, Microscopes.<br><b>Mandatory class</b>                                      | vii-viii, Lab 1                    |
| M/T  | Aug 24/25    | <b>Online pre-lab quiz 1</b> , Culture Media Preparation<br><b>Census day, Aug 28</b>                             | Lab 2                              |
| W/R  | Aug 26/27    | Inoculation of media, Aseptic techniques, Bacterial Nomenclature                                                  | Lab 3, 4                           |
| M/T  | Aug 31/Sep 1 | <b>Online pre-lab quiz 2</b> , Colony morphology, Smear Preparation, Gram stains                                  | Lab 4, 6, 8                        |
| W/R  | Sep 2/3      | <b>Post lab Quiz 1</b> , Gram stain continues, Spore Stain, Acid Fast Stain                                       | Lab 9, 10                          |
| M/T  | Sep 7/8      | <b>Labor Day (NO Classes)</b>                                                                                     |                                    |
| W/R  | Sep 9/10     | Micropipette usage, Environmental influences: Effect of Temperature, Oxygen tolerance                             | Lab 11 (Page 71-72), 12, 14        |
| M/T  | Sep 14/15    | <b>Online pre-lab quiz 3</b> , Growth of Anaerobes: Biobag, Environmental influences: Effects of pH, Commensalism | Lab 14, 15, 23 (Commensalism)      |
| W/R  | Sep 16/17    | <b>Post lab Quiz 2</b> , Environmental influences: Lethal Effects of UV, Osmolarity                               | Lab 13, 16                         |

| Days       | Date         | Lab Exercise                                                                                                               | Lab Numbers<br>(Hughes/Tiny Earth) |
|------------|--------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| M/T        | Sep 21/22    | <b>Online pre-lab quiz 4</b> , Controlling Microorganisms: Antiseptic and Disinfectants, Antibiotics and Antimicrobials    | Lab 17, 18                         |
| W/R        | Sep 23/24    | Water analysis, Catalase test, Negative Stain                                                                              | Lab 22, 14 (98-100), 5             |
| M/T        | Sep 28/ 29   | <b>Online pre-lab quiz 5</b> , Fungi: Filamentous molds and yeast, Lichen                                                  | Lab 20, 23 (Mutual)                |
| W/R        | Sep 30/Oct 1 | <b>Post Lab Quiz 3, The Tiny Earth Project</b><br>Introduction and Soil collection, Review for Practical Exam 1            | TE Section 1, 2                    |
| <b>M/T</b> | Oct 5/6      | <b>PRACTICAL EXAM 1</b>                                                                                                    |                                    |
| W/R        | Oct 7/8      | Isolating Microbes from soil (Soil Sample Data Collection Sheet), Review for Practical Exam 1 continues                    | Lab 11, TE Section 3               |
| M/T        | Oct 12/13    | <b>Online pre-lab quiz 6</b> , Microbial survey: Cyanobacteria, Protozoa, Algae                                            | Lab 21, 23 (Parasitism)            |
| W/R        | Oct 14/15    | <b>Post lab Quiz 4</b> , Calculating CFU/ml, Master Plates of isolates                                                     | Lab 11, TE Section 5               |
| M/T        | Oct 19/20    | <b>Online pre-lab quiz 7</b> , Meet the ESKAPE pathogens and their safe relatives, start preparing for ESKAPE presentation | TE Section 6                       |

| Days       | Date         | Lab Exercise                                                                                                           | Lab Numbers<br>(Hughes/Tiny Earth) |
|------------|--------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| W/R        | Oct 21/22    | Antibiotic discovery, Assess antibiotic production by isolates, gram stain of the isolate                              | TE Section 7, 10, 23 (Antagonism)  |
| M/T        | Oct 26/27    | <b>Online pre-lab quiz 8</b> , Identification of soil isolates: PCR of 16S rRNA sequences, ESKAPE presentation         | TE Section 8<br>TE Page 155-158    |
| W/R        | Oct 28/29    | <b>Post lab Quiz 5</b> , Gel Electrophoresis, ESKAPE presentation continues                                            | TE Page 123-125                    |
| M/T        | Nov 2/3      | <b>Online pre-lab quiz 9</b> , The viruses: Bacteriophage, Starch hydrolysis test                                      | Lab 26, 30                         |
| W/R        | Nov 4/5      | Epidemiology<br><b>Last day to withdraw with a W, Nov 6</b>                                                            | Lab 19                             |
| M/T        | Nov 9/10     | <b>Online pre-lab quiz 10</b> , Microbial Genetics: Transformation, Conjugation                                        | Lab 24, 25                         |
| W/R        | Nov 11/12    | <b>Post lab Quiz 6</b> , ID of organisms: Blasting, Review for Final Exam                                              | Notes on Canvas                    |
| M/T        | Nov 16/17    | Biochemical Testing, Oxidase test, <b>TE report in person and online due (Take pic of TE report and submit online)</b> | Lab 27-30, Lab 14 (99)             |
| W/R        | Nov 18/19    | Develop Biochemical tests, <b>Review for Final Exam continues, Hughes manual due</b>                                   | Lab 27-30                          |
| <b>M-F</b> | Nov 23-27    | <b>THANKSGIVING (NO CLASSES)</b>                                                                                       |                                    |
| <b>M/T</b> | Nov 30/Dec 1 | <b>PRACTICAL EXAM 2</b>                                                                                                |                                    |