

# IMMUNOLOGY Spring, 2026

The Immunology lab schedule is subject to change due to unforeseen events. The student is responsible for completion of the lab and keeping up with the schedule and materials. Please make sure to check with your TA for any schedule changes.

Week	Materials covered
Wk1* 1/12	Orientation. Anatomy of the Immune System
Wk2 1/19	<b>Labs will not meet this week.</b>
Wk3* 1/26	White Blood Cell Differential. Count/Hemacytometer
Wk4* 2/2	Serological Titrations
Wk5* 2/9	Phagocytosis
Wk6* 2/16	Isolation of Antibodies from Serum
Wk7* 2/23	Immunoelectrophoresis
Wk8 3/2	<b>Midterm Exam—F2F During regular scheduled lab time. 2hrs only!</b>
Wk9 3/9	<b>Labs will not meet this week.</b>
Wk10* 3/16	Enzyme Immunoassay (ELISA)
Wk11* 3/23	Lysozyme
Wk12* 3/30	Particle agglutination
Wk13* 4/6	Ouchterlony gel diffusion
Wk14* 4/13	Single Radial Immunodiffusion
Wk15 4/20	<b>Final Exam—F2F During regular scheduled lab time. 2hrs only!</b>
Wk16 4/27	<b>Oral comprehensive make-up Exam via appointment with the TA— F2F. 2hrs only!</b>

The objectives of this lab are to (1) familiarize you with the anatomy of the immune system; (2) introduce you to the basic immunological techniques, old and new; (3) and to help you develop analytical thinking and experimental design methods.

**Lab Instructor:** \_\_\_\_\_

**Office Hours** \_\_\_\_\_

**Contact Information** \_\_\_\_\_

Your TA will have office hours posted as soon as possible. The TA is required to be available at the posted times, and only at the posted times. If there are people waiting in line the TA reserves

the right to stop the session to attend to the other students. This is to prevent a student or group of students monopolizing the TA's time.

**Contacting Your Instructor.** Please contact your instructor at their UNT assigned email. Please use your UNT assigned email when contacting your instructor. Your instructors will respond to your messages within two work days. In case of an emergency, send an email to the instructor and contact the Department of Biological Science office at (940) 565-3491.

**Instructional Laboratory Supervisor contact info: Please use the below contact info and not the contact info through Canvas!!! All my canvas emails go to my junk mail.**

Dr. Arland Alberts (940-369-8683, [aalberts@unt.edu](mailto:aalberts@unt.edu), Life Science Building A #349 Suite D)  
Dr. Wendy Pace, [Wendy.Pace@unt.edu](mailto:Wendy.Pace@unt.edu).

### **Attendance Expectations.**

1. Students missing out on the hands-on experience in the lab have been shown to do poorly in the course. We do not offer make-up labs since we do not have the capability for doing this.
2. Your safety and well-being is important to us, so if you cannot attend a lab due to an emergency let your instructor know and submit the absence note to the Dean of Students.
3. See link below for University excused absence such as active military service, a religious holy day, or an official university function as stated in UNT's Student Attendance and Authorized Absences Policy.  
([https://policy.unt.edu/sites/default/files/06.039\\_StudAttnandAuthAbsence.Pub2\\_.19.pdf](https://policy.unt.edu/sites/default/files/06.039_StudAttnandAuthAbsence.Pub2_.19.pdf))
4. If you are experiencing any symptoms of COVID ([https://www.cdc.gov/coronavirus/2019-ncov/symptoms\\_testing/symptoms.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms_testing/symptoms.html)) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or [askSHWC@unt.edu](mailto:askSHWC@unt.edu)) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at [COVID@unt.edu](mailto:COVID@unt.edu) for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.
5. Please provide the absence note to the Dean or the Instructional Supervisor within the week of the absence date in order to receive credit for the absence. Late submission will not be considered.

### **Grade Expectations.**

1. It is your responsibility to periodically check your scores and bring any discrepancies to the attention of your instructor.
2. Any grade discrepancy from when a grade is posted must be addressed within 7 days of the posting. Please make an appointment with your TA to go over the issue within that time period.
3. To get an incomplete, you must be making a "C" or above as of the last day of your attendance and must submit valid documentation to the Dean of Students.
4. There will be no curving of grades or rounding up of grades!
5. Worksheets are included for each topic covered in the lab. They carry no credit but they are useful tools in studying for the exam.

### **Absences**

#### **Comprehensive oral make-up exam:**

1. **Excused absences (Sponsored University events--sports, orchestra, and AFROTC where your presence is required and not an option)**—these are the only acceptable excuses! You have one week and only one chance to bring a signed official document from your coach/director from the date of your absence.

2. **Unexcused absence—any illness, court/law hearings, medical/dental school interviews, personal or family emergencies**—you have one week and only one chance to bring a signed official document from the Dean of students from the date of your absence.

**Not- eligible for a comprehensive oral make-up exam:**

**Unexcused absence**—car problems, vacation, work and other class scheduling or event scheduling (weddings etc...)—none of these will be accepted.

**Exams.**

1. All exams will be closed book with no class notes or outside resources.
2. Exams will be taken in class and cover **all** concepts and topics that have been discussed in class as well as posted on canvas.
3. All electronic devices must be turned off.
4. **Please use the bathroom before the exam starts — you will not be allowed to use the bathroom during the exam.**
5. Cheating includes, but is not limited to, getting assistance from others, accessing the web, using electronic resources, or using notes during exam time. Cheating in this course will result in you receiving a zero for that grade opportunity and a note will be placed in your academic file. If caught cheating twice you will be permanently removed from this course and receive an 'F' grade for the course.
6. Exams will be given at the start of the class and will only be administered for the said time. If you are late you can take the exam, but you will not be given additional time. In other words, if the exam is **2 hrs** long and if you come in an hour late from the start of any exam, then you will only have 60 minutes to complete the exam.
7. If you come in for an exam late and students have already completed and left the exam, then you will not have a chance to sit for the exam.
8. For those students who have missed an exam, you will need to provide documentation for the reason missed **within a week of the exam to the Dean of Students**. Students then will have the opportunity to take the missed exam as an **Oral comprehensive make-up exam**→**2 hrs** only. The **Oral comprehensive make-up exam** will be administered on the designated week as per syllabus via appointment with the TA. If you are late you can take the exam, but you will not be given additional time. In other words, if you come in an hour late from the start of any exam, then you will only have the left-over time to complete the exam.
9. Only one exam can be made up as the **Oral comprehensive make-up exam** with provided documentation from the Dean of students. If you have missed more than one exam, then you will get a zero for the other missed exam(s).
10. Once you are scheduled for the **Oral comprehensive make-up exam**, you only get one chance to reschedule in case of emergencies—documentation will need to be provided.
11. Once you have taken an exam, there will be no “do overs” of any exams.

**Grading:** The lab grading for this section is broken down as follows:

<b>Grading</b>	<b>Points</b>	<b>%</b>
Midterm and Final (2hr only!)—50 pts each!	100	~64.5
Participation (11 labs)- 5 pts participation per lab*	55	~35.5
<b>Total points</b>	<b>155</b>	<b>100</b>

**\*Student conduct in class: F2F 5 pts—total for the criteria listed below. There are 11 labs that are counted.**

- Student is on time on time for the lab→Within 5 minutes from the start of the lab (0.5pt) and must stay for the entire lab. (0.5pt)

- Participates in Lab activity. If you leave early without permission from the TA—you will be docked participation points (2pts)
- Respond to questions or discussion to demonstrate understanding of the topic. (1pt)
- Volunteer relevant and interesting ideas during class discussion. (1pt)

Grade distribution:

% grade		
100-90	A	139.5 and above
89-80	B	124-139
79-70	C	108.5-123
69-60	D	93-108
Below 60	F	107 and below

**Important dates:** A list of important dates and deadline information can be found on the UNT Registrar's webpage: <http://registrar.unt.edu/registration/spring-registration-guide>

There will be **NO extra credit** available.

**Lab Rules:** NO food or drink allowed in the lab. Students are responsible for leaving their workstations clean and orderly for the next lab session. A student may leave the lab after completing all work and checking out with his/her lab instructor.

**Lab groups:** You will work in groups of 3-4. Groups will be assigned at the beginning of the course. All group members are expected to contribute equally to the lab work. It is the responsibility of group members to schedule out of lab work so that all members do their share of the work

**Penalties for Academic Misconduct: Will be reported to the Dean of Students.**

1. First offense: A “0” will be recorded as the score for that activity AND the final course grade reduced by one complete grade
2. Second offense” Assignment of F (Fail) for the final course grade
3. For grievous infractions such as, but not limited to, a systematic or collaborative event: An assignment of F (Fail) for the final course grade may be issued in the case of a first offense.
4. An example of a grievous 1<sup>st</sup> offense that will result in an “F” in the course would be turning in collections that you have stolen, borrowed, or otherwise not personally collected and try to pass them off as your work

The following is taken from the Policies Chapter under “Code of Student Conduct and Discipline.” UNT Undergraduate Catalog. The university is creating a database, so all incidents of plagiarism and cheating since April 2017 are now required to be reported to the university.

**Academic dishonesty — Cheating**

The term ‘cheating’ includes, but is not limited to:

- (a) Use of any unauthorized assistance in taking quizzes, tests, or examinations;
- (b) Dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying other assignments;
- (c) The acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university;

- (d) Dual submission of a paper or project, or resubmission of a paper or project to a different class or a class taken in a previous semester(s) without express permission from the instructor(s); or
- (e) Any other act designed to give a student an unfair advantage.

### **Academic dishonesty — Plagiarism**

The term 'plagiarism' includes, but is not limited to:

- (a) The knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and
- (b) The knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Plagiarism and cheating refer to the use of unauthorized books, notes, or otherwise securing help in a test: copying tests, assignments, reports, or term papers; representing the work of another as one's own; collaborating, without authority, with another student during an examination or in preparing academic work: or otherwise practicing scholastic dishonesty.

"Academic dishonesty matters may first be considered by the faculty members who may assign penalties such as failing, reduction or changing a grade in a test, course, assignments, or other academic work, denial of a degree and/or performing additional academic work not required of other students in the course. If the student does not accept the decision of the faculty member, he/she may have his/her case heard by the academic department chairperson or head for review of his/her case. If the student does not accept the decision of the academic department, he/she may then follow the normal appeal procedures listed under Disciplinary Procedures."

### **Policy on Disability Accommodations**

The Department of Biological Sciences, in cooperation with the Office of Disability Accommodations, complies with Section 504 the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written request before the 12<sup>th</sup> class day so that necessary arrangements may be made.

*"The University of North Texas 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 you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You 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 Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940.565.4323."*

## **Biology Laboratory Procedures and Safety Rules.**

Laboratory safety is the first and foremost concern in any laboratory. The following regulations need to be followed without exception.

### **IMPORTANT LABORATORY PROCEDURES**

1. Make sure you know how to properly dispose of any chemicals used in lab.
2. Make sure all chemical containers are closed tightly after use.
3. Keep laboratory clean and organized.
4. Be familiar with experimental procedures you will be performing before coming to the laboratory.

### **SAFETY RULES**

1. DO NOT EAT OR DRINK IN THE LAB! This includes chewing gum!! Smoking is prohibited in all UNT buildings.
2. Broken glassware must be disposed of in the glass disposal box located in the lab. This box is for glass only.
3. If you or another student is cut or injured in any way during the lab, you must inform the instructor immediately.
4. Bare feet are not permitted in lab. Wear closed toe shoes as protection against broken glass or spillage. It is encouraged to wear long pants and long-sleeved tops, or purchase of a lab coat.
5. Know where to find emergency equipment such as the eyewash, fire extinguisher, and first aid kit.
6. Report any conditions that appear hazardous to the instructor.
7. Do not bring children or pets to the lab. Unaccompanied children are not permitted on campus.
8. Pay attention to warnings in the lab and warnings the instructor announces during the lab.
9. Turn instruments off when the laboratory is over.
10. Always wash your hands after completing your laboratory work. Do not apply cosmetics during lab.
11. Wipe down your table with ethanol or water before you leave.
12. Always think before you act.

### **Course Safety Statements.**

Students are urged to use proper safety procedures and guidelines. While working in laboratory sessions, students are expected and required to identify and properly use safety guidelines in all activities requiring lifting, climbing, walking on slippery surfaces, using equipment and tools, handling chemical solutions and hot and cold products. Students should be aware that the University of North Texas is not liable for injuries incurred while students are participating in class activities. All students are encouraged to secure adequate insurance coverage in the event of accidental injury. Students who do not have insurance coverage should consider obtaining Student Health Insurance for this insurance program. Brochures for this insurance are available in the UNT Health and Wellness Center on campus. Students who are injured during class activities may seek medical attention at the UNT Health and Wellness Center at rates that are reduced compared to other medical facilities. If you have an insurance plan other than Student Health Insurance at UNT, please be sure that your plan covers treatment at this facility. If you choose not to go to the UNT Health and Wellness Center, you may be transported to an emergency room at a local hospital. You are responsible for all expenses incurred.

## Academic Support & Student Services

### Student Support Services

#### Mental Health

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](https://studentaffairs.unt.edu/student-health-and-wellness-center) (<https://studentaffairs.unt.edu/student-health-and-wellness-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (<https://studentaffairs.unt.edu/care>)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry) (<https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry>)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling) (<https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling>)

#### Additional Student Support Services

- [Registrar](https://registrar.unt.edu/registration) (<https://registrar.unt.edu/registration>)
- [Financial Aid](https://financialaid.unt.edu/) (<https://financialaid.unt.edu/>)
- [Student Legal Services](https://studentaffairs.unt.edu/student-legal-services) (<https://studentaffairs.unt.edu/student-legal-services>)
- [Career Center](https://studentaffairs.unt.edu/career-center) (<https://studentaffairs.unt.edu/career-center>)
- [Multicultural Center](https://edo.unt.edu/multicultural-center) (<https://edo.unt.edu/multicultural-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- [Pride Alliance](https://edo.unt.edu/pridealliance) (<https://edo.unt.edu/pridealliance>)
- [UNT Food Pantry](https://deanofstudents.unt.edu/resources/food-pantry) (<https://deanofstudents.unt.edu/resources/food-pantry>)

#### Academic Support Services

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (<https://clear.unt.edu/canvas/student-resources>)
- [Academic Success Center](https://success.unt.edu/asc) (<https://success.unt.edu/asc>)
- [UNT Libraries](https://library.unt.edu/) (<https://library.unt.edu/>)
- [Writing Lab](http://writingcenter.unt.edu/) (<http://writingcenter.unt.edu/>)