

## Genetics Syllabus

The genetics lab schedule is subject to change due to unforeseen event. The student is responsible for completion of the lab and keeping up with the schedule and materials.

Week of	Materials covered	Activities	Lab Assignments due week → please check your Labflow calendar!!
Wk1* 1/12	Introduction and Orientation. Genetic Model Organisms.		
Wk2* 1/19	Cell Division and Planaria.	Planaria.	Model Organism Cell Division and Planaria
Wk3* 1/26	Mendelian Genetics. Drosophila Development.	Chips and Dice. Drosophila Development.	
Wk4* 2/2	Drosophila cross. Chi square analysis.	Drosophila cross. Chi square analysis problems on the board.	Mendelian Genetics, Chi square, and Drosophila Development
Wk5* 2/9	Sordaria Genetics and Linkage Mapping.	Sordaria and Linkage analysis.	Sordaria Genetics and Linkage Mapping
Wk6* 2/16	C. elegans, Mutant Phenotypes. RNAi, worm picking and mock screening.	Analyzing mutants. Worm picking, and mock screening.	C. elegans, RNAi, and Forward Genetics
Wk7 2/23	<b>Midterm Exam</b>	<b>F2F in person. During regular scheduled lab time. 2 hrs only!</b>	
Wk8* 3/2	Hardy Weinberg and Population Genetics.	Studying Genetic Equilibrium and Natural Selection. The ABO blood group. Serengeti, Furry with a chance of evolution.	Hardy Weinberg and Population Genetics
Wk9 3/9	<b>Labs will not meet!</b>		
Wk10* 3/16	Pedigree. Karyotyping.	Cancer pedigree analysis. BRCA, Pedigree analysis word documents Karyotyping.	
Wk11* 3/23	Sickle cell anemia. Problem work on board.	Sickle cell analysis and problem sets. CRISPR. Alzheimer problem set.	Pedigree, Karyotypes, Sickle, and Cancer Genetics
Wk12* 3/30	Corn Genetics Monohybrid and Dihybrid cross and allele frequency. Genetics of taste.	Corn Genetics PTC paper taste test. DNA extraction.	Corn Genetics
Wk13* 4/6	Genetics of taste.	PTC PCR. Doomlings Board game / Genotype: A Mendelian Genetics Board Game.	

Wk14* 4/13	Genetics of taste.	HaeIII digestion, Electrophoresis and gel analysis. Chi-square analysis of the classroom results.	PTC from Phenotype to Genotype
Wk15 4/20	<b>Final Exam</b>	<b>F2F in person. During regular scheduled lab time. 2 hrs only!</b>	<b>Final Exam</b>
Wk16 4/27	<b>Oral make-up Exam (comprehensive)</b>	<b>Via appointment with the TA- F2F in person. 2 hrs only!</b>	

\*Participation grade.

### Genetics Laboratory (Biol 3452)

#### About this lab.

Required Lab manual: Life Science BIOL 3452 - University of North Texas.

Available on Labflow. Please click the link on canvas to directly enroll and pay Labflow.

BIOL 3452 will cover a range of Genetics concepts from Heredity to pedigree to understanding Mendelian Genetics. The in-class hands-on-lab activities will offer you the opportunity to participate in laboratory experiments to help you gain a deeper understanding of each concept. Your TA is here to guide you through the concepts and to make sure you have the available resources for each lab.

Students will be broken up into groups of 4. It is each student's responsibility to communicate with their group members concerning any issues that might affect their participation. Please also do keep the TA in the loop for any issues that may occur. All discussions should be respectful and civil. Although disagreements and debates are encouraged, personal attacks are unacceptable. Please see grading policy below. All experimental analysis will be done during the scheduled in-class lab 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.

#### 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](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 submit the absence note to the Dean or the Instructional Supervisor **within the week of the absence** 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. Grades from Labflow will auto populate into canvas.
3. 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.
4. 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.
5. There will be no curving of grades or rounding up of grades!

### **Grade Determination.**

**From the DOS Office: <https://deanofstudents.unt.edu/resources>**

*... your professors have no obligation to make temporary adjustments [for illness, death in the family, etc.]. If they decline to allow adjustments you may need to withdraw from the course, take an Incomplete, or repeat the class in the future.*

Please make sure that you calculate your grades according to the rubric below.

**Canvas is not always accurate with the final grade determination.**

Grade Category	Total Points	Percent
<b>Participation: F2F labs! Required!!!*</b> (12 labs (5 pts/lab))	60	17.1%
<b>Lab Assessments: 9 assignments online each worth 10 points</b>	90	25.7%
<b>Midterm Exam</b>	100	28.6%
<b>Final Exam</b>	100	28.6%
<b>TOTAL</b>	350	100%

**\*Student conduct in class: F2F 5 pts—total for the criteria listed below. There are 12 labs that are counted.**

- Student is on time on time for the lab→Within 5 minutes from the start of the lab and must stay for the entire lab. (1pt)
- 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		
100-90	A	315 and above
89-80	B	280-314
79-70	C	245-279
69-60	D	210-244
Below 60	F	209 and below

**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)

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

<b>Lab TA Instructor:</b> Name _____
Office Hours _____
Contact _____
Information _____

### Absences

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

**For those who obtain approved excused absences for a missed lab (5pts/Lab day) only if the journal assignment is completed.**

- A student will be allowed to gain attendance points for the missed date.
- A student will be given a Journal Article to review that will be due on Labflow. Please check for the due date.
- The review of the Journal Article must be ~1000-2000 words.
- The review will be graded through Turnitin for plagiarism and AI usage.
- The Lab Supervisor will add the attendance points to your student account.
- For the missed Token opportunity for Lab Reports, please contact the Lab Supervisor.
- There will not be extensions for the journal report once it passes the due date.

### The Labflow Token Economy: A Comprehensive Guide

The Token Economy is designed to reward you for staying ahead of schedule and mastering course content. By being proactive, you can earn enough tokens to purchase a 0.5% boost to your overall course grade (Cost: 40 Tokens).

## 1. How to Earn Tokens (43 Possible)

There are three ways to build your bank. Note the specific "Close" and "Cutoff" timing rules below:

### A. Lab Assessments (Up to 18 Tokens)

Each of the 9 lab assessments offers two distinct token opportunities:

1. The Early Bird Token: Turn in your assessment by the Close Date (which is 48 hours before your lab starts).
  - o *Note:* You can still submit until the Cutoff Date (24 hours before lab), but you will not earn this token if you submit it in that final 24-hour window.
2. The Mastery Token: Earn 90% or higher on the assessment.

B. Lab Reports (Up to 24 Tokens) → these are opened by the TA during class attendance. You will need your phone or computer for the TA to give you access to the reports.

Tokens are awarded for completing report milestones on time.

- The Early Submission Token: Turn in your lab report before the end of your scheduled lab period to earn the token for that report.
- You have 24-hr. deadline (Cutoff Date) after the lab begins to complete the report, but no token will be earned.
- The number of tokens per lab varies based on the number of modules (ranging from 1 to 5 tokens).

### C. Calendar Assignment (1 Token)

- Complete the introductory Calendar Assignment to earn your first token.

## 2. Understanding the "Deadlines"

To manage your tokens effectively, you must understand the difference between these two terms in Labflow:

- Close Date: This is the deadline to earn an "Early" token.
- Cutoff Date: This is the "last chance" to turn in an assignment for credit. No tokens for early submission are awarded after the Close Date has passed.

## 3. How to Spend Tokens

You have two main options for using your earned tokens:

### Option 1: The 24-Hour Extension (Cost: 1 Token)

If you need more time on an Assessment/Report, you can spend 1 token to push both the Close and Cutoff dates back by 24 hours.

- Example: If your lab is Monday at 8 AM, your Close Date is Saturday at 8 AM. If you spend 1 token, your new Close Date becomes Sunday at 8 AM. You can then submit by Sunday morning and still earn your "Early" token!
- *Requirement:* Extensions must be purchased before the original due date.

### Option 2: The Course Grade Boost (Cost: 40 Tokens)

Save your tokens! If you accumulate 40 tokens by the end of the semester, you can trade them in for a 0.5% increase to your final course grade. > Important: With 43 tokens available in the course, you have a 3-token buffer. This means you can spend a few tokens on extensions or miss a few "Mastery" targets and still qualify for the final grade boost.

### **Lab Assessments**

1. Assignments are through Labflow. They are worth 10 points.
2. **All assignments will open 7 days before the assignment is due.**
3. Reading ahead and working on the assignments ahead of the schedule is encouraged to get maximum benefit of materials covered in lab.
4. Each assignment has 3 tries before the deadline to earn the maximum score of 10. The highest score will be recorded in the gradebook

### **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. Please see under "Absence" category for Excused vs Unexcused absences.** 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. An Oral comprehensive exam will not be used to replace another exam grade—not a make-up exam.
10. 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).
11. 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.
12. Oral comprehensive exams must be taken by reading day.
13. Once you have taken an exam, there will be no "do overs" of any exams.

**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/>)