

Syllabus for BIOL 4370/5370:

General Toxicology

Spring, 2026

I. General Information:

Instructor:	Amie K. Lund, Ph.D.	Course Number:	BIO 4370/5370
Office:	ENV 310F	Section Number:	001
Office Phone:	940-369-8946	Semester/Year:	Spring, 2026
E-mail:	amie.lund@unt.edu	Building/Room:	SAGE 356
Office Hours:	Tues 10:00-11:00 a.m. Thurs 12:30p.m.-1:30p.m. or by appointment.	Meeting Time:	Tuesday & Thursday 11:00 a.m.-12:20 p.m.

II. Course Description:

This course will cover basic toxicology concepts, including routes of exposure, disposition and metabolism of toxic substances, toxicokinetics, target organ toxicity, non-organ-directed toxicity, toxic agents, and risk assessment. Students will be exposed to case studies, medical journal literature, and current topics through discussion and learning exercises. In addition to formal coursework, students will be expected to participate in problem-based learning (PBL) exercises, the course Discussion Forum, and a team project entitled "Toxicology on Trial," which will focus on current events and the discussion of key toxicants and their use.

The overall objectives of this course are:

- To be able to identify key toxicological principles
- To know and understand the effects of toxicants on key tissues and organ systems, including the key mechanistic signaling pathways and/or receptors involved.
- To have an increased awareness of toxicants in your everyday life
- To be able to evaluate the potential for toxic consequences

III. Textbooks/Materials/Resources:

1. Required Textbook: "Casarett & Doull's Essentials of Toxicology", 4th Edition by C.D. Klaassen and J.B. Watkins (ISBN-13: 9781260452297).
2. We will also use case studies, problem-based learning exercises, and journal articles, which will be provided to you, to discuss real-world toxicology/exposure scenarios and course content.
3. We will be utilizing iClicker for interactive questions and quizzes (it is mandatory for this course). Please register for the following iClicker course: **SP26 BIOL 4370/5370.001 - Lund**

IV. Course Requirements:

Attendance: Because the information in this course builds with each successive class meeting, success in this course is heavily influenced by attendance. Thus, students are expected to attend lectures regularly. While I do not take formal attendance, I will use polling questions in the lecture to assess participation and to gauge in-class work. Participation points will count toward the final course grade.

Religious Holidays: In accordance with Section 51.911 of the Texas Education Code, UNT will allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within a reasonable time. Students are required to file a written request with the dates of the anticipated absence to qualify for an excused absence. A copy of the state rules and procedures regarding holy days and the form for notification of absence from each class under this provision are available from the Registrar's Office.

Final Exam. The final exam schedule for this course is: **Tuesday, May 5th from 10:00 a.m. – 12:00 p.m.**

V. Grading:

The following scale will be used to assign final course grades. Letter grades reflect the level of understanding of environmental science principles, applications, and laboratory skills/techniques demonstrated:

For this class grade:	You need this percentage:	Level of understanding of material:
A	90 - 100%	Superior understanding
B	80 – 89%	Above-average understanding
C	70 - 79%	Average understanding
D	60 - 69%	Below average understanding
F	< 60%	Does not demonstrate a fundamental understanding

The course grade will be calculated from an average of four (4) exams, one of which is a final exam, quizzes, PBLs, in-class work/participation, and your Toxicology on Trial (or Graduate Student) project. **No make-up exams will be given without a university-excused absence.** If students miss the exam, a grade of zero (0) will be awarded for that examination. Question format may include a combination of short answers, fill-in-the-blank, diagramming/labeling, and/or short essays.

1. Graded written and homework assignments will be introduced during the lecture period throughout the semester, and the due date will be assigned at that time. If you miss a class period when an assignment is given, you are still responsible for completing the assignment by the due date. **Late assignments will not be graded without a university-issued excused absence.**
2. There will be approximately seven (7) scheduled quizzes over the content covered in class (as announced), worth 15 pts each. All assessments (quizzes and exams) will be in-class via the LockDown Browser on our Canvas course page. Question types include multiple-choice, T/F, dropdown menus, and/or matching. **Your lowest quiz grade will be dropped; therefore, there will be no make-up offered for quizzes unless it is a university-excused absence.**
3. In-class polls/discussions/exercises will be presented throughout the semester and graded by the instructor, with points counting toward your final grade. If you are absent on a day when an in-class assignment is given, you will receive a “0” for that assignment. No make-ups will be offered for in-class work exercises unless you have a university-excused absence.
4. We will utilize the Canvas Discussion forum (found as a link on the left side of the Canvas course page). Participation is mandatory and will be graded as a portion of the

course points. Quiz and exam questions may also be generated from Discussion forum topics.

5. Toxicology on Trial. Students will be assigned to a group/topic by Dr. Lund. Students will then be tasked with reviewing a specific side of the issue/topic chosen (e.g., pros vs. cons) in a written brief. The groups will present their assigned side of the topic to the class, supported by evidence from the literature or other reliable sources. You will receive more information later in the semester to prepare the brief. **The brief is DUE Monday, April 20th, by 5:00 p.m. Toxicology on Trial presentations/debates will be done in class from April 21 to April 30, 2026.** Late projects will not be accepted!!

Grading (point) distribution for the course grade is as follows (estimate only):

	Points	Total Point	Percentage of Course Grade (estimate only)
Exams (4)	40 pts each	160 points total	43%
Quizzes (7)* *Lowest quiz grade will be dropped	15 pts each	90 pts	24%
In-class exercises / Discussion assignments / PBLs, etc.	varied	90 points total	24%
Toxicology on Trial student project	35 pts	35 points	9%
	TOTAL	375 possible points (estimate only)	

Other Requirements:

- Students are responsible for all materials covered in class and in the reading assignments. Some material not in the textbook, provided in class during the lecture, may appear on examinations.
- Utilizing PBLs, case studies, and Discussion forums will:
 - Help you develop the writing skills necessary for any career path
 - Reinforce the imperative skill of justifying thoughts and claims with credible evidence- and then citing the evidence!
 - Enhance critical thinking skills.
 - Deepen your understanding of the course content by gaining diverse insights and perspectives from your peers.
- Students are expected to do their readings before class.

- Students may be expected to seek out information on websites or other books to further their understanding of the material covered in class.
- Students are responsible for seeking information on any assignments that may have been given out during their absence. This can be accomplished by checking their syllabus for the topics/book chapters that will be covered during that class session. Please note the make-up policies on quizzes and exams listed above.
- Students will need access to a computer for assignments, quizzes, and exams. Computers are available to UNT students on all campuses.

VI. EXPECTATIONS

Exam Policies:

- **Quizzes and exams will be given during our normal class times and will be accessed through our Canvas course page using LockDown Browser.**
- All quizzes and exams MUST be submitted through LockDown browser prior to leave the classroom; otherwise, the quiz will receive a grade of “0”.
- Any sharing of the quiz or exam passcode with students outside of the classroom is considered cheating, and in addition to all parties receiving a “0”, they will be turned in to the Dean of Students for reprimand.
- Books, notes, phones, or other devices (including headphones) are not allowed during quizzes or exams.
- No student may begin an exam after the due date/time has passed.
- Quiz and exam questions cannot be copied or photographed.
- Any behavior deemed cheating or academic misconduct during a quiz or exam will result in the student receiving a zero and being reported to the Dean of Students. Depending on the circumstances, the instructor may also request that the student be permanently removed from the class.

Any and all grade questions or disputes must be brought to the instructor's attention within **one week** of receiving the grade. Grades will not be changed after one week.

Academic Misconduct:

Students are expected to abide by the Student Code of Conduct as it appears in the UNT catalog. Academic misconduct will not be tolerated. **No cheating will be tolerated.** Anyone cheating (all forms) or exhibiting behaviors consistent with cheating, including, but not limited to, assisting other students with cheating; talking during a testing event, accepting credit for another’s work, etc., will receive as a minimum punishment a grade of zero for the graded item. More severe punishment will be taken depending on the circumstances. Any and all incidents of academic dishonesty will be reported to the appropriate authorities.

Release of Grades:

The Family Educational Rights and Privacy Act (FERPA) (1974) does not permit faculty or staff to report grades by phone or email. All grades will be posted on Canvas so that students can see exactly where they stand in the course at any given time throughout the semester.

VII. Other Information:

Policy on Incomplete Grades:

An incomplete (I) grade is a non-punitive grade, given only during the **last one-fourth of a semester** and only if a student is (1) passing the course; (2) has a **justifiable reason** why the class cannot be completed on schedule; and (3) arranges with the instructor to finish the course at a later date by completing specific requirements that the instructor must list on the grade sheet turned in at the end of the semester. **All work must be completed within the time specified by the instructor (no later than one year after taking the course).**

Important Withdrawal Dates:

January 24, 2026	Census – Official Enrollment Determined; last day to drop a course section to no longer appear on the official transcript:
January 25, 2026	Beginning this date a student may drop with a grade of “W” ; the course appears on the transcript with a grade of W and tuition fees remain.
February 20, 2026	Last day to change to pass/no pass grade option (undergraduates)
April 10, 2026	Last day for a student to drop a course or all courses with a grade of “W”
April 11, 2026	First day to request a grade of incomplete (I); please see Dr. Lund ASAP
April 30, 2026	Last day of regular classes
May 1, 2026	Reading Day, No classes
May 4 – 8, 2026	Final exams

A list of the above dates, as well as other important date/deadline information, can be found on the UNT Registrar’s webpage at: <https://registrar.unt.edu/registration/spring-academic-calendar.html>

Release of Grades:

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SPOT Evaluations:

SPOT evaluations for the course will be available via a direct link in an email and via Canvas announcements, typically during the last 3 weeks of the semester. I welcome your comments and constructive criticism on course content, teaching methods, etc. Please let me know what worked for you and what didn't – and the reasons why. Your opinions are valuable to me and help me adapt the course for future semesters.

Disability Accommodations:

The University of North Texas makes reasonable academic accommodations 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 the 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 during 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.

Course Schedule for BIOL 4370/5370, Section 001, Spring 2026:

WEEK	DATE	TOPICS	MATERIALS (Chapters)
1	1/13	Course Intro / Intro to Toxicology	2
	1/15	Mechanisms of Toxicology	3
2	1/20	Mechanisms of Toxicology Absorption, Distribution, Elimination of Toxicants	3 5
	1/22	Absorption, Distribution, Elimination of Toxicants	5
3	1/27	Biotransformation	6
	1/29	Toxicokinetics (abbreviated)	7
4	2/3	Exam #1	
	2/5	Chemical Carcinogenesis Genetic Toxicology	8 9
5	2/10	Cardiovascular Toxicology	18
	2/12	Cardiovascular Toxicology Toxic Effects of Calories	18 27
6	2/17	Respiratory Toxicology Toxicology on Trial	15
	2/19	Toxic Effects of Solvents / Vapors	24
7	2/24	In class PBL	
	2/26	Exam #2	
8	3/3	Nervous System Toxicology Toxic Effects of Pesticides	16 22
	3/5	Toxic Effect of Metals PBL - Vaccines	23
9	3/10	Spring Break	
	3/12	Spring Break	
10	3/17	PBL - Vaccines Reproductive Toxicology	20
	3/19	Reproductive Toxicology In class PBL – Reproductive Toxicology	
11	3/24	Endocrine Toxicology	21
	3/26	Analytical and Forensic Toxicology Clinical Toxicology	32 33
12	3/31	Exam #3	
	4/2	Toxic Effects of Plants and Animals (Poison and Venom)	26
13	4/7	Environmental Toxicology	29
	4/9	Nanotoxicology	28
14	4/14	Ecotoxicology	30
	4/16	Toxicology on Trial – working groups in class	
15	4/21	Toxicology on Trial	
	4/23	Toxicology on Trial	
16	4/28	Toxicology on Trial	
	4/30	Toxicology on Trial / Review	
17	5/5	Final Exam 10:00 a.m.– 12:00 p.m.	