

MATH 3510.002, spring 2026
Version 4, Last Revised January 7, 2026

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Office Hours:

- Monday: 3:30 pm to 5:00 pm
- Tuesday: 11 am to 12 pm
- Wednesday: 11 am to 12 pm
- Or “by appointment”

Required Text and classroom notes:

- My classroom notes will be a significant. resource for this class.
- I will be posting the notes to the Canvas page after each class meeting.
- The traditional textbook for our class is *Abstract Algebra, 8th Edition* By Fraleigh and Brand.
- I will be assigning reading from the the textbook, as well as practice problems and some homework problems from the book.
- A “section” of my notes will, on occasion, correspond to several sections in the book. I will make it clear in the notes the specific book sections to which my notes correspond.
- I will sometimes state definitions and results in a different way than the text. This is what I’ll present in class.
- I will be scanning and uploading my class notes so that you have a record of those differences.
- Occasionally, I will tell you that a given definition or result from my notes **is to be taken as the definition for the purposes of homework citation and examinations (including the final)**.
- In such cases, I will **always try my best** to make this clear during lecture and in my notes.

Required Software:

- You will need the Canvas app on your portable devices, and you will need to turn on notifications.
- You may need ZOOM on at least one device. I'll keep you posted about this.
- You will need a good scanning app for scanning and uploading your homework assignments to CANVAS.
- While not required, I would encourage you (as a class) to set up a Discord server to share information and so on. Do not invite me to the server. This is for you.

Grading Policy:

The percentage breakdown for the course is as follows:

Final Exam (Mon. 4 May)	25 %
Exam 1 (Wed. 18 Feb.)	25 %
Exam 2 (Wed. 8 April)	25 %
Homework (submitted online)	25%
In-class "quizzes"	10%
SPOT Evaluations assignment (extra credit)	5%

- Note that the revised weights yield a total of 115%. That's not a misprint.
- When I compute your final grade, I will scale the various components and sum them up. Then will divide by 100 (not by 115). The result will be your percentage against which I will compute your grade.
- I will not announce a grading scale at the beginning of the class. However, I will give you substantial input throughout the course regarding your level of mastery of the material and the extent to which it meets expectation.
- However, 90% and above will always earn an A, 80% and above will always be (at least) a B, and so on.

Expectations for students:

- An average college student spends about 2–3 hours studying per week outside of class for every hour in class. You probably want to budget at least 6–9 hours a week for this class and extra time for exams and projects. Adjust the time to accommodate your learning style, background, and experience.

- Students are expected to read the textbook sections carefully, especially the examples, and review their notes before and after each lecture. Students are expected to start the homework a week before it is due and bring questions to class and/or office hours in advance.
- Grades are based on the work and skills shown. If you require a certain grade at the end of the semester, you might need to double or triple your efforts starting on the first week.
- Students are expected to attend every lecture in person and arrive **on time**. (Plan ahead so you are not late.)
- Students who skip lectures in proof-based courses usually have a difficult time passing.
- You should be prepared to ask questions, take notes, and look alive in class. Studies show a deeper understanding after writing notes by hand.
- Successful students use their time efficiently: they read the assigned section BEFORE the instructor discusses it in class and thus absorb more during lecture, they work examples instead of just reading the text.
- They work on homework every day instead of waiting until it is due.
- Successful students also know how to get help from a study group or online source without becoming dependent: They know that merely copying solutions leads to low exam scores later.
- Certain topics will be covered quickly and others in great detail, as the background and skill level of enrolled students may vary enormously. If you feel the course is moving too slowly, remember that others may be struggling.
- Math is not a spectator sport. You will not learn mathematics from watching the instructor or friends or some screen solve problems.
- You must try the practice problems, finish homework problems, ask questions, make mistakes, correct mistakes, put concepts in your own words, and practice, practice, practice!

Written work (In general):

In general, employers hire people with mathematical training believing that math students communicate sophisticated ideas cleanly, clearly, and concisely. Therefore, your proofs and solutions should satisfy the four C's: correct, clean, clear, concise.

- Your audience should be an average student in this course (NOT the instructor), someone who has read the problem but is stuck.
- Rule of thumb: If a fact is *obvious*, then it can be proved in one or two lines, so you might as well include those lines. If you are not sure whether or not to include something, please ask me.

- The back of the book contains hints, not solutions, to certain problems: your solution must contain more detail.
- Write your solutions as a series of logical steps with explanation/justification for each step.
- In general, proofs without sufficient detail will earn no credit or very little credit.
- No (or little) work shown usually earns no credit—even if the answer is correct.
- Higher math is about careful reasoning: no points awarded for the right answer for the wrong reasons.
- Sloppy work will be punished mercilessly.

Exams, the final, and related policies:

- Exam 1 is tentatively scheduled for **Wednesday, 18 February**, and will be administered during class time our usual room.
- Exam 2 is tentatively scheduled for **Wednesday, 8 April**, and will be administered during class time in our usual room.
- The final exam is scheduled for **Monday, 4 May, 12:30 pm to 2:30 pm** and will be administered in our usual room.
- I will not administer an early exam.
- I will not administer an early final—each student is required to take the final exam at the scheduled time.
- There are no make-up exams, no make-up final.
- If you have to miss an exam, you will need to go through the office of the Dean of Students, fill out the appropriate forms, and provide appropriate documentation.
- If you have to miss an exam, reach out to me via email ASAP. At that point, we can discuss how to proceed.

The following instructions apply to all exams, including the final examination:

- ★ All personal electronic devices must be **off** and put away.
- ★ Cell phones are not to be handled nor looked at until a student has turned in their exam.
- ★ Students are not permitted to use notes of any kind.
- ★ Students must **write in pencil or erasable pen**. Make sure you have a suitable (and good quality) eraser.
- ★ Students will not begin a test or final exam until they are instructed to do so.

- ★ I will (or a proctor of my choosing) will keep the exact time during the midterm and final exam. The proctor will keep students abreast of the time remaining.
- ★ When the proctor announces that time is expired, **ALL STUDENTS WILL STOP WRITING IMMEDIATELY**. I shall call for the exams exactly one time. I will reduce your score if you continue after I have called for the exams.

Homework For Collection:

- I expect to collect between 9 and 13 homework assignments over the course of the semester.
- I will drop the lowest two homework scores when I compute each students homework grade for the semester.
- The homework assignments will be distributed and collected through Canvas.
- I encourage you to work together on homework assignments. You are not competing with each other.
- **You should not** expect to sit down and write up a solution to a problem (or a proof in one draft).
- It routinely takes me 3 or 4 drafts to write out solutions for your homework assignments. Be prepared for this to take time to do it well.
- The *proofs* contained in your textbook are, for the most part, merely sketches of arguments, rather than complete and careful proofs. You should consider them as such.
- Books require brevity. Homework does not.
- Books required work to be confined to a small space. Homework does not.
- I will consistently present proofs in class with the level of detail that I expect from you.
- Homework deadlines are HARD DEADLINES. I will not accept late homework.
- If you wait until the last minute and your upload goes wrong, you're out of luck. Don't wait.
- You may prepare your homework in LaTeX.
- However, you will need to double space (and quadruple space), spread your work out, properly indent, and follow other directions related to homework preparation (see below).
- You may write up your assignments using a note-taking application with a stylus on your tablet, if you like.
- You may write it up by hand, scan it and upload it as well.

- For handwritten assignments, if you use pen, IT MUST BE ERASABLE. The work that you turn in must not have areas that are scratched out with pen (or pencil) because you can not, or did not erase.
- The work you turn in needs to be neat and carefully presented.
- Do not crowd your work.
- **Make frequent use of line breaks and indentation in your arguments:** densely packed arguments are difficult to read and hard to grade.
- **You MUST AVOID horizontal lines consisting of a sequence of implications or equalities.** This is bad form, and precludes proper supporting argument (what you are using, and where you are using it. Instead, learn to arrange these vertically over multiply lines. In LaTeX, this involves using arrays or equation arrays.
- **Regarding Formal/Careful Proofs:**
 - ★ In your solutions, you must include the statement of the problem that you are proving. Your proof must begin with the word **proof** indicating precisely where your argument begins.
 - ★ It must end with **QED** (or the equivalent) precisely where your argument ends.
 - ★ You must support each of your claims. For example **by definition** is insufficient.
 - ★ However, **By definition of group**, or **since X is a group with respect to $*$** , is clear.
 - ★ For the most part, you will be referring results and definitions from you textbook. As mentioned above, there will be a few cases where the definitive version will come from my notes.
 - ★ You may not use results that trivialize the problem. Here, it's always best to ask. I may just be asking a trivial question!
 - ★ You must show all of your work. You must fill in all the details.
 - ★ **You must clearly indicate where you are using the various hypotheses, each time you use them in an argument.**
 - ★ **LaTeX proofs must be double-spaced and the font must be at least 12pt.**
 - ★ You will need to skip even more space between paragraphs, cases, subcases, and other breaks in the argument. If you don't know how to change font size and handle spacing, you shouldn't be using LaTeX.

Practice Problems and Exercises from Notes:

- At the beginning of each section of my handwritten notes, I will indicate problems from your book that you should make time to work on.

- These are not for collection (though a given homework assignment may include one or more from the practice list).
- In addition, my handwritten notes include additional exercises. Please make sure you read the notes CAREFULLY, and add those exercises to the list of problems you are practicing.

In-Class Quizzes:

- I expect to give 6-10 in-class quizzes over the course of the semester.
- They will, in general, be short (10 minutes, at most).
- Longer quizzes may involve working together for a time and then discussing results as a class.
- I will drop the lowest quiz score when computing your grade.
- There are no make-up quizzes. If you miss an in-class quiz, you will receive a zero for that particular quiz.
- If there is to be a “traditional in-class quiz”, I will let you know one meeting in advance, and will probably tell you a bit more regarding what to practice.
- Again, this is a bit experimental—so we will see how it goes.

Attendance and Classroom Dynamics:

Attendance will not figure explicitly into a student’s final. However, certain behavior can negatively affect your grade. Indeed, it is my experience those students who miss class on a regular basis generally fail.

The following is taken directly from the list of “**Ten Student Academic Rights and Responsibilities**”, appearing on the official University of North Texas web page

<https://studentaffairs.unt.edu/dean-of-students/conduct/10-academic-rights>

Students may not disrupt class or any other university process by any means whatsoever (including sideline conversations, comments, arguments, noise of any kind or other activity which would hinder access to or utilization of academic information.)

Here are some specifics

- ▷ **ARRIVAL:** Students are expected to arrive to class **On time**. If you anticipate a day when you’ll have to be late, I expect you to speak to me **beforehand**.
- ▷ **DEPARTURE:** Students are expected to remain for the entire class period. I pledge to make every effort to end class on time. If you anticipate having to leave early for some reason, then I expect you to speak to me **beforehand** and I will let you know how to proceed.

- ▷ CELL PHONES: **Unless you have my permission**, make sure you cell phones are on silent (not vibrate), put them away, and don't get them out during class time.
- ▷ OTHER ELECTRONIC DEVICES: If you would like to take notes on an iPad, or other device during class, you need to speak to me **before hand**.
- ▷ BOOK SHUFFLING, PAPER SHUFFLING, BOOK BAG ZIPPING BEFORE LECTURE IS FINISHED. This is disruptive, annoying, and will not be tolerated.

My desire is not to treat you like children. It is, however, important to communicate the basic expectations so as to remove any ambiguity and/or excuse. **I bear these disruptions poorly and will not hesitate to reduce your overall all grade in return.**

Student Evaluations:

- The *Student Perception of Teaching* (AKA SPOT) evaluation process is a **requirement for all organized classes at UNT**. This short survey will be made available the last few weeks of the semester.
- I am very interested in the feedback I get from students, as I work to continually improve my teaching. In addition, the University leadership considers the SPOT evaluation process to be an important part of your participation in this class.
- The SPOT evaluations can only be accessed online.
- I will create a Canvas assignment for this, and will explain everything when the time approaches.
- If you complete **the CANVAS Assignment by the deadline**, you will receive 5 additional points as indicated in the section on Grading Policy above.

Special Notes:

(A) ACADEMIC INTEGRITY STANDARDS AND CONSEQUENCES:

According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. Consequences may include receiving a zero on a given assignment, exam, or project.

(B) 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.

(C) AMERICANS WITH DISABILITIES ACT 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.