2025 Fall Math 1580.400, 410 Survey of Math with Applications
August 18 – December 12

Instructor Information

Name: Ms. Barber

Virtual Office Hours (Bookable)

I'm here to support your learning and success. During virtual office hours, you can ask questions, review content, or get help with assignments. Use the scheduling link in the Canvas Syllabus portal to book an available time. Your success matters to me, don't hesitate to connect.

How to Contact Me

Message me when you have questions, need clarification, or want to let me know about anything affecting your course participation.

- **Canvas Inbox (preferred)**: Best way to reach me.
- **UNT Email**: Include "MATH 1580.700" in the subject and use your official UNT email account.

I respond within one business day**.** Follow up if you don't hear back, and please keep communication respectful and professional, as per UNT's General Online Communication Guidelines.

Course Overview

This course is designed to build your mathematical problem-solving skills through engaging, real-world applications. You'll explore topics including personal finance, apportionment methods, set theory, probability and statistics, and graph theory. Beyond the math itself, you'll strengthen critical thinking, adaptability, and resilience , skills that will benefit you far beyond this class.

Catalog Course Description

3 hours. Topics include probability, statistics, algebra, logic, and the mathematics of finance. Additional topics are selected from geometry, sets, cryptography, fair division, voting theory, and graph theory. Emphasis on applications. Recreational and historical aspects of selected topics are also included. Technology is used extensively.

Note: This course does not serve as preparation for calculus, science, engineering, or business courses.

Course Prerequisite and Other Readiness Expectations

- TSI Complete in Math
- Purposeful Effort: Stay engaged, practice regularly, and turn your efforts into results.
- Digital Literacy
    - Navigate Canvas
    - Complete assignments online
    - Download and install course software (Respondus Lockdown Browser)
    - Download required course materials.

Course Structure

This course is delivered asynchronously online with no required class meeting times. You'll complete all learning and assignments independently, with my support throughout.

All communication, assignments, and materials will be managed through Canvas. Optional online sessions may be offered, and tips for succeeding in a remote learning environment are available at UNT Online.

The course begins with the first content module, already available on Canvas. New modules will unlock as we move forward. There are six total content modules, and terms such as *module*, *chapter*, and *unit* may be used interchangeably.

Each module includes printable lecture notes that align with instructional videos. Watch the videos for guided instruction and worked examples and complete the notes as you watch. This simulates the classroom experience and will help you learn and retain the material more effectively.

Course Objectives

Upon completion of this course, the successful student will be able to:

- Solve problems involving voting and apportionment methods.
- Apply mathematical models to solve personal finance problems.
- Use set theory concepts to construct Venn diagrams and solve related problems.
- Interpret, analyze, and draw conclusions from data representations.
- Apply fundamental principles of probability and counting techniques to solve problems.
- Use graph theory to model and solve application-based problems.

Required Course Materials

Pearson MyLabs Math (MLM) Requirement

This web-based platform hosts most homework, the e-text, and additional resources. Access is required.

MLM Includes:

- Homework assignments for each module
- *Thinking Mathematically* by Robert Blitzer (8th Edition) e-text
- Additional learning resources

Access MLM:

- Register via Access Pearson link in Canvas using your official UNT name
- Deadline: Register first day of term.
- Trial Access: 14-day trial available if you have not used it previously. Purchase full access before the trial ends to retain progress.
- For information on trial access and purchase, see *Start Here* module.

Note-taking Materials

- Fill-in lecture notes: Available on Canvas.

- Paper and pencil/pen to take notes of video lessons and learning activities.

Calculator

- Permitted calculators: TI-36 or a graphing calculator, such as TI-84. Instructional support is provide only for these models.
- Desmos online calculator: Available at www.desmos.com and provided on exams.
- Tip: Practice using your calculator on homework to prepare for exams.

Technology Requirements

To complete this course, you need:

- A desktop, laptop, or tablet compatible with Canvas and required software
- Smartphones are **not** sufficient
- Webcam and microphone for proctored tests
- Reliable internet access
- Access to Microsoft Excel through UNT Office 365: Microsoft Office 365
- Respondus Lockdown Browser (free download linked in Canvas)
- See AI Use Policy under Course Policies.

Check Canvas Technical Requirements to ensure your device is compatible.

Course Evaluation & Grading

Evaluation

- Homework (MLM and other assignments) – 25%
- Engagement Tasks (Orientation assignments, Discussions, Surveys, etc.) – 5%
- Midterm Exams (average of all) – 50%
- Final Exam – 20%

Grades will be posted in Canvas. The Totals column is only an estimate until all assignments are entered, and the course grade is calculated per the evaluation criteria.

Grading Scale

Letter Grade	Percentage Range	Description
A	90–100%	Outstanding, excellent work
B	80–89%	Good, impressive work
C	70–79%	Solid, college-level performance
D	60–69%	Below average, needs improvement
F	Below 60%	Unsatisfactory, does not meet minimum criteria

Grading Philosophy

Course grade reflects your individual performance on graded assignments and assessments. I do not grade on a curve, so your results are based on your progress rather than how you compare to others. I encourage you to collaborate with peers to deepen your learning and make the experience more enjoyable.

Resources for Success

Success comes from your effort, strengthened by connection and resources. Use the following resources:

- Instructor Support: Canvas Inbox, responses within one business day
- Learning Groups: Navigate Study Buddy to connect with classmates and study together.
- UNT Math Lab: Free math tutoring
- The Learning Center: Academic coaching, workshops, and tutoring

Course Components

Homework – Learn by Practice!

Homework gives you the practice needed to learn and retain new content. Most modules include multiple assignments per week, beginning the first day of class.

All assignments are accessed directly on Canvas Keep a dedicated notebook to write out your math work; this supports understanding and exam preparation.

- **Attempts:** Most MLM homework exercises allow 3 attempts. Questions with only 2 or 3 answer choices allow only 1 attempt.
- **Due Dates:** Assignments are due *by* 11:59 PM of the posted due date. If the due times conflict with your schedule, work ahead.
- **Late Work Policy:** Not accepted beyond the built-in grace period for MLM homework; three lowest scores dropped.
- **MLM HW Grace Period:** To support your learning, you can submit most MLM assignments for up to 70% credit until 8:00 am on the Monday following the week it was due. To access missed assignments, use the password: **Late**.

In addition to MLM homework, this category may include other graded assignments on Canvas, such as learning support activities, which also count as a homework assignment.

Engagement Tasks

These assignments help you get familiar with course expectations, tools, and learning activities. They may include quizzes, discussions, and surveys. These tasks build connection in our online class and count toward your grade, complete them on time for credit

Exams

You have seven (7) exams, six (6) midterm exams and a final exam. The midterm exams are ***tentatively*** scheduled as follows. Any changes to an exam date or exam content will be announced on Canvas.

Exam 1 – Thursday, Sept 4 (Module 1 Voting and Apportionment)

Exam 2 – Tuesday, Sept 23 (Module 2 Personal Finance)

Exam 3 – Tuesday, Oct 7 (Module 3 Set Theory)

Exam 4 – Tuesday, Oct 21 (Module 4 Statistics)

Exam 5 – Monday, Nov 10 (Module 5 Counting and Probability)

Exam 6 – Thursday, Nov 20 (Module 6 Graph Theory)

Final Exam – See Final Exam Schedule for date and time, comprehensive.

Any changes to exam dates or content will be announced in Canvas.

Exam Guidelines

- **Due Date**: Exams must be submitted by 11:59 PM on the scheduled date or will receive a zero, regardless of when you start.
- **Missed Exams**: Make-ups are not available. With a university-excused absence (Policy 06.039) and official documentation submitted within two business days, your final exam score may replace the missed exam.
- **Early Exams**: You may request to take an exam early by messaging me via Canvas Inbox at least one week before your desired date.

Taking an Exam with Respondus

- Complete the "How to Take an Exam with Respondus" module in Canvas before your first test.
- Your exam environment must be private and clear of distractions. Show a clean desk surface to your webcam.
- You'll have **60 minutes** to complete each midterm exam; additional time is provided for the final exam.
- Once you open the exam, no additional time or retakes will be granted, including for technical issues.
- When it is required, work must be completed on paper and shown to the webcam. **No valid written work = no credit.**
- Grades will be posted in Canvas within **one week** of the exam. You may request to review problems with me, but all decisions on credit are final

Extra Credit Opportunities

Earn extra credit in two ways: Study Plan quizzes before each midterm exam and high scores on Final Exam review homework. These reward consistent effort and preparation.

Study Plan Quizzes – Midterm Exam Bonus

Each exam covers two modules; each module includes a timed Study Plan quiz in MyLabs Math (MLM). Quizzes are optional but offer an excellent way to review key concepts and earn bonus exam points.

- Closes at 11:59 PM the day before the exam.
- Up to 5 attempts per quiz; highest score counts
- Bonuses from both quizzes are combined and added to your exam score.

Score Achieved	Bonus Points toward Exam
90% or higher	+10 points
80% or higher	+8 points
70% or higher	+7 points
Below 70%	No bonus

Final Exam Review Homework – Final Exam Bonus

Complete the three required, graded MLM review homework assignments to prepare for the final exam. Bonus points for the final exam are earned based on your performance on these assignments.

Reviews Completed with ≥ 90%	Bonus Points on Final Exam
1	+3 points
2	+6 points
3	+ 10 points

Exam Grade Replacement Opportunity

Earning all 10 bonus points (90%+ on all three review assignments) may allow you to replace one low module exam with your higher final exam score. (Note: zeros assigned for cheating are excluded.)

~This course does not accept late work regardless of the reason.~

Changes to Syllabus

I will post any changes to the syllabus on Canvas.

Course Schedule

Assignments are due by 11:59 PM on the posted due date. MLM grace period: submit most MLM assignments for up to 70% credit by 8 AM of Monday following due date.

Before starting homework, I recommend doing coursework first: read the textbook, print lecture notes, and complete while watching lesson videos, review the notes, and then start the homework. For most students this takes less time than staring homework with no prep.

Week 1

Due Date	Course Content	Engagement
8/18/2025	MyLabs Orientation	
8/19/2025	Syllabus Quiz	Recommended: Five (5) Course Overview Quizzes
8/20/2025	Problem-Solving HW	
8/21/2025		Absolute: Five (5) Course Overview Quizzes
8/22/2025	1.1 Voting Methods	Get Acquainted Discussion

Week 2

Due Date	Course Content	Engagement
8/25/2025	1.2 Flaws of Voting Methods	
8/26/2025		
8/27/2025	1.3 Apportionment Methods Part 1 1.3 Apportionment Methods Part 2	
8/28/2025		
8/29/2025	1.4 Flaws of Apportionment Methods	

Week 3

Due Date	Course Content	Engagement
9/1/2025	**Labor Day – University Closed**	
9/2/2025		Module 1 Discussion
9/3/2025	Module 1 Study Plan	
9/4/2025	**EXAM 1**	
9/5/2025	2.1 Percents, Sales Tax, and Discounts,	

Week 4

Due Date	Course Content	Engagement
9/8/2025	2.2 Simple Interest	
9/9/2025		
9/10/2025	2.3 Compound Interest	
9/11/2025		
9/12/2025	2.4 Methods of Saving: Investments	

Week 5

Due Date	Course Content	Engagement
9/15/2025	2.5 Basics of Loans, Parts 1, and 2	
9/16/2025		
9/17/2025	2.6 Income Tax	
9/18/2025		
9/19/2025	2.7 Federal Student Loans	Module 2 Discussion

Week 6

Due Date	Course Content	Engagement
9/22/2025	Module 2 Study Plan	
9/23/2025	**EXAM 2**	
9/24/2025	3.1 Basic Set Concepts	
9/25/2025		
9/26/2025	3.2 Subsets	

Week 7

Due Date	Course Content	Engagement
9/29/2025	3.3 Set Operations & Venn Diagrams	
9/30/2025		
10/1/2025	3.4 Set Operations & Venn Diagrams w 3 Sets	
10/2/2025		
10/3/2025	3.5 Surveys	Module 3 Discussion

Week 8

Due Date	Course Content	Engagement
10/6/2025	Module 3 Study Plan	
10/7/2025	**EXAM 3**	
10/8/2025	4.1 Gathering, Organizing, and Visualizing Data, 4.2 Measures of Central Tendency	
10/9/2025		
10/10/2025	4.3 Measures of Dispersion	

Week 9

Due Date	Course Content	Engagement
10/13/2025	4.4 The Normal Distribution	
10/14/2025		
10/15/2025	4.5 Applications Involving the Normal Distribution	
10/16/2025		
10/17/2025	4.6 Scatter Plots, Correlation, and Regression Lines	Module 4 Discussion

Week 10

Due Date	Course Content	Engagement
10/20/2025	Module 4 Study Plan	
10/21/2025	**EXAM 4**	
10/22/2025	5.1 Counting Methods 1: FTC and Permutations	
10/23/2025		
10/24/2025	5.2 Counting Methods 2: Combinations	

Week 11

Due Date	Course Content	Engagement
10/27/2025	5.3 Fundamentals of Probability	
10/28/2025		
10/29/2025	5.4 Probability Involving Counting Methods	
10/30/2025		
10/31/2025	5.5 The Additional Rule, the Complement Rule, and Odds	

Week 12

Due Date	Course Content	Engagement
11/3/2025	5.6 Conditional Probability and the Multiplication Rule	
11/4/2025		
11/5/2025	5.7 Expectation	Module 5 Discussion
11/6/2025		
11/7/2025	Module 5 Study Plan	

Week 13

Due Date	Course Content	Engagement
11/10/2025	**EXAM 5**	
11/11/2025		
11/12/2025	6.1 Graphs Paths, and Circuits & 6.2 Euler Paths and Euler Circuits	
11/13/2025		
11/14/2025	6.3 Hamilton Paths and Hamilton Circuits	

Week 14

Due Date	Course Content	Engagement
11/17/2025	6.4 Trees – late accepted until 8am Wednesday	
11/18/2025		Discussion 6
11/19/2025	Module 6 Study Plan	
11/20/2025	**EXAM 6**	
11/21/2025		

Thanksgiving Break November 24 - 30

Week 15

Due Date	Course Content	Engagement
12/1/2025	Final Exam Review 1	
12/2/2025	Final Exam Review 2	
12/3/2025	Final Exam Review 3	
12/4/2025	Pre-Finals Day	
12/5/2025	Reading Day – No Classes	

Final Exam Week

Due Date	Course Content	Engagement
12/8/2025	**Final Exam,** see Final Exam Schedule	

Course Policies

Academic Integrity

Academic honesty is essential to your success and to maintaining the integrity of our university. Cheating, plagiarism, or any form of academic dishonesty will not be tolerated. A student found cheating will receive an irreplaceable zero on that assignment; for exam-related violations, a final course grade of F may be assigned; and all violations will be reported to the Office of Academic Integrity in accordance with UNT Policy 06.003.

Every student in this course is capable of success through honest effort, personal responsibility, and appropriate use of resources. I'm here to support your efforts, so use available resources and ask questions when needed.

AI Use Policy

Generative AI tools (e.g., ChatGPT, Microsoft Copilot) may be used to check grammar, spelling, and help format or revise your own written work, but their use must be disclosed in your submission. Using AI to produce entire assignments or during exams is prohibited. Violations will be treated as academic integrity issues under university policy.

Attendance

Although this course is online, active participation is required. In this setting, "attendance" means regularly engaging with learning materials, including watching instructional videos and completing the student lesson notes. The instructor will not repeat entire lessons via email or office sessions; those times are reserved for specific questions or clarifications.

You are encouraged to **work ahead** and manage your time effectively. If a schedule conflict arises, complete the work early. For exam scheduling conflicts, request an early exam in advance.

Review UNT's Student Attendance and Authorized Absences Policy for information on excused absences.

Examination Policy

All exams are taken on Canvas using Respondus Lockdown Browser and must be submitted by **11:59 PM** on the scheduled date. Late submissions are not accepted, regardless of when you start the exam.

If you miss an exam, you will receive a zero for that exam, there are no make-up exams. If the absence qualifies as university excused absence under Policy 06.039 and documentation is provided within two business days, your final exam grade may replace the missed exam score.

Early Exam Request

If you have a conflict with a scheduled exam date, you can request to take your exam early. Please send your request via **Canvas Inbox** at least **one week** prior to the desired early exam date.

Exam Protocol

To ensure exam integrity, follow these guidelines:

- Review the "How to Take an Exam with Respondus" module in Canvas.
- Show a clear desk and test-taking environment to your webcam.
- Complete the exam alone in a quiet place.
- Once the exam is open, you will have the allotted time in one sitting to finish.
- Open the exam only when fully prepared and your technology is ready.
- No extra time or re-takes for technical issues.
- Work is not accepted by email.
- Complete problems on your own paper and who your work to the webcam. No valid work = no credit.
- Grades post to Canvas in about one week. You may request to review problems with me, but all credit decisions are final.

Late Work Policy

UNT is a community of achievers and success depends on staying on schedule. This course maintains high standards while providing built-in flexibility.

- **Assignments**: Must be submitted by the posted due date.
- **MLM Homework Grace Period**: Most MLM homework assignments can be submitted by 8 am the Monday following the week it was due for up 70% credit using the password: Late.
- **Exams**: Cannot be submitted late or re-taken. See Examination Guidelines for possible grade replacement under qualifying circumstances.
- **Homework Drops**: Your three lowest homework scores will be dropped at the end of the term to accommodation emergencies.
- **No Late Work**: Work is not accepted beyond the limited grace period built into MLM. Stay on track by submitting work on time and reach out for help as soon as you run into challenges.

Student Support Services & Assistance

Academic Support & Student Services

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 Succeed at UNT (unt.edu/success) and explore the many links at Wellness at UNT (unt.edu/wellness). To get all your enrollment and student financial-related questions answered, go to Integrated Student Services (scrappysays.unt.edu).

Technical Assistance for Online Course System

The University is committed to providing a reliable online course system to all users. However, part of working in the online environment involves dealing with the inconveniences and frustration 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.

Visit the UIT Help Desk website for their current support hours. Website links, email, phone number, and office location provided as follows:

AIT Help Desk: AIT Student Help Desk (http://aits.unt.edu/support/)

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 330

Canvas Technical Requirements: Canvas Technical Requirements

(https://digitalstrategy.unt.edu/clear)

Additional Canvas Support: Canvas Technical Help

(https://community.canvaslms.com/docs/DOC-10554-4212710328)

Pearson MyLabs Student Technical Support

MyLabs offers student technical support.

Website: Pearson Student Technical Support

Welcome to UNT!

As members of the UNT community, we have all made a commitment to being part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation.

UNT Policies

Academic Integrity Standards and Consequences. Policy

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.

Every student in my class can improve by attending class, consistently doing their own work, and accessing appropriate resources. Academic Integrity Policy violations will not. Read and follow this important set of guidelines for your academic success.

ADA Accommodation Statement

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Access (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 Office of Disability Access website. (https://disability.unt.edu/).

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at: 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 Eagle Connect (https://it.unt.edu/eagleconnect).

Emergency Notification and Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency. In the event of a university closure, please refer to the UNT Learning Management System, Canvas, for contingency plans for covering course materials.

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. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (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 (http://spot.unt.edu/) or email spot@unt.edu.

Important Notice for F-1 Students taking Distance Education Courses

Federal regulations state that students may apply only 3 fully-online semester credit hours (SCH) to the hours required for full-time status for F-1 Visa (PDF) holders. Full-time status for F-1 Visa students is 12 hours for undergraduates and 9 hours for graduate students.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses. See Student Identity Verification Policy, (https://policy.unt.edu/policy/07-002).

Summary of Key Dates – 2025 Fall

See, Academic Calendars by Semester, for the complete list.

August 18

Classes begin.

August 22

Last Day to Add a Class or Swap Sections. A swap is switching sections of the same course in the same session.

August 29

Last Day to Drop a Class Section Without W. Courses dropped before this date will not appear on official transcript. Dropping courses may impact financial aid and degree completion. See advisors.

August 30

Drop with a grade of W Begins. Courses appear on the transcript with a grade of W and tuition, and fees remain. Dropping courses may impact financial aid and degree completion. See advisors.

September 26

Last Day to Change to Pass/No Pass (undergrads)

October 10

Midpoint of the Semester

November 7

Last Day to Drop a Course or All Courses with a Grade of W.

November 8

First Day to Request a Grade of Incomplete. Beginning this date, a student may request a grade of "I", incomplete, a non-punitive grade given only if a student (1) ***is passing***, (2) has justifiable reason why the work cannot be completed on schedule; and (3) arranges with the instructor to complete the work in no more than one academic year.

December 3 – 4

Prefinal Days

December 4

Last Regular Class Meeting

December 5

Reading Day – No Classes

December 6 – 12

Final Examinations

December 12

Last Day of Session