The University of Texas at Tyler
Concepts of Modern Mathematics I (MATH 1350-001)
Spring 2026

Instructor: Kyle Stoltz
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Classroom: RBN 4024
Meeting times: TR 11:00 AM to 12:20 PM
Office Hours:

- MWF 2:30 PM - 3:30 PM
- TR 8:20 AM - 9:20 AM
- Open door policy
- By appointment

Office Location: RBN 4039B

Course Description

This course is designed for prospective elementary and middle grades teachers. We examine, from an adult and educator's perspective, much of the mathematics taught in grades K–8 (with attention to the Texas Essential Knowledge and Skills standards). Emphasis is placed on problem solving, mathematical reasoning, and using multiple models and representations to connect algorithms to meaning. Topics include logic and set theory; place value and numeration systems (including bases other than ten); addition, subtraction, multiplication, and division of whole numbers; integers and their operations; fractions and decimals (representations, equivalence, conversions, and operations); selected topics in elementary number theory (divisibility, primes, factorization, greatest common divisor, and least common multiple); and proportional reasoning. This course satisfies the Core requirement of Interdisciplinary Studies majors only. Prerequisite: A grade of C or better in MATH 1314 (College Algebra) or equivalent. (Credit not given to mathematics majors or minors.)

Student Learning Outcomes

At the conclusion of this course, students will be able to:

1. Demonstrate a proficient conceptual understanding of arithmetic, algebraic reasoning, and proportional reasoning.
2. Use different models and algorithms for performing and describing arithmetic operations with whole numbers, integers, rational numbers, and decimal numbers.
3. Solve and explain problems involving proportional reasoning.
4. Analyze and solve problems involving topics from elementary number theory, including divisibility, primality, greatest common divisor (GCD), and least common multiple (LCM).
5. Give detailed explanations of problem-solving techniques for applications in elementary and middle school mathematics, using correct terminology, notation, and complete reasoning.
6. Analyze and troubleshoot samples of student work, identifying common misconceptions and giving appropriate feedback.
7. Identify and communicate connections among the major concepts covered (representations, algorithms, and the structures of number systems) as they appear in grades K–8 mathematics.

Required Materials

- **Textbook (free online):** *Mathematics for Elementary Teachers* (Michelle Manes), LibreTexts. `https://math.libretexts.org/Bookshelves/Applied_Mathematics/Mathematics_for_Elementary_Teachers_(Manes)`. Supplemental notes will be provided in Canvas.
- **Calculator:** Scientific or graphing calculator (phones/smart devices prohibited)
- **Notebook:** Dedicated for notes and assignments
- **(Optional) Scanning App**: *Adobe Scan: PDF & OCR Scanner* may be used for homework if you don't want to use a university scanner.

Grading Policy

Grades are calculated as follows:

- **Attendance and Participation:** 5%
- **Homework:** 15%
- **Quizzes (Weekly):** 20%
- **Exams (3):** 35%
- **Final Exam:** 25%

Additional Policies:

- The final exam grade may replace the lowest exam grade if higher, provided all exams, quizzes, and homework are completed.
- The course grade will not exceed one letter grade above the final exam grade (e.g., a C on the final caps the course grade at B).
- No extra credit opportunities will be provided.

Grading Scale:

Percentage	Letter Grade
90–100	A
80–89	B
70–79	C
60–69	D
Below 60	F

Exam and Homework Policies

- **Quizzes (Weekly):** Quizzes occur approximately once per week and are designed to reflect the most recent homework and in-class models. Unless stated otherwise, quizzes are closed-note.
- **Major Exams (3):** Major exams are given at the **end of each major unit** (Units 1–3). Exact day(s) will be announced in advance and may shift slightly based on pacing, holidays, or campus events.
  - **Exam 1 (end of Unit 1: Whole Numbers & Operations):** week of **Feb 9, 2026**.
  - **Exam 2 (end of Unit 2: Integers & Number Theory):** week of **Mar 2, 2026**.
  - **Exam 3 (end of Unit 3: Fractions):** week of **Apr 6, 2026**.

  Make-ups require prior approval and documented justification (e.g., medical or legal). Exams are closed note and **all work must be shown to receive credit.**
- **Final Exam:** During **Finals Week (week of Apr 27, 2026)** per the university schedule. The final exam is closed note and **all work must be shown to receive credit.**
  - **Final structure:** Part 1 emphasizes Unit 4 (Decimals and Proportional Reasoning); Part 2 is cumulative (with Unit 4 included).

- **Homework:** Homework will be assigned for each class period. Homework must be scanned and submitted as a PDF on Canvas. Homework will be graded based on completion and accuracy of a subset of problems; weekly quizzes will reflect the homework.

Important Dates

- **January**
  - 9: Payment Deadline, 5:00 PM CST
  - 12: Classes begin for 15-Week session
  - 19: Martin Luther King, Jr. holiday: all offices closed; no classes held
  - 26: Census Date
- **February**
  - 4: Payment Deadline, 5:00 PM CST; 20th Class Day; Drop for non-payment
  - Week of 9: **Exam 1** (end of Unit 1)
- **March**
  - 2: Final Filing Deadline for Spring 2026 Graduation
  - Week of 2: **Exam 2** (end of Unit 2)
  - 9 – 13: Spring break for faculty and students
  - 16: Registration for Fall 2026 begins for graduate / senior / Presidential Fellow / Honors / SI Leader / NCAA / Parenting students
  - 17: Registration for Fall 2026 begins for juniors
  - 18: Registration for Fall 2026 begins for sophomores
  - 19: Registration for Fall 2026 begins for freshmen
  - 30: Last Day to Withdraw from one or more 15-Week courses
- **April**
  - Week of 6: **Exam 3** (end of Unit 3)
  - Week of 20: **Course Review Day** (before finals week)
  - 27 – May 1: Final Exams for 15-Week session classes
- **May**
  - 1 – 2: Spring Commencement
  - 2: End of 15-Week session

Dates subject to change with prior notice.

Course Schedule: Part 1, Units 1 & 2: Whole Numbers, Integers, and Divisibility

Week of	Focus	Text / Notes	Assess
1/12	**Start Unit 1, Foundations:** Logic and sets; representations of whole numbers; Dots & Boxes rules; binary as a first non-ten base.	U1.1 Manes 2.1–2.3	
1/19	**Place Value Across Bases:** Other bases; number systems; reading/writing numbers; comparing and ordering; **More/Less/Equal**.	Manes 2.4–2.5 U1.2	
1/26	**Add/Sub Models:** Whole number addition and subtraction models and interpretations. Begin multiplication models and interpretations.	Manes 3.2–3.4 U1.3 (U1.4 begins)	
2/02	**Mult/Div Models:** Multiplication (day 2); division (2 days) with partitive vs. quotative meaning, missing-factor, and other representations.	Manes 3.4, 3.7 Manes 3.5 U1.4–U1.5	
2/09	**Exam 1, Start Unit 2:** Assessment over Unit 1; integers via number line (magnitude/direction) and two-color counters (zero pairs, distance/difference, takeaway).	**Exam 1** Manes 3.6 U2.1–U2.2	**Exam**
2/16	**Operations:** Properties of operations; exponents as repeated multiplication; interpreting expressions and order of operations.	Manes 3.8–3.9 U2.3–U2.4	
2/23	**Number Theory:** Divisibility properties and tests; primes/sieves; divisor counting; gcd/lcm structure and applications.	U2.5–U2.7	

Course Schedule: Part 2 Units 3 & 4: Rational Numbers, Decimals, and Proportional Reasoning

Week of	Focus	Text / Notes	Assess
3/02	**Exam 2, Start Unit 3:** Assessment over Unit 2; meaning of fractions; linear models (strip diagrams/number lines); equivalence; Key Fraction Rule and fair share interpretations.	**Exam 2** Manes 4.1, 4.3 U3.1–U3.2	**Exam**
3/09	**Spring Break — No Classes**		
3/16	**Add/Sub Fractions + Fraction Revisited:** Conceptual strip/clock/linear models and common-denominator method; revisit fraction meaning/representation with attention to reasonableness.	Manes 4.4–4.5 U3.3–U3.4	
3/23	**Multiplication and Division of Fractions:** Multiplying fractions via area/scale ideas; division meaning (grouping/measurement); invert-and-multiply with word problems and representations.	Manes 4.6–4.9 U3.5	
3/30	**Zero Cases, Unit Fractions, Benchmarks, Estimation:** Fractions involving zero; Egyptian/unit fractions and compose/decompose; benchmark fractions for reasonableness; estimation and approximate reasoning.	Manes 4.10, 4.12 U3.6–U3.7	
4/06	**Exam 3, Start Unit 4:** Assessment over Unit 3; decimal notation as extended place value; decimals as fractions; division-to-decimal connections.	**Exam 3** Manes 6.2–6.5 U4.1	**Exam**
4/13	**Decimals:** Terminating vs. repeating; converting fraction $\leftrightarrow$ decimal; modeling on number line; decimal operations (meaning and algorithms in context).	Manes 6.6–6.8	
4/20	**Proportional Reasoning & Review:** Tables/graphs/double number lines/scale factors; orders of magnitude, approximation/rounding; money/metric contexts; course review.	Manes 6.9 U4.2–U4.4	Review (end of week)
4/27	**Finals Week — Final Exam (date/time per university schedule)**	**Final Exam**	**Final**

Academic Integrity

Academic dishonesty—including cheating, plagiarism, or unauthorized collaboration—will result in a zero for the assignment or exam, potential course failure, and referral to the Office of Student Conduct. Integrity is essential. Academic dishonesty on even one homework will result in a 0% for all homework assignments. Academic dishonesty on one exam or quiz will result in a 0% on the exam, while academic dishonesty on two exams or quizzes will result in a 0% for the course. Academic dishonesty on the final exam will result in an automatic 0% for the course. *Do not access electronics during assessments; Unauthorized device access will result in a 0% for that assessment.*

Electronic Devices

Silence all electronics not used exclusively for note-taking and store them out of sight before entering the classroom. Electronics include but are not limited to smart-watches, smart-phones, smart-glasses, ear-buds, tablets, laptops, and portable gaming devices. Evidence shows divided attention interferes with long-term retention for the whole class. Therefore, a student who does not abide by this policy hurts the whole class. If you have an unusual circumstance that requires you to access an electronic device in class for reasons other than notes, please obtain approval ahead of time. *Do not access electronics during assessments; Unauthorized device access will result in a 0% for that assessment.*

Collaboration Policy

You may discuss the concepts and problem types included in the homework, provided you do not explicitly rely on peers to solve the problems for you. That is, productive collaboration is permitted, blatant copying is prohibited. After collaboration you must work through all problems independently without outside assistance. **If you submit correct work without understanding it, you have likely cheated.**

Attendance and Make-Up Policy

Attendance is mandatory. Absences do not excuse missed work unless covered by university policy. Make-ups will be granted for official university events or activities (see p.7), religious reasons (see p.8), and for pregnant and parenting students (see p.8). Make-ups require documentation and advanced notification of at least one-week.

Course AI Policy

Non-reasoning models are prohibited. Reasoning models (e.g. GPT-5.x, Gemini 3, etc) are permitted as outlined in this policy. In mathematics you must struggle with many problems and persist until you succeed. If your use of AI robs you of productive struggle, you will not learn the content well. Below are examples of appropriate uses of AI within the course.

- (Homework). You may use a reasoning model to identify and learn the skills needed to solve a problem, but you are responsible for solving the problem on your own. You should include phrases in your prompt that indicate the model should not spoil the solution to a problem.

- (Study). Reasoning models are an effective way to get new practice problems and answer some questions. The following prompt-stems may be helpful:

- *Create a new version of this problem for me to practice. Show only the question first, then the answer section. Keep it in normal text—no code blocks or developer-style output.* GPT-5.x can accept uploaded images of problems (even hand-written) for use with this stem.

- *As if I were your student, give me 5 practice problems on the golden ratio. Show only the questions first, then an answer section. Keep it in normal text—no code blocks or developer-style output.* You can change the textbook section or number of problems.

- *Here is my work on a problem. My solution isn't correct. Can you tell me where I went wrong?* You can include hand-written work for analysis. Be sure the full problem text is visible for analysis.

Use of AI in a manner not consistent with the above conditions should receive advanced approval from the course instructor to determine if it will hurt your mastery of the content. Use of AI during exams or to outright solve open homework problems is strictly prohibited. Students are also bound by the University Artificial Intelligence Statement (see p.6).

Student Resources:

Resources to assist you in the course
• UT Tyler Student Accessibility and Resource (SAR) Office (provides needed accommodations to students with document needs related to access and learning)
• UT Tyler Writing Center
• The Mathematics Learning Center
• UT Tyler PASS Tutoring Center
• UT Tyler Supplemental Instruction
• Upswing (24/7 online tutoring) - covers nearly all undergraduate course areas
• Robert Muntz Library and Library Liaison
• Canvas 101 (learn to use Canvas, proctoring, Unicheck, and other software)
• Digital Support Toolkit (for supported courses only. Students are automatically enrolled in the toolkit for supported courses)
• LIB 422 – Computer Lab where students can take a proctored exam
• The Career Success Center
• UT Tyler Testing Center
• Office of Research & Scholarship Design and Data Analysis Lab

Resources available to UT Tyler Students
• UT Tyler Counseling Center (available to all students)
• MySSP App (24/7 access to Student Support Program counseling through phone or chat and online wellness resources available in a variety of languages)
• Student Assistance and Advocacy Center
• Military and Veterans Success Center (supports for our military-affiliated students)
• UT Tyler Patriot Food Pantry
• UT Tyler Financial Aid and Scholarships
• UT Tyler Student Business Services (pay or set up payment plans, etc.)
• UT Tyler Registrar's Office
• Office of International Programs
• Title IX Reporting
• Patriots Engage (available to all students. Get engaged at UT Tyler.)

University Policies and Information

Withdrawing from Class

Students may withdraw (drop) from this course using the Withdrawal Portal. Withdrawing (dropping) this course can impact your Financial Aid, Scholarships, Veteran Benefits, Exemptions, Waivers, International Student Status, housing, and degree progress. Please speak with your instructors, consider your options, speak with your advisor, and visit the One-Stop Service Center (STE 230) or email enroll@uttyler.edu to get a complete review of your student account and the possible impacts to withdrawing. We want you to make an informed decision. UT Tyler faculty and staff are here for you and often can provide additional support options or assistance. Make sure to carefully read the implications for withdrawing from a course and the instructions on using the Withdrawal portal.

Texas law prohibits students from dropping more than six courses during their entire undergraduate career*. The six courses dropped includes those from other 2-year or 4-year Texas public colleges and universities. Consider the impact withdrawing from this class has on your academic progress and other areas, such as financial implications. We encourage you to consult your advisor(s) and Enrollment Services for additional guidance.

CAUTION #1: Withdrawing before census day does not mean you get a full refund. Please see the Tuition and Fee Refund Schedule. CAUTION #2: All international students must check with the

Office of International Programs before withdrawing. All international students are required to enroll full-time for fall and spring terms. CAUTION #3: All UT Tyler Athletes must check with the Athletic Academic Coordinator before withdrawing from a course. CAUTION #4: All veterans or military-affiliated students should consult with the Military and Veterans Success Center.

* Students who began college for the first time before 2007 are exempt from this law.

Artificial Intelligence Statement

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy. Refer to the syllabus Course AI Policy on page 4 for the guidelines for this course.

Final Exam Policy

Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the Dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members must maintain student final examination papers for a minimum of three months following the examination date.

Incomplete Grade Policy

If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in place of a grade only when all of the following conditions are met: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all coursework or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor, and (c) the student presents these reasons before the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average.

The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to meet all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has yet to be assigned within one year, then the Incomplete will be changed to an F, or NC. If the course was initially taken under the CR/NC grading basis, this may adversely affect the student's academic standing.

Grade Appeal Policy

Disputes regarding grades must be initiated within sixty (60) days from the date of receiving the final course grade by filing a Grade Appeal Form with the instructor who assigned the grade. A grade appeal should be used when the student thinks the final course grade awarded does not reflect the grades earned on assessments or follow the grading scale as documented in the syllabus. The student should provide the rationale for the grade appeal and attach supporting document about the grades earned. The form should be sent via email to the faculty member who assigned the grade. The faculty member reviews the rationale and supporting documentation and completes the instruction section of the form. The instructor should return the form to the student, even if a grade change is made at this level. If the student is not satisfied with the decision,

the student may appeal in writing to the Chairperson of the department from which the grade was issued. In situations where there is an allegation of capricious grading, discrimination, or unlawful actions, appeals may go beyond the Chairperson to the Dean or the Dean's designee of the college from which the grade was issued, with that decision being final. The Grade Appeal form is found in the Registrar's Form Library.

NOTE: The Grade Appeal Form is different from the Application for Appeal form submitted to the Student Appeals Committee, which does not rule on grade disputes as described in this policy.

Disability / Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA), the University of Texas at Tyler offers accommodations to students with learning, physical, and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or a history of modifications or accommodations in a previous educational environment, you are encouraged to visit https://hood.accessiblelearning.com/UTTyler/ and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with the Assistant Director Student Accessibility and Resources/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at https://www.uttyler.edu/disability-services, visit the SAR office located in the Robert Muntz Library, LIB 460, email saroffice@uttyler.edu, or call 903.566.7079.

Military Affiliated Students

UT Tyler honors the service and sacrifices of our military-affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with your faculty member if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make your faculty member aware of any complications as far in advance as possible. Your faculty member is willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. The Military and Veterans Success Center (MVSC) has campus resources for military-affiliated students. The MVSC can be reached at MVSC@uttyler.edu or via phone at 903.565.5972.

Students on an F-1 Visa

To remain in compliance with Federal Regulations requirements you must do the following:
- Traditional face-to-face classes: Attend classes on the regular meeting days/times.
- Hybrid Classes: Attend all face-to-face classes convened by the instructor according to the schedule set for your specific course.
- Online course: Only one online course can count toward your full-time enrollment. Students are expected to be fully engaged and meet all requirements for the online course.

Academic Honesty and Academic Misconduct

The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the Student Conduct and Discipline policy in the Student Manual Of Operating Procedures (Section 8).

FERPA

UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in University Policy 5.2.3. The course instructor will follow all requirements to protect your confidential information.

Absence for Official University Events or Activities

This course follows the practices related to Excused Absences for University Events or Activities as noted in the Catalog.

Absence for Religious Holidays

This course follows the practices related to Excused Absences for Religious Holy Days as noted in the Catalog.

Absence for Pregnant Students

This course follows the requirements of Texas Laws SB 412, SB 459, SB 597/HB 1361 to meet the needs of pregnant and parenting students. Part of the supports afforded pregnant students includes excused absences. Faculty who are informed by a student of needing this support should make a referral to the Parenting Student Liaison. NOTE: Students must work with the Parenting Student Liaison in order to receive these supports. Students should reach out to the Parenting Student Liaison at parents@uttyler.edu and also complete the Pregnant and Parenting Self-Reporting Form.

Campus Carry

We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at `http://www.uttyler.edu/about/campus-carry/index.php`.