

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

- Course Number:** MATH 3308-10498
- Course Title:** Proportional and Algebraic Reasoning I
- Credit Hrs:** 3
- Term:** Fall 2024
- Course Meetings & Location:** 12:00 PM – 1:20 PM
LART 207
- Prerequisite Courses:** MATH 2303 with a grade “C” or better
- Instructor:** Kien Lim
- Office Location:** Bell Hall 301
- Contact Info:** E-mail Address: kienlim@utep.edu
Office Phone: (915) 747-6772
Emergency Contact: (915) 747-5761
- Office Hours:** 4:00 PM – 5:00 PM Mondays (via Zoom)
3:00 PM – 4:00 PM Tuesdays
By appointment via Zoom: <https://tinyurl.com/zoomKienLim>
- Course Description:** This course focuses on proportional and algebraic reasoning for prospective elementary teachers. Topics include ratios as measures, ratios as multiplicative comparisons, proportions, rates of change, patterns, linear functions and solving linear equations, inequalities and systems. The focus is on identifying relationships between quantities in contextualized problems, using inductive reasoning to identify patterns and express them algebraically making connections among verbal, graphic, numeric and symbolic representations, solving problems, using concrete numeric, tabular, graphic and algebraic methods and addressing students' misconceptions and errors.
- Textbook(s):** [*Mathematics for Elementary and Middle School Teachers with Activities \(6th Ed\)*](#)
by Sybilla Beckmann
- Overarching Course Goals:** As a future teacher, you will ...
- (a) **Develop a deep understanding of mathematical thinking** to effectively guide and inspire your future students.
 - (b) **Strengthen your problem-solving and reasoning skills** through engaging mathematical investigations.
 - (c) **Cultivate a growth mindset** that fosters perseverance, resilience, and a lifelong love of learning.
 - (d) **Develop the skills to leverage AI** as a learning tool to deepen your understanding of complex math concepts.
 - (e) **Build a strong foundation for collaborative learning** by actively participating in a supportive classroom community.

- Math Learning Objectives:** You will be able to ...
1. **Understand and explain** fraction division using both the "how many groups" and "how many units in one group" models.
 2. **Make connections between** division, fractions, percents, and ratios to solve problems efficiently.
 3. **Distinguish between** proportional and non-proportional relationships in real-world situations.
 4. **Develop strategies to solve** missing value problems using various mathematical approaches.
 5. **Master concepts in number theory**, including factors, multiples, divisibility rules, greatest common factor (GCF), and least common multiple (LCM).
 6. **Differentiate between** variables, expressions, equations, and functions and use them to represent and solve problems.
 7. **Apply strip diagrams and algebraic methods** to solve problems, and compare and contrast these strategies.
 8. **Compare and contrast** arithmetic sequences, geometric sequences, linear functions, and exponential functions.

Activities/Assignments: Welcome to our math course! Get ready for an exciting journey filled with interactive activities, engaging readings, and informative videos. You'll have opportunities to deepen your understanding through note-taking, homework, using AI, reflecting, and learning from mistakes. To help you succeed, plan on dedicating about 9 hours of study time each week for this 3-credit course. Your hard work will be assessed through in-class activities and exams.

- Assessments:**
- Weekly homework will be assigned through OneNote Class Notebook.
 - Tuesday's homework is due Thursday 11:59 pm. Complete it by Wednesday 11:59pm to earn bonus points (up to 10% of your homework score).
 - Thursday's homework is due by Sunday 11:59 pm.
 - In-class assessments are administered at the beginning of a class. These assessments evaluate your understanding of assigned readings, math videos, and concepts covered in class.
 - Edpuzzle videos with embedded questions (80% for on-time completion & 20% for correctness)
 - Examinations are based on your understanding of the concepts. Some exam problems are similar to those in the textbook, online work, and in-class activities. Most problems require you to think and apply your understanding.
 - The final examination is comprehensive. You may use a calculator, ruler, and a double-sided 8.5x11 inch cheat sheet.
 - To encourage mathematical thinking and problem-solving, we use this scale:

A	≥ 80%
B	70% - 80%
C	60% - 70%
D	40% - 60%
F	< 45%

- Technology & Resources:**
- A tablet or laptop for in-class activities
 - A smartphone for iClicker Reef (register using your UTEP email)
 - OneNote for Class Notebook (free for UTEP students)
 - EdPuzzle.com (join at <https://edpuzzle.com/join/abgagae>)

Grading Scheme:	Edpuzzle & i-Clicker	5%
	Homework & Reflections	30%
	In-class Assessments	10%
	Mid-term Examination 1 (Sep 24)	15%
	Mid-term Examination 2 (Oct 29)	15%
	Final Examination (1 pm, Dec 10)	25%

TExES Competencies: TExES 115 (Math 4-8): Competencies 1, 2,, 3, 4, 5, 6, 7, 15, 16

Important Dates: Census Day (Last Day to Drop without W): Sep 11
 Course Drop Deadline (Last Day to Drop with a “W”): Nov 1

If you feel that you are unable to complete the course successfully, please let me know and then contact the [Registrar’s Office](#) to initiate the drop process. If you do not, you are at risk of receiving an “F” for the course.

Culture-of-Care Statement: UTEP espouses a culture of care and excellence. In this course, I strive to model kindness and do my best to support your learning while maintaining high expectations and learning outcomes.

Attendance: Attendance will be taken. Be punctual. If you are late for class you will not be given extra time to complete your quiz.

Use of AI: You are encouraged to AI to assist you in learning and understanding math. We'll explore how to use AI responsibly and ethically, while still valuing the importance of hard work and critical thinking. Remember, understanding the math is key – AI can assist, but it's your brainpower that truly shines. Let's work together to learn and grow in this exciting digital age!

Incomplete Grade Policy: All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. The College of Science allows a period of one month to complete this contract. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

Academic Integrity Policy: Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline.](#)

Copyright Statement for Course Materials: All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

Accommodation Policy: The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#) (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the [CASS portal](#).

Services & Resources: [Help Desk](#)

Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

[UTEP Library](#)

Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.

[Math Tutoring Center \(MaRCS\)](#)

Ask a tutor for help and explore other available math resources.

[University Writing Center \(UWC\)](#)

Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.

[RefWorks](#)

A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

[Military Student Success Center](#)

Assists personnel in any branch of service to reach their educational goals.

[Center for Accommodations and Support Services](#)

Assists students with ADA-related accommodations for coursework, housing, and internships.

[Counseling and Psychological Services](#)

Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.