

Syllabus 24c

Math 135 - Mathematics for Teachers I - Fall 2024 Syllabus

Course Information

Course Number: Math 135

Course Title: Mathematics for Teachers I

Section 500 meets Mondays, Wednesdays, and Fridays from 8:00 - 8:50 AM in BLOC 166

All times listed in this course are Central Standard Time (CST) unless noted otherwise.

Credit Hours: 3

Instructor Details

Instructor: Tamara Carter, Instructional Associate Professor

Office: Blocker 322C

Phone: Math Department: 979-845-3261. There is no phone in my office, so email is the best way to reach me.

E-Mail: tcarter@tamu.edu (<mailto:tcarter@tamu.edu>), (please include your first name, last name, section number or class time, and any information I need to help you or answer your question)

Office Hours: Mondays 1:30 - 3:00 PM in Blocker 309 and online;

Tuesdays 2:00- 3:00 PM online;

Wednesdays 1:30 - 3:00 PM in Blocker 309 and online;

Thursdays 10:30 - 11:30 AM online

and by appointment (email tcarter@tamu.edu (<mailto:tcarter@tamu.edu>) to make an appointment).

Check the Office Hour Link in Canvas (located on the Home Page) for the Zoom Link.

Regular office hours will not be held on days when classes are not held (such as breaks and reading days).

Course Description

Math 135, *Mathematics for Teachers I*, Credits 3.

Concepts of sets, logic, numeration systems, elementary number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking.

Course Prerequisites

High school Algebra I and II and Geometry

Special Course Designation

This is a CORE curriculum course in Mathematics.

Courses in this category focus on quantitative literacy in logic, patterns, and relationships.

Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experiences.

Course Learning Outcomes

Upon successful completion of this course, students will:

- Explain and model the arithmetic operations for whole numbers and integers.
- Explain and model computations with fractions, decimals, ratios, and percentages.
- Describe and demonstrate how factors, multiples, and prime numbers are used to solve problems.
- Apply problem-solving skills to numerical applications.
- Illustrate and discuss relationships among sets using the appropriate mathematical terminology and notation.
- Compare and contrast structures of numeration systems.

Core Objectives

Critical Thinking: creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

- Students will analyze written statements to determine equivalent mathematical notation.
- Students will analyze problems and determine which mathematical operations are appropriate to solve the problems.
- Students will construct formal logical arguments.
- Students will examine given information about sets to find the number of elements in particular subsets.
- Students will examine given information and determine whether the least common multiple or greatest common factor is needed.

Communication Skills: effective development, interpretation and expression of ideas through written, oral and visual communication

- Students will write explanations using proper mathematical notation.
- Students will write mathematical concepts using appropriate English language sentences.
- Students will create a recording in which they verbally explain a mathematical topic.
- Students will communicate information about sets and experiments using written symbolic notation.
- Students will visually represent sets with Venn or Euler diagrams.

Empirical and Quantitative Skills: manipulation and analysis of numerical data or observable facts resulting in informed conclusions

- Students will perform arithmetic computations utilizing multiple strategies.
- Students will use a variety of algorithms to find the greatest common divisor of two whole numbers.
- Students will perform calculations in non-base-ten numeration systems.

Textbook and/or Resource Materials

The **TAMU bookstore** [\(https://tamu.bncollege.com/\)](https://tamu.bncollege.com/) is an option for procuring many of these materials.

Textbook

Custom Cengage Text: *Mathematics for Elementary School Teachers* by Bassarear, 7th edition. ISBN 0357043871.

WebAssign Access

WebAssign will be used for homework in this class. This course is participating in the First Day Inclusive Access Textbook Savings Program. The required materials (WebAssign homework + textbook (in eBook format)) is included at **a price lower than the national price**. The cost will be billed to your student account along with the tuition for this course. WebAssign is available via Canvas on the first day of class. You may opt out of this program in Canvas (Course Materials tool) and receive a credit to your student account for the WebAssign fee from the first day of class until September 16th, 2024, after which, you are expected to purchase the required course materials separately.

***If you have any issues accessing WebAssign, please join the live support hours or contact Cengage at, https://www.cengage.com/coursepages/Live_Office [https://urldefense.com/v3/https://www.cengage.com/coursepages/Live_Office_!!KwNVnqRv!CmrdYEizEJVXKcUf2AcTbSbVW8uG4L9x9xjisS8-s0_zsxx5bsI05DH0rMfBPNbzySgUGxxSji3PQpJqJiLHtig-HQ\\$](https://urldefense.com/v3/https://www.cengage.com/coursepages/Live_Office_!!KwNVnqRv!CmrdYEizEJVXKcUf2AcTbSbVW8uG4L9x9xjisS8-s0_zsxx5bsI05DH0rMfBPNbzySgUGxxSji3PQpJqJiLHtig-HQ$)*

Writing Utensils and Paper

You will need writing utensils for some in-class assignments (even if you take notes on your

tablet). It is also helpful to have some paper available.

iClicker

The iClicker system will be used regularly throughout the semester to administer various types of assessments. To participate, you may use either a physical remote (iClicker+ or iClicker2) or the iClicker Student Mobile App. iClicker assessments may be given at any point during class, so it is very important that you arrive on time and bring your designated iClicker device each day. More information regarding the iClicker system, including instructions for how to register your device, will be posted on Canvas.

Calculator

Calculators are not allowed on quizzes or exams. You may use a calculator as you reason through material in class or on homework questions, but make sure you know how to work the problems without a calculator by quiz and exam time.

Other Technology

Online assessments will be completed electronically using a combination of Canvas and Gradescope.

Online office hours will use Zoom. To access a Zoom room, log in using SSO (not the main login screen) then enter your TAMU credentials.

You will need a computer that meets TAMU's Bring Your Own Device policy (<https://it.tamu.edu/services/academics-and-research/teaching-and-learning-tools/computer-requirements/> (<https://it.tamu.edu/services/academics-and-research/teaching-and-learning-tools/computer-requirements/>),) and a high-speed internet connection

You will need to scan and upload written work as a PDF (this can be achieved with a cell phone or other technology – directions will be provided in Canvas).

You will also need appropriate software (PDF reader, Zoom on both your phone and computer, and the latest update on an internet browser - Chrome or Firefox is recommended)

Texas A&M Student ID

Bring your student ID to each class (especially on exam days). If you have a question about your grade, please bring your ID when we talk.

Grading Policy

The course grading will be based on the information below. At the end of the semester, you will receive the grade you *earned*, according to the scale given. Due to FERPA privacy issues, I cannot discuss grades over email or phone. If you have a question about your grade, please

schedule an individual meeting (in person or on Zoom) with me and bring your TAMU ID.

Grade Breakdown

- Homework: 10%
- In-class polling questions: 5%
- Quizzes and Group work: 17%
- Exam 1: 17%
- Exam 2: 17%
- Exam 3: 17%
- Final Exam: 17%

Letter Grade assignment

- A: [90,100]
- B: [80,90)
- C: [70,80)
- D: [60,70)
- F: [0,60)

Explanations (both verbal and written) are vitally important for effective communication of mathematics. Therefore, you should be prepared to explain concepts throughout the course (including in Homework, Quizzes, Group work, and Exams.)

Homework

Online homework will be completed in WebAssign. A link to each WebAssign homework assignment will be available in Canvas Modules. Students will be able to access WebAssign through these links. Online homework assignments will normally be due Thursday nights at 11:59 PM (CST), but there may be exceptions. All due dates can be found in both WebAssign and Canvas. Students will have three attempts at each question before the question is counted as incorrect. Students are also given two randomizations of each question in the assignment. The higher score of the two attempts will be recorded in both WebAssign and Canvas.

Important: Please complete your online homework early because last-minute technical difficulties will not be an excuse for missing a WebAssign deadline.

Homework assignments are designed to help you practice the information from the course. You learn math by doing math, so I suggest that you do every homework assignment to the best of your ability as soon as we complete the material.

For homework assignments, you may use your book, notes, calculators, internet sources, and **even help from other people** as long as you can explain the answers that you submit. This is an opportunity for you to interact with the material with as much support as you need to understand the answers you submit.

In-class polling questions

Throughout the semester, the iClicker system will be used to check for understanding in the classroom. Students are required to bring their designated iClicker device to class every day, as the checks may be done at any time. Students who have excused absences need to contact me to agree upon a satisfactory alternative.

Quizzes and Group work

Quizzes and group work allow you to work with the material and receive feedback outside of exams. Quizzes and group work will be given regularly throughout the semester. Quizzes may be announced, unannounced, in-class, or take-home. All quizzes will be completed individually by each student unless the instructions specifically allows group interaction. In at least one of these assignments, you will be expected to explain your reasoning in a written format. In at least one of these assignments, you will be expected to explain your reasoning in an oral recording.

Exams

There will be three proctored midterm exams administered during published class times. Everything discussed in class, experienced within an activity or assignment, or found in the homework, polling questions, quizzes, or group work is eligible content for an exam. **You will be expected to show all of your work, and many items will require expository writing (such as explanations).** Homework, Quizzes, Group work, polling questions, and class notes are wonderful preparation material for the exams. No cellphones or other electronic devices are allowed (other than for proctoring purposes). You will need to have your ID available at each exam. Only approved calculators are allowed.

Final Exam

The final exam will be comprehensive and is required for all students. You will need to bring your ID to your final exam. If your final exam grade is higher than your lowest test grade, the grade on your final exam will replace that test grade in the final grade calculation.

You can check the time for all your final exams at <https://registrar.tamu.edu/Courses,-Registration,-Scheduling/Final-Examination-Schedules> [\(https://registrar.tamu.edu/Courses,-Registration,-Scheduling/Final-Examination-Schedules\)](https://registrar.tamu.edu/Courses,-Registration,-Scheduling/Final-Examination-Schedules)

Attendance and Make-up Policies

Attendance is essential to complete this course successfully. “Attending” class is not just physically being present in the room. To really attend class, you should have your preparation work completed by the beginning of class, present your work to the class or your group when requested, share ideas with classmates, and listen attentively when other people share their

ideas. During the semester, you will be expected to do homework and daily assignments that have been assigned to promote class discussion. There will be frequent in-class discussions of concepts and language that you will see again on the exams. It is impossible to replicate these experiences outside of the classroom environment; therefore, class attendance and participation are extremely important. **Please attend and participate in all classes.**

Excused Absences

University student rules concerning excused and unexcused absences, as well as makeups, can be found at <http://student-rules.tamu.edu/rule07> (<http://student-rules.tamu.edu/rule07>). In particular, make-up exams, quizzes, or assignments will typically not be allowed unless a **University approved reason is given to me in writing**. It is **highly recommended** that you notify me before an absence when possible so appropriate arrangements can be made ahead of time. Otherwise (e.g. accident, or emergency), you must notify me **within two business days** of the last date of the absence, including an explanation of why notice could not be sent earlier, to arrange a makeup exam or quiz. Because an assignment (exam, quiz, or polling assignment) is due almost every class period, please let me know in advance if you have a need to miss class.

Technical Difficulties

If you experience technical difficulties while completing or submitting work, email me immediately.

We all know that technology is not 100% reliable. Please have a backup plan in place so that minor technical issues do not prevent you from completing work on time. For instance, you should copy Zoom links to a file that you can access from your phone and have a plan of where to go if your normal internet provider or computer is having issues.

Make-up Policy

Makeup assignments (exams, quizzes, group work, polling questions, homework) for full credit will only be allowed due to excused absences and the makeup must be taken as soon as possible after the missed exam. If you know ahead of time you will be absent, please notify me in advance.

Missed Classes

- It is YOUR responsibility to learn what you missed from class, obtain any notes and assignments, and complete assignments by the regularly scheduled due date. In other words, **missing class on the day work was assigned is not a reason for an extension**. Please continue to keep up with your daily grades. If your reason for missing class would also prevent you from completing daily grades, please directly communicate that information via email.
- If you miss class, please visit with your classmates to discuss the information you missed and attend office hours (online office hours are available) to discuss the missed information with me. Notes are rarely sufficient to help you catch up from a missed class, so please initiate the discussions too.

- If class is officially cancelled for any reason, you can expect that the assignments due/taken on the missed class day will be due/taken the next time the class meets. Please also check Canvas for additional information.
- No rule can cover every situation. If you encounter extenuating circumstances, **please communicate** with me as soon as possible.

Late Work Policy

Late work is typically not accepted unless you have a University approved reason and contact me according to the timeline state in **Student Rule 7 of the University Student Rules (<https://student-rules.tamu.edu/rule07/>)**.

Course Schedule

| Week | Topic | Major Assignments Due |
|----------------------------|---|---------------------------------|
| Week 1: 8/19 - 8/23 | Introduction 1.2 Sets | |
| Week 2: 8/26 - 8/30 | Chapter 3 from The Nature of Mathematics: Logic 2.1 Whole Numbers | |
| Week 3: 9/2 - 9/6 | Holiday 9/2 2.1 Whole Numbers | |
| Week 4: 9/9 - 9/13 | 2.2 Fractions | |
| Week 5: 9/16 - 9/20 | 2.3 Decimals/Integers, and Real Numbers Exam 1 | Exam 1 In class, Friday 9/20 |
| Week 6: 9/23 - 9/27 | 3.1 Understanding Addition of Whole Numbers 3.2 Understanding Subtraction of Whole Numbers | |
| Week 7: 9/30 - 10/4 | 3.2 Understanding Subtraction of Whole Numbers 3.3 Understanding Addition and Subtraction of Fractions | |
| Week 8: 10/7 - 10/11 | Holiday 10/7 and 10/8 3.3 Understanding Addition and Subtraction of Fractions 3.4 Understanding Addition and Subtraction of Decimals and Integers | |

| | | |
|------------------------------------|---|----------------------------------|
| Week 9: 10/14 - 10/18 | 3.4 Understanding Addition and Subtraction of Decimals and Integers 4.1 Understanding Multiplication of Whole Numbers Exam 2 | Exam 2 In class, Friday 10/18 |
| Week 10: 10/21 - 10/25 | 4.1 Understanding Multiplication of Whole Numbers 4.2 Understanding Division of Whole Numbers | |
| Week 11: 10/28 - 11/1 | 4.2 Understanding Division of Whole Numbers 4.3 Understanding Multiplication and Division of Fractions | |
| Week 12: 11/4 - 11/8 | 4.3 Understanding Multiplication and Division of Fractions 4.4 Understanding Multiplication and Division of Decimals and Integers | |
| Week 13: 11/11 - 11/15 | 5.1 Ratio and Proportion Exam 3 | Exam 3 In class, Friday 11/15 |
| Week 14: 11/18 - 11/22 | 5.1 Ratio and Proportion 5.2 Percents | |
| Weeks 15-16: 11/25 - 12/9 | 11/25 5.2 Percents 11/27 and 11/29 Holiday 12/2 5.2 Percents Final Exam: M135-500 Thursday, December 5 at 10 AM. (You will have 2 hours for this exam) The complete list of finals can be found at https://aggie.tamu.edu/registration-and-records/classes/final-examination-schedules (https://aggie.tamu.edu/registration-and-records/classes/final-examination-schedules) | Final Exam |

Optional Course Information Items

Classroom Environment

Please do your part (attitudes, words, and actions) to make our class a place where everyone can feel comfortable exploring mathematical topics without distractions. Always remember and uphold the Aggie core values: Respect, Excellence, Leadership, Loyalty, Integrity, and Selfless service.

Office Hour Attendees

I would like office hours to be a casual time when we can gather together in one room (either Zoom or in person) and discuss mathematics. This is like a study hall with some of your classmates and me in the room. This allows you to ask questions when you have them and lets you listen to other people's questions. You can come and go from office hours as your schedule permits. If you have a quick question, you are welcome to join us for online office hours by Zoom on your phone as you walk from one class to another.

I will be holding some online office hours at the same time as in-person office hours, so I will treat the Zoom room as a "person" in the room. If you do not see me at the computer when you enter online office hours, that means I am visiting with someone in the physical room and will return to the Zoom room when I finish that conversation. Everyone attending online office hours will be joining one room, so please mute your microphone when you are not speaking so we are not distracted by the background noise. If you need to speak to me individually, let me know so we can move to a breakout room and I can move to a different physical room where the other students cannot hear the conversation.

Learning Resources

Your Professor

Communication is essential. Many issues can be solved with effective communication. Please communicate with me before class, after class, during office hours, and via email.

Your Textbook

Please review your textbook and complete reading assignments PRIOR to our discussion of that section in class. Even if some of the topics are not clear from your reading, this textbook reading provides a framework in your brain for our discussions.

Your Class Notes

Please review your notes after each class and ask questions about anything that is not clear. Your notes will be very valuable as you study for exams as well.

Your Classmates

It is also important to communicate with your classmates. The majority of the content of this course focuses on the vocabulary and language of mathematical reasoning. The best way to learn vocabulary and language is to **use** it! In previous semesters, students in this course have found it very helpful to form small study groups with whom to discuss the ideas and homework problems. This often helps people learn more and be able to build on each other's ideas. Please consider setting a regular time to meet. This is a useful idea to carry into your teaching career as well.

Thoughtful Practice

I strongly recommend that you thoroughly consider (rather than just complete) the homework problems. These homework problems, if addressed independently, can provide an “exam-like” experience and provide background for your quizzes and groupwork. See the Homework Problem list posted in Canvas. You will notice that many of these problems are not like problems from the class notes. The goal is for you to have an opportunity to grapple with thought-provoking problems at your own pace. I will be happy to answer questions after you have worked with the problems. These deeper questions (especially the explanation questions) are great preparation for the exams. It is also helpful to do math regularly (a little bit each day is usually better than one concentrated session less frequently).

Office Hours

As mentioned above, office hours are a great time and place to work on your homework and communicate with your classmates and professor.

Math Learning Center (MLC) Support

The Math Learning Center (MLC) offers help sessions for Math 135. More information about those should be posted at <http://mlc.tamu.edu> (<http://mlc.tamu.edu>) by the second week of classes.

Academic Integrity

You will read more about the Academic Integrity Statement and Policy in the University Policies section. It is VERY important to me that you abide by that policy: “An Aggie does not lie, cheat or steal, or tolerate those who do.” If you have any questions about whether something would be considered cheating, ask me before you do it. However, here is some general guidance.

- In this course, I encourage you to discuss homework assignments and their solutions with your classmates. Study groups are a great way to learn. However, it is NOT permissible to copy solutions from another source (person, book, internet, artificial intelligence sources, etc.). Make sure that you understand and could rework anything that you submit for a grade.
- It is NOT permissible to communicate about any aspect of any exam or quiz until ALL students have completed the exam or quiz.
- The penalties for violating this policy could include an F on an assignment, exam, or the entire course.

As stated above, for homework assignments, you may use your book, notes, calculators, internet sources, and even help from other people as long as you can explain the answers that you submit. Therefore, you are violating the honor code if you submit an answer that you got from another source but do not understand.

For exams and individual quizzes, you may not use any sources other than your own brain and an

approved calculator.

Copyright of Materials

All class materials (notes, exams, assignments, videos, etc.) are copyrighted and may not be copied, posted, or reproduced without permission.

University Policies

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to **Student Rule 7** (<https://student-rules.tamu.edu/rule07/>) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the instructor.

Please refer to **Student Rule 7** (<https://student-rules.tamu.edu/rule07/>) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" (**Student Rule 7, Section 7.4.1** (<https://student-rules.tamu.edu/rule07/>)).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" (**Student Rule 7, Section 7.4.2** (<https://student-rules.tamu.edu/rule07/>)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (**See Student Rule 24** (<https://student-rules.tamu.edu/rule24/>)).

Academic Integrity Statement and Policy

"An Aggie does not lie, cheat or steal, or tolerate those who do."

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the

work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" (**Section 20.1.2.3, Student Rule 20** (<https://aggiehonor.tamu.edu/Rules-and-Procedures/Rules/Honor-System-Rules>)).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu (<https://aggiehonor.tamu.edu>).

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources office on your campus (resources listed below). Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Disability Resources is located in the Student Services Building or at (979) 845-1637 or visit disability.tamu.edu (<https://disability.tamu.edu>).

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see **University Rule 08.01.01.M1** (<https://rules-saps.tamu.edu/PDFs/08.01.01.M1.pdf>)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal

is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

*Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with **Counseling and Psychological Services** (<https://caps.tamu.edu/>)(CAPS).*

*Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's **Title IX webpage** (<https://titleix.tamu.edu/>).*

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing available resources and services on your campus.

Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to howdy.tamu.edu (<https://howdy.tamu.edu/>) and clicking on the "Directory Hold Information" link in the Student Records channel on the MyRecord tab. The complete [FERPA Notice to Students](http://registrar.tamu.edu/Catalogs%2C-Policies-Procedures/FERPA/FERPA-Notice-to-Students#0-StatementofRights) (<http://registrar.tamu.edu/Catalogs%2C-Policies-Procedures/FERPA/FERPA-Notice-to-Students#0-StatementofRights>) and the student records policy is available on the Office of the Registrar webpage.

Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.