



Math 372.001
COURSE SYLLABUS: Spring 2023

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| COURSE INFORMATION |
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Materials – Textbooks, Readings, Supplementary Readings:

Text: *Fostering Algebraic Thinking: A Guide for Teachers Grade 6 - 10*, by Mark Driscoll.
Published by Heinemann.

Supplies Needed: Basic calculator and a three-ring binder or folder for handouts. You will also need a set of Algebra Tiles for Test 3 in the course. These can be purchased on Amazon or checked out by me for use this semester. DIY yourself instructions will also be posted if you want your own set but don't want to purchase them. You may also want a ruler (metric and standard), stapler, and colored pencils. A calculator is required for the course; I recommend a TI-83 or a TI-84. In addition, you'll want a separate spiral/notebook to take class notes. **Please also use only pencils (no pens) on all exams.**

Course Description:

This course will include content and pedagogy for teaching algebraic processes, polynomials, equations, inequalities, functions, graphs, and mathematics of finance. (Note: Students should already have substantial skill in many of these areas. The course focuses on underlying concepts and multiple techniques of explaining the concepts; also, extended problem-solving.) Prerequisites: At least a C in Math 1351.

Course Content: All Chapters in the textbook will be discussed. This information consists of Algebraic habits of mind, algorithmic thinking, generalizations, and symbolic use. *You should already know how to do the computations for most of the material. Therefore the goal of this course is NOT to teach simple mathematical computations but to assist you in developing an understanding of mathematics. As a future teacher, you must be able to explain mathematics to your students, not just teach rote manipulations of numbers and symbols. In addition, you should know and understand more mathematics than what you teach.*

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Mission for the Department of Mathematics: Discovering the Keys to Success

Student Learning Outcomes:

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

1. Demonstrate a developed understanding of mathematics.
2. Demonstrate the ability to solve problems algebraically and develop algebraic formulas.
3. Demonstrate a judicious use of technology and manipulatives in the classroom; and
4. Explain material through the appropriate use of words, reasoning, drawings, and manipulatives.

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| COURSE REQUIREMENTS |
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Instructional / Methods / Activities Assessments

Instructional Methods:

The goal of this course is to develop understanding of the mathematics covered. We are constantly going to deal with WHY more than HOW. As a future teacher, you must be able to explain mathematics to your students, not just show them how to carry out the mathematical procedures. We will focus on underlying structures and development of ideas. In addition, problem solving is a major component of this course. As a future mathematics teacher, you need to become familiar with and skilled in various types of problem solving techniques that are commonly used in mathematical thinking. Class consists of various styles of presentation and interaction. You will be active participants regardless of the mode of instruction. You should come to class ready to participate, both in terms of preparation as assigned and with a positive attitude toward class and colleagues. Instruction will include lecture, demonstration and models, and hands-on activities in small and/or large group settings. Many types of manipulatives will be demonstrated and used to work with the material.

Daily Work:

Homework: Homework will be assigned most class periods. This work should be done in groups when possible. **It is extremely important for you to work all homework in order to be prepared for the exams.** We will also be working on certain Supplemental Assignments which will often have to be completed as homework. Selected papers will be turned in for a grade. **Due to the unusual circumstances this semester, homework will be completed and scanned as a single .pdf file into the appropriate submission folder in D2L.** The assignment will be graded online so that a minimal amount of papers have to change hands.. The total number of assignments that are completed and turned in (punctually) by the student will be reflected in the supplemental assignments grade. A grade will be taken on select problems from each assignment. **In general, late work will not be accepted.** A missed assignment or two, due to legitimate absence, will not adversely affect your grade as long as you have kept up with all other assignments.

Quizzes: Both individual and group quizzes may be given; a daily quiz of some kind will usually be recorded. Since regular attendance is expected, in general **NO make-up quizzes will**

be given. This class covers enough material that there is no time to be missed that is a “good time”, and each quiz will be over material to be emphasized on exams. Quizzes will average into your homework grade.

Attendance: Attendance: Attendance will be taken at the beginning of each class. Students need to actively participate in class to receive credit. **Attendance and participation are a must to be able to do well in this class.** It is expected that students follow the guidelines set forth by the Class Attendance Policy in the current Undergraduate Catalogue.

If students represent an athletic team for this university, departmental team, scholastic team, choir, or other group and must miss class, notify me in writing with the appropriate documentation within one week of the absence in order not to be counted absent. Arrangements for make-up work will be made at that time.

For more information about the attendance policy please visit the Attendance webpage:
<https://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

Students should NOT attend class when ill or after exposure to anyone with a communicable illness. Please contact your teacher in such circumstances to make arrangements for missing any content for that day.

Teaching Assignments/Projects/Labs:

There will be several projects assigned this semester. These projects will vary in their scope and should be completed neatly and punctually.

Tests:

Tests will be given after a complete chapter or subject area. There will be three “chapter” exams which may consist of a variety of problems and short answer questions. However, students should expect the bulk of the questions on each test to be problem solving. Partial credit may be given on exams IF all work is neatly shown so that I can easily determine the student’s mistakes. When pictures are drawn, students should be careful that figures are clearly marked and easily understood. Explanations should be explicit and understandable to the audience given. Items should NOT need interpretation if full credit is to be given.

* University Authorized Excuses: 1) Participation in a required/authorized university activity; 2) Verified illness; 3) Death in a student's immediate family; 4) Obligation of a student at legal proceedings in fulfilling responsibility as a citizen; and others determined by individual faculty to be excusable (e.g., elective University activities, etc.)

Dates of exams are listed on the last page of this syllabus.

Replacing a Low Test Grade: No make-up exams will be given without prior notice of a university excused absence*. At times throughout the semester, emergency situations may arise that affect a student’s performance on an exam or even prevent a student from attending on an exam day. Students can replace the lowest exam grade with their grade on the corresponding portion of the final exam, provided the grade on that section of the final exam is higher. This provision will only be applied to ONE exam, so students should make every effort to be present and well-prepared for all exams.

Final:

Final Exam: The final is a mandatory, comprehensive exam. The final exam will be **Tuesday, May 9th, from 1:15 – 3:15pm.** Please make arrangements ahead of time for this and do not expect a makeup exam for the final.

Grading Policy:

| <u>Section:</u> | <u>Total:</u> |
|--|---------------|
| Daily Work: | 25% |
| Homework, Teaching Assignments/Projects/Labs | |
| Tests (3 exams) | 50% |
| Comprehensive Final | 25% |

Grading Scale:

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|----------|---|
| 90-100+ | A |
| 80-89 | B |
| 70-79 | C |
| 60-69 | D |
| 59-below | F |

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| TECHNOLOGY REQUIREMENTS |
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Students need to **check their MyLeo e-mail regularly** for class announcements.

Access to a computer, the internet, **MyLeo, D2L, and MyMathLab** will be needed for online homework assignments.

A computer or tablet with stable internet access is essential for the success of students.

A scanner or a cell phone with a free scan app (CamScanner or Adobe Scan is recommended) that allows you to scan worked out steps to a single .pdf files is recommended for any work submitted to D2L.

The **TI 83/TI 84 graphing calculator** or equivalent will be highly recommended. Calculators other than Texas Instruments calculators may be used but classroom instruction on calculators will be given for TI equipment only. ****Note:** Calculators that solve problems for students, including but not limited to TI-Nspire, TI 89 or higher, Casio Prizm, Casio Touch or higher are **NOT** allowed to be used for this class.

****** Students are also required to clear the memory of graphing calculators before and after each exam.

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements:

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903-468-6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement:

Students will be expected to interact with the instructor(s) in class or via electronic means in an appropriate manner. All instructor contact information is listed on this syllabus and should be used. Please use email to facilitate a quick response.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

Getting Help Outside of Office Hours: The Math Skills Center, located in Binnion 328, and is open *Monday/Wednesday from 10am – 8pm, Tuesday/Thursday from 10am – 6pm, and Friday from 10am – 2pm*. While the department does its best to place quality tutors in the lab, please understand that not all tutors are trained in techniques used in the Math Education courses. For information on which tutors would be best to help, and when they are working, feel free to see me or the bulletin board outside the lab.

Comments: I will do my best to make a quality presentation each day and, in return, I expect that you will do your best to learn the material presented in class and in the text. This course will be taught as hands-on as possible, and student participation is necessary daily. It is important that you be actively engaged in any group activities. Questions are welcome in the classroom, and I will gladly schedule outside help sessions if necessary. I know that together, these efforts can contribute significantly to your education in this class. Appropriate classroom behavior is required to attend this class. *All cell phones and other similar devices must be put on silent during class.* Phones are a distraction for me and the other students in the class. All people will be treated with respect and I will not allow talking that will disrupt my lectures. If disruptions occur during class lectures, you will be asked to leave class and will earn a zero on any applicable grades for that class period. Serial disrupters will be asked to withdraw from my class.

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As stated in the Student Handbook, academic dishonesty in the class will not be tolerated.

If any materials or equipment are found to be available to the student at any time which is considered inappropriate by the instructor, the very fact that the materials are inappropriately available to the student is grounds for an accusation of academic dishonesty. The instructor reserves the right to fail the student for the assignment or the course, as well as report the student to the Academic Dean, the Dean of Students, and the Committee for Academic Retention in Teacher Education. The above committee and deans have the ability to terminate a student's participation in the teacher education program. They also have the ability to terminate the student's enrollment in the University. The instructor considers this an extremely serious matter. Please make sure you are not in a situation that could be viewed negatively.

I find that a majority of students are honest in doing their school work. However, we must take measures to protect the academic integrity of the classroom. **Some forms of academic dishonesty include, but are not limited to:**

- Giving or receiving answers during an exam or quiz.
- Viewing the exam or quiz answers of nearby classmates.
- Having notes/practice work/etc. available during quizzes or tests.
- Possession or access to test items before the test is given.
- Deception in getting an excused absence to obtain the undeserved opportunity to make-up work.
- Use of cell phones or text messaging technology during exams or quizzes. **You may not use the calculator on your cell phones or other such devices. These must be put away during exams and quizzes. HAVING THESE AVAILABLE DURING AN EXAM OR QUIZ WILL CONSTITUTE GROUNDS FOR RECEIVING A ZERO.**
- Improper citations in written works, or using another person's ideas and words as your own without giving proper credit.
- **Any** method, no matter how well rationalized or accepted, which improves a person's grade by any means other than study and skillful performances on exams and/or other assignments.

Students found guilty of an act of academic dishonesty in this course will be subject to receiving an "F" in this course, as well as the above-mentioned disciplinary actions.

Specific additional disciplinary action for these offenses may include any combination of the following:

- Point deduction of an assignment
- Failure of an assignment
- A grade of zero for an assignment
- Failure of this course
- Referral to the Academic Integrity Committee or department head for further action
- Referral to the Dean of the College of Education and Human Services, and other Deans as appropriate
- Referral to the University Discipline Committee
- Communication of student's behavior to the Teacher Certification Office as constituting a reason to bar student from entering into or continuing in a teacher certification program (Procedures A 13.04, 13.12, 13.31, and 13.32)

Student Conduct

Basic Tenets of Common Decency: All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook*).

All students are expected to exercise self-discipline and respect for the rights of others at all times. Behavioral disruptions that interfere with the business of the classroom or with an individual's ability to learn may be referred to the Dean of Students.

Please be sure that cell phones and other electronic devices are off or silent. If you expect to have to get up, please select an inconspicuous position to minimize disruptions. Courtesy to others is important. That means respecting the opinions of others, and in general, doing your part to make this a positive learning environment for all students. Food and beverages, while acceptable, should be consumed as quietly as possible, and you must clean up after yourself.

University Specific Procedures:

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: <https://www.tamuc.edu/student-disability-services/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<https://inside.tamuc.edu/aboutus/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

Counseling Services

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Tentative Schedule for Math 372 in Spring 2023:

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| Week 1 (Jan. 16-20) | Syllabus, Algebraic vs. Arithmetic thinking (Locker Problem) |
| Week 2 (Jan. 23-27) | Continue Algebraic thinking, Recognizing patterns |
| Week 3 (Jan. 30- Feb. 3) | Sequences (Geometric and Arithmetic) |
| Week 4 (Feb. 6-10) | Series and Infinite Sequences and Series |
| Week 5 (Feb. 13-17) | Review for Exam 1 and Exam 1 |
| Week 6 (Feb. 20-24) | Graphing and representing functions |
| Week 7 (Feb. 27-Mar. 3) | Balance Logic (Bug Collections, etc.) |
| Week 8 (Mar. 6-10) | Integer Arithmetic and Polynomial Operations |
| March 13-17 | SPRING BREAK, NO CLASSES |
| Week 9 (Mar. 20-24) | Review for Exam 2 and Exam 2 |
| Week 10 (Mar. 27-31) | Factoring using Algeblocks |
| Week 11 (Apr. 3-7) | Solving Equations using Algeblocks |
| Week 12 (Apr. 10-14) | Wrap up & Exam 3 (Outside of class, demonstrating the use of Algeblocks) |
| Week 13 (Apr. 17-21) | Group Operations |
| Week 14 (Apr. 24-28) | Modular Arithmetic |
| Week 15 (May 1-5) | Review for Final |
| Week 16 (May 8-12) | Final exam: <u>Tuesday, May 9th, from 1:15pm – 3:15pm.</u> |

Remaining enrolled in this course constitutes acceptance of all policies contained in this syllabus.

Any changes to this syllabus will be communicated directly to you in class by the instructor. You are responsible for being aware of any such changes. Good luck and work hard!!