

Math 1324: Finite Mathematics I

Fall 2019 Syllabus

Disclaimer

This syllabus is current and accurate as of its posting date, but will not be updated. For the most complete and up-to-date course information, contact the instructor.

Instructor Information

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Llano High School

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Major Course Requirements

Tests

We will have several tests and a cumulative final examination. The exact dates and coverage of these tests will be announced in class and posted to Google Classroom. The final exam will be given in accordance with the ASU calendar.

Daily Work

Daily work will consist primarily of traditional homework problems completed on a Web Assign as well as paper homework. Work should be completed in a timely manner.

Quizzes

Weekly quizzes will either be completed in class using paper and pencil or on Web Assign.

Calculations

Your final semester grade will be calculated in the following manner: 90 and above is an A, 80-89 is a B, 70-79 is a C, 60-69 is a D, and less than 60 is an F.

Student Learning Outcomes

1. **The students will demonstrate factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in Finite Mathematics I including linear and quadratic equations,

inequalities, number systems, polynomials, exponents, logarithms, matrices, linear programming and mathematics of finance.

2. **The students will describe the fundamental principles arising from the mathematical ideas associated to business applications.** Students will identify and apply the laws and formulas that result directly from the definitions; for example, the properties of exponents, logarithms, equations, inequalities and their graphs, and the formulas associated with matrices and the mathematics of finance.
3. **The students will apply the course material along with techniques and procedures covered in this course to solve business related problems.** Students will use the facts, formulas, and the techniques learned in this course to solve basic business problems. This includes modeling and solving linear programming problems by graphical or algebraic methods; solving annuity and interest problems; analyzing and interpreting graphs; converting logarithmic equations to exponential equations and vice-versa; using lines and their properties; performing matrix operations; graphing various function types; and employing the use of calculators and/or computers.
4. **The students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.** Students will acquire a level of proficiency in the fundamental concepts and applications necessary for Business Calculus and Finite Mathematics II as well as well as other areas requiring Finite Mathematics I as a prerequisite. These areas might include business, marketing, finance, computer science, nursing, and the social sciences, as well as mathematics.

Required Texts or Readings

Mathematical Applications, 11th edition, by Harshbarger and Reynolds

0. ALGEBRAIC CONCEPTS

- 0.1 Sets
- 0.2 The Real Numbers
- 0.3 Integral Exponents
- 0.4 Radicals and Rational Exponents
- 0.5 Operations with Algebraic Expressions
- 0.6 Factoring
- 0.7 Algebraic Fractions

1. LINEAR EQUATIONS AND FUNCTIONS

- 1.1 Solutions of Linear Equations and Inequalities in One Variable
- 1.2 Functions
- 1.3 Linear Functions
- 1.4 Graphs and Graphing Utilities
- 1.5 Solutions of Systems of Linear Equations
- 1.6 Applications of Functions in Business and Economics

2. QUADRATIC AND OTHER SPECIAL FUNCTIONS

- 2.1 Quadratic Equations
- 2.2 Quadratic Functions: Parabolas

2.3 Business Applications Using Quadratics

3. MATRICES

3.1 Matrices

3.2 Multiplication of Matrices

3.3 Gauss-Jordan Elimination: Solving Systems of Equations

3.4 Inverse of a Square Matrix; Matrix Equations

4. INEQUALITIES AND LINEAR PROGRAMMING

4.1 Linear Inequalities in Two Variables

4.2 Linear Programming: Graphical Methods

4.3 The Simplex Method: Maximization

5. EXPONENTIAL AND LOGARITHMIC FUNCTIONS

5.1 Exponential Functions

5.2 Logarithmic Functions and Their Properties

5.3 Equations and Applications with Exponential and Logarithmic Functions

6. MATHEMATICS OF FINANCE

6.1 Simple Interest; Sequences

6.2 Compound Interest; Geometric Sequences

6.3 Future Values of Annuities

6.4 Present Values of Annuities

6.5 Loans and Amortization

Subject Matter

We will be studying the basics of algebra and finance including linear equations, quadratic equations, functions and graphs, inequalities, logarithms and exponential functions, mathematics of finance, linear programming, matrices, systems of linear equations, and applications to management, economics, and business.

The subject matter schedule listed below is tentative, and subject to change and adaptation. For current, updated information about course topics, contact the instructor.

Week	Sections
1	0.2, 0.3
2	0.4, 0.5, 0.6
3	1.1, 1.2, 1.3
4	1.4, 1.5, 1.6
5	2.1, Review, Test 1
6	2.2, 2.3, 3.1
7	3.2, 3.3, 3.4
8	5.1, 5.2, 5.3
9	6.1, 6.2, 6.3
10	6.4, 6.5
11	4.1, Review, Test 2

12	4.2, 4.3
13	4.3, 0.1
14	0.1, Review, Test 3
15	Core Assessment, Review
16	Final Exam

Core Curriculum Student Learning Objectives

- **Core Objective (Critical Thinking):** Gather, analyze, evaluate, and synthesize information relevant to a question or issue. (CT1)
 - **Course Student Learning Objective:** Students will use mathematical facts, formulas, and techniques to analyze, interpret, and solve applications in business and finance.
 - **Assessment:** Assessment exam that demonstrates CT1.
- **Core Objective (Communication):** Develop, interpret, and express ideas through effective visual communication. (CS3)
 - **Course Student Learning Objective:** Students will model and solve linear programming problems by graphical methods.
 - **Assessment:** Assessment exam that demonstrates CS3.
- **Core Objective (Empirical and Qualitative Skills):** Manipulate and analyze numerical data and arrive at an informed conclusion. (EQS1)
 - **Course Student Learning Objective:** Students will use the facts, formulas, and techniques learned in this course to solve problems involving the mathematics of finance.
 - **Assessment:** Assessment exam that demonstrates EQS1.

Accommodations for Disabilities

Persons with disabilities which may warrant academic accommodations must contact the Office of Student Services in Suite 112, Houston Harte University Center (325) 942-2047 (studentservices@angelo.edu) in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

Absences for Religious Holy Days

Any student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence.

Honor Code

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at <http://www.angelo.edu/forms/pdf/honorcode5.pdf>

Student Disability Services

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation.

The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student's responsibility to initiate such a request by contacting:

Ms. Dallas A. Swafford
Director of Student Disability Services

- 325-942-2047
- dallas.swafford@angelo.edu

Houston Harte University Center

Title IX Statement

Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU's Title IX Coordinator:

Michelle Nicole Boone, J.D.
Director of Title IX Compliance 2

- Michelle.boone@angelo.edu
- 325-486-6357
- Mayer Administration Building 204

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Student Conduct Policies

Academic Integrity Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

Academic Integrity

Plagiarism

Plagiarism is a serious topic covered in ASU's Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents: Angelo State University Student Handbook and Angelo State University Catalog