MATH 1324 – CoReq Finite Mathematics – Fall 2021
Section: MTH1324.060/MTH0199.060

Name: Angela Dixon
Department: Mathematics and Statistics
Phone: 936-468-1827
Email: aLdixon@sfasu.edu
Office: Math 337

Class meeting time and place: Section 060 – MW 1-2:15 – Math 214
TTh 12:30-1:45 – Math 214

Office Hours: These hours have been set aside to help students. Additional times are available by appointment. Office hours are available through Zoom upon request.

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-11:30</td>
<td>10:45-11:45</td>
<td>10-11:30</td>
<td>10:45-11:45</td>
<td>None</td>
</tr>
</tbody>
</table>

Course Description:
The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

Text and Materials:
- The textbook is Finite Mathematics with Applications in the Management, Natural, and Social Sciences, 12th Edition, by Lial, Hungerford, Holcomb, and Mullins. Chapters 1 through 9 will be covered in this course.

- Homework and quizzes will be completed using an online homework system known as My Math Lab at www.mymathlab.com. When you create your account, use the correct course ID: Section 060: dixon36919

- Fill-in-the-blank notes will be posted on d2l for each section that we cover. You are responsible for printing them and bringing them to class.

- There will also be regular quizzes on MyMathLab and in-class. For the in-class quizzes, you are required to complete on notebook paper, scan as a pdf, and upload to a d2l dropbox. In order to scan your work as a pdf, there are several free apps that you can download and use on your phone. These include Genius Scan, CamScanner, Microsoft Office Lens, etc.

- You will need a calculator for this class. A scientific calculator with log capabilities will be sufficient. A graphing calculator may be used, but is not required. The TI-30XS Multiview is a good calculator that is fairly cheap.

- Student Drops: Students should note that co-requisite courses CANNOT be dropped!

- Grade Requirement: Students must score a “C” or higher if this course is a prerequisite for another course or if course is required within the major.

- Intervention Activity Requirement: If your instructor recognizes failure warning signs, you will be required to participate in intervention activities determined by your instructor. Failure to do so will result in a reduction of your grade as not completing these required activities will result in a grade of zero on the activities.
Course Requirements:

- **Three in-class exams**—If a student must miss an exam due to an excused absence, the final exam will replace the missed exam grade. **There are no make-up exams! No cell phone will be allowed on exams.** You will need to bring your own scientific calculator to exams. No additional time will be given on exams. The final exam is comprehensive and mandatory. [CO 1, 2, 3]

  - Exam 1 – Thursday, September 16
  - Exam 2 – Thursday, October 14
  - Exam 3 – Thursday, November 11
  - Final Exam – **Section 060**– Wednesday, December 8, 1:00-3:00pm

Please note that the dates for our regular exams (Exams 1-3) are subject to change, but the final is university scheduled and cannot be taken at a different time without permission of the Dean of the College of Sciences and Mathematics.

Grading Policy:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz Average [CO: 1,2,3]</td>
<td>15%</td>
<td>80%</td>
<td>90%</td>
<td>B</td>
</tr>
<tr>
<td>MyMathLab Homework Average [CO: 1,2,3]</td>
<td>20%</td>
<td>70%</td>
<td>80%</td>
<td>C</td>
</tr>
<tr>
<td>Tests (3 @ 15% each) [CO: 1,2,3]</td>
<td>45%</td>
<td>60%</td>
<td>70%</td>
<td>D</td>
</tr>
<tr>
<td>Comprehensive Final Exam [CO: 1,2,3]</td>
<td>20%</td>
<td>0%</td>
<td>60%</td>
<td>F</td>
</tr>
</tbody>
</table>

100% Final Course Grade

- **Quizzes cannot be made up. MyMathLab assignments will not be accepted late.** Attempt all MyMathLab assignments well in advance of the due date so that any mathematical and/or technical problems can be cleared up ahead of time.

- Grades can be accessed through MyMathLab. You should check your posted grades often and communicate any questions. You must check your grades prior to final exam week. Unless you email prior to finals week, you indicate that you are in agreement with the grades posted. Do not contact the instructor during exam week to make up an assignment or to be allowed extra credit.

Attendance Policy:

Attendance is expected and recorded for all students. Attendance will be factored into your course grade through the daily quizzes. Also, missing classes will significantly reduce the instruction you receive, and will therefore naturally decrease your semester grade.

You must make a commitment to attend every class, to arrive on time and to stay the entire time. Bring all necessary materials to each class, be attentive to the task at hand, take notes, and be prepared to participate in class discussions. You must make an additional commitment of doing work outside of class - one to two hours every day. Most importantly, ask for help when you need it.

The following is an excerpt from SFA Policy 5.4:

*The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:*

1. **Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or;***
2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students in courses offered by the Department of Mathematics and Statistics that wish to be successful should plan to spend each week a minimum of two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

See [http://www3.sfasu.edu/math/docs/syllabi/MATH1324Syllabus.pdf](http://www3.sfasu.edu/math/docs/syllabi/MATH1324Syllabus.pdf) for elements common to all sections.

**Additional Help:**

Free tutoring is available from the AARC. They offer Learning Teams, one-on-one tutoring, and the Math Walk-in Table. For more information, visit the AARC website at [www.sfasu.edu/aarc](http://www.sfasu.edu/aarc).

**Tentative Schedule:**

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/23-8/27</td>
<td>Syllabus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.1 Linear Functions</td>
</tr>
<tr>
<td>2</td>
<td>8/30-9/3</td>
<td>1.2 Linear Applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3 Systems of Equations</td>
</tr>
<tr>
<td>3</td>
<td>9/6-9/10</td>
<td>2.1 Quadratic Functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2 Polynomial Functions</td>
</tr>
<tr>
<td>4</td>
<td>9/13-9/17</td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exam 1- Thursday, September 16</strong></td>
</tr>
<tr>
<td>5</td>
<td>9/20-9/24</td>
<td>2.3 Rational Functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1 Exponential Functions</td>
</tr>
<tr>
<td>6</td>
<td>9/27-10/1</td>
<td>3.2 Logarithmic Functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.3 Solving Exp and Log Functions</td>
</tr>
<tr>
<td>7</td>
<td>10/4-10/8</td>
<td>3.4 Exp and Log Applications</td>
</tr>
<tr>
<td>8</td>
<td>10/11-10/15</td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exam 2- Thursday, October 14</strong></td>
</tr>
<tr>
<td>9</td>
<td>10/18-10/22</td>
<td>4.1 Interest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.2 Annuities</td>
</tr>
<tr>
<td>10</td>
<td>10/25-10/29</td>
<td>5.1 Matrices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.2 Simplex Method</td>
</tr>
<tr>
<td>11</td>
<td>11/1-11/5</td>
<td>5.2 Simplex Method</td>
</tr>
<tr>
<td>12</td>
<td>11/8-11/12</td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exam 3- Thursday, November 11</strong></td>
</tr>
<tr>
<td>13</td>
<td>11/15-11/19</td>
<td>6.1 Probability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.2 Expected Value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.3 Probability Analysis</td>
</tr>
<tr>
<td>14</td>
<td>11/22-11/26</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>15</td>
<td>11/29-12/3</td>
<td>6.3 Probability Analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review</td>
</tr>
<tr>
<td>16</td>
<td>12/6-12/10</td>
<td>Final Exam Week</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Final Exam - Wednesday, December 8, 1:00-3:00pm</strong></td>
</tr>
</tbody>
</table>
Course description: Mathematical functions and graphs, linear systems of equations, matrices, linear programming, mathematics of finance; applications.

Core Objectives (CO):
1. Critical Thinking [CO 1]: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills [CO 2]: to include effective development, interpretation and expression of ideas through written, oral and visual communication
   Empirical and Quantitative Skills [CO 3]: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Credit hours: 3

The following is an excerpt from SFA Policy 5.4:
The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or;

2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students in courses offered by the Department of Mathematics and Statistics that wish to be successful should plan to spend a minimum of two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

Course Prerequisites and Corequisites: See general course prerequisites.

General Education Core Curriculum: This course has been selected to be part of SFA’s core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives. Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L, the assessment management system selected by SFA to collect student work for core assessment.

By enrolling in MATH 1324 Finite Mathematics you are also enrolling in a Core Curriculum Course that fulfills the Mathematics Core Objective requirement.

The chart below indicates: (a) The core objectives that are required to be taught in this course per the Texas Higher Education Coordinating Board (THECB), (b) How the required core objectives will be addressed.
Core Curriculum Objective Table

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>How the Core Objective Will be Addressed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>Probability Analysis with Matrices</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>To include effective development, interpretation and expression of ideas though written, oral, and visual communication.</td>
<td>Analysis of the Simplex Method in Maximization Applications</td>
</tr>
<tr>
<td>Empirical and Quantitative Skills</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>Exponential and Logarithmic Applications</td>
</tr>
</tbody>
</table>

Course outline:

- Functions [CO: 1,2,3]
  - Linear Functions, including systems of linear equations
  - Quadratic Functions including Maxima and Minima
  - Polynomial Functions
  - Rational Functions
  - Logarithmic Functions and solutions to logarithmic equations
  - Applications (e.g. break-even analysis, supply and demand)
- Mathematics of Finance [CO: 1,2,3]
  - Simple Interest
  - Compound Interest
  - Annuities
    - Ordinary Annuities, Future and Present Value
    - Loans and Amortization
- Matrices and Linear Programming
  - Operations of Matrices
  - Simplex Method
- Probability Analysis
  - Basic Probability
  - Expected Value
  - Probability Analysis with Matrices

Explicit instruction in Critical Thinking, Communication and Empirical and Quantitative Reasoning is in addition to implicit instruction, modeling and practice that occur daily in the discussion functions, matrices, linear programming and the mathematics of finance. This explicit instruction includes explanation of solving mathematical problems by thinking critically, communicating logically ordered solutions with complete and correct notation, and applying empirical or quantitative skills as appropriate to the problem.
Academic Integrity
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty (SFA policy 4.1):
Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:
• using or attempting to use unauthorized materials on any class assignment or exam;
• falsifying or inventing of any information, including citations, on an assignment;
• helping or attempting to help other student(s) in an act of cheating or plagiarism.
Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism include, but are not limited to:
• submitting an assignment as one’s own work when it is at least partly the work of another person;
• submitting a work that has been purchased or otherwise obtained from the Internet or another source;
• incorporating the words or ideas of an author into one's paper or presentation without giving the author credit.
Penalties may include, but are not limited to, reprimand, no credit for the assignment or exam, resubmission of the work, make-up exam, failure of the course, or expulsion from the university.

Withheld Grades Semester Grades (SFA Policy 5.5)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices.

SFASU Mental Health Statement: SFASU values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFASU Counseling Services
www.sfasu.edu/counselingservices
3rd Floor Rusk Building
936-468-2401

SFASU Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343

sfasu.edu/math
Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Student Learning Outcomes (SLO): At the end of MTH 1324, a student who has studied and learned the material should be able to:

1. Use linear functions and quadratic functions in business applications. [CO: 1,2,3]
2. Use matrices to solve systems of linear equations. [CO: 1,3]
3. Use matrices to solve linear programming problems. [CO: 1,3]
4. Use exponential functions and logarithmic functions and to solve equations using these functions. [CO: 1,2,3]
5. Solve simple interest and compound interest problems including annuities. [CO: 2,3]

There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and/or a service course.

Date of document: 08/09/2021