Instructor: Danielle Johnson
Office: Room 349, Mathematics building
Email: drjohnson@sfasu.edu
Office Phone: 936.468.1521
Office Hours: Monday: by appointment
Tuesday: 11-1
Wednesday: 11-12
Thursday: 11-1
Other office hours available by appointment.

Course description: Provides an introduction to mathematical thinking emphasizing analysis of information for decision-making.

Required Materials
Book: A Survey of Mathematics with Applications, 10th Ed. by Angel, Abbott, and Runde
There are two approved versions of the text:
- eBook (bundled with MyMathLab Access)

MyMathLab Account: Online homework and quizzes are done through www.mymathlab.com.
To create a MML account, students will need:
1. a valid email address (use your SFA email)
2. an access code (bundled with new textbooks, or may be purchased separately online)
3. course id (make sure to use the correct code for your class)
   MTH 110.008 course id: johnson64535

Calculator: You may use a graphing calculator for this course, but you may not use a calculator equivalent to a Ti-89 or higher. A Ti-36X Pro (or equivalent) is recommended. The calculator function of a cell phone will not be permitted during exams.

You will also be responsible for printing and bringing to class the appropriate fill-in-the-blank notes that will be posted on d2l.

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
3. Empirical and Quantitative Skills [CO 3]: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Grading Policy:
Your final grade will be determined as follows:
- 20% Daily Average (from MML) 90% - 100% A
- 60% Tests (3 @ 20% each) 80% - 89% B
- 20% Comprehensive Final Exam 70% - 79% C
- 100% Final Course Grade 60% - 69% D

0% - 59% F

20% of your grade will be determined by your My Math Lab homework and quiz average. My Math Lab assignments will not be accepted late. However, I will drop one or two of the daily grades at the end of the semester. The due dates for My Math Lab assignments will be posted on My Math Lab.
Exam Calendar: Please note that the dates for our in-class exams below are subject to change. 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.

Exam 1	Thursday, September 21
Exam 2	Thursday, October 19
Exam 3	Thursday, November 16
Final exam	Tuesday, December 12, 8 am – 10 am, in our regular classroom

Course Requirements/Assignments:
1. **Three in-class exams**—If a student must miss an exam due to an excused absence, special arrangements should be made in advance. The final exam is comprehensive. The final exam is mandatory. Student ID with photo may be required for exams. **The calculator function of a cell phone will not be permitted during exams.** You will need to bring your own calculator to exams.
2. **A comprehensive final exam**—The final exam is Tuesday, December 12, 8 am – 10 am. in our regular classroom.
3. **Homework and quizzes**—We will assign homework and quizzes from the text from each major topic in the course calendar/outline via the online homework system myMathLab.
4. **Class attendance and participation**—Students are expected to attend all class meetings, arriving on time. If you are absent, you are responsible for determining what you missed and for being prepared for class when you return. Leaving class early without notifying the professor in advance will result in your being counted absent for the class session. Students that sleep in class, send text messages, or conduct other online activities not directly related to class will be counted absent.
5. **Preparing for class**—Students should be prepared to invest several hours per day outside of class reading the text, practicing examples, and working homework exercises. **Material to be discussed in class should be read before coming to class.** Check your university email regularly, as I may send reminders, assignments, or announcements.

General Education Core Curriculum
This course has been selected to be part of Stephen F. Austin State University’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 through LiveText, the assessment management system selected by SFA to collect student work for core assessment. LiveText accounts will be provided to all students enrolled in core courses through the university technology fee. You will be required to register your LiveText account, and you will be notified how to register your account through your SFA e-mail account. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails. If you have questions about LiveText call Ext. 1267 or e-mail SFALiveText@sfasu.edu

No Core Objectives are being assessed this semester.

General Policies and Information
- You earn your grade by communicating your understanding of the material through the homework, and tests. Clearly communicating mathematics will be essential in this course.
• I will send e-mails to the entire class during the semester, often through D2L. Make sure you have your personal D2L settings set to forward email notifications. Watch for important class announcements on the D2L newsfeed.

• Students are expected to respect the learning environment of their fellow students. Behavior that disrupts this environment will not be tolerated. **Please silence your phone and remove it from the table.**

• Tutoring: Visit the AARC (on the first floor of the library) to inquire about tutor support for MTH 110. Currently, there is no Supplemental Instructor (SI) for this course, but that situation may change in the coming weeks. Students interested in setting up a weekly appointment with an AARC tutor should visit [http://library.sfasu.edu/aarc/](http://library.sfasu.edu/aarc/) and click on “Weekly Appointments”. Only a small number of tutors are available, so interested students should register as early as possible.

**Testing, Grading, and Make-up Policies**

• If you miss an exam for any reason, your zero exam grade will be replaced by your final exam grade. If more than one exam is missed, the final exam grade will replace only one of the missed exams.

• You may use your (approved) calculator on exams, but you must present it to me so that I may clear the memory, if so equipped.

• Students **may not share calculators during an exam.** Students **may not use cell phone calculators, etc during an exam.**

• Since you have a full semester to arrange any travel plans, they are not an excuse for missing the final.

• You may get help on work that is assigned to be done outside of class, unless otherwise instructed, but I expect any work that you turn in to reflect your understanding of the material. On in-class graded work, I expect you to only use your brain, pencil, paper, and, sometimes, a calculator.

**Course calendar/outline:**

<table>
<thead>
<tr>
<th>Course Area</th>
<th>Approximate time spent</th>
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<tbody>
<tr>
<td>Critical Thinking (Chapter 1) [CO: 1,2,3]</td>
<td>16%</td>
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<tr>
<td>• Inductive and Deductive Reasoning</td>
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<td>• Problem-Solving with Patterns</td>
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<tr>
<td>• Problem-Solving Strategies</td>
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<tr>
<td>Logic (Chapter 2) [CO: 1,2,3]</td>
<td>16%</td>
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<tr>
<td>• Logic, Statements, and Quantifiers</td>
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<td>• Truth Tables, Equivalent Statements and Tautologies</td>
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<td>• The Conditional and Biconditional</td>
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<td>• The Conditional and Related Statements</td>
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<td>• Arguments</td>
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<td>Set Theory (Chapter 3) [CO: 1,2,3]</td>
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<td>• Basic Properties of Sets</td>
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<td>• Complements, Subsets and Venn Diagrams</td>
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<td>• Set Operations</td>
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<td>• Infinite Sets</td>
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<td>Financial Mathematics (Chapter 11) [CO: 1,2,3]</td>
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<td>• Simple Interest</td>
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<td>• Compound Interest</td>
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<td>• Credit Cards and Consumer Loans</td>
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<td>• Stocks, Bonds and Mutual Funds</td>
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<td>• Home Ownership</td>
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<tr>
<td>Counting and Probability (Chapter 12) [CO: 1,2,3]</td>
<td>16%</td>
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<tr>
<td>• The Counting Principle</td>
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<tr>
<td>• Permutations and Combinations</td>
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</tbody>
</table>
- Probability and Odds
- Addition and Complement Rules
- Conditional Probability
- Expectations

- Statistics (Chapter 13)  [CO: 1,2,3]  16%
  - Measures of Central Tendency
  - Measures of Dispersion
  - Measures of Relative Position
  - Normal Distributions
  - Linear Regression and Correlation

- 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 of logic, sets, financial mathematics, counting, probability, and statistics. 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 (Policy A-9.1)
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.

The penalty for a student found cheating on any part of an assignment, quiz, or exam in this class will range from a grade of zero on the work to a grade of F in the course, and may result in additional, more severe disciplinary measures. A student who allows another to copy his work and the student copying the work are both guilty of cheating. Do your own work. Do not show your completed work to others. Do not allow others to copy your work.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp.

Withheld Grades Semester Grades Policy (A-54)
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.

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 D-34.1 http://www.sfasu.edu/policies/student_conduct_code.asp). 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 110, a student who has studied and learned the material should be able to:

1. Demonstrate understanding of elementary logic in order to make persuasive arguments, understand conflicting reports, identify faulty reasoning, detect bias, assess risk, suggest alternatives, and draw solid conclusions. [CO: 1,2,3]
2. Use sets as a tool for organizing information, recognize that relationships between and among sets provide the foundation for many valid arguments. [CO: 1,2,3]
3. Use counting techniques, estimation, proportional reasoning, percents, and unit conversions to more ably interpret numerical quantities that occur in everyday life. [CO: 1,2,3]
4. Demonstrate understanding of basic probability and how it is involved in virtually every decision we make – either explicitly or implicitly. [CO: 1,2,3]
5. Use statistics to critically evaluate and interpret statistical studies and corresponding reports. [CO: 1,2,3]
6. Use functions to model various relationships with enough precision to gain insight into how things work and to make reasonable predictions about the future. [CO: 1,2,3]

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.
<table>
<thead>
<tr>
<th>Week of . . .</th>
<th>Tuesday</th>
<th>Thursday</th>
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| 8/28 – 9/1   | Course Introduction  
2.1 Set Concepts | 2.2 Subsets  
2.3 Venn Diagrams and Set Operations |
| 9/4-9/8      | 2.4 Set Equality  
2.5 Applications of Sets | 3.1 Statements and Logical Connectives  
3.2 Truth Tables I |
| 9/11-9/15    | 3.3 Truth Tables II  
3.4 Equivalent Statements | 3.5 Symbolic Arguments  
3.6 Euler Diagrams/Syllogistic Arguments |
| 9/18-9/22    | 3.6 (cont.) Review/Extra Instruction | Exam I (Ch 2 and 3) |
| 9/25-9/29    | 10.1 Percent  
10.2 Personal Loans and Simple Interest | 10.2 (cont.)  
10.3 Compound Interest |
| 10/2-10/6    | 10.4 Installment Buying | 10.4 (cont.) |
| 10/9-10/13   | 10.5 Mortgages | 10.6 Annuities and Sinking Funds |
| 10/16-10/20  | Review/Extra Instruction | Exam 2 (Ch 10) |
| 10/23-10/27  | 11.1 Empirical and Theoretical Probabilities  
11.2 Odds | 11.4 Tree Diagrams  
11.5 OR and AND Probability |
| 10/30-11/3   | 11.6 Conditional Probability  
11.7 Counting Principle and Permutations | 11.7 (cont.)  
11.8 Combinations |
| 11/6-11/10   | 11.9 Probability and Combinations | Review/Extra Instruction |
| 11/13-11/17  | Review/Extra Instruction | Exam III (Ch 11) |
| 11/20-11/24  | Holiday | Holiday |
| 12/1-12/15   | MTH 110.008 Final Exam: Tuesday, December 12th 8:00 am – 10:00 am | Review/Extra Instruction |