Class Syllabus / Policy
Fall 2018
Mathematics in Society
Math 110.005 and 110.007

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Office: NM 335
Office Hours: MWF 10:00-10:50
TR 8:30-9:30
Other Times by Appointment.

Text and Materials:
A survey of Mathematics with Applications, by Angel, Abbott, and Runde. You will need a calculator in class daily.

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

Course Requirements: This course will explore mathematical thinking emphasizing analysis of information for decision making.

Tentative Exam Schedule
Exam 1 Thursday September 21st
Exam 2 Thursday October 18th
Exam 3 Tuesday November 27th

**FINAL EXAM** .005 Tuesday December 11th 8:00-10:00 am
 .007 Thursday December 13th 10:30-12:30

Course Calendar:
Topics to be covered:
Ch. 10-Consumer Mathematics
Ch. 11-Probability
Ch. 12- Statistics
Ch. 2- Sets
Ch. 3- Logic

Time allotted for each chapter:
Ch. 10 – 3 weeks
Ch. 11 – 2 weeks
Ch. 12 – 2 weeks
Ch. 2- 2 weeks
Ch. 3- 2 weeks

Grading Policy:
Your grade will be determined by three regular exams, a comprehensive final and daily work in the form of online quizzes and homework, in class assignments, etc. The grade will be calculated as follows: Each regular exam will count 20%, the final will count 20%, and the average of all daily work will count 20%. Your grade on the comprehensive final may replace one lower test grade. **There will be no make-up tests, quizzes or homework grades.** If you miss an exam, your final exam grade will replace the zero.

Course Average ≥ 90  \( \rightarrow \) A
80 ≤ Course Average < 0  \( \rightarrow \) B
70 ≤ Course Average < 80  \( \rightarrow \) C
60 ≤ Course Average < 70  \( \rightarrow \) D
0 ≤ Course Average < 60  \( \rightarrow \) F
General Policies and Information

- Online homework will be required using My Math Lab at www.mymathlab.com. When you create an account, use the Course ID: for Section 005: cook41624
  Section 007: cook64438
- At the beginning of class, you may ask questions on material covered the previous class period.
- 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. Check your SFA e-mail account frequently.
- To contact me, you may call my office, drop by my office, or e-mail me. I will do my best to reply quickly.
- Students are expected to respect the learning environment of their fellow students. Towards this end, use of mobile phones, mp3 players, PDAs, etc., is forbidden during class.

Testing, Grading, and Make-up Policies

- If you miss a test and have a valid excuse, I will replace your missed test grade by your final exam grade. However, your final may only replace one other score.
- Attendance Policy: Over 3 unexcused absences may result in a grade reduction.
- You must bring and display either your SFASU Student ID or a valid driver’s license before you will be permitted to take each test and the final exam. I must be able to recognize you from the photo on the ID.
- Since you have a full semester to arrange any travel plans, they are not an excuse for missing the final.
- Students are expected to attend every class meeting, arriving on time.
- 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 brains, pencil, paper, and, sometimes, a calculator.

Attendance Policy:
Attendance is expected and recorded for all students.
You must make a commitment to attend every class, to arrive on time and to stay the entire time. You must make a commitment to work in class by taking notes and working the examples given. You must make an additional commitment of doing work outside of class. You must make a commitment to get help when you cannot understand what you are being asked to do. The more committed you are, the more successful you will be.

Course calendar/outline:

- Critical Thinking (Chapter 1) [CO: 1,2,3]
  - Inductive and Deductive Reasoning
  - Problem-Solving with Patterns
  - Problem-Solving Strategies
- Logic (Chapter 2) [CO: 1,2,3]
  - Logic, Statements, and Quantifiers
  - Truth Tables, Equivalent Statements and Tautologies
  - The Conditional and Biconditional
  - The Conditional and Related Statements
  - Arguments
- Set Theory (Chapter 3) [CO: 1,2,3]
  - Basic Properties of Sets
  - Complements, Subsets and Venn Diagrams
  - Set Operations

Approximate time spent

- Critical Thinking (Chapter 1) [CO: 1,2,3] 16%
- Logic (Chapter 2) [CO: 1,2,3] 16%
- Set Theory (Chapter 3) [CO: 1,2,3] 16%
Infinite Sets

- Financial Mathematics (Chapter 11) [CO: 1,2,3] 16%
  - Simple Interest
  - Compound Interest
  - Credit Cards and Consumer Loans
  - Stocks, Bonds and Mutual Funds
  - Home Ownership

- Counting and Probability (Chapter 12) [CO: 1,2,3] 16%
  - The Counting Principle
  - Permutations and Combinations
  - 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.

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.

- By enrolling in Math 110 you are also enrolling in a Core Curriculum Course that fulfills the Critical Thinking Skills, Communication Skills, or Empirical and Quantitative Skills requirement. You will see this course on your D2L list. At one point during the semester, you will receive an assignment that fulfills both the requirements of this course and the needs of Stephen F. Austin State University’s Core Curriculum Assessment Plan with the Texas Higher Education Coordinating Board. When you complete this one assignment, you need to upload the assignment to both your standard course dropbox determined by your Instructor and the “Core Curriculum” dropbox. The Core Curriculum dropbox will be identified by the Objective for which work is being collected. (Examples: Critical Thinking, Teamwork, Social Responsibility Empirical & Quantitative Skills, Personal Responsibility, Communication Skills-Written, Communication Skills-Written & Visual, and Communication Skills- Oral & Visual.) Please note that this only applies to the approved assignment. All other assignments should be submitted according to regular class operations.
When you complete the assignment mentioned above, you will upload the assignment to both the Math 110 dropbox and the Critical Thinking Skills, Communication Skills, or Empirical and Quantitative Skills dropbox.

Please note that this only applies to the specific assignment listed in the matrix below. All other assignments should be submitted according to regular class operations.

If you have any questions, please see your instructor, or contact the at Office of Student Learning and Institutional Assessment at (936) 468-1130.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to the D2L Critical Thinking Skills, Communication Skills, or Empirical and Quantitative Skills dropbox this semester, and the date the assignment(s) should be uploaded to the D2L Critical Thinking Skills, Communication Skills, or Empirical and Quantitative Skills dropbox. Not every assignment will be submitted for core assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in the D2L Critical Thinking Skills, Communication Skills, or Empirical and Quantitative Skills dropbox.

*Include only the core objectives taught in this course and indicate which objectives are being formally assessed in this semester.*

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in D2L</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>N/A</td>
<td>N/A</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>N/A</td>
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<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>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Per SFA policy 5.4, this schedule reflects that there is (1) an amount of student work per credit hour that reasonably approximates not less than one hour of class or direct faculty instruction and two hours of out-of-class student work per week for fifteen weeks over a long semester, 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.

**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.