DEPARTMENT OF MATHEMATICS
MATH IN SOCIETY
MATH 1332-035/0199-035 FALL 2023
COURSE SYLLABUS

Instructor: Jacob Pratscher
Email: Jacob.Pratscher@sfasu.edu
Office: Math Building Room 348
Phone: (936)468-1869
Office hours: MW 9:30-11:30 AM
Class Meetings: MW 2:30 -3:45 PM Math Building Room 214
TR 2:00-3:15 PM Math Building Room 214
Course Link: https://math.sfasu.edu/docs/syllabi/MATH1332Syllabus.pdf

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

TEXT/MATERIALS:
• Book:A Survey of Mathematics with Applications, 11th Ed. by Angel, Abbott, and Runde. The recommended (and least expensive) way to get access to the textbook is by purchasing access to the Pearson MyLab Math website, which includes an embedded ebook version of the text. You may purchase this access kit from local bookstores (around $90) or directly from Pearson (around $75 for 18 weeks, $110 for 24 weeks). Make sure you are buying the correct item, look for this description: “MyLab Math with Pearson eText – 18 Week Instant Access -- for A Survey of Mathematics with Applications, 11th Edition”, with ISBN-13: 9780135740330
• MyLab Math Account: Online homework is done through www.mlm.pearson.com. To create a MLM 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: pratscher28356

CALCULATORS: Each student will need a scientific calculator to use during exams. No graphing calculators or cell phone calculators will be allowed during exams. A Ti-30XS Multiview is recommended (retails for under $20).

WITHDRAWL: The last day to withdraw from a full-session course with a grade of W is December 5th, 2023. Note: You can find the withdrawal dates and procedures on: https://www.sfasu.edu/registrar/registration-information/dates-deadlines and https://www.sfasu.edu/registrar/registration-information/how-to-drop-withdraw

Tutoring
• There are multiple options for getting help outside of class. You have already paid for these resources with your tuition money, so take advantage of them!
  1. Instructor office hours (see above) and text/email
  2. “Co-Req Corner”: Room 305 is reserved exclusively for students enrolled in Co-requisite courses like ours. The tutors are all undergraduate students who have experience with the course material. Tutoring times will be posted during the first week of class.
  3. The Academic Assistance Resource Center (AARC) in the Steen Library offers both walk-in tutoring (no appointment needed). Other tutoring options are being finalized and will be announced in class

GRADING: Grades will be assigned according to the following percentages.
• 3 in-class exams worth 15% each, dates on Tentative Class Schedule
• Final Exam Worth 25%
• Homework and Review Assignments worth a total of 30%.
MyLab Math Homework and Summary & Review Assignments

- Each textbook section covered in the course has a corresponding homework assignment on MyLab Math. Each assignment consists of 10 – 20 questions, and students (usually) have three attempts at the correct answer per question. Generally, the due date for all homework assignments covered will be either **Tuesday or Friday at 11:59 PM, but there are some exceptions to this rule.** Check the calendar on MyLab Math frequently for due dates.

- In addition to MLM homework, there will be five Chapter Summary and Review assignments. The Chapter Summary and Review assignments are intended to serve as a review for the exam. As such, they will not include the various help resources that are available on the normal homework. Note: these Chapter Summary and Review assignments are found under the “Homework” tab on MyLab Math, will become available one week before the exam day, and will be due at **11:59 PM the night before each exam.**

Exams

- Three exams will be given over the course of the semester (approximate dates listed in calendar). Each exam grade comprises 15% of a student’s overall course grade.
- Exam procedure: during exams, you may not (1) share calculators, (2) use your own scratch paper (I will provide scratch paper for you), (3) use your phone or other device, (4) use headphones or earbuds (foam earplugs are ok), or (5) use any unapproved notes or formula sheets.
- Exams will be given on MyLab Math, the location of each exam will be announced in class and on D2L.

General Policies and Information

- We will sometimes work in groups, which can be a noisy affair. Please keep in mind the other groups (and other classrooms) and keep your talking to a reasonable volume.

- I want to create a relaxed classroom environment, where students feel comfortable asking questions. You should always feel free to stop me during lecture to ask for clarification on some concept that is confusing you; there are no dumb questions. Students who disrespect or belittle their classmates will be asked to leave.

- To communicate with students, either individually or as a group, I may use email, or the News feature on the course D2L page. Make sure you have configured your personal D2L settings so you receive these notifications (you can configure to D2L to send you a text message whenever I post a news item, post an exam grade, etc)

University Policies
For further information on the standard university policies below, consult the common syllabus for MATH 1332, which can be found at [http://www3.sfasu.edu/math/docs/syllabi/MATH1332Syllabus.pdf](http://www3.sfasu.edu/math/docs/syllabi/MATH1332Syllabus.pdf)

- Withheld Grades *Semester Grades Policy (A-54)*
- Students with disabilities
- Acceptable Student Behavior
- Academic Integrity (Policy A-9.1)

**MAKE-UP and LATEWORK POLICIES:** No make-ups are allowed without prior discussion beforehand with the instructor, or in case of an emergency. If there are concerns with completing any work on-time or being prepared for an exam please contact the instructor immediately. The decision of a make-up or accepting late work is left to the discretion of the instructor and is final.
ACADEMIC HONESTY: Any violations of academic integrity that occur during quizzes and exams is not permitted and may lead up to a zero on the exam or a failing grade in the course.

FINAL EXAM: The Final is scheduled for Tuesday December 12th of 2023 from 1:00 -3:00 PM. The final exam will be a comprehensive examination, worth twenty-five percent of the final grade.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90%-100%</td>
</tr>
<tr>
<td>B</td>
<td>80%-89.99%</td>
</tr>
<tr>
<td>C</td>
<td>70%-79.99%</td>
</tr>
<tr>
<td>D</td>
<td>60%-69.99%</td>
</tr>
<tr>
<td>F</td>
<td>59.99% and Lower</td>
</tr>
</tbody>
</table>

TENTATIVE SCHEDULE: Note that material dates may change according to pace of the course.

<table>
<thead>
<tr>
<th>Week of</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/28-9/1</td>
<td>First Day of Class/Syllabus</td>
<td>Sec 2.1</td>
<td>Sec 2.2</td>
<td>Sec 2.3</td>
</tr>
<tr>
<td>9/4-9/8</td>
<td>Sec 2.3</td>
<td>Sec 2.4</td>
<td>Sec 2.5</td>
<td>Sec 3.1</td>
</tr>
<tr>
<td>9/11-9/15</td>
<td>Sec 3.2</td>
<td>Sec 3.4</td>
<td>Sec 3.5</td>
<td>Sec 3.6</td>
</tr>
<tr>
<td>9/18-9/22</td>
<td>Sec 10.1</td>
<td>Review</td>
<td>Exam 1</td>
<td>Room 358</td>
</tr>
<tr>
<td>9/25-9/29</td>
<td>Sec 10.2</td>
<td>Sec 10.2</td>
<td>Sec 10.3</td>
<td>Sec 10.3</td>
</tr>
<tr>
<td>10/2-10/6</td>
<td>Sec 10.3</td>
<td>Sec 10.3</td>
<td>Sec 10.4</td>
<td>Sec 10.4</td>
</tr>
<tr>
<td>10/9-10/13</td>
<td>Sec 10.4</td>
<td>Sec 10.4</td>
<td>Sec 10.5</td>
<td>Sec 10.5</td>
</tr>
<tr>
<td>10/16-10/20</td>
<td>Sec 10.5</td>
<td>Sec 10.5</td>
<td>Sec 10.6</td>
<td>Sec 10.6</td>
</tr>
<tr>
<td>10/23-10/27</td>
<td>Sec 11.1</td>
<td>Review</td>
<td>Exam 2</td>
<td>Room 358</td>
</tr>
<tr>
<td>10/30-11/3</td>
<td>Sec 11.4</td>
<td>Sec 11.5</td>
<td>Sec 11.6</td>
<td>Sec 11.7</td>
</tr>
<tr>
<td>11/6-11/10</td>
<td>Sec 11.8</td>
<td>Sec 11.9</td>
<td>Sec 12.1</td>
<td>Sec 12.2</td>
</tr>
<tr>
<td>11/13-11/17</td>
<td>Sec 12.3</td>
<td>Sec 12.4</td>
<td>Sec 12.4</td>
<td>Sec 12.5</td>
</tr>
<tr>
<td>11/20-11/24</td>
<td>NO CLASS</td>
<td>DUE TO THANKSGIVING</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>11/27-12/1</td>
<td>Sec 12.5</td>
<td>Review</td>
<td>Review</td>
<td>Exam 3 Room 358</td>
</tr>
<tr>
<td>12/4-12/8</td>
<td>Sec 1.3</td>
<td>Sec 1.3</td>
<td>Review</td>
<td>Review</td>
</tr>
<tr>
<td>Finals Week</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12/11-12/15</td>
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Course description: Provides an introduction to mathematical thinking emphasizing analysis of information for decision-making.

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

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 1332 Math in Society 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>Set Theory and Logic modules</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>Differentiating, applying, and interpreting results from finance formulas</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>Decision-making using analysis based on Probability and Statistics</td>
</tr>
</tbody>
</table>

Outline of Suggested Topics: The following is a list of suggested topics. These topics can be augmented or diminished, as long as the objectives for the course are practiced. Decisions concerning order of presentation are left to individual instructors.

Course outline: Approximate time spent

- Critical Thinking (Chapter 1) [CO: 1,2,3] 16%
  - Inductive and Deductive Reasoning
  - Problem-Solving with Patterns
  - Problem-Solving Strategies
- Logic (Chapter 2) [CO: 1,2,3] 16%
  - 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] 16%
  - Basic Properties of Sets
  - Complements, Subsets and Venn Diagrams
  - Set Operations
  - 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.

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 critically evaluate and interpret statistical studies and corresponding reports. [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.

Academic Integrity

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.
Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**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. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

**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.

**Student Wellness and Well-Being**
SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, 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:**
**The Dean of Students Office** (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

**SFA Human Services Counseling Clinic** Human Services, Room 202
www.sfasu.edu/humanservices/139.asp
936.468.1041

**The Health and Wellness Hub** “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education
Crisis Resources:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- Crisis Text Line: Text HELLO to 741-741

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.

Date of document: 08/23/2023