Instructor and Class Information

- Instructor: Dr. Brian Beavers, Department of Mathematics and Statistics, Stephen F. Austin State University
- Office: Math Building 310, STEM Building 310
- ZOOM Office: https://sfasu.zoom.us/my/drbeaverssf
- Email: beaversbd@sfasu.edu
- Telephone: 936.468.1433 (Math 310) and 936.587.9798 (Google Voice)
- Office Hours: 10-11am MTWRF, or by appointment

Class Meeting Information

Class Meetings and Location: Due to the COVID-19 pandemic, our class will be a face-to-face/livestream hybrid model. All class meetings will be livestreamed and recorded in the ZOOM video conferencing system, even on days where some of us are able to meet face-to-face in our classroom (so the rest of the class can also participate live). We have a reserved time slot of 9-9:50 am MWF and a reserved classroom of Bush Mathematical Sciences Building Room 127.

ZOOM Meeting Information:

- Link: https://sfasu.zoom.us/j/98471773539?pwd=bUpQVDhJbEpLcElCd3pkSkhOZjZsUT09
- Meeting Number: 98471773539
- Passcode: 714709

With physical distancing guidelines, our room capacity is reduced to 19 students. During the first week of class, we will make a default plan for when any face-to-face classes will occur, who will participate face-to-face, and who will participate live but remotely. Any plans here are subject to change based on federal, state, local, and university guidance. We will be livestream only for the first week of class while we work out the details of who will attend face-to-face and on what days.
For any face-to-face meetings, we will follow the university requirements for wearing masks in the classroom: *masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions.*

Unless you hear from me otherwise, I will be on the main SFA campus during the semester and available to meet face-to-face. Should we meet in my office, face coverings will be required for the duration of our meeting. My preferred method of meeting will be in ZOOM; you can use the link in my contact information above to access my personal meeting room, I will be in my personal meeting room during my regular schedule office hours and you can drop in without advance notice. For times outside our weekly class meeting or my regularly scheduled office hours, please email or call me to set up an appointment.

**Course Expectations:**

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 three hours of work for every credit hour associated with this course.

Expected activities to be completed in the time include reviewing course content, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation. Students should check *daily* for course announcements.

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**Required Materials**

• Single-Term access pass for Knewton Alta homework system. This can be purchased in the bookstore or purchased by credit card when you first try to access homework assignments in D2L.

• Functional computer and internet connectivity, preferably high-speed

• Microsoft Office (available from SFA via mySFA and Office 365)

• ZOOM Video Conferencing (available from [sfasu.zoom.us](http://sfasu.zoom.us))

• Microsoft Teams software (available from [microsoft.com/teams](http://microsoft.com/teams))

• A handheld scientific calculator is highly recommended. TI-30XS Multiview or TI-36X Pro preferred. TI-34 Multiview or TI30X IIS also sufficient, but TI-30Xa is not.

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**About This Course**

**Prerequisites:** TSI Complete or Exempt, or a grade of C or higher in MATH 0399

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

**Course Overview:** Communication, critical thinking, and quantitative reasoning skills are greatly prized in this world. In this course, we will see how a mathematical frame of mind can help develop those skills and how mathematics can be found in nearly every field of human endeavor. Besides general classroom discussions of where math appears in society, we will explore seven primary topics: set theory, logic, financial math, probability, statistics, graph theory, and voting theory. In order to make this process easier and to help you develop useful skills for life outside of college, this course will take advantage of 21st century technological tools.

**Student Learning Outcomes:** At the end of MATH 1332, 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.

2. Use sets as a tool for organizing information, recognize that relationships between and among sets provide the foundation for many valid arguments.

3. Use counting techniques, estimation, proportional reasoning, percents, and unit conversions to more ably interpret numerical quantities that occur in everyday life.

4. Demonstrate understanding of basic probability and how it is involved in virtually every decision we make – either explicitly or implicitly.

5. Use statistics to critically evaluate and interpret statistical studies and corresponding reports.
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.

Core Objectives:

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

**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.

The university will not be using any of the assignments of this course as formal assessment of the core curriculum learning objectives this semester.

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**Course Requirements**

Your course grade will be calculated based on individual assignments and exams.

**Course Outline and Topics:**

<table>
<thead>
<tr>
<th>TOPICS</th>
<th>APPROXIMATE DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sets</td>
<td>8/24-8/31</td>
</tr>
<tr>
<td>Logic</td>
<td>9/2-9/11</td>
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<tr>
<td><strong>Test 1</strong></td>
<td>9/14</td>
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<tr>
<td>Voting Theory</td>
<td>9/16-9/25</td>
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<tr>
<td>Personal Finance</td>
<td>9/28-10/14</td>
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<tr>
<td><strong>Test 2</strong></td>
<td>10/16</td>
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<tr>
<td>Course</td>
<td>Dates</td>
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<td>---------------------</td>
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<tr>
<td>Probability</td>
<td>10/19-10/30</td>
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<tr>
<td>Statistics</td>
<td>11/2-11/13</td>
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<tr>
<td><strong>Test 3</strong></td>
<td>11/13</td>
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<tr>
<td>Graph Theory</td>
<td>11/16-12/04</td>
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<tr>
<td><strong>Test 4</strong></td>
<td>12/7</td>
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*Note:* See our course in D2L for both the most up-to-date version of this syllabus and an updated calendar of course information.

**Grading Policy:**

**Computation of Course Grade**

Your course grade will be based on the weighted average of the components listed above:

- Individual assignments (20%): Each day you will have work to do in class, to prepare for the next class, and to review from the previous class. You will also have some assignments that span multiple days and concepts. Some assignments may be assigned to groups. Some assignments will be given in *Knewton*, while others may be submitted in D2L or in *Microsoft Teams*. All assignment scores will be recorded in D2L. *Note:* Per SFA policy 5.4, you should expect that assignments and review should take two hours of sustained work for each hour of class. More or less time may be needed depending on the skills and preparation you bring to the course from your previous studies.

- Tests (4 at 20% each): You will have four in-class exams, one after each two chapters covered. The final exam will be comprehensive.

**Grading Scale**

Exams and your final course letter grade will be graded on the standard "10-point" scale based on the percentage (rounded to the nearest percentage) of total points earned by the student on the exam:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B</td>
<td>80-89.5%</td>
</tr>
<tr>
<td>C</td>
<td>70-79.5%</td>
</tr>
<tr>
<td>D</td>
<td>60-69.5%</td>
</tr>
<tr>
<td>F</td>
<td>0-59.5%</td>
</tr>
</tbody>
</table>
Assignments will be graded holistically on a 10-point scale based on completion and performance and the mean converted to an overall percentage. The various scores are described below; to summarize, a "passing" score is a 7 or higher and a "failing" score is a 6 or lower. Each score will take execution, communication, and correctness into account. I am using this system so that I can better communicate to you whether you understand the material well enough or not. Your primary goal is to earn a 7 or better on each assignment. In addition, for any group assignments, participation by each group member will be considered.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>This score means that either you did not complete the assignment, or your mathematics or communication shows serious and fundamental errors. You need to review prerequisite material and the basics of what was being assessed. You must complete every assigned problem in order to score higher than a 5.</td>
</tr>
<tr>
<td>6</td>
<td>This score means that you show some understanding but the flaws in mathematics or communication are not sufficient to be considered passing.</td>
</tr>
<tr>
<td>7</td>
<td>This score means that, overall, you understand the material well enough to pass, but you made several substantial mistakes in mathematics or you communicated poorly.</td>
</tr>
<tr>
<td>8</td>
<td>This score means that, overall, you understand the material well, but made minor mistakes in the mathematics or communication.</td>
</tr>
<tr>
<td>9 or 10</td>
<td>These score means that your mathematics and communication are flawless or nearly flawless.</td>
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</tbody>
</table>

Note that certain mistakes by themselves will automatically drop you to a 6 or lower because they are common but fundamental errors that wreck havoc on the truth of your work or fundamentally change the difficulty level of the task at hand. Also, be sure to think about what your writing communicates to a reader. I grade what you have said, not what you meant to say.

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**General Course Policies**

- Please don't hesitate to contact me if you have questions. You may e-mail me, send a chat message in *Microsoft Teams*, call my office, meet me in ZOOM, leave a voice mail, or use chat in D2L. I will be in my office during schedule office hours and available in
ZOOM if you'd like to drop by for help. I will also be glad to schedule meetings at other times; as half my duties are technical support for the College of Sciences and Mathematics, I am usually on campus 9-5 every weekday.

- I will occasionally send announcements to the entire class, either in D2L or in Microsoft Teams. I would also highly recommend that you sign up for JackText or update your JackText preferences.
- Cheating is a most serious offence, with a wide range of penalties up to and including expulsion from the university. See also the official SFA policy later in the syllabus. Every faculty member has a different policy on what he or she considers cheating or getting unauthorized help. Be sure to talk to me and your other professors about what they consider cheating. Here are some of the ways I define cheating (academic dishonesty) for the various types of work in this class.
  - Assignments: I expect your work to reflect the results of only your independent mental effort and communication skills. Copying or paraphrasing, in whole or in part, from any sources, including your fellow students, without citation or without permission is considered academic dishonesty. You may use content from course materials (class notes, the textbook) without attribution. You may work with other students on assignments where I explicitly say that it is OK.
  - Exams: Exams will be open-book and open-notes. You may may use calculators (for computations, if you wish) on exams as well. However, you may not consult anyone else besides me about the test while it is going on.
- Make sure you have read this entire syllabus carefully because you are responsible for what lies within it.

Make-Up, Communication, Academic Dishonesty, and Other Class Policies

- Students are expected to attend every class meeting, arriving on time and participating for the duration of the scheduled class time.
- I reserve the right to expel you from class if you are being a distraction to others or not actively participating.
- It is your responsibility to help make the class a welcoming learning environment. Please be respectful and do not be a distraction to your classmates, who paid just as much as you for this course. I will do my best to politely enforce this.
- Catching up due to an unexcused absence is not my responsibility; it is yours. In the case that you miss a class, it is a good idea to have exchanged emails and/or phone numbers with some of your classmates on the first day of class so you can get what you missed.
- If you miss class, you are responsible for obtaining all handouts and/or announcement information; all materials will be posted in D2L or Microsoft Teams.
• Deadlines, once finally set, will not be changed or extended except for a documented excused absence. Assignments can be made up with permission of the instructor after giving a valid excuse. Make-up tests will be given only in extreme circumstances with a documented excuse. I will drop some of your lowest assignment grades at the end of the semester.
• There will be no bonus points awarded in this class, except perhaps a bonus assignment or to if the flow of the class warrants it.

Tips For A Successful Math Class

• Sleep and relax! Well...outside of class, that is. It is hard to do math well with a tired or anxious mind!
• Learn mathematical terminology! It’s hard to think and talk about concepts when you don’t know what the words mean that we’re using. For any math word, be able to give a formal definition, an informal definition, an example that illustrates the concept, and “non-examples” (examples of situations that are close to being right, but not quite).
• Do. The. Homework. All of it. Several times if necessary. Create new problems if you run out of problems to practice.
• Strategize! Take the time to think about how the different types of problems are solved and create a road map in your mind how to get to the solution.
• The quality of the time is as important as the quantity of the time you spend studying. You have to understand the concepts and basic examples before you can master the harder problems. Regularly look back at the big picture when you get stuck on an immediate detail.
• Get help! If you’re alert, know the words, and understand the examples but are still stuck, then get help from me or a tutor.
• Learning math is a lot like learning anything else – sports, music, etc. Some have natural talent, some don’t. At the beginning, you have to drill those basic moves until you can do them almost without thinking in order to overcome your anxiety. Only then can you concentrate on improving your skills and learning more sophisticated moves. I am your coach; I can’t make the moves for you. I can show you the mechanics of the move and explain why the move does what it does, but only you can do it for yourself. You must both practice and reflect on your performance in order to win!
• Find your motivation and hold onto it! It’s hard to do well in something you don’t want to do, and it’s easy to get lost in the drudgery and lose focus. But, math can be very beautiful and enjoyable with a little motivation!
"...striving for personal excellence in everything that we do."

At Stephen F. Austin State University, our faculty, staff, alumni and students believe in doing things "The SFA Way." We expect the best from ourselves and from each other, and we hold each other accountable when we fail to maintain these standards.

*Root Principles*

Grounded in the five "Root Principles" below, members of the SFASU community seeks to strive for personal excellence in everything that we do.

*The Principle of Respect:*

Lumberjacks command respect and treat others with respect • They are considerate of others and tolerant of differences • They demonstrate respect for those around them by avoiding the use of offensive or profane language • They do not threaten or harm anyone and deal peacefully and civilly with conflict.

*The Principle of Caring:*

Lumberjacks think of the needs of others and seek to improve the quality of life of those around them • They are compassionate, empathic and kind • They respond with humility to those they have helped and express gratitude freely to those who help them • Lumberjacks prepare themselves to become leaders in their communities and workplaces • They dedicate themselves to excellence in their chosen field of study and to using what they learn in the service of others.

*The Principle of Responsibility:*

Lumberjacks do what is right • They persevere in times of adversity • Through self-control and self-discipline, they strive to do their best • Lumberjacks challenge each other to exceed expectations • They are active learners both inside and outside of the classroom • They are reliable; they do what they say they will do • Lumberjacks hold themselves accountable for their decisions •

*The Principle of Unity:*

Lumberjacks are loyal to their friends, family, university, state and country • Lumberjacks stand together against any adversary • They recognize that though we are very different from one another, we are united by the Lumberjack Spirit. Lumberjacks seek to understand the people and world around them • When one lumberjack fails, all fail • When one lumberjack succeeds, all succeed.

*The Principle of Integrity:*

Lumberjacks have the courage to do what is right, even when it is hard or unpopular • They respond to each situation with steadfast values that are not subject to change based on the actions of others • They seek opportunities to practice effective and ethical leadership •
Lumberjacks are honest; they do not deceive, cheat or steal • Lumberjacks stand up for those who cannot stand up for themselves • As lifelong learners, lumberjacks are committed to continuously improving themselves.

Academic Integrity A-9.1

Abiding by university policy on academic integrity is a responsibility of all university faculty and students. Faculty members must promote the components of academic integrity in their instruction, and course syllabi are required to provide information about penalties for cheating and plagiarism as well as the appeal process.

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) falsification or invention of any information, including citations, on an assignment; 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 include, but are not limited to: (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 the Internet or another source; and, (3) incorporating the words or ideas of an author into one's paper or presentation 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). 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.