Department of Mathematics and Statistics  
Math 1351.500: Intermediate Mathematics for Elementary Teachers  
Spring 2024 Syllabus and Course Policy

Course Description: Elementary concepts of geometry and measurement, probability, and statistics with an emphasis on problem solving and critical thinking.

Course Prerequisite: MATH 1350 with a grade C or better

Instructor: Cheryl Janusa  
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Email: j anusace@sfasu.edu  
Office: Bush Math building room 329

Office Hours: These hours have been set aside specifically to serve students.  
11 am – 11:55 am Monday, Wednesday, Friday  
11:10 am – 12:20 pm Tuesday and Thursday  
Additional times are available by appointment; send me an email to request an appointment.

Class Meeting Times and Location: This is an online class. We do not have any scheduled meetings.

Text and Materials:  
  Calculator that has a square root function, √. I recommend the TI 30 XS.  
- You will use scissors, a straight-edge (ruler) and pencils.  
- You will need a computer for completing assignments and using the Geogebra app, https://www.geogebra.org/geometry online app for constructions.

Grading Policy: Your final grade will be determined as follows:

<table>
<thead>
<tr>
<th>Weights of Components</th>
<th>Final Average and Letter Grade</th>
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</thead>
<tbody>
<tr>
<td>15% Assignments (completed in D2L, 5% CA and 15% HW)</td>
<td>90% - 100% A</td>
</tr>
<tr>
<td>60% Exams (3 Unit exams worth 20% each)</td>
<td>80% - 89.5% B</td>
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<tr>
<td>20% Final Exam (Comprehensive and required)</td>
<td>70% - 79.5% C</td>
</tr>
<tr>
<td>100% Final Course</td>
<td>60% - 69.5% D</td>
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<tr>
<td>&lt; 59.5%</td>
<td>F</td>
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</table>

Exams:  
- There will be three, 75 minute unit exams and a 120-minute Final exam. Exams are scheduled far in advance and only administered at the scheduled time.  
- There are no late or retake exams.  
- A student will be allowed to take the exam prior to the scheduled time for one of the following reasons:  
  o A medical excuse or extreme hardship such as a family emergency. The student must provide proper documentation and properly contact the Office of Students Rights and Responsibilities as stated in the SFA attendance policy, https://www.sfasu.edu/docs/policies/6.7.pdf.  
  o Student participation in approved university-sponsored events. Faculty members sponsoring activities that require their students to be absent from other classes must submit proper notification to the provost and vice president of academic affairs for all attending students  
- The Final Exam is comprehensive and mandatory. Allow 120 minutes for the final exam.
Testing Policies
- Students are required to take each exam.
- Each exam will be completed in D2L and the exam will be proctored either through zoom or a HonorLock. You will need a functioning computer to download the Honorlock Chrome extension, webcam, microphone, and school ID or official ID such as driver's license or passport.
- Work submitted must be your own. You are not allowed to use websites, textbook or notes during the exam.
- As stated in the SFA Code of Student Conduct and Academic Integrity, collusion is a prohibited academic conduct and is subject to discipline.

Additional Help:
- Take advantage of meeting with the instructor during office hours (see above) and email. If you cannot visit during office hours, appointments are available.
- AARC is located in the library and provides free tutoring: https://www.sfasu.edu/aarc
- Be careful of how you seek and use additional help. Developing an understanding of the concepts and explaining the concepts is much more important than having a correct answer.

Homework: Math 1351 is an activities-based course. The activities along with the textbook will help you develop an understanding of the concepts in each section. Textbook homework will be completed and submitted in D2L.

Attendance Policy:
- Completing assignments is participating in the course.
- Although assignments are due once a week, you will need to work more than once a week to learn the lesson and complete the assignments.

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.
- Any questions you have will likely be ones that other students want answered as well, so do not hesitate to ask questions as the material is presented. The purpose of attending class is for you to learn the material, not just a time for you to copy notes. Participating and being involved in class will help you be successful.
- Resources and announcement for the course will be posted in the D2L News. It is important for you to read the news items when you open our D2L class. It is important to keep up-to-date with communication.

See https://math.sfasu.edu/docs/syllabi/MATH1351Syllabus.pdf for elements common to all MATH 1351 sections.
<table>
<thead>
<tr>
<th>Week</th>
<th>Section covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>§10.1 Lines and Angles</td>
</tr>
</tbody>
</table>
| 2    | §10.1 Lines and Angles  
§10.3 Circles and Spheres |
| 3    | §10.4 Triangles, Quadrilaterals & Other Polygons  
§11.1 Concepts of Measurement and §11.2 Length, Area, Volume, & Dimension |
| 4    | §11.4 Convert One Unit of Measurement to Another  
§12.1 Areas of Rectangles Revisited  
§12.2 Moving & Additivity Principles About Area |
| 5    | §12.3 Areas of Triangles  
2/14 Exam 1: Sections 10.1, 10.3, 10.4, 11.1, 11.2, 11.4 |
| 6    | §12.4 Areas of Parallelograms & Other Polygons  
§12.6 Area and Circumference of Circles & $\pi$ |
| 7    | §12.8 Perimeter & Area of Shapes  
§12.9 Prove the Pythagorean Theorem (Move & Add) |
| 8    | §13.1 Polyhedra & Other Solid Shapes  
§13.2 Patterns & Surface Area  
3/11 – 3/15 Spring Holiday |
| 9    | §13.3 Volumes of Solid Shapes  
3/21 Exam 2: Sections 12.1, 12.2, 12.3, 12.4, 12.6, 12.8, 12.9 |
| 10   | §14.1 Reflections, Translations, and Rotations and §14.2 Symmetry  
3/28 – 3/29 Easter Holiday |
| 11   | §14.3 Congruence  
§14.4 Constructions with Straightedge & Compass |
| 12   | §14.5 Similarity and §14.6 Dilations & Similarity (only similarity)  
§14.7 Areas, Volumes and Similarity |
| 13   | §15.1 Statistics: Questions, Gathering Data, & Using Samples  
| 14   | §15.2 Displaying Data & Interpreting Data Displays  
§15.3 The Center of Data: Mean, Median, & Mode |
| 15   | §15.4 Data Distributions Summarize, Describe, & Compare |

**Final Exam: Wednesday, May 8, start the exam between 5 pm and 7 pm**, allowed time: 120-minute. comprehensive and mandatory
Course description: Elementary concepts of geometry and measurement, probability, and statistics with an emphasis on problem solving and critical thinking.

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: Math 1350.

Course outline:

- Geometric Figures: Definitions, Properties, and Relationships
  - Build basic vocabulary of geometric figures
  - Analyze properties of two and three dimensional figures
  - Explore relationships between lines, planes, polygons, and solids
  - 20%

- Geometry and Measurement
  - Investigate standard and nonstandard units of measure
  - Explore linear measurement: perimeter, circumference
  - Explore area of regular and irregular shapes
  - Use the Pythagorean Theorem appropriately
  - Explore measures of surface area and volume: lateral surface area, base, height, slant height
  - Investigate temperature as a form of measurement
  - 30%

- Geometry of Congruence, Similarity, and Transformations
  - Investigate properties of congruent and similar figures
  - Explore ratio and proportion as applied to geometric figures
  - Perform basic constructions using Mira, paper folding, compass, straightedge, and technology (when applicable)
  - Perform rigid and similarity transformations on a variety of figures
  - Explore properties and outcomes of rigid transformations
  - Explore types of symmetry
  - 20%

- Statistics
  - Collect, organize, analyze, and present real data
  - Utilize appropriate types of graphs for various data types
  - Interpret graphs and tables
  - Investigate the use of graphs to distort statistics
  - Analyze measures of central tendency and dispersion
  - 15%
• **Counting Principles and Probability**  
  15%
  - Explore basic counting principles
  - Understand and utilize factorial notation
  - Explore the language of uncertainty: sample space, outcome, event, equally likely, mutually exclusive events, certain and impossible events
  - Investigate experimental probability: simulation
  - Determine Expected Value

**Student Learning Outcomes (SLO):** At the end of MTH 128, a student who has studied and learned the material should be able to:

1. Use problem solving strategies to model, construct, and solve problems within and outside mathematics.
2. Use technology to explore geometric concepts and perform geometric constructions and transformations.
3. Apply spatial visualization skills to construct, transform, and measure two and three dimensional objects.
4. Apply concepts of congruence and similarity.
5. Use mathematical reasoning to develop strategies of conjecture and justification, leading to geometric proof.
6. Understand measurement as a process and apply basic concepts of measurement to real world settings.
7. Use basic counting principles and apply concepts of probability theory.
8. Apply basic concepts of statistics, including data classification, collection, and analysis.
9. Understand geometry as an axiomatic system.

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

www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

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*