Course Description
Elementary concepts of geometry and measurement, probability, and statistics with an emphasis on problem solving and critical thinking. For a more detailed course description, Student Learning Outcomes, and Exemplary Educational Objectives, go to http://www2.sfasu.edu/math/docs/syllabi/MTH128Syllabus.pdf.

Course Prerequisites
MTH 127 with a grade of C or better.

Course Time and Meeting Place
- MTH 128 Section 001 meets in Math 213 at 11–12:15 TuTh.
- MTH 128 Section 002 meets in Math 213 at 12:30–1:45 TuTh.

Instructor
- Thomas W. Judson, Associate Professor
  Department of Mathematics and Statistics
- Office: Math 316
- TEL: (936) 468–1704
- Email: judsontw@sfasu.edu
- Office Hours:
  - Monday: 12–1 PM (in Math 316); 5–6 PM (in the AARC)
  - Tuesday: 2–3 PM (in Math 316)
  - Wednesday: 12–1 PM (in Math 316); 5–6 PM (in the AARC)
  - Additional office hours by appointment

Course Goals
- To understand and be able to apply the mathematics essential to successful teaching in the elementary school classroom.
- To acquire a foundation in geometry and measurement, statistics, counting, and probability.
- To gain skill in problem solving and critical thinking.

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.

Program Learning Outcomes
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.

Textbook
The required textbook for this course is Mathematics for Elementary Teachers, 5th ed., by Sybilla Beckman. You will not need to purchase access to MyMathLab. The textbook is available in hardback (ISBN 9780134392790), loose-leaf (ISBN 97801344423319), or electronic “Ebook” (ISBN 97801344423401) formats. Any format is acceptable. This textbook will also be used in both MTH 128 and MTH 129.

Calculators
A simple four-function calculator will work fine for this course. We encourage you to bring your calculator to class with you everyday. However, you should not rely on computers and calculators to such an extent that they keep you from developing your own skills. Technology should be used as an aid, but without a good understanding of the underlying mathematical concepts, the calculator will quite happily mislead you without your even knowing it. In general, technology is a good thing, but as with everything, sometimes too much of a good thing can lead to problems. **You may not use your cellphone or your iPod in class for a calculator.**

**Grading and Exams**

The will be three 75 minute exams and a final exam. Your course grade will be determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Date</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Homework from the Textbook</td>
<td>Class assignment due dates are on the MTH 128 Calendar.</td>
<td>15%</td>
</tr>
<tr>
<td>TEKS Writing Assignments</td>
<td>Class assignment due dates are on the MTH 128 Calendar.</td>
<td>5%</td>
</tr>
<tr>
<td>Exam I</td>
<td>Exam dates are on the MTH 128 Calendar.</td>
<td>20%</td>
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<td>Exam II</td>
<td>Exam dates are on the MTH 128 Calendar.</td>
<td>20%</td>
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<tr>
<td>Exam III</td>
<td>Exam dates are on the MTH 128 Calendar.</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Monday, December 10 at 6:45-8:45 PM in Kennedy Auditorium</td>
<td>20%</td>
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</table>

Semester numerical scores will be converted into letter grades according to the following method.

<table>
<thead>
<tr>
<th>Range of numerical values</th>
<th>Corresponding Letter</th>
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<tbody>
<tr>
<td>90–100</td>
<td>A</td>
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<tr>
<td>80–89</td>
<td>B</td>
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<tr>
<td>70–79</td>
<td>C</td>
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<tr>
<td>60–69</td>
<td>D</td>
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<tr>
<td>0–59</td>
<td>E</td>
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</tbody>
</table>

When we calculate your final grade at the end of the course, we will calculate a score on a 0–100 point scale using the scores that you have obtained during the course, and using the grade breakdown given above. Your course grade will then be obtained using this table. In the event of a fractional score, we will always round up to the nearest integer. **There is no provision for extra credit in this course.**

**Exam corrections.** You rework any exam questions for which you lost credit. Errors should also be classified according to the instructor’s criteria. These assignments will be returned to you for editing until they are completely correct. Credit for this assignment will not be awarded until all errors are completely corrected. These assignments are classified as “homework” and will not alter exam grades.

**Resurrection Policy.** If you score **70% or better on the final exam** and this higher than your lowest midterm exam, we will replace your lowest midterm grade with your final exam grade. The resurrection policy does not apply to your homework grade.

**Important Information about the Math 128 Final Exam**

**The final exam for MTH 128 is on Monday, December 10 at 6:45-8:45 PM in Kennedy Auditorium.** Students having another exam at this time may take the MTH 128 final at an earlier time.

**Exam Policy**

Exams are scheduled far in advance, and it is impossible to move the time or date. However, in rare cases where it is impossible for an individual to take the exam at the scheduled time, we will work with you to make other arrangements. Exceptions for taking the exam out of sequence are the following:

1. A medical excuse. Please provide proper documentation according to university rules.
2. A University sponsored event such as an athletic tournament, a play, or a musical performance. Your coach or director must contact us in advance. Athletic practices and rehearsals do not fall into this category.
3. A religious holiday. Please send a short email explaining the situation.
4. Extreme hardship such as a family emergency. Please have the proper university office us.

The above are the only allowable excuses for taking the exam before the scheduled time. Under no circumstances do we give late exams. Since we can only accommodate a limited number of students taking the exam at an earlier time, please make sure that you fall into one of the above categories before you contact us. If you miss an exam due to illness or a family emergency, you will not be penalized. We will assign you a grade based on the rest of your coursework. If you have a conflict with the final exam, you must contact the Registrar. Only the Registrar can schedule an out-of-sequence final exam.

Cell phone use is not permitted in or out of the classroom during all exams. If you bring your cell phone to the exam venue, please remember to turn it off. Violation of this policy will be considered as academic dishonesty and dealt with accordingly. You will not be permitted to use your cell phone as a calculator, so plan ahead.

Homework and Quizzes

Homework assignments from the textbook can be found on the calendar page (http://faculty.sfasu.edu/judsontw/math128/calendar.html). Homework will also be assigned from our textbook and graded. Your daily average is based on your grades from homework from the textbook and any other daily grades that are assigned for a grade. Late homework will not be accepted.

Making Your Homework Easy to Read and Easy to Grade

- Make sure your handwriting is legible.
- Homework with multiple pages should be stapled in the upper left-hand corner.
- In the upper right-hand corner you should write (in this order):
  - Your name
  - MTH 128–001 or MTH 128–002
  - The homework set number
  - The due date of the homework
- Problems should be clearly labeled and numbered on the left side of the page. There should also be a visible separation between problems. Don’t forget to staple your homework together if you are submitting several pages.
- You should leave the entire left margin blank so that the grader can use this space for scoring and comments.
- To ensure that each problem is graded, problems and solutions should be written in the order that they are assigned.
- It is good practice to first work out the solutions to homework problems on scratch paper, and then to neatly write up your solutions. This will help you turn in a clean finished product.
- You should write up your solutions by yourself. You should always acknowledge any help received at the top of the assignment or in the right-hand margin.

The Classroom

Any questions you ask in class will likely be ones that other students will want answered as well, so get over any hesitation you might have and ask questions as the material is presented. You will not be penalized for doing this, no matter how trivial or simple you think your questions might seem. Remember, the class is being held for you to learn the material, not just to give you a time to copy notes off of a blackboard, so be sure to get help when you need it and stay involved in your class.

Getting Help with MTH 128

- Individual and group help is available at the Academic Assistance and Resource Center (AARC), which is located on the first floor of the Steen Library (https://library.sfasu.edu/aarc/). You can find information on power hours, learning teams, and one-on-one tutoring here as well as the dates for open enrollment.
- Remember to take advantage of office hours. You don’t have to make an appointment for office hours—just drop in.

Course Outline

- **Geometric Figures: Definitions, Properties, and Relationships.** Approximate time spent: 15%
  - Build basic vocabulary of geometric figures
  - Analyze properties of two and three dimensional figures
  - Explore relationships between lines, planes, polygons, and solids
- **Geometry and Measurement.** Approximate time spent: 30%
  - 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
- **Geometry of Congruence, Similarity, and Transformations.** Approximate time spent: 20%
  - 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
- **Statistics.** Approximate time spent: 15%
  - 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
Intermediate Mathematics for Elementary Teachers—Syllabus

Last modified: August 29, 2018

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.

Any acts of academic dishonesty will be dealt with according to University policy. Penalties for academic dishonesty may result in a failing grade for the assignment, failing the course, or even dismissal from the university.

Please read the complete Academic Integrity Policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf.

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, held 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.

You are off the grid in MTH 128. You may use your tablet or notebook computer to access the textbook or SageMathCloud in class; otherwise, consider yourself off the grid when you are in MTH 128. Please be respectful of your fellow students and your instructor. Cell phone use and texting are not allowed in class. Remember to turn your cell phone off and place it in your bag or backpack before entering the classroom. Any cell phone that is visible will be collected and returned to you at the end of class. Exceptions to this rule include volunteer firemen, physicians on-call, those who are on the shortlist to receive an organ transplant, etc.

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/

Add/Drop Policy

The Add/Drop Policy can be found at http://www.sfasu.edu/policies/course-add-drop_6.10.pdf.

Attendance Policy

Regular attendance is expected in MTH 128. Attendance and Excused Absences Policy can be found at http://www.sfasu.edu/policies/class-attendance-and-excused-absence-6.7.pdf.

Acceptable Student Behavior

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Academic Integrity (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.

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.

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<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Activity (due on this date)</th>
<th>Assignment (used on this date)</th>
<th>Section, Page, Problem Numbers</th>
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<tbody>
<tr>
<td>1</td>
<td>Tuesday 8/28/18</td>
<td>Introduction Using Compass and Protractor</td>
<td>10A</td>
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<td></td>
<td>Thursday 8/30/18</td>
<td>§10.1. Lines and Angles</td>
<td>10B, 10C</td>
<td>Read §10.1</td>
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<td>2</td>
<td>Tuesday 9/4/18</td>
<td>§10.1. Lines and Angles (continued)</td>
<td>10D, 10E, 10G</td>
<td>1</td>
<td>§10.1. Problem 2; pp. 463–465</td>
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<td>Thursday 9/6/18</td>
<td>§10.3. Circles and Spheres</td>
<td>10L, 10M</td>
<td>2</td>
<td>§10.1. Problem 11; pp. 463–465</td>
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<td>3</td>
<td>Tuesday 9/11/18</td>
<td>§10.4. Triangles, Quadrilaterals and Other Polygons</td>
<td>10P, 10Q, 10R</td>
<td>3</td>
<td>§10.3. Problems 2, 3; pp. 476–477</td>
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<td></td>
<td>Thursday 9/13/18</td>
<td>§10.4. Triangles, Quadrilaterals and Other Polygons (continued)</td>
<td>10S, 10T, 10U</td>
<td>4</td>
<td>§10.4. Problems 3, 17; pp. 487–490</td>
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<td>4</td>
<td>Tuesday 9/18/18</td>
<td><strong>Exam I—Chapter 10</strong></td>
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<td>5</td>
<td>§10.4. Problems 8, 11; pp. 487–490</td>
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<td>§11.4. Converting from One Unit of Measurement to Another</td>
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<td>5</td>
<td>Tuesday 9/25/18</td>
<td>§11.2. Length, Area, Volume, and Dimension</td>
<td>11D, 11E 12A, 12B</td>
<td>6</td>
<td>§11.1. Problem 3; p. 504</td>
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<td></td>
<td></td>
<td>§12.1. Areas of Rectangles Revisited</td>
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<td>§11.4. Problems 1, 3; pp. 521–523</td>
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<td>Thursday 9/27/18</td>
<td>§12.2 Moving and Additivity Principles About Area</td>
<td>12C, 12D, 12E, 12F</td>
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<td>§12.1. Problem 4; pp. 529–530</td>
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<td>§12.3. Areas of Triangles</td>
<td></td>
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<td>§12.2 Problems 3, 6; pp. 534–535</td>
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<td>6</td>
<td>Tuesday 10/2/18</td>
<td>§12.4. Areas of Parallelograms and Other Polygons</td>
<td>12G, 12H, 12I</td>
<td>8</td>
<td>§12.3. Problems 2, 9; pp. 541–543</td>
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<td>8</td>
<td>Tuesday 10/16/18</td>
<td><strong>Exam II—Chapter 12</strong></td>
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<td>Thursday 10/18/18</td>
<td>§12.9. Using the Moving and Additivity Principles to Prove the Pythagorean Theorem</td>
<td>12U, 12V, 13A, 13B</td>
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<td>TEKS writing assignment due</td>
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<td>§13.1. Polyhedra and Other Solid Shapes</td>
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<td>§13.1. Problem 3; pp. 587–588</td>
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http://faculty.sfasu.edu/judsontw/math128/calendar.html
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<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>11/8/18</td>
<td>Video</td>
<td>§14.4. Problems 1, 3, 7; pp. 642–643</td>
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<td>11/13/18</td>
<td>Thanksgiving Recess</td>
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**Last modified: August 24, 2018**

*Per SFA policy 5.4, your schedule should reflect 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.*