SMTE 3352.003, Fundamentals of Math III  
Department of Mathematics and Statistics  
Spring 2019

A. COURSE INFORMATION

Course number/section: SMTE-3352.003 CRN 80279  
Class meeting time: Thursday 7:00-9:30PM  
Class location: CS-107  
Course Website: TAMU-CC Blackboard https:bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Shere Salinas, Ph.D.  
Office location: CI-314J  
Office hours: Thursday 5:45-6:45PM  
Telephone: 361-549-0465  
e-mail: Shere.Salinas1@gmail.com (will use Blackboard when class begins)  
Appointments: Call, text, or email to make arrangements

C. COURSE DESCRIPTION

3 sem. hrs. (3.0) The conceptual framework for understanding and applying properties, models, and operations related to various geometric systems in problem solving settings. Prerequisite: SMTE 1351.

Extended Course Description
This course is the third in a sequence exploring elementary mathematics with deeper understanding, connections, and communication. Formal and informal geometry concepts and skills will be developed through problem-solving scenarios in collaborative groups. Manipulatives and technology will support the problem-solving approach.

D. PREREQUISITES AND COREQUISITES

Prerequisites
MATH 1314: College Algebra or equivalent  
SMTE 1350: Fundamentals of Math I  
SMTE 1351: Fundamentals of Math II

Corequisites
NONE

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

● REQUIRED: We recommend the same textbook used for SMTE 1350 Mathematical Reasoning for Elementary Teachers by Long, De Temple, and Millman 7th edition with
MyMathLab Access, Custom Package for Texas A&M University Corpus Christi, Pearson Custom Publishing. The hard copy of the textbook is not required (MyLabsPlus will give you access to a digital copy of the textbook).

- You will be given handouts and content will be posted in blackboard for you to study ahead of the time.
- You should have access if you (recently) took SMTE 1350 and/or SMTE 1351 at TAMU-CC. If not, you will need to purchase it separately at the bookstore or log on to www.tamucc.mylabsplus.com and purchase it online. Students will use their Island ID as their username and either use a previous password or ask for a new one. The technical support line is 1-888-883-1299.
- Manipulatives: To develop geometric constructions, you are expected to download and use GeoGebra or use it online free, geogebra.org.

Optional Textbook(s) or Other References

- Compass, Protractor, and Ruler (or digital construction tools via GeoGebra or Geometer’s SketchPad).
- Dot paper and rectangular grid
- Hardcopy of Mathematical Reasoning for Elementary Teachers, Edition 7
- Scientific or graphing calculator

Supplies

NONE

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1) Use, model and explain measurable attributes and appropriate strategies for making direct and indirect measurements of various attributes; model and explain the appropriate use of measurement tools, and discuss the precision and accuracy of measurements made.

2) Identify, analyze, and classify shapes by their properties and relationships; use deductive reasoning to draw conclusions; and discuss the Van Hiele Level of Geometric Thinking of tasks.

3) Use inductive and deductive reasoning to develop, justify and use formulas to find length, angle measures, perimeter, area and volume of polygons, circles, and basic three dimensional shapes.
4) Analyze and use the relationships between 3D and 2D representations of objects, including the use of nets, orthographic drawings, and isometric drawings.

5) Use, model and explain translations, rotations, reflections, and dilations/contractions and their relationship to congruence, similarity, symmetry, and tessellations. Relate these concepts to the mathematics in nature, art, architecture and society, including the art of M.C. Escher, circle-based art, quilting, and the Golden Ratio.

6) Identify correct and incorrect mathematical reasoning, and analyze error patterns present in EC-6 student work, and suggest remediation for these errors.

7) Write, and solve mathematical problems that involve geometric reasoning, and basic principles of mathematical modeling in a variety of mathematical or non-mathematical settings.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The course will be a combination of lectures, individual, and group work. Students are expected to participate in group and whole class discussions by contributing with knowledge and thoughtful evaluation of the contribution of others. Students are expected to follow the classroom materials posted in the blackboard. MyLabsPlus will be used as a supplement for homework reviews. Using physical models to teach the content topics, and understanding how learning occurs through their use, is a substantial portion of the class instructional plan. Students are expected to develop a joint project involving an active lesson planning, presentation, and reporting as a group, and reflecting as a future teacher on their work and others.

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Homework - MyLabsPlus</td>
<td>10%</td>
</tr>
<tr>
<td>Project, Presentations, Report &amp; Reflections</td>
<td>15%</td>
</tr>
<tr>
<td>Attendance and Active Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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</table>

RUBRICS. Please note that the term project will expect you to develop instructional materials using instructional technologies with online tools or virtual manipulatives to experiment with any one of the elementary mathematical ideas that you investigate in the chapters 9, 10, 11, and 12. The project involving a presentation and some classroom activities will be graded using the following rubric:
Presentation Grading Rubric:

<table>
<thead>
<tr>
<th>Category</th>
<th>4 Exemplary</th>
<th>3 Good</th>
<th>2 Satisfactory</th>
<th>1 Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject knowledge</td>
<td>Demonstrates subject knowledge throughout the entire assignment. All information is clear, appropriate, and accurate. The solutions to all problems are correct.</td>
<td>Demonstrates subject knowledge most of the time. Most of the information is clear, appropriate, and accurate. Most of the solutions to problems are correct, some solutions have minor errors.</td>
<td>Demonstrates some subject knowledge. Some information is clear, appropriate, and accurate. Some solutions to problems are correct.</td>
<td>Subject knowledge is not demonstrated. Information is confusing, insufficient, inappropriate, and inaccurate. Most of the problems have incorrect solutions.</td>
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<tr>
<td>Organization</td>
<td>The sequence of information/proof is logical and well organized.</td>
<td>The sequence of information/proof is well organized.</td>
<td>Some parts of the sequence of information/proof is organized.</td>
<td>The sequence of information/proof is disorganized.</td>
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<td>Communication</td>
<td>Excellent written communication of ideas/ excellent integration of spoken and visual presentation.</td>
<td>Good written communication of ideas, most of the time/good integration of spoken and visual presentation, most of the time.</td>
<td>Some parts are well written, and ideas are communicated effectively / some parts of the presentation are coordinated orally and visually.</td>
<td>The written portions are hard to follow, ideas are not communicated effectively / the presentation is hard to follow, the spoken and visual presentation are not integrated.</td>
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I. COURSE CONTENT/SCHEDULE

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topics</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7</td>
<td>Exam Pretest</td>
<td>1 session</td>
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<tr>
<td></td>
<td><strong>Figures in the Plane</strong></td>
<td></td>
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<tr>
<td></td>
<td>1. Attributes</td>
<td>2 sessions</td>
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<td></td>
<td>2. Angles 80 – 100 min</td>
<td>2 sessions</td>
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<td></td>
<td>3. Parallel and Intersecting Lines</td>
<td>1 session</td>
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<tr>
<td></td>
<td><strong>Curves and Polygons in the Plane</strong></td>
<td></td>
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<td></td>
<td>4. Polygons 40-60 min</td>
<td>1 session</td>
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<tr>
<td></td>
<td>5. Classifying Triangles</td>
<td>1-2 sessions</td>
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<td></td>
<td>6. Constructing Triangles</td>
<td>2 sessions</td>
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<td></td>
<td>7. Classifying Quadrilaterals</td>
<td>3 sessions</td>
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<td></td>
<td>8. Interior Angles of Polygons</td>
<td>2 sessions</td>
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<td></td>
<td><strong>Figures in Space</strong></td>
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<td></td>
<td>9. Visualization</td>
<td>1 session</td>
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<td></td>
<td>10. Prisms</td>
<td>2 sessions</td>
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<tr>
<td>7</td>
<td>Exam Midterm</td>
<td>1 session</td>
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<tr>
<td>7-8</td>
<td>The Measurement Process</td>
<td>10.1</td>
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<td></td>
<td></td>
<td>2 sessions</td>
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J. COURSE POLICIES

Attendance/Tardiness
You are expected to be regular and punctual in your class attendance. You are responsible for all notes, assignments and announcements made in class. Please check BlackBoard.

Late Work and Make-up Exams
Late work and Make-up Exams are allowed with proper documentation submitted to Student Services.

Extra Credit: None

Cell Phone Use
There is a zero tolerance policy for texting or any other cell phone use in class. Cell phones may be left on vibrate for emergency notification purposes. If you expect an important phone call, please inform me before class and quietly excuse yourself when you receive it.
Participation

An important aspect of learning to teach is, in part, a function of being a member of a community of learners that interacts to build knowledge about teaching and children’s learning. Another important aspect of learning to teach is engagement and collaborative work. Effective teachers are committed to professional growth through participation and collaboration to improve their practice. You are expected to actively participate in class, as this course is designed to draw upon the experiences and insights of your peers and your participation makes for a richer experience for all. Simply attending class does not constitute participation.

K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. *Please consult*
with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

  http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course.
Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- Academic Advising
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.