SMTE 3352.003 Fundamentals of Math III
Department of Mathematics and Statistics
Spring 2018 (01/16 ~ 5/02/2018)

A. COURSE INFORMATION
Course number/section:  SMTE 3352.003  (CRN 50385)
Class meeting time:  SMTE 3352.003   R  7 ~9:30 pm
Class location:   CS-107
Final Exam Dates:   TBA

B. INSTRUCTOR INFORMATION
Instructor:  Dr. Ping “Charlene” Tintera
Office location:  CI-334
Office hours:   TR  11am ~ 12:30 pm and 2 ~3 pm
Telephone:  825-3483
Email:   ptintera@tamucc.edu

C. COURSE DESCRIPTION:
Catalog 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:
MATH 1314: College Algebra, SMTE 1350: Fundamentals of Math I, and SMTE 1351: Fundamentals of Math II

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 Milliman 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 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](http://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.
- **National Library of Virtual Manipulatives for geometry:** You will be expected to use applets in this library. http://nlvm.usu.edu/en/nav/topic_t_3.html
- **OPTIONAL:** Compass, Protractor, Ruler, Hardcopy of Mathematical Reasoning for Elementary Teachers, Edition 7, Scientific or graphing calculator. Geometer’s Sketch Pad software instead of Geogebra, Dot paper and rectangular grid.

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. 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.

H. MAJOR COURSE REQUIREMENTS AND GRADING:

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams</td>
<td>40%</td>
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<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Presentations/Project</td>
<td>15%</td>
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<td>Lab Reports</td>
<td>0%</td>
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<td>Final</td>
<td>25%</td>
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Attendance: MANDATORY

Grading scale: A: 90 – 100, B: 80 – 89.99, C: 70 – 79.99, D: 60 – 69.99, F: 59.98 -

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 Final Project and some of the classroom activities requiring a presentation will be graded using the following Grading Rubric:

<table>
<thead>
<tr>
<th>Category</th>
<th>4 Exemplary</th>
<th>3 Good</th>
<th>2 Satisfactory</th>
<th>1 Unsatisfactory</th>
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<tbody>
<tr>
<td>Subject knowledge (50%)</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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<td>Organization (30%)</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 (written paper, and/or ppt and oral presentation) (20%)</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 paper is 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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<tr>
<td>Communication (written paper, and/or ppt and oral presentation)</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 paper is 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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<td>WEEKS</td>
<td>TOPIC</td>
<td>Chapters</td>
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<td>1-4</td>
<td>Figures in the Plane</td>
<td>9.1</td>
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<td>Curves and Polygons in the Plane</td>
<td>9.2</td>
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<td>Figures in Space</td>
<td>9.3</td>
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<td>5-10</td>
<td>The Measurement Process</td>
<td>10.1</td>
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<td></td>
<td>Area and Perimeter Exam Review &amp; Exam</td>
<td>10.2</td>
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<td>(online and in class)</td>
<td>9.1-10.2</td>
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<td></td>
<td>The Pythagorean Theorem</td>
<td>10.3</td>
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<td>Starting Projects</td>
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<td>Surface Area and Volume</td>
<td>10.5</td>
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<td>Project Work, Ongoing feedback</td>
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<td>11-12</td>
<td>Rigid Motions and Similarity Transformations</td>
<td>11.1</td>
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<td></td>
<td>Patterns and Symmetries</td>
<td>11.2</td>
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<td>12-14</td>
<td>Congruent Triangles</td>
<td>12.1</td>
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Similar Triangles  12.3

| 15 | Final Exam Review Presentations | Chaps 9-12 |

J. COURSE POLICIES

- Attendance is mandatory. Attendance will be checked each class period and each absence after the 3rd time will result in one letter grade lower (6th absence will result in two-letter grade lower). Please save absences for emergencies.
- Homework will be given each class period and discussed at the beginning of next class period.
- Cell phone using is prohibited in any circumstances.
- Cheating is strongly prohibited. If I caught someone cheating during any test, students may drop the class without my permission. If not, normally it is an “F” regardless for the semester grade.
- You are the only person responsible to drop the class and responsible to stay inform for any changes for tests and room changes. All the changes will be announced in the class.
- You may email me for help any time but not the night before the scheduled test neither the possible chance to postpone the test.
- I respect your request by email and I will answer it in my best convenient time.
- Makeup test will be given once per student with appropriate documentation provided. Please save the opportunity for the emergencies. You must notify me 24 hours ahead of time. (There is no makeup for any test which includes the final exam unless you could provide proper documentation from either medical doctors or any court orders 24 hours prior notice.) Without taking final exam, it will be an “F” for the semester grade regardless.
- Help: CASA has many quality tutors to help you while you need someone beside my office hours. Welcome to visit those tutors at the second floor of library. Please find out their schedule first before you make a plan to go for this semester. I will be happy to work with you anytime during my office hours and also email me for your special needs. Good luck to everyone in the class.
- This syllabus is a binding agreement between students and the instructor. If you have no any question regarding to this class, this syllabus will be activated from now and through this semester.

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/](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 thing, 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 and 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.