SMTE 3352.001
Fundamentals of Math III
Department of Mathematics and Statistics
SPRING 2018
by
Celil Ekici, Ph.D.

A. COURSE INFORMATION

Course number/section: SMTE 3352.001 CRN#50384
Class meeting time: Tuesday, Thursday 12:30PM-1:45PM
Class location: CS-107, and online components
                   (unless specified otherwise by Course Schedule)
Course Website: TAMU-CC Blackboard https://bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Dr. Celil Ekici
Office location: CI-358
Office hours: Tuesday Thursday 10:00AM-12:00 PM and Wednesday 1:00-2:00PM
You can also schedule by appointment or via online WebEx.
Telephone: (361) 825-2819 (office)
E-mail: celil.ekici@tamucc.edu

Appointments: Please email me, and include information about your availability during the week you
would like to meet with me.

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

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 OTHER 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 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. Virtual Manipulatives: You will be expected to use/develop applets from various resource geogebra.org
- **OPTIONAL:** Compass, Protractor, and Ruler. Dot paper and rectangular grid
- **OPTIONAL:** Hardcopy of Mathematical Reasoning for Elementary Teachers, Edition 7
- **OPTIONAL:** Scientific or graphing calculator. Geometer’s Sketch Pad software instead of GeoGebra.

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.

G. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Class Exam</td>
<td>15%</td>
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<tr>
<td>Homework- MyLabsPlus</td>
<td>35%</td>
</tr>
<tr>
<td>Participation-Attendance</td>
<td>10%</td>
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<tr>
<td>Project</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
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</tbody>
</table>

I. 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>
</tr>
</thead>
<tbody>
<tr>
<td>Subject knowledge</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>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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<tr>
<td>Organization</td>
<td></td>
<td></td>
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<tr>
<td>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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<tr>
<td>Communication</td>
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<tr>
<td>20%</td>
<td>Excellent written communication of ideas, most of the time/good 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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### J. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>WEEKS</th>
<th>TOPIC</th>
<th>CHAPTER</th>
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<tbody>
<tr>
<td>1-4</td>
<td>Figures in the Plane</td>
<td>9.1</td>
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<tr>
<td></td>
<td>Week 1</td>
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<td>Weeks 2-3</td>
<td>Curves and Polygons in the Plane</td>
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<td></td>
<td>Weeks 3-4</td>
<td>Figures in Space</td>
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<td>5-10</td>
<td>Week 5</td>
<td>The Measurement Process</td>
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<td>Week 6</td>
<td>Area and Perimeter</td>
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<td></td>
<td>Exam Review &amp; Exam</td>
<td>(online and in class)</td>
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<td></td>
<td>Week 7-8</td>
<td>The Pythagorean Theorem</td>
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<td></td>
<td></td>
<td>Part of two class sessions: Starting Projects</td>
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<td></td>
<td>Week 9-10</td>
<td>Surface Area and Volume</td>
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<tr>
<td></td>
<td></td>
<td>Project Work, Ongoing feedback</td>
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<tr>
<td>Weeks 11-12</td>
<td>Week 11</td>
<td>Rigid Motions and Similarity</td>
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<td>Transformations</td>
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<tr>
<td></td>
<td>Weeks 11-12</td>
<td>Patterns and Symmetries</td>
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<td></td>
<td>Project</td>
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<td></td>
<td>Weeks 13-14</td>
<td>Congruent Triangles</td>
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<td></td>
<td>Week 13</td>
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<td></td>
<td>Week 13-14</td>
<td>Similar Triangles</td>
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<td>Week 15</td>
<td>Final Exam Review</td>
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<td></td>
<td>Presentations</td>
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<tr>
<td>16</td>
<td><strong>Thursday</strong> May 10, 2017</td>
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<tr>
<td></td>
<td><strong>Monday</strong> 11:00 a.m. – 1:30 p.m</td>
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You can check your final exam schedule from [http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html](http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html)
J. COURSE POLICIES

x 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.

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

x Extra Credit: None

x 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.

x 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

x 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.

x 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.
x 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.

x 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.

x 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.

x 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.

Given the Family Educational Rights and Privacy Act (FERPA), a student has the right to:

- Inspect and review their education records
  Students can inspect and review their education records within 45 days of the day the University receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

- Request to amend their education records
  Students can request to amend any of their education records that they believe are inaccurate, misleading, or otherwise in violation of the student’s privacy rights under FERPA. A student who wishes to ask the University to amend a record should write the University official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed. If the University decides not to amend the record as requested, the University will notify the student in writing of the decision and the student’s right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

- Some control over the disclosure of their education records
  Students have the right to provide written consent before the University discloses personally identifiable information from their education records, except to the extent that FERPA authorizes disclosure without consent. The University discloses education records without a student’s prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is
    - A person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff)
    - A person or company with whom the University has contracted as its agent to provide a service instead of using University employees or officials (attorney, auditor, or collection agent)
    - A person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.
    - A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the
University. Upon request, the University also discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

- **File a complaint if they feel any of these rights have been violated**
  Students can file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:
  
  Family Policy Compliance  
  Office U.S. Department of  
  Education 400 Maryland  
  Avenue, SW Washington, DC  
  20202-5901

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. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F. I will announce such changes in a timely manner during regularly scheduled lecture periods.