SMTE 3352.001  
Fundamentals of Mathematics III – Geometry & Measurement  
Department of Mathematics and Statistics  
Summer I 2020

A. COURSE INFORMATION

Course number/section: CRN 30042, SMTE 3352.001  
Class meeting time: Asynchronous online delivery, except for the following synchronized WebEx meetings: June 1st (12:00pm-2:00pm), June 15th (12:00pm-2:00pm), and July 2nd (12:00pm-2:30pm). Students who cannot meet at those times, please email me for other arrangements.  
Class location: online via Blackboard  
Course Website: TAMU-CC Blackboard https://bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Valentina Postelnicu  
Office location: CI-357  
Office hours: MTWR 2:00pm-3:15pm online via WebEx, and by appointment  
Telephone: (361) 825-3023 (office)  
E-mail: Valentina.Postelnicu@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

Course Catalog Description  
The conceptual framework for understanding and applying properties, models and operations related to various geometric systems in problem solving settings.

Extended Course Description  
This course provides students with a research-based perspective on the teaching and learning of elementary mathematics. This course is designed to have students experience and learn mathematics through a process of inquiry which differs in significant ways from traditional mathematics classes. Students will work together to do mathematics, which involves solving problems, making claims and conjectures, justifying and critiquing claims and conjectures, and modifying or rejecting claims and conjectures as needed.

D. PREREQUISITES AND COREQUISITES

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

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

- MyLabsPlus Access is required for this class. The hard copy of the textbook is not required (MyLabsPlus will give you access to a digital copy of the textbook).

- We recommend the same textbook used for SMTE 1350 & 1351 *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. Students will be required to have an access code for MyLabsPlus (needs to be purchased from our campus bookstore only if it is the first time students use it; otherwise, the old access credentials used for SMTE 1350 and 1351 should work—if associated with Long’s 7th edition). You may purchase an access for MyLabsPlus online, but ONLY after you login with your TAMU-CC credentials. The Website for MyLabsPlus is www.tamucc.mylabsplus.com. Students will use their Island ID as their username and either use a previous password or ask for a new one. The MyLabsPlus help line is 1 888-883-1299.

Other References

- Texas Essential Knowledge & Skills (free online)
- *Principles and Standards for School Mathematics*, NCTM, 2000 (free trial online)
- Khan Academy (*instructional videos*)

Supplies

Regular access to high speed internet and MS Office applications (e.g., Word, Power Point, Excel) is required for this class.

Students may be responsible for providing webcams to be used during WebEx presentations.

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.

If the student meets the expectation of the instructor for completing assigned tasks, reflecting on the daily activities, studying the key concepts discussed during class, and getting additional help when needed, then the student will 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

This fully online course will be a combination of individual investigations and whole-class discussions via TAMUCC Blackboard and WebEx. All participants are expected to engage in group and whole class activities by contributing knowledge and thoughtful evaluation of others’ contributions.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Grades will be based on the percentage of total points the student earns. There will be points given on the following:

<table>
<thead>
<tr>
<th>ACTIVITY/ASSIGNMENT</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Blackboard/Discussion Forum</td>
<td>25%</td>
</tr>
<tr>
<td>MyLabsPlus Homework (online)</td>
<td>25%</td>
</tr>
<tr>
<td>Pythagorean Theorem Project (online, WebEx presentation)</td>
<td>10%</td>
</tr>
<tr>
<td>Final Project and Presentation (online, WebEx presentation)</td>
<td>40%</td>
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</tbody>
</table>

Specific directions for course activities/assignments (e.g., content, format, submission, deadlines, feedback) will be posted on TAMUCC-Blackboard, at [https://bb9.tamucc.edu/](https://bb9.tamucc.edu/). The Final Project and the assignments requiring a paper and/or 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><strong>Subject knowledge</strong></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>
</tr>
<tr>
<td><strong>Organization</strong></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>
</tr>
<tr>
<td><strong>Communication</strong></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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</table>

Final grades will be assigned according to the following table:

- **Percentage Grade**
  - ≥90.0%  A
  - ≥80.0%  B
  - ≥70.0%  C
  - ≥60.0%  D
  - Below 60%  F
### I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/01</td>
<td>Introduction to SMTE 3352 and Ch. 9</td>
<td>WebEx Introduction (12:00pm-2:00pm)</td>
</tr>
<tr>
<td>06/02</td>
<td>9.1 Figures in the Plane</td>
<td>9.1 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/03</td>
<td>9.2 Curves and Polygons in the Plane</td>
<td>9.2 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/04</td>
<td>9.3 Figures in Space</td>
<td>9.3 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/08</td>
<td>10.1 The Measurement Process</td>
<td>10.1 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/09-06/10</td>
<td>10.2 Area and Perimeter</td>
<td>10.2 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/11</td>
<td>10.3 The Pythagorean Theorem</td>
<td>10.3 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/15</td>
<td>10.3 The Pythagorean Theorem</td>
<td>WebEx Presentation (12:00pm-2:00pm)</td>
</tr>
<tr>
<td>06/16-06/17</td>
<td>10.4 Volume</td>
<td>10.4 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/18, 06/22</td>
<td>10.5 Surface Area</td>
<td>10.5 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/23</td>
<td>11.1 Rigid Motions and Similarity Transformations</td>
<td>11.1 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/24</td>
<td>11.2 Patterns and Symmetries</td>
<td>11.2 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/25</td>
<td>11.3 Tilings and Escher-like Designs</td>
<td>11.3 Discussion Forum &amp; MyLabsPlus</td>
</tr>
<tr>
<td>06/29-07/01</td>
<td>Final Review (work on portfolio)</td>
<td>Discussion Forum</td>
</tr>
<tr>
<td>07/02</td>
<td>Final Exam (Final Project – portfolio, and presentation via WebEx)</td>
<td>Final Project (submitted online Blackboard/Discussion Forum) &amp; Presentation via WebEx July 2nd 12:00pm-2:30pm</td>
</tr>
</tbody>
</table>

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

### J. COURSE POLICIES

**Online delivery**

This course will be delivered online. You can access it through TAMUCC-Blackboard at [https://bb9.tamucc.edu/](https://bb9.tamucc.edu/).

Should you have difficulties accessing Blackboard, contact IT help: [https://it.tamucc.edu/gethelp](https://it.tamucc.edu/gethelp). For online office hours and meetings we will use WebEx. Instructions on how to use WebEx will be provided via TAMUCC-Blackboard.

**Late Work and Make-up Exams**

Late assignments will not be accepted, unless exceptional circumstances prevent you from completing them. Extension of deadlines will be at the instructor’s discretion. Late assignments may result in partial or total loss of credit. There are NO make-ups for missed assignments or
synchronized online activities. Exceptional circumstances (e.g., documented illness, family situations) may be considered at the instructor’s discretion.

Extra Credit
There will be no extra credit for this course.

Participation
You are expected to be prepared and participate in all course activities.

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.C0.03, 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 required 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.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf). 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/

• Civil Rights Complaints

Texas A&M University–Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at Title IX/Sexual Assault/Pregnancy.

Limits to Confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including
instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

• **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 via Blackboard and during regularly scheduled lecture periods.