Classroom: Online
Class Time: Tuesdays 5:30 – 8:20 pm via Blackboard Collaborate Ultra.

Instructor information:
Dr. Beth L. Cory
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Virtual Office Hours:
Mondays 4:00 – 5:30 pm

COURSE DESCRIPTION: This course is a study of topics in geometry including constructions and transformations. Prerequisite: Certification in secondary school mathematics and MTH 3363 or equivalent. Credit 3.

COURSE OBJECTIVES: Upon completion of this course, students will be able to:
- Use tools such as the compass, straightedge, tracing paper, and dynamic geometry software to construct Euclidean figures
- Identify, classify, and perform isometries and size transformations (e.g., translations, reflections, rotations, and dilations) on plane figures
- Compose isometries and size transformations, and classify the resulting transformation
- Identify various types of symmetry, and relate these to isometries
- Understand the connection between isometries and size transformations to congruence and similarity
- Use principles of similarity to verify and prove conjectures about similar figures, such as the ratios of perimeters and areas of similar figures, approximations of π, and trigonometric functions.

REQUIRED MATERIALS:
  Textbook: Libeskind, Shlomo. (2008). *Euclidean and Transformational Geometry: A Deductive Inquiry.* Sudbury, MA: Jones and Bartlett Publishers, Inc. ISBN 0-7637-4366-6.
  Technology: Computer or Ipad, Webcam
  Other: You will also need a compass and straightedge for this course.

PRE-CLASS PREPARATION: Students are expected to be comfortable with *GeoGebra* before coming to class on the first day. Tutorials and tutorial videos have been placed on Blackboard for students in case they are not already a seasoned *GeoGebra* user. On the first day of class, student will be asked to take a GeoGebra Quiz to be sure they have taken time to become familiar with the software before the semester begins.

LECTURES: The majority of the lectures will be placed on Blackboard as pre-recorded videos for students to watch via Blackboard. Students will watch the videos and complete the posted assignments outside of class. During class time, students will meet using Blackboard Collaborate Ultra with the instructor and the other students in the class to ask questions, solve problems. and complete activities which will reinforce and extend the knowledge they gain from the video lectures. Students will be asked to present their ideas and solutions to the class. Toward the end of the semester, a few in-class online lectures may be given

ATTENDANCE AND PARTICIPATION: Regular and punctual attendance is expected of every student. If absent or tardy, you are still responsible for all material covered in class, and you will need to check with a classmate about what was discussed. Serious health or family problems that are well documented will be handled individually.

ASSIGNMENTS/QUIZZES: Assignments will consist of problems from the text, supplemental problems, answers to questions based on the online lectures, problems completed using *GeoGebra*, short in-class quizzes, and in-class activities. These assignments may be collected and assessed for credit.

In many cases, in lieu of sending homework assignments to the professor, students will present their solutions during class. In this case, each problem to be presented will be worth 5 points. Students will be called upon to present solutions to the class. I will ask you to present a specific problem. If you present your solution to the problem, you will get full credit, even if what you write isn't completely correct. If you don't have the problem I ask you to present, you may present any other problem from the set that hasn't already been presented for 4 points. If you are present and are unable to present anything, you get 1 point. If you are absent or present

something that is unprepared, you receive 0.

PRESENTATION PROJECT: Each student will be assigned a specific problem and problem solution to study from the text or from supplemental material. The student will prepare a lesson to teach the problem and its solution to the class.

TESTS: There will be a midterm and a comprehensive final exam. Students will be asked to take the midterm at a local testing center or to find a proctor. The final exam will be open-book. These tests will contain problems similar to those worked in class and contained in homework assignments. Test items will be in a variety of formats, such as multiple choice, short answer, or more extended items that require explanations or constructions.

*Tentative Midterm Due Date***:** Monday, July 21.
Final Exam: Due Friday, August 1 before 9 am.

COURSE EVALUATION: Each student's grade will be based on the following:
Assignments/Presentations	25% of final grade
Presentation Project	20% of final grade
Midterm Exam	25% of final grade
Comprehensive final exam	30% of final grade

Grading Scale

Percent, p	$90 \le p \le 100$	$80 \le p < 90$	$70 \le p < 80$	$p < 70$
Course grade	A	B	C	F

TENTATIVE SCHEDULE: This is a tentative schedule and is subject to change.
Students will be advised of changes during class meeting times, via email, or through Blackboard.

Day	Date	Topic
1	1/23	No Class—Prepare for GeoGebra Quiz
2	1/30	GeoGebra Quiz; Section 5.1
3	2/6	Section 5.1
4	2/13	Section 5.2
5	2/20	Section 5.2
6	2/27	Section 5.3
7	3/6	Section 5.3
	3/13	---Spring Break---
8	3/20	**Midterm**
9	3/27	Section 6.1
10	4/3	Section 6.1
11	4/10	Section 6.2
12	4/17	Project Presentations
13	4/24	Sections 4.1, 4.2
14	5/1	Sections 4.3, 4.4
15	5/8	**COMPREHENSIVE FINAL EXAM**

ACADEMIC DISHONESTY: All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

CLASSROOM RULES OF CONDUCT: Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers and magazines, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especiallydisruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

VISITORS IN THE CLASSROOM: Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom.

This policy is not intended to discourage the occasional visiting of classes by responsible persons. Obviously, however, the visiting of a particular class should be occasional and not regular, and it should in no way constitute interference with registered members of the class or the educational process.

AMERICANS WITH DISABILITIES ACT: It is the policy of Sam Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request assistance with academically related problems stemming from individual disabilities by contacting the Director of the Counseling Center in the Lee Drain Annex or by calling (936) 294-1720.

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS: University policy states that a student who is absent from class for the observance of a religious holy day must be allowed to take the examination or complete an assignment scheduled for that day within a reasonable time after the absence. Students will be excused to travel for observance of a religious holy day. A student who wishes to be excused for a religious holy day must present the instructor with a written statement describing the holy day(s) and the travel involved. The instructor will then provide the student with a written description of the deadline for the completion of missed exams or assignments.

CLASSROOM RULES OF CONDUCT:
Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

USE OF TELEPHONES AND TEXT MESSAGERS: The use by students of electronic devices that perform the function of a telephone or text messager during class-time is prohibited. Arrangements for handling potential emergency situations may be granted at the discretion of the instructor. Failure to comply with the instructor's policy could result in expulsion from the classroom or with multiple offenses, failure of the course. Any use of a telephone or text messager or any device that performs these functions during a test period is prohibited. These devices should not be present during a test or should be stored securely in such a way that they cannot be seen or used by the student. Even the visible presence of such a device during the test period will result in a zero for that test. Use of these devices during a test is considered de facto evidence of cheating and could result in a charge of academic dishonesty (see student code of conduct http://www.shsu.edu/students/guide/StudentGuidelines2010-2012.pdf#page=29).