

MATH 330-01 Geometry For Middle School Teachers - F 2019
MWF at 1:00-1:50 in SCI 206

Ogüil A. Duncan • SCI 207F • (843) 349-2167 • oarслан@coastal.edu
Office Hours: MWF: 2:00-2:50 pm, TTh: 11:00-11:50 am

Textbook: *Geometry Connections*, by John Beem

Material: It is highly recommended that each student have a compass, ruler, and protractor.

Moodle: Check Moodle and email regularly. I will post pertinent information regarding assignments.

Software: The text makes reference to the computer geometry software *Geometer's Sketchpad* in the text for assistance in geometric constructions and diagrams. You are welcome to try to obtain it, but there are free alternatives that perform similar operations. I would recommend downloading a copy of free software Geogebra (<https://www.geogebra.org/>) for assistance with Euclidean constructions.

Course Objective: This course will provide a deeper understanding of geometry and its connection to other branches of mathematics by improving intuition with pictures and by developing problem-solving skills in geometric topics. Furthermore, students will learn to justify and explain arguments with informal proofs involving pictures.

Exams: There will be three major exams and a cumulative common final exam. The exam dates below are subject to change. Make-up exams will be made solely at my discretion. If you know ahead of time that you will miss an exam, you must let me know before the exam date. If you miss an exam due to some unexpected reason and fail to let me know by the end of the day either via email, in person, or by phone, then you will not be allowed to make up the exam (except under very unexpected, serious circumstances).

- Exam 1: Friday, September 20th,
- Exam 2: Friday, October 25th,
- Exam 3: Friday, November 22nd,
- Final Exam: Tuesday, December 10th (1:30-3:30)

These dates are subject to change. You will be notified if changes are made.

Homework: A selection of homework problems will be assigned regularly and a subset of the assigned problems will be collected and graded. Homework problems will be turned in at the beginning of class. You are encouraged to discuss homework problems with classmates. However, you are expected to **individually** write up your solutions, and you are responsible for your own understanding of the material. Please use complete sentences, diagrams where appropriate, and explain your supporting reasoning on all assignments to receive full credit. Late homework will not be accepted.

Quizzes/In Class Assignments: There will be several quizzes and in class assignments throughout the semester. You should be able to answer the quiz questions if you attended classes, reviewed the corresponding section in the textbook and notes, and worked out the exercises related to the sections covered. On all assignments justify your work to receive full credit. Quizzes/in class assignments missed due to tardiness may not be made up.

Grade Policy: Your course grade will be weighted as follows.

Quiz & In Class	15%
Homework	10%
Exams	45% (15% each)
Final Exam	30 %

Grade Scale:

A: 90–100	B+: 87–89	B: 80–86	C+: 77–79
C: 70–76	D+: 67–69	D: 60–66	F: below 60

Important Dates:

Monday, September 3	Labor Day
Friday, October 5	Student Holiday
Thursday, October 25	Last day to drop w/ grade of “W”
November 19-24	Thanksgiving Break
Wednesday, December 5	Last day of class
Monday, December 10	Final Exam 11:00 am–1:00 pm

Class Attendance:

- You are expected to attend every class session. New information is given each day of class, so it is important to pay attention to the topics covered so you will be prepared for the exams. We also will have graded in-class assignments and assign HW during class. Attendance will be taken every class period in this course.
- More than 6 unexcused absences will result in your final grade being lowered—one letter grade for each excessive absence.
- Being absent or leaving class early, whether excused or not excused, do not absolve you from responsibility. If you happen to miss a class, it is your responsibility to get missed content from another student in the class.
- There will be NO make-up tests unless approved ahead of time or when official documentation (a note from the doctor’s office, for example) is provided. Under no circumstances will anyone be able to take the test once the exams are returned.
- Being late or leaving early for special reasons should be discussed with me in advance.

Students with Disabilities: Coastal Carolina University is committed to equitable access and inclusion of individuals with disabilities in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Individuals seeking reasonable accommodations should contact Accessibility & Disability Services (843-349-2503 or <https://www.coastal.edu/disabilityservices/>).

Statement of Student Conduct: Coastal Carolina University is an academic community that expects the highest standards of honesty, integrity and personal responsibility. Members of this community are accountable for their actions and reporting the inappropriate action of others and are committed to creating an atmosphere of mutual respect and trust.

Academic Dishonesty: Cheating is a very serious offense. Among other behaviors, I will consider direct copying from any source (online, texts, peers, etc.) to be a direct violation of the honor code. Asking another student a question regarding how to solve a problem similar to the homework is collaboration, copying another student's HW or having someone complete HW for you is cheating. Violations of academic integrity will be dealt with according to the University policies.

Coastal Carolina University is an academic community that expects the highest standards of honesty, integrity and personal responsibility. Members of this community are accountable for their actions and reporting the inappropriate action of others and are committed to creating an atmosphere of mutual respect and trust. If a student is caught cheating in this class, he/she will automatically receive a zero on that assignment or test. The student will also forfeit the possibility of using the final exam to replace the lowest test score at the end of the semester. The incident will be reported to the Office of Academic Integrity. Please review the revised Code of Conduct that is available on the web at: <https://www.coastal.edu/conduct/>

Courtesy: Mobile phones must be turned off/silenced and out of sight throughout class. The use of music players, laptops and electronic devices of any kind is strictly prohibited. Questions are allowed during class, but conversations of a personal nature are not. These are all distractions to your peers and me; please be considerate to other students who wish to make the most of their time in class.

Student Learning Outcomes:

At the completion of the course, the successful student in Math 330 will demonstrate the ability to:

- Perform transformations (dilations, translations, rotations, etc) on an image and illustrate various types of symmetry to two- and three-dimensional objects
- Utilize the concepts of congruence and similarity to solve problems and develop sound proofs.
- Explain in precise language and correctly demonstrate a thorough understanding of the core concepts and principles of Euclidean geometry, using these concepts to solve problems in various contexts.
- Identify and represent two- and three-dimensional objects with various models and technological tools.
- Develop and apply the formulas for measurement (perimeter, area, volume, etc) of two- and three-dimensional objects with careful attention to units of measurement.
- Use a compass and straightedge to perform geometric constructions with precision.
- Develop informal proofs, using models to identify patterns and justify arguments.
- Recognize patterns, generalize concepts to large contexts, develop and investigate conjectures, and construct mathematical arguments and proofs using axioms and/or pictures.
- Explain the basics of the historical development of geometry and the basics of spherical and taxicab geometries.

I reserve the right to make revisions to this syllabus throughout the semester. I will give reasonable notice if any changes are made. Please feel free contact me by email or come by my office to discuss issues about the course, subject matter, or special needs.