

**Instructor: Mike
Lundin**

Office: Bouillon 108 D

Phone: 963-1398

**e-mail:
lundin@cwu.edu**

**Web:
www.cwu.edu/~lundin/**

**Office Hours: MW 1-2;
T 11-12**

If you cannot meet during this time, we can make arrangements to meet at another time. Also, if you need special accommodations, please let me know.

Math 455

College Geometry II

Daily Outlines

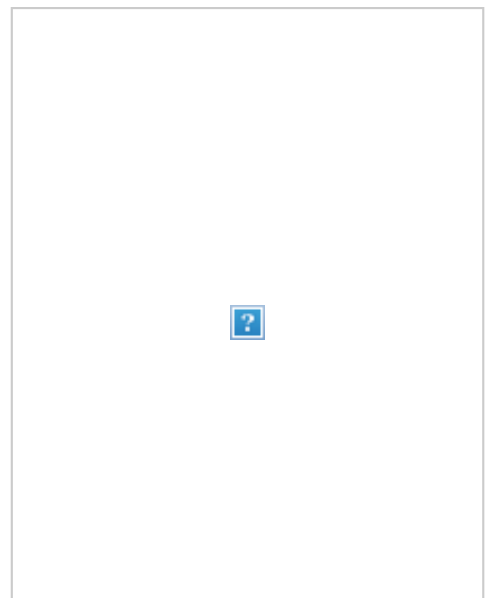
Course Philosophy

Non-Euclidean geometries are subjects of this course. There are many of these, but we will study only two: Spherical (a special case of elliptical) and Hyperbolic. We will continue to adhere the Felix Klein's philosophy: the geometric properties of interest are invariants under groups of transformations. As such we will compare Euclidean, Spherical

Course Content

- Week 1-Finite Geometries
- Week 2-Finite Geometries and Neutral Geometries
- Week 3-Euclid's 5th Postulate
- Week 4-Spherical Geometry
- Week 5-Spherical Geometry
- Week 6-Hyperbolic Geometry
- Week 7-Hyperbolic Geometry
- Week 8-Hyperbolic Geometry

Text: A Survey of Classical and Modern Geometries



Euclidean, Spherical, and Hyperbolic models after a brief trip through the logical foundations of axiomatic systems.

Week 9-Projective Geometry



By Arthur Baragar

Assessments and Evaluations

In-class Presentations

Nearly every class period, someone will give a brief presentation of problems or proofs.

Note that your presentations must be brief outlines that focus on the critical issues of a problem, not detailed solutions,. Usually you will have several minutes at the most for your presentations. Your presentations will count as **10%** of your grade.

Quizzes

Quizzes will be given once per week, and these will count collectively as **10%** of your grade

Projects

You will complete one project to be uploaded into your Math 499E portfolios. The Project will count as **10%** of your grade.

Content and Learner Outcomes

- The learner will be able to define geometric concepts critical to the intuitive and logical development of geometry.
- The learner will be able to construct geometric figures using multiple technologies and methods, including those classical straight edge and compass techniques.
- The learner will be able to conjecture, prove, give counterexamples, and evaluate conjectures, proofs, and counterexamples for correctness, elegance, and utility.
- The learner will be able to make connections among geometry, other areas of mathematics, real world phenomena, and science.
- The learner will be able to communicate geometric and pedagogical ideas with others in a clear and concise manner, properly using the language of

Final Grading

93-100% A

90-92% A-

87-90% B+

83-86% B

80-82% B-

77-79% C+

73-76% C

70-72% C-

67-69% D+

63-66% D

60-62% D-

Below 60% F

Homework

Homework will be collected in notebook form, and will count as **10%** of your grade.

Exams

mid-term (**25%** of your grade)

final exam (**35%** of your grade).

mathematics, specifically, geometry.

- The learner will contribute to the class knowledge base in a professional manner that includes preparation, courtesy, and respect for others.