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**Office Hours: 11:15-  
11:50 M-F or by  
appointment**

If you need special  
provisions, please let  
me know.

## Course Philosophy

First, Euclidean geometry, the type we will consider most here, has been well-understood in good part for the last 2000 years, and it ostensibly evolved from practical "sensory" applications. Second, most of the literature (and some common sense) stipulates a constructive development of the content of geometry. We shall take that approach where "constructive" has two connotations: logical

# Math 355

## College Geometry I

Meeting 12-1 MTF in Hetz Hall 121, Th in Bouillon 103

### Daily Outlines

## Course Content

Weeks 1-4-The Basics of Transformational Geometry (Chap. 1)

Weeks 5-Euclidean Geometry and SSS (Chap. 1)

Week 6-Euclidean Constructions (Chap. 3) **Test**

Weeks 7and 8-Neutral Geometry and Parallelism (Chap. 9)

Weeks 9-Euclidean n-space (Chapter 5)

Text: A Survey of Classical and Modern Geometries



and constructivist. Third, and very importantly, much of what will be modeled here, both processes and content, has direct applications to both the real world and to the secondary mathematics classroom.

Week 10-Special Topics

**Final Exam: Friday, March 20, 12:00-2:00**



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 15% of your grade

### Projects

You will complete one project to be uploaded into your Math 499F

## 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,

## 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

into your math 1001 portfolios. The Project will count as 10% of your grade.

properly using the language of mathematics, specifically, geometry.

### Exams

mid-term (25% of your grade)

final exam (40% of your grade).

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