

TEXT: *Survey of Geometry*, 1st ed. (online text), by Timothy Peil (<http://web.mnstate.edu/peil/geometry>)

SCHEDULE: Unless announced otherwise, all topics listed herein will be possible topics on the final exam. The daily schedule may vary slightly from the schedule listed below.

DAILY WORK: Do the reading from the sections to be covered before coming to class each day. The exercises listed below represent a minimal assignment and should be done as the material is covered. Some students may need to work additional exercises from the text to attain sufficient mastery of the material.

CALCULATORS: You will be permitted to use a calculator on exams. Calculators which are able to do “symbolic manipulation” will not be permitted on quizzes and exams.
Sufficient work must be shown to receive credit on quiz and exam problems.

FINAL EXAM: The time for the final exam is: 11:30am – 1:30pm on Monday May 7th.
You are expected to arrange your schedule to allow you to take exams at their scheduled times.

| WEEK | DATES | SECTIONS | TOPICS |
|------|-------------|----------|---|
| 1 | Mon, Jan 8 | 1.1 | Introduction to Axiomatic Systems |
| | Wed, Jan 10 | 1.1, 1.2 | Examples of Axiomatic Systems; Finite Geometry |
| | Fri, Jan 12 | 1.2, 1.3 | Finite Geometry; Finite Projective Plane Geometry |

Friday, January 12th: Drop/Add Deadline – 4:00p.m.

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| 2 | Mon, Jan 15 | (no class) | Martin Luther King Day Holiday |
| | Wed, Jan 17 | 1.3, Review | Finite Projective Plane Geometry; Applications |
| | Fri, Jan 19 | Chapter 1 Quiz | |

Monday, January 22nd: Pass/No Credit Deadline – 4:00p.m.

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| 3 | Mon, Jan 22 | 2.1 | Introduction and Historical Overview of Plane Geometry |
| | Wed, Jan 24 | 2.1 | Analytic Models for Plane Geometry |
| | Fri, Jan 26 | 2.1, 2.2 | Analytic Models for Plane Geometry, Incidence Axioms |
| 4 | Mon, Jan 29 | 2.2 | Incidence Axioms |
| | Wed, Jan 31 | 2.3 | Distance and Ruler Axioms |
| | Fri, Feb 2 | 2.3 | Distance and Ruler Axioms |
| 5 | Mon, Feb 5 | 2.4 | Plane Separation Postulate; Angles |
| | Wed, Feb 7 | 2.4 | Angles and Angle Measure |
| | Fri, Feb 9 | 2.5 | The Supplement and SAS Postulates |
| 6 | Mon, Feb 12 | 2.5, 2.6 | The SAS Postulate; Parallel Lines |
| | Wed, Feb 14 | 2.6 | Parallel Lines without a Parallel Postulate; Saccheri Quadrilaterals |
| | Fri, Feb 16 | 2.6, 2.7 | Saccheri Quadrilaterals; the Euclidian Parallel Postulate |
| 7 | Mon, Feb 19 | 2.7 | The Euclidean Parallel Postulate; The Hyperbolic Parallel Postulate |
| | Wed, Feb 21 | 2.7, 2.8 | The Elliptic Parallel Postulate; Euclidean, Hyperbolic Geometries |
| | Fri, Feb 23 | 2.8, Review | Euclidean, Hyperbolic and Elliptic Geometries |
| 8 | Mon, Feb 26 | Chapter 2 Exam | |
| | Wed, Feb 28 | 3.1, 3.2 | Introduction to Transformational Geometry; Definition of a Transformation |
| | Fri, March 2 | 3.2 | An Analytic Model of the Euclidean Plane |

No Classes: March 5th – March 9th Spring Break

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| 9 | Mon, March 12 | 3.2, 3.3 | Affine Transformation of the Euclidian Plane; Isometry |
| | Wed, March 14 | 3.3 | Collinearity for the Analytic Euclidean Plane |
| | Fri, March 16 | 3.3, 3.4 | Isometry for the Analytic Euclidean Plane; Translation and Rotation |
| 10 | Mon, March 19 | 3.4 | Translation and Rotation for the Analytic Euclidean Plane |
| | Wed, March 21 | 3.4, 3.5 | Rotation for the Analytic Euclidean Plane; Reflection and Glide Reflection |
| | Fri, March 23 | 3.5 | Reflection for the Analytic Plane |
| 11 | Mon, March 26 | 3.5, Review | Reflection and Glide Reflection for the Analytic Plane |
| | Wed, March 28 | Chapter 3 Exam | |
| | Fri, March 30 | (no classes) | Good Friday |
| 12 | Mon, April 2 | (no classes) | Easter Monday |
| | Wed, April 4 | 4.1, 4.2 | Introduction to Projective Geometry; Axioms and Basic Definitions |
| | Fri, April 6 | 4.2 | Basic Theorems; Independence of Axioms |

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| 13 | Mon, April 9 | 4.3 | The Principle of Duality in Projective Geometry |
| | Wed, April 11 | 4.4 | Desargues' Theorem |
| | Fri, April 13 | 4.4 | Desargues' Theorem |
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| 14 | Mon, April 16 | 4.5 | Harmonic Sets |
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| Last Day to Withdraw – Monday, April 20th by 4:00pm | | | |
| | Wed, April 18 | 4.5 | Harmonic Sets; Harmonic Sets and Music |
| | Fri, April 20 | 4.6 | Definition of Perspectivity and Projectivity; The Fundamental Theorem |
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| 15 | Mon, April 23 | 4.6 | The Fundamental Theorem; Harmonic Sets and Projectivity |
| | Wed, April 25 | 4.7 | Conics in the Projective Plane |
| | Fri, April 27 | 4.7 | Conics in the Projective Plane; Pascal's Theorem |
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| 16 | Mon, April 30 | Review | |
| | Wed, May 2 | Study Day | |

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