Class schedule (approximate)

Because of our class schedule this semester, a "week" will usually start on Wednesday and end the following Monday. See the class web page for precise dates.

Week 1: Review of traditional Euclidean axiomatic geometry

Week 2: Logic, verbal and symbolic: Quantifiers, propositional connectives, survey of techniques

Week 3: Consistency and models, incidence axioms, quick tour of projective and affine spaces

Week 4: Betweenness axioms

Week 5: Betweenness axioms (student team exercises)

Week 6: Congruence axioms

Week 7: Midterm test, continuity axioms, parallelism axiom

Week 8: Neutral geometry (without a parallelism axiom), propositions equivalent to parallelism or its negation

Week 9: Student team exercises on material of Week 8

Week 10: Saccheri and Lambert quadrilaterals, early modern history of parallelism, equivalent postulates

Week 11: Discovery of non-Euclidean geometry, hyperbolic parallelism and limiting parallel rays, inconsistency of elliptic parallelism with the Hilbert axioms

Week 12: Arc length, hyperboloidal model of hyperbolic geometry, implications of consistency of hyperbolic geometry

Week 13: Klein and Poincare models of hyperbolic geometry

Week 14: Negative and positive curvature, Beltrami pseudosphere, difficulty of axiomatizing elliptic geometry