

History of Science 206r
Geometry and motion

Thursdays 2-4, Science Center 359

Prof. Barry Mazur, Mathematics

Prof. Mark Schiefsky, Classics

A philosophical and historical examination of the role of motion and other “mechanical” notions in ancient geometry. We will read texts related to the three classical problems of Greek mathematics, the *Mechanical Problems* attributed to Aristotle, and the “mechanical method” of Archimedes, with examples and commentary drawn from both early modern and contemporary mathematics.

Reading schedule

January	26	Introduction
Feb	2	Early efforts at squaring the circle: Antiphon and Bryson
	9	Hippocrates of Chios’ quadrature of lunes
	16	(continued)
	23	Archimedes, <i>Measurement of the Circle</i> , prop. 1
Mar	1	Pappus on the <i>quadratrix</i> (IV, 26-9), with commentary by Descartes and Commandino
	8	(continued)

SPRING BREAK

	22	Doubling the cube: “instrumental” solutions (“Plato”, Heron, Eratosthenes)
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	29	Doubling the cube: conic solutions (Archytas, Menaechmus)
Apr	5	Doubling the cube: solutions by curves (Pappus IV, 23-25, with commentary by Descartes and Commandino)
	12	Archimedes' mechanical method
	19	wrap-up