

Course Description: The History of Mathematics (Math 4700)

Our modern mathematics comes to us along a path that twists and winds through many centuries, cultures, and parts of the world, ever growing and expanding along the way to become one of the great and massive intellectual achievements of the human race. Even though mathematics is absolutely vital to the rise and functioning of our modern technical and scientific society, the fascinating story of mathematics and those mathematicians who created it is little known to those outside mathematical circles.

A genuine appreciation of the historical development of mathematics involves some degree of understanding of the mathematics that was done as well as the study of the surrounding history and culture and the lives of those who discovered it. Thus this will be a “working course”: there will be a strong focus on *doing* representative problems that illumine and illustrate the developments. There will be an attempt to keep the mathematical prerequisites to a minimum, but there should be a good grasp of mathematics at least through the level of calculus.

The course will survey major mathematical developments beginning with ancient Greeks and tracing the development through Hindu-Indian mathematics, Arabic mathematics, and European mathematics up to the 19th century, if time permits. Potential topics covered include geometry, number bases and number theory, algebra, trigonometry, analytic geometry, probability, and calculus. However, the precalculus topics will be presented at a more sophisticated level, commensurate with a senior level math course.

Finally there will be more reading than in a typical mathematics course. Mathematics did not arise in a vacuum, and students should obtain some overview of the world history into which mathematical development was embedded.