

47021 History of Mathematics (3)

Knowledge

Students should have a good general idea of the evolution of some of the major concepts of modern mathematics.

Comprehension

Students should understand basic, fundamental arguments that were developed centuries ago and are still of central importance today. For instance, concepts from geometry (such as Euclid's constructions) and analysis (such as limit) should be understood.

Application

One principal aim of the course is for students to be able to solve problems. For instance, this is done by asking students to differentiate functions using various notions of infinitesimals.

Evaluation

Students are evaluated on the basis of their performance on two essays (on topics of their choice), on two class examinations, and on the final examination.

Class Activities

Student participation is welcomed and, indeed, encouraged. There are two in-class examinations as well as a final exam.

Out of class Activities

The course is writing intensive, at least informally. Students are supposed to do the following activities:

- 1) Submit frequently assigned homework exercises
- 2) Submit two essays on mathematically significant historical events or personages (e.g. Development of the Pythagorean Theorem, of the derivative, etc., and Isaac Newton, Gottfried Leibniz, August-Louis Cauchy, Georg Cantor, etc.). This is a mandatory activity.