Math 419   Historical Perspectives of Mathematics   Spring 2009

Instructor   Amites Sarkar

Text   The History of Mathematics (6$^{\text{th}}$ ed.)
                              David M. Burton

Syllabus   Chapters 1–9.

Overview

It has been said that the insights of one generation become the instincts of the next. Subjects such as differential calculus were once a secret art understood only by a coterie of specialists – today they are taught to millions of people worldwide every year. The famous mathematician Louis Mordell once wrote:

Mathematical study and research are very suggestive of mountaineering. Whymper made several efforts before he climbed the Matterhorn in the 1860's and even then it cost the life of four of his party. Now, however, any tourist can be hauled up for a small cost, and perhaps does not appreciate the difficulty of the original ascent. So in mathematics, it may be found hard to realise the great initial difficulty of making a little step which now seems so natural and obvious, and it may not be suprising if such a step has been found and lost again.

This is precisely what makes the study of the history of mathematics both interesting and difficult. We have to try to get inside the minds of people who thought in a very different way and who did not have access to intellectual tools that we take for granted. A good example of such an intellectual tool is the number 0.

Regarding course objectives etc, my only real goal is that you get involved in this course and enjoy it. Everything else (e.g. see below) is of secondary importance, to me anyway.

Grading

Since I have not taught this course before, I would like to keep things simple. There will be four assignments concerning the first nine chapters of the book. Each assignment will consist of a short essay and a few problems from the book.

You will also have to write a term paper based on the history of **something mathematical you are interested in**, which you should submit to me for approval by 5 May.

The only test will be a final examination, taken without book or notes.

The dates for handing something in all fall on a Tuesday (see overleaf).

Chapters 1, 2 and 3	14 April
Chapters 4 and 5	28 April
Topic proposal	5 May
Chapters 6 and 7	12 May
Chapters 8 and 9	26 May
Term paper	2 June
Final	Thursday 11 June 1–3 pm

Grading

The assignments are each worth 25 points, the term paper is worth 100 points, and the final is worth 100 points. For a grade of C you will need 200 (out of a possible 300) points.

Office hours

My office hours are 11–12 on Mondays, Tuesdays, Thursdays and Fridays, in 216 Bond Hall. My phone number is 650 7569 and my e-mail is amites.sarkar@wwu.edu