Mathematics/Science 380 – History of Mathematics

Trent University 1998–1999

Instructor

Secretary

Stefan Bilaniuk (pronounced Стефан Біланюк) Champlain College H12 Mon & Tue 11:30-12:20, Wed 12:30-1:20 & Fri 10:30-11:20 ... or by appointment, or just drop in! 748-1474 (home: 741-4688) *e-mail:* sbilaniuk@trentu.ca home page: http://www.trentu.ca/mathematics/sb/ Monica Harris Champlain College H11 Mon-Fri 9:00–1:00 & 2:00–5:00 748-1339

Prerequisites

MA 110 and 130, or MA 110 and 235b, or MA 110 and permission of the instructor. Second-year students wishing to take the course must have permission of the instructor.

Text

The Heritage of Thales, by W.S. Anglin & J. Lambeck Springer Verlag, 1995, ISBN 0-387-94544-X

Marking Scheme

There will be ten bi-weekly problem sets, ten bi-weekly assignments, two term projects, and a take-home final examination. The problem sets and assignments will be handed out and collected (in alternate weeks) in the Wednesday lectures, the projects will be due at the end of each term, and the final examination will be written during the examination period in April and will be due at its end. The final mark will be calculated as follows:

Best 8 of 10 problem sets (8 $@$ 3% ea.)	24%
Best 8 of 10 assignments $(8 @ 3\% ea.)$	24%
Projects (2 $@$ 14% ea.)	28%
Final Examination	24%

This scheme may be modified for students in exceptional circumstances. Any such modification will require the agreement of both the student and the instructor.

Meetings

Lectures: Wed 3:30–5:20 in OC 208.

Seminar: Tue 4:30–5:20 in CC CC; an additional seminar period may be added to resolve conflicts.

Syllabus

Since the course has a new text and instructor this year, the particular choice and presentation of topics may have to be played by ear. However, we will try to survey the historical development of some important parts of mathematics. In particular, we will focus on the evolution of proof and abstraction in dealing with problems from geometry, number theory, and algebra. In rough chronological order, we will consider mathematics in:

- 1. Prehistory (*i.e.* the speculative! origins)
- 2. Egypt and Mesopotamia
- 3. Classical Greece and Rome

- 4. China, India, and Islam
- 5. Europe from the Renaissance on
- 6. The world at present

Note that additional material may be covered on the assignments and projects.

Honour

The obligatory paragraph from Trent University's Policy on Plagiarism reads:

Plagiarism: Plagiarism is an extremely serious academic offense and carries penalties varying from failure in an assignment to debarment from the University. Definitions, procedures, and penalties for dealing with plagiarism are set out in Trent University's *Policy on Plagiarism* which is printed in the University Calendar.

The policy will be interpreted as follows in MASC 380. You are permitted and encouraged to study together and to work together on the problem sets, assignments, and projects, consult any books or other sources you wish, and ask anyone willing (especially the instructor!) for hints, suggestions, and help. However, you must write up all work submitted for credit entirely by yourself, giving due credit to all relevant sources of help and information. No aid may be given or received on the exam, except with the intructor's permission.

MASC 380 Web Pages

http://www.trentu.ca/mathematics/sb/380/

Inspiration

No doubt but magic may do much in this; For he that reads but mathematic rules Shall find conclusions that avail to work Wonders that pass the common sense of men.

Robert Greene (from Friar Bacon and Friar Bungay)