

**McGill University, Department of Mathematics and Statistics  
History and Philosophy of Mathematics, MATH 338, Fall 2009**

Instructor: Professor Michael Makkai

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Marker: Sherif Nashaat ([nashaat@math.mcgill.ca](mailto:nashaat@math.mcgill.ca))

Textbook: Victor J. Katz: A History of Mathematics, an Introduction. 3<sup>rd</sup> edition.

Materials for the course (notes, assignments, answers to assignments, this info sheet, and a "NEWS" feature) will be available at the site <http://www.math.mcgill.ca/makkai>; click on MATH 338.

The course will treat topics of elementary (mostly precalculus) mathematics and their history. The lectures will mostly be about the mathematics. The details of the history will have to be studied from the text. It is important to note that the mathematics will be studied in more depth than in the book.

The topics:

Part One: Ancient Mathematics

Egypt and Mesopotamia (Chapter 1),  
The Beginnings of Mathematics in Greece (Chapter 2),  
Euclid (Chapter 3),  
Archimedes and Apollonius (Chapter 4),  
Mathematical Methods in Hellenistic Times (Chapter 5).

Part Two: Medieval Mathematics

Selections from Chapter 7 (Ancient and Medieval China);  
from Chapter 8 (Ancient and Medieval India);  
from Chapter 9 (The Mathematics of Islam).

Part Three: Early Modern Mathematics

Selections from Chapter 12 (Algebra in the Renaissance);  
from Chapter 14 (Algebra, Geometry, and Probability in the Seventeenth  
Century);  
from Chapter 15 (The Beginnings of Calculus).

Classroom attendance and taking verbatim notes of the lectures are essential. The lectures will contain material that will not be found in the text. On the other hand, the textbook will have an essential use for the detailed historical material, most of which will not be given in class.

**Work to be done and method of evaluation:**

- (1) About 9 homework assignments.
- (2) A 2-hour midterm test. Date and time of midterm: TBA.
- (3) A 3-hour final examination.

**Final grade:** maximum of  $(20\% \times A + 20\% \times M + 60\% \times F)$  and  $(20\% \times A + 80\% \times F)$ , where A=assignment grade, M=midterm grade, F=Final exam grade.

There will not be additional ways of upgrading the final grade.

There will be a supplemental examination, for 100% of supplemental mark.

Work for assignments and exams may be done in French.

The Senate of the University has resolved that the following statement be included in this course outline: "McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offenses under the code of student conduct and disciplinary procedures (see [www.mcgill.ca/integrity](http://www.mcgill.ca/integrity) for more information).

