Mathematics 3820H – Mathematics from medieval to modern times
Trent University, Fall 2012

The Dean's Office thinks you should be made aware at this point that this course takes place in Peterborough.

Instructor	**Department of Mathematics**

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office: GCS 337

hours: Tuesday and Fridayday 11:00-11:50, Wednesday and
    Thursday 12:00-12:50, or by appointment, or just drop by!

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 [E-mail sent to my Trent address all too frequently vanishes. If it's important, send it to both.]

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Prerequisites

Prerequisite: Mathematics 1100Y or 1101Y, with $\geq 60\%$, or permission of the instructor.

Recommended: Mathematics 2200H or Mathematics 2350H.

Exclusions: Mathematics 380, Mathematics 382H.

Text

A Short Account of the History of Mathematics (4th Edition), by W. W. Rouse Ball, 1908. A version (in pdf and in TEX) is available online (for free!) from Project Gutenberg at:

    http://www.gutenberg.org/etext/31246

Additional readings will be assigned from other sources available online. Please see the handout *Readings & Schedule* for a tentative week-by-week schedule.

Meetings

Lectures: Tuesday 09:00-09:50in ECC 207 and 15:00-15:50 in GCS 111,
    and Wednesday 09:00-09:50 in OCA 206.

Seminars: Thursday 09:00-09:50 in ECC 212.

Marking Scheme

There will be ten or eleven weekly assignments which will be due on Tuesdays, a project (which may be a solo or group project), and a take-home final examination. The proposal for the project will be due on Friday, 12 October, and the project proper will be due Wednesday, 5 December. The final examination will be distributed on Wednesday, 21 November, and will be due on Wednesday, 19 December. The final mark will be calculated as follows:

Best 9 assignments (9 @ 4% ea.)	36%
Project proposal	2%
Project	30%
Final examination	32%

Assignments will not normally be accepted after the due date. Students who cannot submit work on time for reasons beyond their control should contact the instructor as soon as possible.

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

Web Page

Hopefully up-to-date information about the course and all handouts to date (in pdf) can be found at: http://euclid.trentu.ca/math/sb/3820H/

Content & "Learning Outcomes"

We will survey the historical development of some important parts of mathematics. In particular, we will focus on the development of arithmetic and algebra and the evolution of proofs and abstraction. In rough chronological order, we will consider the development of mathematics in:

1. Ancient and medieval India
2. The medieval Islamic world
3. Medieval, Renaissance, and modern Europe

Please see the handout *Readings & Schedule* for a tentative week-by-week schedule. Note that additional material may be covered on the assignments and projects.

The object of the course is to acquire a modest familiarity with the evolution of mathematics since classical times, including a selection of the various techniques and algorithms used at various times to solve arithmetic and algebraic problems.

Honour & Help

The obligatory statement concerning **academic integrity** reads as follows:

Academic dishonesty, which includes plagiarism and cheating, is an extremely serious academic offence and carries penalties varying from a 0 grade on an assignment to expulsion from the University. Definitions, penalties, and procedures for dealing with plagiarism and cheating are set out in Trent University's Academic Integrity Policy. You have a responsibility to educate yourself – unfamiliarity with the policy is not an excuse. You are strongly encouraged to visit Trent's Academic Integrity website to learn more – `www.trentu.ca/academicintegrity` *.*

For clarity, the following guidelines will apply in MATH 3820H:

You are permitted and encouraged to work together and ask anyone willing (especially the instructor!) for explanations, hints, and suggestions on the assignments and projects, and to consult whatever sources you wish, with the exception that **you may not consult anyone who has taken a similar course recently or their work**. However, **all work submitted for credit must be written up entirely by you** (with the exception of group projects)**, giving due credit to all relevant sources of help and information**. The restrictions for the take-home final exam will be spelled out on the exam.

In some circumstances you may also be eligible for special help or accommodation. The obligatory statement concerning **access to instruction** reads as follows:

It is Trent University's intent to create an inclusive learning environment. If a student has a disability and/or health consideration and feels that he/she may need accommodations to succeed in this course, the student should contact the Disability Services Office (Blackburn Hall Suite 132, 705 748-1281, `disabilityservices@trentu.ca`*) as soon as possible.*

Aids

Except as noted on particular questions on the assignments and final exam, and with the general restriction noted above, you may use whatever aids you wish.

Miscellaneous

"Personal response systems" such as clickers will not be used in MATH 3820H, and it will make little, if any, use of Blackboard.

The last date to drop Fall term half-courses such as this one without academic penalty is Tuesday, 6 November, 2012.

Last modified 2010.09.10.