MAT401 - Fall 2015

Instructor: Geoffrey Scott

Office and email: Bahen Center 6256, gscott@math.utoronto.ca

Office Hours: Monday 7pm-9pm, and by appointment (just email me in advance)

Assistant: TBD

Office and email: TBD

Office Hours: TBD

Topics covered: Rings. Quotient rings. Construction of the rationals. Polynomial algebra. Fields and Galois theory: Field extensions, adjunction of roots of a polynomial. Constructibility, trisection of angles, construction of regular polygons. Galois groups of polynomials, in particular cubics, quartics. Insolvability of quintics by radicals.
Prerequisite: MAT301H1
Exclusion: MAT347Y1

Text: *Contemporary Abstract Algebra* by Gallian (recommended). There is no required text. You might also find helpful *Abstract Algebra* by Dummit and Foote. Dummit and Foote is a useful algebra reference book if you continue in maths, but it is dry. Gallian is friendlier and better at motivating the material, but it's expensive and you won't open it after you finish this course.

Course Web Site: http://www.math.toronto.edu/gscott/teaching.html

Homework: There will be homework assigned (almost) every week. In total, there will be about 7 assignments. Your lowest assignment grade will be dropped. Homework is due at the start of class on the day it is due. No homework will be accepted later than 6:15pm on the due date.

You may work with others on homework to share ideas, but make sure you personally understand all the solutions you submit.

Tests: There will be two midterm tests and one final exam. The first midterm test will be 90 minutes long and cover the first third of the class, and the second midterm test will also be 90 minutes long and will technically be cumulative, but will heavily emphasize the second third of the class. There will be a three-hour cumulative final exam during the examination period.

If you know in advance that you must be absent on a test day, contact me at least one week in advance and I will try to accommodate your situation.

If you cannot show up for a test because of illness, you must submit the official UofT medical certificate. Arrangements for a make-up exam will be made on a case-by-case basis for students who have missed a test because of illness or any other (approved) legitimate reason. Students should beware that make-up exams that I write tend to be slightly more difficult than the regularly-scheduled exams to account for the extra time that the student has to prepare.

Grading: Your final grade is calculated in the following way:

45% Homework

15% Exam 1 (Wednesday October 7)

15% Exam 2 (Wednesday November 11)

25% Cumulative final exam

If you find a grading mistake in an assignment or exam, arrange a meeting with me to discuss it. Coursework written in pencil will not be considered for remarking.

Class Policies: Don't be distracting. This means:

Do not use cell phones or laptops during class.

I will not be grading based on attendance, but you will gain the most from this course if you regularly attend class and actively participate.

Students should become familiar with and are expected to adhere to the Code of Behaviour on Academic Matters which can be found at:

`http://www.governingcouncil.utoronto.ca/policies/behaveac.htm`

[Note: Any student with a documented disability should contact me as soon as possible so we can make arrangements to fit your needs.]

I look forward to having you in class!