Mathematics 3020A-001 Course Outline (Fall 2017-18)

Introduction to Abstract Algebra

Instructor: David Riley, Professor

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Syllabus: This course is an introduction to modern algebra. The subject starts by noticing that addition and multiplication make sense for more than just the integers: we are comfortable with these operations on rational, real, and complex numbers, as well as on polynomials. How about matrices? When is division defined? When does it make sense to talk about factorization? A systematic look at what's going on here turns out to be a gateway to modern mathematics. Along the way, we see how to understand symmetry, via the notion of groups.

Topics include:
- numbers and polynomials
- binary operations and useful axioms
- rings and ideals
- factorization questions
- introduction to field theory
- introduction to groups

Class time and location: Tu 9:30-10:30 and Th 9:30-11:30 in MC 107

Prerequisites: Mathematics 1600A/B and one of Mathematics 1120A/B, 2120A/B, 2124A/B, 2151A/B, 2155F/G, Applied Mathematics 2811B, Computer Science 2214A/B.

Textbook: *Introduction to Abstract Algebra* by Peter J. Cameron (Oxford University Press, 2nd edition, 2008).

Website: Any additional information will be posted on OWL (http://owl.uwo.ca).

Evaluation: 30% Assignments (bi-weekly), 30% Midterm Exam, 40% Final Exam.

Exam dates: The midterm exam will be held on October 26, during normal class time. The date of the final exam has yet to be determined by the Registrar.

Missed assignments and exams: If you miss an assignment or exam due to medical or non-medical reasons, you must contact your faculty's Academic Counselling Office, as soon as possible, to apply for accommodation. If accommodation is granted, the corresponding weight of the missed assignment or midterm exam will be added to the weight of your final exam.

Accommodation for illness policy:
www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

Policies for assignments: All assignments are to be submitted at the beginning of class on their due date. No late assignments will be accepted.

Policies for exams: No electronic devices of any sort are permitted during exams.

Statement on academic offences: Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Registrarial Services: http://www.registrar.uwo.ca

University Students' Council: http://westernusc.ca/services/

Statement on services for students in emotional/mental health distress: Students who are in emotional/mental distress should refer to Mental Health@Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.

Accessibility: Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 if you have questions regarding accommodation.