Group Theory - Mathematics 3120B
Winter 2018

- **Instructor:** Masoud Khalkhali, Professor of Mathematics, UWO
  Email: masoud@uwo.ca
  Office: MC 137
  Office hours: TBA, or by appointment.

- **Lectures**: Tuesdays 2:30-4:30, Thursdays 2:30-3:30, MC 108.

- **Course outline**: *Group theory* is the mathematical language that is needed to formulate the idea of *symmetry* in a precise form and in all its manifestations. Given the fundamental role played by the notion of symmetry in sciences and in everyday life, it should perhaps come as no surprise that group theory plays such a fundamental role in all parts of mathematics and its applications in physics, chemistry, and engineering.

  This course is a first introduction to group theory at an undergraduate level. We shall cover the following topics from our textbook: isomorphism theorems, group actions and the class equation, the Sylow theorems, structure of finitely generated abelian groups. These are covered in Chapters 1-5 of Dummit and Foote.

- **Textbook**: Topics in Algebra, 2nd edition by I. N. Herstein. You may also benefit from the following two books (among many good texbooks): Abstract Algebra, by Dummit and Foote; A first course in abstract algebra by J. Fraleigh; and Algebra by M. Artin.

- **Grading**: Your course grade will be calculated as follows.

  Final exam: 30%
  Midterm: 30%
  Homework: 40%.

  Dates will be posted in due time. **The final exam covers the entire semester.**

  All exams will be closed book: notes or class material are not permitted. Calculators or other electronic devices (cell phones, iPods, etc.) are not permitted.

- **Homework:** There will be 5 sets of homeworks. They will be announced by me through OWL. Late homeworks will not be accepted.

- **Conflict exams**: If you have a conflict with one of the exam times, please consult the Faculty of Science policy on missed course work. Based on that, if you think your situation qualifies you to take the conflict exam, please contact me as soon as possible, no later than a week before the exam in question.

- **Medical accommodations**: If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Dean's Office as soon as possible and contact me immediately. It is your responsibility to make alternative arrangements with me once the accommodation has been approved. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office. For further information, please consult the University policy on medical accommodation.

- **Missed homework**: Late homework will not be accepted. Homeworks can always be submitted in advance. For extended absences or medical emergencies, these are handled the same way as for exams. In that case, a homework grade could be dropped; there will be no make-up homework.

- **Academic integrity**: Working on homework with your peers is allowed, in fact encouraged. However, each student must write their own solutions. Handing in suspiciously similar solutions will be considered

an instance of cheating. Scholastic offences are taken seriously and will not be tolerated. For more information, please consult the University policy on scholastic discipline.

- **Accessibility**: Please consult Services for Students with Disabilities (SSD) regarding accessibility services on campus. Please contact me if you require material in an alternate format or other accommodations to make this course more accessible to you.