

# Department of Mathematics



## Algebraic Structures, Math 2155F, Fall 2019

**Class Times:** MWF 10:30-11:30am, starting Sep 5 and ending Dec 5

**Location:** HSB-236

**Prerequisites:** 1.0 course from: Mathematics 1120A/B, 1600A/B, Applied Mathematics 1413, Calculus 1000A/B, 1500A/B, 1301A/B, 1501A/B, or the former Calculus 1100A/B, in each case with a minimum mark of 60%; or permission of the department.

### Instruction:

**Instructor:** [Chris Hall](#)

**Contact:** [chall69@uwo.ca](mailto:chall69@uwo.ca)

**Office:** Middlesex 114

**Office Hours:** M 1:30--2:20pm, W 11:30--12:30pm, F 8:30--9:30am

**Text:** *How to Prove It*, Second Edition, by D.J. Velleman

### Course Outline:

We will follow the text and expect to cover the following topics:

- Logic and Set Theory
- Proof Strategies and Styles
- Relations and Functions
- Mathematical Induction

### Expectations:

**Homework:** There will be weekly assignments posted to [OWL](#). An assignment is due at the *beginning* of class on the day it is due. I do not accept late homework, but I will drop the lowest score at the end of the term. You should complete each assignment entirely *on your own* (as if it were an exam). You must then submit it *electronically* via [Gradescope](#) by the designated deadline. If you complete it by hand, then please submit proper scans of each page and *not photos*. Anyone can lose points for submissions which are unreadable or out of order.

**Midterm Exam:** Thursday October 10, 7--9pm

**Final Exam:** Date To Be Announced

### Evaluation:

Homework	25%
Midterm Exam	35%
Final Exam	40%

### Course Policies:

**Senate Policy on Prerequisites:** Prerequisite checking is the student's responsibility. Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

**Course Websites:** Students should check OWL (<http://owl.uwo.ca>) or the course website (if not hosted on OWL) on a regular basis for news and updates for all of the courses in which they are enrolled. This is the primary method by which information will be disseminated to all students in each class. Students are responsible for checking OWL on a regular basis.

**Email:** Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

**Scholastic 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 sites:

[http://www.uwo.ca/univsec/handbook/appeals/scholastic\\_discipline\\_undergrad.pdf](http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf)

[http://www.uwo.ca/univsec/handbook/appeals/scholastic\\_discipline\\_grad.pdf](http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_grad.pdf)

**Absence/Missed work:** 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 your Dean's office *as soon as possible* and contact your instructor *immediately*. It is the student's responsibility to make alternative arrangements with his or her instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office *immediately*. For further information concerning UWO's Policy on Accommodation for Medical Illness please refer to this policy at:

[https://www.uwo.ca/univsec/handbook/appeals/accommodation\\_medical.pdf](https://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf)

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a "Record's Release Form" (located in the Dean's Office) for visits to Student Health Services. The form can be found here:

[https://www.uwo.ca/univsec/handbook/appeals/medicalform\\_15JUN.pdf](https://www.uwo.ca/univsec/handbook/appeals/medicalform_15JUN.pdf)

**Make-up exams and conflicts:** If you know ahead of time that you are unable to attend a midterm or final exam, you must let your instructor know at least *two weeks in advance* so alternative arrangements can be made. See also the [University's policy on final exam conflicts](#).

**Accommodation and accessibility:** If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a self-reporting of absence or via the Dean's Office/Academic Counselling unit of your Home Faculty. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in NCB 280, and can be contacted at [scibmsac@uwo.ca](mailto:scibmsac@uwo.ca).

For further information, please consult the university's policy on academic consideration for student absences: [https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Consideration\\_for\\_absences.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf).

If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (see [http://www.registrar.uwo.ca/examinations/exam\\_schedule.html](http://www.registrar.uwo.ca/examinations/exam_schedule.html)).

**Academic Policies:** The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

Electronic devices (including cell phones and calculators) are NOT allowed on exams and may be confiscated.

**Support Services:** 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 Student Accessibility Services (SAS) at 661-2147 if you have any questions regarding accommodations.

The policy on Accommodation for Students with Disabilities can be found here: [https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic%20Accommodation\\_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf).

The policy on Accommodation for Religious Holidays can be found here: [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_religious.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf).

Learning-skills counsellors at the Student Development Centre (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer

presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Students who are in emotional/mental distress should refer to Mental Health@Western ([http://www.health.uwo.ca/mental\\_health](http://www.health.uwo.ca/mental_health)) for a complete list of options about how to obtain help.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

**Acknowledgment of the Science Student Donation Fund:** Mathematics undergrad courses are supported by the Science Student Donation Fund. If you are a BSc or BMSc student registered in the Faculty of Science or Schulich School of Medicine and Dentistry, you pay the Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. You may opt out of the Fee by the end of September of each academic year by completing the online form linked from the Faculty of Science's Academic Counselling site. For further information on the process of awarding grants from the Fund or how these grants have benefitted undergraduate education in this course, consult the Chair of the Department or email the Science Students' Council at [ssc@uwo.ca](mailto:ssc@uwo.ca).

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(grad), [mathdept@uwo.ca](mailto:mathdept@uwo.ca) (other)  
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