

MATH 4301 - Honours Seminar

COORDINATOR: Dr. Razvan Anisca

- **Contact info:** *ranisca@lakeheadu.ca*

Working under the guidance of an approved faculty advisor, students will independently study an area of mathematics. Students will write a paper (approximately 20-25 pages) and will give a presentation (20 minutes long) describing the research conducted.

Notes on class time. Unlike most of your classes, most of your work will be done outside of the regular class time. All presentations will take place during this time slot. You will also arrange to meet with your faculty advisor on a regular basis.

Notes on faculty advisor. Each student will work with a faculty member of the Department of Mathematical Sciences. Students are asked to contact faculty members individually to determine if the faculty member would be willing to act as a supervisor. Your grade in the course will be decided by your faculty advisor and the course coordinator. In the case that this is the same person, another faculty member will be assigned as a “second reader”.

Notes on topic. As part of the Honours Seminar, you will pick an area of mathematics that interests you. We are not expecting you to produce original mathematics. Instead, we want you to learn how to pick a new topic in mathematics and identify some of the key problems and results in a particular area. Your topic for independent study will be based upon a variety of sources (e.g. textbooks, journal articles). The only restriction on your choice of topic is that you pick an area of mathematics not directly covered in any course you took at Lakehead University.

We have examples of projects from previous years. If you would like to see a copy, please contact the course coordinator.

Marking Scheme. Students grades will be based upon following rubric. A description of each item is found below.

Task	Points
Topic proposal	5
Draft outline	5
Submit draft	5
Submit second draft	5
Practise presentation	5
Final report	45
Final presentation	30
Totals	100

Here are some further details on the above list.

1. Topic proposal. Each student will write a one page paper that contains the following information: 1) name, 2) faculty advisor, 3) title of project, 4) book(s) to be used in the project, and 5) a one-to-two paragraph summary of what you want to learn and why. The topic of your proposal should be an area of mathematics not directly covered in any course you took at Lakehead University, and needs to be approved by your advisor. The proposal will be submitted to both the coordinators and the advisor.

2. Draft outline. You will provide your advisor and the coordinators with an outline of your project. It should include a bibliography.

3. Submit first draft. You will provide your advisor and the coordinators with the first draft of your project. This should include about 60% of the material of the final version. This will be due at the end of first semester. The coordinators and advisor will provide timely feedback.

4. Submit second draft. You will provide your advisor and the coordinators with a second version of your project. This version will incorporate the feedback from the advisor and the coordinators. This version will be a close approximation of the final version.

5. Practise presentation. You will give a practise version of your talk for the coordinators, and your advisor.

6. Final project. Using all feedback accumulated, the student will provide the coordinators and the advisor with a copy of their final project.

7. Final presentation. The student will give a 20 minute presentation on their project.

Tentative Schedule. We will use the following schedule, which is subject to change. Changes to this schedule will be announced in class or via email. Items in **BOLD** are requirements of the project.

Sept. 6, 2022	First semester begins
Oct. 4, 2022	Proposal of topic due
Nov. 1, 2022	Draft outlines due
Dec. 6, 2022	First draft due
Feb. 17, 2023	Second draft due
March 13-17, 2023	Practise presentation
April 3-6, 2023	Final presentations (schedule to be determined)
April 11, 2023	Final project due
April 11, 2023	Second semester ends
