

Math 4301/5301 – Honours/Graduate Seminar (Individual Project)

Coordinator:

Dr. Liping Liu, lipingli@lakeheadu.ca, RB 2001

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

Class time: Unlike most of your courses, the majority of your work will be completed outside of regular class time. All presentations will take place during the scheduled class time. You will also arrange to meet regularly with your faculty advisor.

Faculty advisor: Each student will work with a faculty member from the Department of Mathematical Sciences. Students should contact faculty members individually to determine if they are willing to act as a supervisor. Your grade in the course will be determined jointly by your faculty advisor and the course coordinator. If this happens to be the same person, another faculty member will be assigned as a *second reader*.

Topic: As part of the Honours Seminar, you will choose an area of mathematics that interests you. We are not expecting you to produce original research. Rather, the aim is for you to learn how to select a new topic in mathematics and identify key problems and results in that area. Your independent study will draw on various sources (e.g., textbooks, journal articles). The only restriction is that your topic must not be directly covered in any course you have taken at Lakehead University.

We have examples of projects from previous years. If you would like to see them, please contact the course coordinator or your advisor.

Marking Scheme

Students' grades will be based on the following rubric. A description of each item follows below.

Task	Points
Topic proposal	5
Draft outline	5
First draft	5
Second draft	5
Practice presentation	5
Final report	45
Final presentation	30
Total	100

Further Details

1. **Topic proposal** – A one-page document including: (1) your name, (2) your faculty advisor, (3) the project title, (4) the articles/books to be used, and (5) a one-to-two-paragraph summary of what you want to learn and why. The topic must not be directly covered in any course you have taken at Lakehead University and must be approved by your advisor. Submit the proposal to both the coordinator and the advisor.
2. **Draft outline** – Provide your advisor and the coordinator with an outline of your project, including a bibliography.
3. **First draft** – Submit your first draft to your advisor and the coordinator. This should contain roughly 60% of the material for the final version and is due at the end of the first semester. You will receive timely feedback.
4. **Second draft** – Submit a revised draft incorporating the feedback from your advisor and the coordinator. This version should closely resemble the final version.
5. **Practice presentation** – Present a practice version of your talk to both your advisor and the coordinator.
6. **Final project** – Submit the final version of your project to both your advisor and the coordinator, incorporating all feedback received.
7. **Final presentation** – Give a 20-minute presentation on your project.

Tentative Schedule

This schedule is subject to change; updates will be announced on the class website or via email.

Sept. 2, 2025 – First semester begins

Oct. 2, 2025 – Topic proposal due

Oct. 30, 2025 – Draft outline due

Dec. 2, 2025 – First draft due

Feb. 12, 2026 – Second draft due

March 10–26, 2026 – Practice presentation

March 31–April 2, 2026 – Final presentations (schedule to be determined)

April 2, 2026 – Final project due (second semester ends)