

Mathematics 595 (Introduction to Spectral Asymptotics)

Instructor:

Professor J. A. Toth Lectures M-T 2:05 - 3:35 pm.

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Office Hours: Th 1:00 - 2:00

Textbook: There is no required text for the course.

Syllabus: The course will be an introduction to microlocal analysis with applications to spectral theory. I will first cover the rudiments of pseudodifferential operators, wave front sets and wave operators. I will then discuss applications to Weyl asymptotics of the spectral counting function and eigenfunction asymptotics. Towards the end of the course, I plan to discuss quantum ergodicity and describe some of the most recent and exciting advances in the area. Prerequisites are minimal. A solid background in basic real analysis will suffice.

Grading Scheme:

Final mark = 70%(term paper) + 30%(30min in class presentation).

Statement on Academic Integrity: McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information).

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.