Department of Mathematics & Statistics
Concordia University

MAST 699 (MAST 833), Sec. G

Topics in Number Theory – p-Adic Hodge Theory

Fall 2025

Instructor: Dr. A. Iovita
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Office Hours: By appointment.

Class Schedule: Tuesdays and Fridays, 9:00-11:00 AM. The term will be 12 weeks in length, with the reading week from Saturday, October 11th to *Friday, October 17th. Monday, October 13th, the university will be closed due to Thanksgiving Day.

Textbook: No textbook.

Topics: The course will study the various ways of describing p-adic representations of the absolute Galois group of a finite extension of Q_p in terms of graded, or filtered-Frobenius, or filtered-Frobenius-monodromy modules. The main Fontaine p-adic period rings will be constructed.
As an application we will study the p-adic comparison isomorphisms for abelian varieties over a finite extension of Q_p.

Evaluation: The grades in the class will be 100% based on the bi-weekly assignments.

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