Department of Mathematics & Statistics
Concordia University

MAST 699 (MAST 833), Sec. DA
Topics in Number Theory – Diophantine Analysis
Fall 2023

Instructor: Dr. C. Pagano, Office: LB 927-9, Phone: (514) 848-2424, Ext. 3397
                Email: carlo.pagano@concordia.ca

Office Hours: TBA.

Class Schedule: Tuesdays, 17:45-20:15. The term will be 12 weeks in length, with the midterm break from Tuesday, October 10th to Sunday, October 15th. Monday, October 9th, the university will be closed due to Thanksgiving Day.

Topics: This course centers around the proofs of central finiteness results in arithmetic. We will start from scratch from the basic notion of heights on varieties and basic properties thereof. Among other topics, we will go through the proof of the finiteness of the number of solutions to integral and rational points on higher genus curves (Faltings' theorem): in the latter case we will present the proof of Vojta in the version given by Bombieri. One of the main references will be the book of Bombieri—Gubler "Heights in Diophantine Geometry". A more detailed outline with a webpage for the course will follow shortly.

Final Exam: The final exam will consist of presentations on selected topics, which we will agree on towards the end of the course.

Intellectual Property

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Extraordinary circumstances

In the event of extraordinary circumstances and pursuant to the Academic Regulations the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the change.