

MATH 494 (MAST 699/MAST 833), Sec. C

Topics in Pure & Applied Mathematics

Modular Forms

Fall 2023

- Instructor:** Dr. G. Rosso, Office: LB 927-11, Phone: (514) 848-2424, Ext. 3985
Email: giovanni.rosso@concordia.ca
- Office Hours:** By appointment, Zoom, or in person.
- Class Schedule:** Mondays & Wednesdays, 14:45-16:00.
No classes from Monday, October 9 to Sunday, October 15, for Thanksgiving and mid-term break.
- Textbook:** Diamond & Shurman, *A First Course in the Modular Forms*, Springer GTM 228 (not compulsory).
- Moodle:** Moodle will be used to communicate all the information about the course, assignments, change of schedule, etc. Please check it very frequently.
- Topics:** This course will be an introduction to the theory of modular forms over the complex number. We shall cover the following topics, such as: the modular group and the upper half-plane, Eisenstein series, Hecke operators, L-functions, modular curves, geometric interpretation of modular forms. If time allows it, further topics (Galois representations or Eichler--Shimura relations) will be considered. Knowledge of complex analysis, Riemann surfaces, and sheaves is useful but not necessary. Further reading on p-adic or Drinfeld modular forms will be available for motivated students.
- Evaluation:** Only assignments during the course, for Master and Undergraduate students.
Assignments during the course (75% of the final grade) and a presentation (25% of final grade) for PhD students.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

Academic Integrity and the Academic Code of Conduct

This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: <https://www.concordia.ca/conduct/academic-integrity.html>" [*Undergraduate Calendar, Sec 17.10.2*]

Behaviour

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the [Code of Rights and Responsibilities](#) which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

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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.