

**MATH 255 — Honours Analysis II**  
**Winter 2023**

**Instructor:** Rustum Choksi, BH1110, rustumchoksi@mcgill.ca

**Website:** All course related material and important class announcements will be posted on the McGill *myCourses* website. Please sign up for the Mycourse announcement/additions alerts.

**Office Hours:** Tuesdays and Thursdays 14:00 - 15:30. However, I am generally available anytime for course related questions. Feel free to drop by my office or send me an email to schedule an appointment.

**General prerequisites:**

- Math 242 or 254.

**Course Texts/References:**

- Notes which I will post on *myCourses*.
- **Rudin: Principles of Mathematical Analysis.** I will post the relevant pages on *myCourses*.
- For a small amount of the material – your Analysis 1 text (**Bartle and Sherbet**).
- Some of material is also in **Krantz: Real Analysis and Foundations**.

**Grading:**

Your grade will be based upon the maximum of two schemes:

**Scheme I:**

Biweekly Problem Sets — 25 %

Midterm exact time and date TBD — 25 %

Final Exam — 50 %

**Scheme II:**

Biweekly Problem Sets — 25 %

Final Exam — 75 %

There will be **no makeup** for the midterm. If you miss the midterm for **any** reason, your grade will be based upon Scheme II.

### **Syllabus:**

The first week and a half will be a **review of:**

(i) Point Set Topology on the Real Line and (ii) Continuity of Functions of a Real variable via Topology.

Then, the core sections of the course will be:

- 1) Point Set Topology in Metric Spaces
- 2) Sequences, Convergence, and Continuity in General Metric Spaces
- 3) Normed Vector Spaces
- 4) Infinite Series
- 5) Riemann Integration
- 6) Uniform Convergence of Functions and the Arzela-Ascoli Compactness Theorem

**Academic Integrity:** The work you hand in should be your own effort; any collaboration must be acknowledged. 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](http://www.mcgill.ca/integrity) for more information).

**Language:** 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.