

**MATH 464**  
Real Analysis  
*Fall 2024*

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**Class Schedule:** Mondays and Wednesdays: 13:15-14:30.  
Mid-term break: no class between October 15, 2024, and October 20, 2024.

**Office Hours:** TBA.

**Textbook:** W. Rudin - Principles of Mathematical Analysis, 3rd Edition  
E. T. Copson - Metric Spaces

**Topics:** Metric spaces: Topology, connectedness, completeness, compactness, separability, Baire category theorem, fixed point theorems, notions of dimension.  
Key examples of metric spaces: Euclidean spaces, spaces of sequences, spaces of functions, hyperspaces.  
Real valued functions: Pointwise convergence, uniform convergence, equicontinuity, Arzela-Ascoli theorem, Weierstrass approximation theorem, Weierstrass's pathological function.

**See the course Moodle page for more information.**

**The Moodle page will be updated with relevant information throughout the semester.**

**You are expected to monitor the Moodle page regularly.**

**Term Exam:** There will be a test during class. Midterm date TBA.

**Grading Scheme:** The grade will be calculated as the higher of the following two:

Assignments 20%	Assignments 20%
Midterm 30%	
Final 50%	Final 80%

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.

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