

**MAST 661B (MATH 494D/MAST 865B)**

Topics in Analysis  
*Fall 2020*

- Instructor:** Dr. P. Gora  
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Webpage: <http://mypage.concordia.ca/mathstat/pgora/>
- Classes:** All classes will be given by Zoom and the recording of these on Moodle.
- Office Hours:** TBA, or by appointment (by Zoom).
- Textbooks:** **Recommended (but not obligatory)**  
1. *Fractals Everywhere* by Michael F. Barnsley.  
2. *Iteration of rational functions* by Alan F. Beardon.  
Owning the textbooks is not obligatory. There are many excellent texts on these topics available free on the Internet. The homework problems will be posted on Moodle.
- Topics:** Iterated Function Systems: the mathematical foundations (metric spaces, the Hausdorff space of subsets and its metric), applications.  
  
Complex Dynamics: Julia and Fatou sets, dynamics of polynomials and rational functions, Mandelbrot set.
- Assignments:** Homework will be given weekly on Moodle and submission of the solutions will also be via Moodle. Homework constitutes a very important part of the course. Students are encouraged to use Maple (or other such system) whenever it is applicable. **Late homework will not be accepted.**
- Midterm Exam:** There will be a midterm test. The exact date of the exam will be announced during the lecture at least two weeks in advance.
- Final Exam:** To be announced.  
**Both midterm and final exams will be some form of timed take home exam.**

**Evaluation:** The final mark will be:  
20% assignments + 20% midterm test + 60% final exam

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: [concordia.ca/students/academic-integrity](http://concordia.ca/students/academic-integrity)." [Undergraduate Calendar, Sec 17.10.2]

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**Disclaimer:** In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in the course is subject to change.

Below we show some objects that will be discussed in class.



