Department of Mathematics & Statistics
Concordia University

MATH 466 (MAST 665/837), Sec. B
Complex Analysis II
Fall 2019

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Office Hours: _____

Textbook: *Complex Analysis*, Elias M. Stein & Rami Shakarchi, Princeton University Press, 2003.
https://www.fing.edu.uy/~cerminar/Complex_Analysis.pdf

Recommended Supplementary Texts:
L. V. Ahlfors. Complex Analysis:
http://people.math.gatech.edu/~mccuan/courses/6321/lars-ahlfors
complex-analysis-third-edition-mcgraw-hill-
science_engineering_math-1979.pdf

H.M. Farkas and I. Kra "*Riemann Surfaces*" (Springer Graduate Texts in Mathematics, 2nd Edition, 1992).

Topics: 1. Holomorphic functions. Cauchy Theorem. Open mapping maximum modulus principle.
2. Meromorphic functions. Laurent series. Method of residues. The argument principle.
3. Riemann mapping theorem. Analytic continuation.
4. Riemann surfaces. Basic examples.
5. Function Theory on Tori: Periodic meromorphic functions. Elliptic functions: Weierstrass' and Jacobi's theories.
6. *(As time permits)* Algebraic curves of higher genus. Holomorphic differentials. The Abel map and Abel's theorem. Theta functions and Jacobi inversion problem.

Evaluation:	Problem sets	60%
	Oral presentation	40%

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." *[Undergraduate Calendar, Sec 17.10.2]*