

Mathematics 6300 3.0 Complex Analysis
May 11–June 22, 2020
Mondays, Tuesdays, Thursdays and Fridays
Time: 11:30 a.m.–1:00 p.m.
Online Course on Zoom

Course Coordinator: Professor M. W. Wong
Office: N530 Ross Building
Office Hours: By Appointment Only
Telephone: (416) 736-2100 Ext: 33946
Website: <http://mwwong.info.yorku.ca>

Senate Policy of York University

(i) This course requires the use of online proctoring for examinations. The instructor may use an online proctoring service to deliver the exam(s), which would be administered through the Learning Management System (e.g. Moodle, Canvas, etc.). Students are required to have access to minimum technology requirements to complete examinations. If an online proctoring service is used, students will need to become familiar with it at least five days before exam(s). For technology requirements, Frequently Asked Questions (FAQs) and details about the online proctoring service visit – [*link to add*]. Students are required to share any IT accommodation needs with the instructor as soon as they are able.

(ii) Several platforms will be used in this course (e.g., Moodle, Canvas, Zoom, etc.) through which students will interact with the course materials, the course director as well as with one another. Please review the syllabus to determine how the class meets (in whole or in part) and how office hours and presentations will be conducted. Students shall note the following.

- Zoom is hosted on servers in the U.S. This includes recording done through Zoom.
- If you have privacy concerns about your data, provide only your first name or a nickname when you join a session.
- The system is configured in a way that all participants are automatically notified when a session is being recorded. A session cannot be

recorded without you knowing about it.

Course Delivery :

- All students will receive an e-mail invitation to join a Zoom meeting before each class. Detailed lectures will be posted on my website before each class. There will be no recordings using Zoom in this course.
- There will be a 3-hour Final/Comprehensive Exam in this course. The mode of proctoring will be announced.

Textbook:

M. W. Wong, Complex Analysis, World Scientific, 2008 (Chapters 12–23 of the textbook will be covered.)

Course Objectives:

This is a graduate course in complex analysis. The prerequisite is an undergraduate course in Complex Analysis up to and including such topics as the Cauchy integral theorem, the Cauchy integral formula and power series expansions for holomorphic functions. (These prerequisite topics will be recalled when they are needed.) We begin the course with Laurent series expansions of holomorphic functions on annuli. By the end of the course, students are expected to come to grips with Laurent series, zeros and singularities, evaluations of definite integrals using residues, and the Schwarz problem on the unit disk. Another dimension of the course is on the geometric perspective of Complex Analysis with topics like biholomorphisms (conformal mappings), fractional linear transformations, Schwarz' lemma, automorphism groups of the unit disk and the upper half plane, $SU(1,1)$ and $SL(2, \mathbb{R})$.

Grading Scheme:

Assignments (60%); Final Exam (40%)

The final grade for the course is based on the following distribution:

92%–100% A+

85%–91% A

80%–84% A–

75%–79% B+

70%–74% B

60%–69% C

0% —59% F

Comprehensive Exam:

Students taking the course for the purpose of fulfilling the Ph.D. comprehensive exam requirement should note that the comprehensive exam will be identical with the final, but a score of at least 60% in the exam is required for passing the comprehensive.

Important Dates:

First Day of Class: Monday, May 11, 2020

Last Day of Class: Monday, June 22, 2020

Final/Comprehensive Exam: June 26, 2020 (1:00 p.m.– 4:00 p.m.)

Important Notes:

Students are expected to observe the deadlines for handing in assignments. No late assignments will be accepted.