

Welcome to
MATH 3171 - Complex Analysis
Fall term 2025

INSTRUCTOR Dr. Monica Ilie

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- **Office hours:** Monday/Wednesday 9:30-10:30

COURSE OBJECTIVES At the end of this course you will know how to work with a large class of complex functions, you will be able to analyze their properties (analyticity, differentiability, continuity) as well as integrate them on contours. You will have a good grasp of the connections between complex and real analysis, how the former is built upon the latter, as well as that of using complex analysis to compute integrals of real functions.

COURSE INFORMATION

- **Class time:** Monday/Wednesday 2:30 - 3:45
- **Suggested Textbook:** *Complex variables and applications* by James Ward Brown and Ruel V. Churchill
- **Website:**
<https://mycourselink.lakeheadu.ca>
- **Grading:** Your final grade will be given according to the grading scheme bellow:

Assignments	Midterm	Final Exam
10%	40%	50%

- **Midterm:** Wednesday, October 29, 2025 (in class)

SYLLABUS

The topics to be covered are, tentatively, Chapter 1 - Chapter 7. We will first learn about the set of complex numbers and the operations within the set,

then we will study the properties of functions of a complex variable including limits, continuity and differentiability. We will finish the term with the study of the contour integral techniques, including the residue theorem, and see their applications to real integral computations.

ASSIGNMENTS

Homework assignments are given as topics are covered in class, and announced on the course website. There will be mostly online assignments and a couple of written assignments. The online assignments will be available on the WebWork platform.

MISSED FINAL EXAM POLICIES (University Regulations)

In cases where a student misses a formal examination due to an incapacitating illness, the student must have the Certificate of Illness or Incapacitation completed by a Medical Professional and submit the completed form to Enrolment Services no later than three (3) working days after the date of the original final examination. The Certificate of Illness or Incapacitation must be dated as seen by the Medical Professional no later than one (1) working day after the examination.

In other exceptional circumstances, official supporting documentation must be provided (e.g. copy of a death certificate or letter from the funeral home).

Accommodation shall be granted only when the documentation indicates that the onset, duration and severity of the illness or other circumstances are such that the student could not have reasonably been expected to complete the examination on the scheduled date.

University Regulations *Students will not be given another opportunity to write the examination if it is missed a second time. In some cases, when extraordinary circumstances beyond a student's control prevent him/her from completing the rescheduled examination, a student may be eligible to petition Enrolment Services to explain the circumstances.*

A friendly piece of advice: don't book your plane ticket home until the final exam schedule is published. A booked flight is not an acceptable excuse for missing an exam.

LECTURE POLICIES

- **Attendance** I strongly recommend that you come to class. I would appreciate the fact that you show up on time; arriving late disturbs both me and your fellow classmates.

- **Cellphone use policy:** To support focus and learning, cell phone use during class is restricted. Phones must be silenced and stored out of sight. Research shows that even when not in use, the mere presence of a smartphone can reduce cognitive capacity and impair performance on attention and memory tasks. Below are some recent articles on this topic if you are interested:

1. Skowronek, J., Seifert, A. & Lindberg, S. The mere presence of a smartphone reduces basal attentional performance. *Sci Rep.* 2023 Jun 8;13(1)
2. Liu, W., Kawashima, T. & Shinohara, K. (2023). Effects of cell phone presence on the control of visual attention during the Navon task. *BMC Psychology.* 11.
3. Kaminske, A., Brown, A., Aylward, A., & Haller, M. (2022). Cell phone notifications harm attention: An exploration of the factors that contribute to distraction. *European Journal of Educational Research*, 11(3), 1487-1494.

ACCOMODATIONS

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: <http://studentaccessibility.lakeheadu.ca>

IMPORTANT DATES

September 15, 2025 last day for registration

November 7, 2025: last date for course withdrawal without academic penalty

December 15, 2025: contingency date (all exams that are missed by the closure of the university during the exam period, due to unforeseen circumstances, will be rescheduled this day)