

*Welcome to*  
**MATH 3032 - Complex functions and PDEs**  
*Winter Term 2026*

**INSTRUCTOR:** Dr. Monica Ilie

- **Contact info:** RB 2019 ★ ph: 766-7224 ★ *milie@lakeheadu.ca*
- **Office hours:** Monday/Friday 9:30-10:30

**COURSE INFORMATION:**

- **Class time:** Tuesday/Thursday 2:30-3:45 (AT 2001)
- **Lab:** Tuesday 1:30-2:30 (AT 1001)
- **Suggested Textbook:** *Advanced engineering mathematics* by Dennis G. Zill (4th edition and up).
- **Book price:** starting at 139\$ for the 4th edition
- **Website:** the course website is on MyCourseLink
- **Grading:** Your final grade will be calculated according to the grading scheme below

|             |         |            |
|-------------|---------|------------|
| Assignments | Midterm | Final Exam |
| 10%         | 40%     | 50%        |

- **Midterm:** Thursday, February 26th (lecture time)

**ASSIGNMENTS**

We will be using the WebWork online network for the homework.

**LABORATORY**

This hour is designed for informal discussions about the material presented during the lectures. New examples will be solved, but no new material will be covered.

## SYLLABUS

The course covers two separate topics: partial differential equations (approximately 9 weeks) and complex analysis (approximately 3 weeks).

The first three weeks of the course will cover the set of complex numbers, complex functions and contour integrals.

The rest of the term is dedicated to partial differential equations, starting with series solutions to ordinary differential equations, Bessel and Legendre equations and series, Fourier series, the method of separation of variables and boundary value problems in rectangular and curvilinear coordinates.

## MISSED FINAL EXAM POLICIES (University Regulations)

*Students who are ill and need to defer the final exam will:*

- 1. Inform their instructor(s) directly by email from their lakeheadu.ca email prior to their exam.*
- 2. Within the email provide a self-declaration affirming their illness to be true (see sample email below that the student will need to provide in order for you to accept their self-declaration for the purposes of rescheduling their exam);*
- 3. Once the student has returned to good health, the student will immediately contact their instructor(s) to arrange a new exam date*
- 4. Students will not be given another opportunity to write the examination if it is missed a second time.*

## 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**

Drop date: March 6, 2026

Contingency Dates: April 20, 2026