

Welcome to
MATH 2111 - Ordinary differential equations
Fall term 2020

INSTRUCTOR: Dr. Monica Ilie

- **Contact info:** RB 2019 ★ *milie@lakeheadu.ca*
- **Office hours via Zoom:** Tu, Th 10:00-11:00 or by appointment

COURSE OBJECTIVES

At the end of this course you will be able to translate various real life problems from biology, chemistry, physics into diverse mathematical models that involve ordinary differential equations. Then, using the tools developed in the first part of the course you will be able to recognize the type of ordinary differential equation that needs solving and choose a proper method of solving it. You will have a good grasp of what is a general solution and what is a particular solution to an ordinary differential equation.

This course provides a large catalog of differential equations with their methods as well as applications to real world problems, all possible with a solid grasp of calculus methods, integration and differentiation. As a result, your calculus skills will also be improved by using them every day.

COURSE INFORMATION:

- **Class time:** M/W 2:30-3:45 (synchronous zoom meeting)
- **Midterms:** Midterm 1: Wednesday, October 7th; Midterm 2: Wednesday, November 18th (online exam via WebWork)
- **Textbook:** *Differential equations with boundary value problems* by Dennis G. Zill and Warren S. Wright, 8th or 9th edition.
- **Grading:** Your final grade will be determined according to

Webwork Assignments	Midterm 1	Midterm 2	Final Exam
15%	25%	25%	35%
	(Oct 7)	(Nov 18)	

- **Website:** mycourselink.lakeheadu.ca
On the course website you will find all the information related to the course: full lecture notes, links to videos, links to surveys and activities, homework details.
- **Participation bonus:** Bonus points will be awarded for in class participation to poll questions and in class work. These will also be made available, when possible, via links on the course website, for 12h after the lecture, for the students that cannot attend the synchronous class due to time zone differences. Each activity will earn you one point. The maximum number of points will add a 2% bonus to your final mark.

SYLLABUS

The topics to be covered are, tentatively the following: Chapter 1.1-1.3; Chapter 2: 2.2-2.5; Chapter 3: 3.1, 3.2; Chapter 4: 4.1-4.7; Chapter 5: 5.1-5.2; Chapters 6: 6.1-6.4 (time permitting)

ASSIGNMENTS and PARTICIPATION

- **WebWork assignments** Every week there will be a WebWork assignment posted, with a one week due date. The link will be visible on the course website.
- **Participation** There will be various activities (polls, in class work etc) that will be part of the lecture, and these will also be available asynchronously for the students that cannot participate to the live class due to the time zone difference.

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 21, 2020:** last day for registration
- **November 6, 2020:** last date for course withdrawal without academic penalty
- **December 21, 2020:** 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)