Calculus II for engineers
MATH 1230 – Winter 2022

Instructor: Dr. Serhii Myroshnychenko, **e-mail:** smyroshn@lakeheadu.ca

Schedule:

- ✓ Lectures: Monday, Wednesday 12:30 – 14:00 EST via Zoom.
- ✓ Labs: Monday 16:00 – 17:00 EST via Zoom.
- ✓ Office hours: Friday 9:00-10:00 EST, Thursday 17:00-18:00 EST and by appointment via Zoom.

Recommended textbooks:

- ➢ *Calculus*, by Ron Larson and Bruce Edwards.
- ➢ *Calculus*: *early transcendentals,* by James Stewart.

Important dates:

- The first day of class: Monday, January 10.
- Final date to register: Friday, January 21.
- February Break: Monday, February 28 – Friday, March 4 (no classes).
- Final date to withdraw: Friday, March 11.
- The last day of class: Wednesday, April 6.
- Midterm: Wednesday, February 23.
- Final exam: **TBD** by the University.

Exams: There will be one midterm exam during a **lecture**. The final exam will be scheduled by the registrar's office. The exams will be closed book with no calculators or other aids allowed.

Grade: Please note that **no** alternate grading scheme will be used in this course.

Written Homework	20%
Online Assignments (WeBWorK)	20%
Midterm	20%
Final	30%
Quizzes	10%

Homework: Written HW is assigned **every three weeks**. Online assignments are assigned **weekly**.

Lab Hour: No new material will be covered in the labs. The lab will reinforce concepts through examples, as well as provide students with the opportunity to ask questions about the content given in class or assignment problems. Though the lab is not mandatory, it is very beneficial to attend and **required to take a quiz**.

Course Policies:

1. Late assignments will be <u>accepted and reviewed, but not graded</u>. There will be <u>no</u> make-up exams. If you miss the midterm for a legitimate reason which you can document (e.g. doctor's note), the weight of the midterm will be *transferred* to the final exam. The documented proof of absence should be provided no later than 3 days after the is scheduled.
2. All electronic devices (phones etc.) are prohibited during the exams. In case when such a device is detected during the exam (**activated or not**), it would be treated as an **academic misconduct** situation.

Accommodations: 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 their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as soon as possible. For more information please visit:

https://www.lakeheadu.ca/students/student-life/student-services/accessibility/

Awards and scholarships for current/returning students:

https://www.lakeheadu.ca/studentcentral/financing-budgeting/scholarships-for-current-returning

Any questions? Feel free to reach out to the instructor by e-mail or ``in-person'' with any questions, concerns, comments you might have. Also, check-out the following useful page for several related student resources:

https://www.lakeheadu.ca/students/student-life/student-conduct/resources

Tentative schedule

Weeks	Topics	WeBWorK Due Dates *(Saturdays)*	Written HW Due Dates
1	Areas of Regions between Graphs. Volumes. Solids of Revolution.	22/01	Friday, 28/01
2	Integration by Parts. Trigonometric Integrals.	29/01	
3	Trigonometric Substitutions. Integration of Rational Functions. Integration strategies.	05/02	
4	Improper Integrals. Modeling with Differential Equations.	12/02	Friday, 18/02
5	Infinite series. The Integral Test and Estimation of Sums. Comparison Tests.	19/02	
6	Alternating Series. Absolute convergence. Ratio & Root Tests. Strategies for Testing Series.	26/02	
	midterm cut-out		
7	Power Series. Representation of Functions as Power Series.	05/03	Friday, 11/03
8	Taylor Series. Applications of Taylor Polynomials.	12/03	
9	Polar Coordinates. Areas in Polar Coordinates.	19/03	
10	Equations of Lines and Planes. Cylinders. Quadrics.	26/03	Friday, 01/04
11	Parametric Curves: Arc-Length, Enclosed Area.	02/04	
12	Surface Area for Solids of Revolution. Curvature. The Normal and Binormal vectors.	09/04	