

# Course Outline

## MATH 1172, Calculus II

**Instructor:** Maria Grazia Viola

**Office:** OA 3027

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**Office Hours:** Tuesday 12:00-1:30, Thursday 2:00-3:30, Friday 2:00-4:00, or by appointment.

**Lectures and Lab:** Lectures on Tuesday and Thursday 10:00-11:30 in OA2015, Lab on Friday 12:30-1:30 in OA2017

**Text:** Calculus, one and several variables, Tenth edition, by Salas, Hille, Etgen.

### Course Outline:

- **Integration (Chapter 5):** Antiderivative, basic rules of integration, the fundamental theorem of calculus, area between two graphs, indefinite integral, u-substitution.
- **Some applications of the integral (Chapter 6):** area, volume, work.
- **The transcendental functions (Chapter 7):** one-to-one functions, inverse functions, logarithms, exponentials, inverse trigonometric functions.
- **Technique of integrations (Chapter 8):** integration by parts, integration of trigonometric functions, trigonometric substitutions, partial fractions.
- **Sequences, Indeterminate forms (Chapter 11):** sequences, limit of sequences, indeterminate forms, improper integrals.
- **Infinite series (Chapter 12):** infinite series, divergence test, the comparison test, the limit comparison test, the root test, the ratio test, Taylor polynomial and Taylor series.

**Grading System:** The final grade will be determined by two midterms, the homework and the final. The weight of each component is as it follows:

Homework Grade 15%  
Midterm I 25%  
Midterm II 25%  
Final 35%

**Exam Schedule:** The first midterm will be on February 10, 2023, while the second midterm will be on March 16, 2022.

**Lab:** There is a lab associated with this class. Lab time will be used in multiple ways: to go over more examples, to answer homework questions, and

as a problem session. You will need a standard scientific calculator for the class.

**Homework:** You will have a homework assignment due every week. **If you work all the assigned homework problems, you should do well in the course. Without practicing the material covered in class, it will be unlikely that you will learn the material and receive a good grade..** The homework assignment will be due on Friday. No late assignment will be accepted. I will drop one homework assignment (the lowest) when computing your homework grade. If you cannot do an assignment, that is the assignment which will be dropped.

**Class Policies:** You should attend both the lecture and the lab if you want to do well in the class. Cell phones should be turned off during class. Midterms and exams must be taken on the date assigned. During the exam you will be able to utilize a calculator, but the use of books, calculators that can store formulas, cell phones, or other aids is prohibited. Cell phones or other electronic devices are not allowed to be on your person during exams. If you miss a midterm because of one of the university accepted excuses (incapacitating illness, death in the family) a make-up midterm must be written within two weeks of the date of the original midterm. Note that documentation may be required to justify your absence, as indicated at <https://www.lakeheadu.ca/studentcentral/exams-grades/missed-exam-medical-personal>.

**Accessibility Services:** 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: <https://www.lakeheadu.ca/students/student-life/student-services/accessibility>.

**Plagiarism and academic misconduct:** Exams and homework assignments must be independent work. In case of suspect academic misconduct the appropriate office will be informed and an official investigation will be initiated regarding the accident. Plagiarism is an extremely serious academic offense and carries penalties varying from failure in an assignment to expulsion from the university. See the Code under Policies - Student Related in the University Policies at [www.lakeheadu.ca/faculty-and-staff/policies](http://www.lakeheadu.ca/faculty-and-staff/policies).

**This is a general outline. Any communication or change regarding this outline, the time and location of exams as well as other matters concerning the course will be posted on the website and announced in the lecture.**