

MATH*1210: Calculus II

Winter 2024

Instructor

Name	Office	Office Hours	Email
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Teaching Assistants

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Course Description

Credit Weight: 0.5 This weighting should be reflected in your efforts and apportioned study time.

This course is a continuation of MATH*1200. It is a theoretical course intended primarily for students who need or expect to pursue further studies in mathematics, physics, chemistry, engineering and computer science. Topics include inverse functions, inverse trigonometric functions, hyperbolic functions, indeterminate forms and l'Hopital's rule, techniques of integration, parametric equations, polar coordinates, Taylor and Maclaurin series; functions of two or more variables, partial derivatives, and if time permits, an introduction to multiple integration.

Prerequisites: MATH*1080 or MATH*1200

Restrictions: IPS*1500, MATH*1090, MATH*2080

Meeting Times

Lectures

Day	Section	Time	Location
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Labs

Day	Section	Time	Location
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Course Materials

Required

- MATH*1210 – Calculus II Course Manual (Demers, Levere; 9th Ed.)

Course Objectives

At the successful completion of this course, the student will have demonstrated the ability to:

1. Understand fundamentals of complex numbers in various forms.
2. Understand inverse functions (including inverse trig), domains, ranges, and graphs.
3. Define and graph hyperbolic functions and their inverses.
4. Identify indeterminate forms and effectively use L'Hopital's rule to evaluate limits.
5. Utilize various advanced integration techniques to find antiderivatives.
6. Evaluate improper integrals.
7. Calculate volumes of revolution using definite integrals.
8. Calculate the arclength of a curve using integral formulas.
9. Work with parametric curves and polar coordinates.
10. Derive Taylor and MacLaurin series for a variety of functions.
11. Extend concepts to multivariable functions, including partial derivatives.

Evaluation

Assessment	Scheme 1	Scheme 2
Lab Quizzes (4) [†]	20%	20%
Tests (2)	50%*	40%**
Final Exam XXXXXXXXXX	30%	40%
Total	100%	100%

[†]Lab Quizzes are equally weighted

*Tests are equally weighted in Scheme 1

**Worse test is worth 15%, better test is worth 25% in Scheme 2

Your mark will be calculated using the more beneficial of the schemes

Course Elements

Labs

The TA will either cover additional topics, go over practice problems, or invigilate a quiz to be completed during the lab period. Material covered in the labs is fair game for the tests and final exam. Labs will begin in week 2 [REDACTED]

Homework

The end of each section in the course manual has practice problems and solutions. The TA will go over solutions of certain problems during some lab sessions.

Tests

Details on the number of questions, format, and scope of content for each test will be provided by the instructor in advance of the scheduled dates.

[REDACTED]

[REDACTED]

Final Examination

The final examination will be held on [REDACTED]. Details about the content and location will be discussed during the semester. The exam will cover the entire course.

Grades, Regrades, and Missed Assessments

Graded assessments will be scanned and graded digitally on Gradescope. Gradescope access will be granted to you after the first quiz has been scanned and uploaded. Regrade requests for each assessment will be open for 1 week after grades have been released. You will have the ability to point out specific parts of specific questions for which you feel you were unfairly or incorrectly graded. After the 1-week period for a particular assessment has passed, no further regrade requests for that assessment will be considered. Any missed assessment will have its weight transferred to the final exam.

Lecture schedule (approximate)

Weeks	Topics	Textbook
1	Complex Numbers	Chapter 1
1-2	Inverse Functions	Chapter 2
3	Hyperbolic Functions	Chapter 3
4	L'Hôpital's Rule	Chapter 4
4-5	Advanced Integration Techniques	Chapter 5
6	The Method of Partial Fractions	Chapter 6
6-7	Volumes of Revolution	Chapter 7
7-8	Improper Integrals	Chapter 8
8-9	Arc Length of a Curve and Parametric Equations	Chapter 9
10	Polar Coordinates	Chapter 10
11	Taylor & Maclaurin Series	Chapter 11
12	Introduction to Multivariable Functions	Chapter 12

Note: The first day of classes is Monday, Jan. 8. Winter break starts on Monday, Feb. 19, and classes resume on Monday, Feb. 26. No classes will be held on Friday, Mar. 29. To compensate for this, Monday, Apr. 8, will be treated as a Friday.

Course Statements

Collaboration versus Copying

Scientists work alone or in groups, very often consulting fellow scientists and discussing their research problems with peers. Collaboration is a feature of scientific activity and there are many benefits to working with others. However, no ethical scientist would ever publish or claim the work of others as his or her own and generally scientists give reference to the appropriate source of ideas or techniques which are not their own.

University Statements

Email Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the Undergraduate Calendar for information on regulations and procedures for [Academic Consideration](#).

Drop Date

Courses that are one semester long must be dropped by the end of the last day of classes; two-semester courses must be dropped by the last day of classes in the second semester. The regulations and procedures for [Dropping Courses](#) are available in the Undergraduate Calendar.

Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

More information: www.uoguelph.ca/sas

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The [Academic Misconduct Policy](#) is outlined in the Undergraduate Calendar.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The [Academic Calendars](#) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via Courselink and/or class email.

This includes on-campus scheduling during the semester, mid-terms, and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).