

Course ID:	Course Title:	Winter 2023
MA 149	Introductory Calculus	Prerequisite: Math 30 - 1
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In Class/Online	Instructor:	John Wiest, M.Sc., B.Sc.	First Day of Class:	Jan. 9, 2023
Day(s):	Tue/Thurs	Email:	jwiest@ambrose.edu	Last Day to Add/Drop:	Jan. 22, 2023
Time:	8:15AM – 9:30 AM	Phone:	403-410-6915	Last Day to Withdraw:	March 31, 2023
Room:	A2131	Office:	L2115	Last Day to Apply for Coursework Extension:	April 3, 2023
Lab/Tutorial:	3:00PM-5:00PM, A2131	Office Hours:	Wednesdays 1:00PM-3:00PM	Last Day of Class:	April 13, 2023
Final Exam:	Thurs, April 20, 2023, 9:00AM – 12:00PM, A2131				

Important Dates and Information

For a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>.

Midterm Exam: March 09, 2023

Course Description

This course teaches functions and graphing, integrals and derivatives, as well as exponential, trigonometric, and logarithmic functions.

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Expected Learning Outcomes

It is the aim of the course that students:

1. Gain a greater conceptual understanding of the real numbers and the number line.
2. Gain a greater appreciation of linearity and the line concept

3. Understand limits of functions at specific points both conceptually and procedurally.
4. Understand the definition of the derivative, learn how to compute it, and learn many of its uses.
5. Understand the definition of the integral, learn how to compute it, and learn some of its uses.

Textbooks

The course textbook is an open source, online textbook from the website openstax.org.

The book can be accessed through the link <https://openstax.org/details/books/calculus-volume-1>.

Calculus (Vol. 1)	Gilbert Strang & Edwin Herman		978-1-947172-13-5
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Course Schedule

Differential Calculus

1. Functions – Approx. 1 week
2. Limits and Continuity – Approx 2 weeks
3. Derivatives – Approx 4 weeks
 - a. Limit definition of the Derivative
 - b. The Power Rule
 - c. The Product Rule
 - d. The Quotient Rule
 - e. The Chain Rule
 - f. Implicit Differentiation

Applications of Derivatives – Approx 2 weeks

1. Graph Sketching
2. Optimization
3. Related Rates

Integral Calculus – Approx. 2 week

1. Anti-derivatives and the Fundamental Theorem of Calculus
2. Method of Substitution
- 3.

Applications of Integrals – Approx. 2 weeks

1. Areas between curves, Volumes of solids of revolution
2. Introduction to Differential Equations.

Requirements:

Online Assignments	40%
Midterm Exam	25%
Final Exam	35%

The Online Assignments will be accessed through the Lyryx Learning webpage (www.lyryx.com). Students will need to purchase access to the online homework (through the Lyryx webpage). Details on the specific course section and how to access this will be on the course moodle page. If you do not purchase this access, you will not be able to complete the Online Assignments and you will have difficulty passing the course.

Attendance:

While attendance will not be taken during class, it is strongly recommended that students attend and participate in classes. Mathematics is a participatory activity, one which is best learned through practice, and discussion with others. If a student misses a deadline or exam due to unexcused absence, a zero grade will be recorded unless the student makes an effort to consult with the instructor.

Grade Summary:

The available letters for course grades are as follows:

Grade	Interpretation	Percentage	Grade Points
A+	Excellent	96-100	4.00
A		91-95	4.00
A-		87-90	3.70
B+	Good	83-86	3.30
B		79-82	3.00
B-		74-78	2.70
C+	Satisfactory	69-73	2.30
C		64-68	2.00
C-		59-63	1.70
D+	Poor	55-58	1.30
D		50-54	1.0
F	Failure	Below 50	0.00
P	Pass		No Grade Points

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Ambrose University Important Information:

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions.

Exam Scheduling

Students who find a conflict in their exam schedule must submit a *Revised Final Exam Time Application* to the Office of the Registrar by the deadline noted in the Academic Calendar. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; or 2) the scheduled final examination slot results in three consecutive examination periods. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/academics/academic-calendar>

Privacy

Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and registrar. Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course. A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

Academic Success and Supports

Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that

Note: Students are strongly advised to retain this syllabus for their records.

may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

Ambrose Writing Services

Ambrose Writing services provides academic support in the four foundational literacy skills—listening, speaking, reading, and writing. It also assists students with critical thinking and the research process. Throughout the academic year, students can meet with a writing tutor for personalized support, or they can attend a variety of workshops offered by Academic Success. These services are free to students enrolled at Ambrose University. Academic Success serves all students in all disciplines and at all levels, from history to biology and from theatre to theology. To learn more, please visit <https://ambrose.edu/sas/writing-services>

Ambrose Tutoring Services

Ambrose Tutoring Services provides support in specific disciplinary knowledge, especially in high-demand areas such as chemistry, philosophy, math and statistics, and religious studies. These tutors also coach students in general study skills, including listening and note-taking. During the academic year, Ambrose Tutoring Services offers drop-in tutoring for courses with high demand; for other courses, students can book a one-to-one appointment with a tutor in their discipline. These services are free to students enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/tutoring>.

Mental Health Support

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

On Campus:

- Counselling Services: ambrose.edu/counselling
- Peer Supportive Listening: One-to-one support in Student Life office. Hours posted at ambrose.edu/wellness.
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention and Mental Health First Aid. See <https://ambrose.edu/student-life/crisissupport> for a list of staff members.

Off Campus:

- Distress Centre - 403-266-4357
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

All staff, faculty, and Residence student leaders have received *Sexual Violence Response to Disclosure* training. We will support you and help you find the resources you need. There is a website with on and off campus supports – ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:

- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888