Department of Mathematics & Statistics
Concordia University

MATH 209
Fundamental Mathematics II
Fall 2025

Instructor*: _____

Office/Tel No.: _____

Office Hours: _____

*Students should get the above information from their instructor during class time. The instructor is the person to contact should there be any questions about the course.

Textbook: *Calculus for Business, Economics, Life Sciences and Social Sciences*, 14th Edition, by Barnett, Zeigler, & Byleen. CUSTOM EDITION.
The textbook will be available at https://www.bkstr.com/concordiastore/home
Note: Students should order textbooks as early as possible, especially for printed versions in case books are backordered or there are any shipping delays.

Prerequisite: MATH 206 or equivalent.

Office Hours: Your professor will announce her/his office hours during which she/he will also be available to give a reasonable amount of help. Note, however, that if you miss a class, it is not reasonable to expect your professor to cover the missed material for you.

Math Help Centre: A Math Help Centre staffed by graduate students is available. The schedule of its operation and its location will be posted in the Department and on the Department webpage http://www.concordia.ca/artsci/math-stats/services/math-help-centre.html

MyLabMath: Every student who buys a textbook will also receive an access code to an online system called **MyLabMath**. Access codes can also be purchased in the Concordia Book Store. The system provides you with a full electronic version of the text (an eBook) as well as many exercises and practice problems. Students will use this system to do online assignments (see **Assignments** below). Students are also strongly encouraged to use this resource to help with problems similar to assignment problems, and in areas where they need extra assistance. If you have an old **MyLabMath** account, please refer to the footnote* on page 3.

Assignments: Students are expected to submit assignments online using **MyLabMath**. Late assignments **will not** be accepted. Assignments contribute 10% to your final grade. Working regularly on the assignments is essential for success in this course. Students are also strongly encouraged to do as many problems as time permits from the list of supplementary problems included in this outline.

Calculators: Only calculators approved by the Department (with a sticker attached as proof of approval) are permitted for the class test and final examination. For a list of Approved calculators see http://www.concordia.ca/artsci/math-stats/services.html #calculators.

Midterm Break: No classes between October 11, 2025, and October 17, 2025.

Midterm Test: There will be **one midterm test**, based on the material of weeks 1-6 (as listed in the CONTENTS below), which will contribute up to 30% to your grade (see the **Grading Scheme**). The test will be common for all sections of the course and will be held on **Sunday, October 26, 2025, starting at 17:30 (**i.e. **5:30 P.M.)** and will be 1.5 hour long. The rooms for the test will be announced one week before the test.

Students who are unable to write the midterm test for a valid reason must inform their instructor in advance to request a 90% final exam option for their grade (*see the NOTE below*). Such a request **will not** be granted unless it is made in writing by email, the reason accepted as valid and supported by appropriate letter or other documentation. **Valid reasons** for missing the midterm test include time conflicts (coinciding exam times) with other exams, religious observances (must be reported to the instructor ***in advance***), illness (to be reported as soon as possible and supported by a valid medical note), a scheduled academic or athletic event (the student must be an active member of the team, to be supported by a letter from the coach). Students who miss the midterm test but were not approved for "90% final exam + 10% assignments" option as described above will not be granted it and will forfeit the marks for the midterm test.

N.B.: Travel arrangements are **not** considered a valid reason for missing the test.

NOTE: If you are taking another course with a common midterm test at the same time (NOT just the day) as this one, you may choose which of the two tests you want to write. If you are choosing to write the midterm for this course, you must then inform the instructor of the other course that you will not write their midterm because of the time conflict. If the midterm to be missed is from a MATH 200-MATH 209 course, then the "90% final +10% assignments" scheme will be applied to calculate your grade for that other MATH course.

Final Exam: The final examination will be three hours long and will cover all the material in the course.

NOTE: Students are responsible for finding out the date and time of the final exams once the schedule is posted by the Examinations Office. Conflicts or problems with the scheduling of the final exam must be reported directly to **the Examinations Office**, **not to your instructor.**

Grading Scheme: The final grade will be based on the higher of (a) or (b) below:

a) 10% for the assignments,
30% for the midterm test,
60% for the final exam.

b) 10% for the assignments,
10% for the midterm test,
80% for the final exam.

NOTE: Because the midterm test in option (A) contributes as high as 30% to your Grade, the "Short-Term Absence form" cannot be used as a valid justification for missing the midterm test for either grading option.

IMPORTANT: **PLEASE NOTE THAT THERE IS NO "100% FINAL EXAM" OPTION IN THIS COURSE.**

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*If you are repeating this course and have an old **MyLabMath** account, you might be able to get your account extended. **Please try to register for MyLabMath as per the instructions**. Use the same username and password that you used in the previous semester.
PLEASE NOTE: **MyLabMath** ACCESS IS NOT TRANSFERRABLE BETWEEN PRODUCTS. (E.g. Math 208 and Math 209. DO NOT use the same product so the access is not transferrable). If you had access in the past and are asked for an access code then choose the 14-day free trial and contact our Pearson representative at molly.armstrong1@pearson.com with the following information:

- Your full name, email address, Pearson username, and Concordia student ID number.
- The name of the course, section, instructor name and the term you are currently registered in (e.g. MATH 209/Sec. A – Fall 2025)

Weeks	Topics	Supplementary Problems
1	2.1 Introduction to Limits 2.2 Infinite limits	p. 102: 11, 17, 27, 33, 41, 43, 45, 47, 61, 87, 79, 89. p. 114: 17, 19, 43, 75, 81, 85.
2	2.3 Continuity 2.4 The Derivative	p. 126: 19, 21, 29, 35, 37, 61, 69, 79. p. 141: 11, 23, 27, 35, 47, 81, 83.
3	2.5 Basic Differentiation 2.6 Differentials 2.7 Marginal Analysis in Business	p. 152: 19, 31, 47, 59, 89, 91. p. 160: 23, 25, 29, 31, 45, 49. p. 169: 11, 15, 27, 33, 49.
4	3.1 Review of the constant e and continuous interest 3.2 Derivatives of Exponential and Logarithmic Functions 3.3 Derivatives of Products & Quotients	p. 185: 11, 17, 29, 31, 35, 47. p. 194: 13, 15, 21, 45, 53, 55, 67. p. 202: 11, 19, 25, 33, 93, 97.
5	3.4 The Chain Rule 3.5 Implicit Differentiation	p. 212: 21, 25, 35, 39, 51, 53, 60, 97. p. 220: 13, 19, 21, 35, 45, 59.
6	3.6 Related rates 3.7 Elasticity of Demand	p. 226: 13, 15, 19, 33, 37. p. 233: 33, 35, 47, 49, 61, 83.
7	4.1 First Derivative and Graphs 4.2 Second Derivative and Graphs	p. 252: 11, 15, 17, 29, 33, 45, 51, 85, 97. p. 269: 9, 15, 17, 21, 25, 29, 39, 49, 99.
8	4.4 Curve-sketching techniques 4.5 Absolute Maxima and Minima	p. 292: 9, 23, 35, 63, 65, 77, 85. p. 302: 11, 13, 17, 23, 31, 43, 57, 61.
9	4.6 Optimization 5.1 Antiderivatives	p. 313: 9, 11, 21, 29. p. 332: 11, 13, 23, 37, 43, 45, 55, 61, 81, 85.
10	5.2 Integration by substitution 5.4 The Definite Integral	p. 344: 11, 15, 19, 21, 47, 63, 65, 77, 79. p. 366: 31, 33, 41, 43, 51, 55.
11	5.5 Fundamental Theorem of Calculus 6.1 Area between Curves	p. 377: 17, 21, 29, 31, 43, 59, 71, 81, 83. p. 395: 31, 35, 41, 45, 49, 51, 55, 79, 83, 85.
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Student Services
You may wish to access the many services available to you as a Concordia student. An overview of these resources can be found here: https://www.concordia.ca/students/services.html

Academic Integrity and the Academic Code of Conduct
This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: https://www.concordia.ca/conduct/academic-integrity.html" *[Undergraduate Calendar, Sec 17.10.2]*

Behaviour
All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the Code of Rights and Responsibilities which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

Intellectual Property

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Extraordinary circumstances

In the event of extraordinary circumstances and pursuant to the Academic Regulations the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the change.