Department of Mathematics & Statistics
Concordia University

> **MATH 209**
> Fundamental Mathematics II
> *Summer 2023*

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.
Prerequisite:	Math 206 or equivalent.
Office Hours:	Your professor will announce her/his office hours during which she/he will be also available to give a reasonable amount of help. Note, however, that if you missed 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 will be posted in the Department and on the Department webpage https://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 Test: There will be one **midterm test held** in class and based on the material of Lectures 1-6 inclusive.

Students who are unable to write the midterm test for a valid reason must write to their instructor to request a 90% final exam. Such a request will not be granted unless it is made in writing (by email), the reason is valid, and is supported by documentation or other evidence. Valid reasons for missing a midterm test include: conflicts with other exams or religious observances (must be reported to the instructor in advance); illness ([Short-Term Absence form](#) or valid medical note required); bereavement. Students who miss the midterm test but do not request a 90% final, as described above, will not be granted a 90% final, and will forfeit the marks for the midterm test.

Travel arrangements are not considered a valid reason for missing the test.

NOTE: If you are taking another MATH 200 level course with a common midterm test at the same time as this one, you may choose which of the two tests you want to write. You must then inform the instructor of the other course that you will not write that test because of the time conflict between the two courses. In this case, the 90%-10% formula will apply to that other 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,
    20% for the midterm test,
    70% for the final exam.

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

NOTE: If you miss the midterm test for a valid reason and make a written request, with supporting documentation/evidence, that is approved by your instructor, then your final grade will be based on: 10% for the assignments, 90% for the final exam.

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 samira.hosseiny@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. AA – Summer 2023)

Lectures	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.
12	**REVIEW**	

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.

Use of Zoom
Note: Zoom is included as an institutionally-approved technology. This means we have been assured of the privacy protections needed to use freely within the classroom.

In the event of extraordinary circumstances, Zoom might be used in this course to facilitate learning at a distance. It may be used to record some or all of the lectures and/or other activities in this course. If you wish to ensure that your image is not recorded, speak to your instructor as soon as possible.

Also, please note that you may not share recordings of your classes and that the instructor will only share class recordings for the purpose of course delivery and development. Any other sharing may be in violation of the law and applicable University policies, and may be subject to penalties.