Department of Mathematics & Statistics
Concordia University

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MATH 205
Differential & Integral Calculus II
Fall 2021

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Instructor*: _____

Email: _____

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.

Preface: **All assessment for this course will be conducted entirely ONLINE. Even if your section's lectures are in-person, your midterm and final exams will be conducted online via the Concordia Online Exams (COLE) platform, with online proctoring. For details, see the ADDENDUM at the end of this Course Outline.**

Textbook: *Thomas' Calculus: Early Transcendentals, Single Variable, (ed. 14)*
The e-text, including MyLabMath, can be purchased through the Concordia BookStop:
https://www.bkstr.com/concordiastore/home

Prerequisite: Math 203 or an equivalent Calculus I course.

Office Hours: Your professor will announce their office hours, during which they will be available to offer 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.

Tutorials: It takes a great deal of practice to succeed in this course. To augment lectures, the Department has organized weekly ONLINE tutorials, wherein tutors will guide students through solutions to problems on topics covered in class the week prior. Emphasis will be placed on material with which students have difficulties. Students are strongly encouraged to actively participate in these problem-solving sessions.

Math Help Centre: Over and above tutorials, students may avail themselves of a Math Help Centre staffed by graduate students. For a schedule, see the Department webpage:
https://www.concordia.ca/artsci/math-stats/services/math-help-centre.html.

WeBWorK: Every student will be given access to an online system called **WeBWorK**. The system offers many exercises and practice problems. Students must use this system to do online assignments (see Assignments below). Furthermore, before each exam (midterm and final), numerous practice problems will be posted on **WeBWorK** to aid students in their preparation.

MyLab Math: Every student who purchases the textbook will be given access to one more online system called **MyLab Math**. This system contains an e-version of the textbook, as well as various excellent resources, including practice exercises, typical examples on different topics, often with solutions, videos, etc., which will help you master the course material.

Assignments: Students must submit assignments online using **WeBWorK**. Late assignments will not be accepted. Assignments constitute 10% of your final grade. Working regularly on assignments is essential for success in this course. Students are also strongly encouraged to do as many problems as their time permits from the list of recommended problems included in this outline, as well as working on the practice exercises in **WeBWorK** and in **MyLab Math**.

Midterm Test: There will be one **online midterm test**, based on the material of weeks 1—6, which will contribute up to 35% to your final grade (see the **Grading Scheme** below). The test will be **common** for all sections of this course and will be held on **Sunday October 24, 2021, at 2:00 P.M**. Students who are unable to write the test that day for a valid reason, e.g., religious (to be reported to the section's **instructor** in advance) or illness (*Short-Term Absence form* **or** *valid medical note required*), may write an alternate midterm test on **Saturday October 30, 2021, at 10:00 A.M**.

It is the Department's policy that tests missed for any reason, including illness, cannot be made-up. If you miss both the main and the alternate midterm tests for a valid reason supported by appropriate documentation, your final exam will count for 90% of your final grade (assignments 10%).

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

Final Exam: The final examination will be given **online** two hours long through the **COLE** platform.

NOTE: Students are responsible for finding out the date and time of their 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.

NOTE: If you miss both the midterm test and alternate midterm test for valid reasons, your final exam will be worth 90% of your grade (your assignments will be worth 10%).

Grading Scheme: The final grade will be based on the higher of (a) or (b) below:
a) 10% for the assignments, 35% for the midterm test, 55% for the final exam.
b) 10% for the assignments, 15% for the midterm test, 75% for the final exam.

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

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Weeks	Sections	Topic	Page	Recommended problems
1	5.1	Area and Estimating with Finite Sums	308	1, 3, 5, 7, 11, 15, 17
	5.2	Sigma Notation and Limits of Finite Sum	316	1, 3, 5, 7, 9, 17, 23, 25, 35
	5.3	The Definite Integral	326	3, 7, 9, 13, 15, 17, 21, 43,45,65, 67
2	4.8	Antiderivatives	287	5, 9, 13, 15, 21,23, 29, 39, 45, 61
	5.4	The Fundamental Theorem of Calculus	339	3, 7, 11, 13, 23, 29, 39, 43, 47, 51

3	5.5	Indefinite Integrals & the Substitution Method	348	3, 7, 9, 11, 21, 23, 31, 37, 47, 57
	5.6	Definite Integral Substitutions, Area Between Curves.	355	1, 5, 7, 11, 17, 25, 29, 37, 39, 41, 65, 69, 73, 75, 77, 79, 85, 97
4	8.1	Using Basic Integration Formulas	465	1, 3, 5, 9, 13, 19, 21, 31, 33, 39, 41
	8.2	Integration by Parts	471	1, 3, 5, 9, 11, 13, 17, 23, 25, 27, 31 33, 35, 43, 45, 55
5	8.3	Trigonometric Integrals	479	3, 11, 13, 17, 19, 21, 23, 37,41, 63
	8.4	Trigonometric Substitution	484	1,3, 5, 9, 11, 13, 15, 17, 21, 37, 39
6	8.5	Integration of Rational Functions by Partial Fractions	491	1, 5, 7, 9, 11, 15, 17, 21, 27, 29, 33, 39, 45, 47, 49
	6.1	Volumes Using Cross-Sections (emphasis on the *disk/washer method*)	375	17, 19, 21, 23, 27, 31, 33, 35, 43, 45, 55, 57
7	8.8	Improper Integrals	517	1, 5, 7, 13, 17, 21, 25, 45, 59, 65
8	10.1	Sequences	586	5, 7, 9, 15, 21, 25, 27, 31, 33, 35, 39, 41, 43, 45, 49, 51, 73, 77
	10.2	Infinite Series	597	3, 7, 19, 35, 37, 41, 45, 55, 57, 81
9	10.3	The Integral Test	604	3, 5, 7, 11, 17, 19, 21, 37, 39, 61
	10.4	The Comparison Tests	610	3,5, 7, 9, 15, 23, 25, 33, 35, 45
10	10.5	Absolute Convergence, Ratio and Root Tests	616	3, 5, 7, 11,13, 17, 19, 21, 27, 37
	10.6	Alternating Series & Conditional Convergence	622	3, 5, 7, 9, 11, 19, 21, 31,33, 39, 41
11	10.7	Power Series (omit Multiplication of Series)	633	3, 5, 7, 9, 11, 13, 15, 17, 19, 23, 27, 33, 37, 41, 61
12	10.8	Taylor and Maclaurin series	640	3, 5, 7, 9, 13, 15, 23, 29, 35, 37, 39, 41, 43
13		**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: concordia.ca/students/academic-integrity."
[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.

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.

Zoom will be used in this course to facilitate learning at a distance (remote sections and tutorials). 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.

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.

Territorial Acknowledgement
Concordia University is located on unceded Indigenous lands. The people of the Kanien'kehá:ka Nation are recognized as custodians of the lands and waters on which we gather. Tiohtià:ke/Montréal is historically known as a gathering place for many First Nations. Today, it is home to a diverse population of Indigenous and other peoples. We respect the continued connections with the past, present and future in our ongoing relationships with Indigenous and other peoples within the Montréal community.

Addendum: **All assessment items for this course will be conducted entirely ONLINE. Even if your section's lectures are in-person, both your midterm and your final online exam will be conducted via the Concordia Online Exams (COLE) platform with online proctoring (also known as auto-proctoring).** More information about the COLE system may be found at the COLE website. Additionally, an online proctoring tool called Proctorio will be used to provide proctoring during the exam. This type of proctoring is known as auto-proctoring, as there is no invigilation during the exam. Instead, your professor will review the recording after the exam.

Please note the following with respect to online proctored exams:

- That the exam will take place during the exam period at the designated date and time set by the professor (midterm) or the Exams office (final). All exam times will be set to Eastern Standard/Daylight Time.
- That Proctorio is used to help uphold academic integrity. Proctorio's Terms of Service may be reviewed at https://proctorio.com/terms. Recordings made and information collected during the exam may be used for this purpose, in accordance with the Academic Code of Conduct.
- Recordings made during the exam may be used for this purpose, in accordance with the Academic Code of Conduct.
- That your image, voice and screen activity, including IP address, may be recorded throughout the duration of the exam.
- That you are required to turn on your webcam and it must be pointed toward your face and workspace at all times during the exam, failing which your exam may be deemed invalid.
- That you must show your Concordia University Identification card to validate your identity. Alternative government-issued photo identification

will be accepted, though it is not recommended. Only identification in English or French will be accepted.

- That any recording made will only be viewed by authorized university personnel and personnel authorized pursuant to University policies (no external entity has authorization to review the recording).
- That you will be responsible for ensuring appropriate, properly functioning technology (webcam, a microphone, appropriate browser and an ability to download any necessary software, as well as a reliable internet connection with a minimum of a 3G connection).
- That you are very strongly recommended to enter the virtual test site found at the COLE website and become familiar with the software that will be used for your exam before starting the exam.
- That you will need a quiet place within which to take the exam. Earplugs may also be used to allow you to focus for the duration of the exam. Noise cancelling headphones are not allowed.

Students who are unable to write an exam because they are unable to meet the above conditions and requirements are advised that they will need to drop the course. More information can be provided on the next offering of this course by consulting the Department. Students are advised that the drop deadline (DNE) for this course is **September 20, 2021**.

Students who require additional accommodations for their exams due to a documented disability should contact the Access Centre for Students with Disabilities as soon as possible (acsdinfo@concordia.ca).

If you face issues during the exam, you should inform your professor of those issues immediately. Please note that there are in-exam supports you should spend time getting to know. Visit the COLE website for more information.