Department of Mathematics & Statistics
Concordia University

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MATH 205
Differential & Integral Calculus II
Summer 2015

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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.

Course Examiners: Dr. A. Atoyan

Textbook: *Single Variable Calculus*, J. Stewart, 8th Edition (Customized), Nelson Education.

Prerequisite: Math 203 or an equivalent Calculus I course.

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.

Tutorials: Calculus requires a lot of practice. There is not enough class time to do all the examples and problems needed to learn the material thoroughly. The Department has therefore organized special **calculus Tutorials** conducted once per week for every section of this course to provide additional support to students outside the lecture room environment. Tutorials are conducted by senior students who will help with solving problems on the topics learned in class that week, with particular emphasis on the material that students may have difficulties with in this course. Students are strongly encouraged to participate and be active at these problem-solving sessions which represent an important resource to help you succeed in this course.

WebWork: Every student will be given access to an online system called **WebWork**. The system provides you with many exercises and practice problems. Students will use this system to do online assignments. Students also are strongly encouraged to use this resource to work on the Practice problem sets - problems similar to the assignment problems, and in areas where they may need extra assistance.

Math Help Centre: In addition to Tutorial classes, a Math Help Centre staffed by graduate students has been organized to help students in solving problems on every-day basis. A schedule of its operation and its location will be posted in the Department.

Assignments: Students are expected to submit assignments online using **WeBWorK**. Late assignments *will not* be accepted. Assignments contribute 10% to your final grade (see the **Grading Scheme** below), therefore working on the assignments is essential for success in this course. Note that there is not enough class time to do all the examples needed for a good understanding of the material, so students are strongly encouraged to do as many problems on their own as their time permits. A solutions manual for all odd-numbered questions is packaged with the textbook.

Midterm Test: There will be one midterm in Week 4 which will contribute up to 25% to your final grade (see the Grading Scheme below).
NOTE: It is the Department's policy that tests missed for any reason, *including illness,* cannot be made up. For students who will not be able to write the test because of illness *(to be confirmed by a valid medical note)* the final exam will count for 90% of the final grade, and 10% will be contributed by the assignments.

Final Exam: The final examination will be three hours long.
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. It is the Department's policy and the Examinations Office's policy that *students are to be available until the end of the final exam period. Conflicts due to travel plans will not be accommodated.*

Grading Scheme: The final grade will be based on the higher of (a) or (b) below:
a)   10% for the WeBWorK assignments,
      25% for the midterm test,
      65% for the final exam.

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

Calculators: Only calculators approved by the Department are allowed in the class test and final examination. The preferred calculators are the **Sharp EL 531** and the **Casio FX 300MS,** available at the Concordia Bookstore

IMPORTANT: **PLEASE NOTE THAT THERE IS NO "100% FINAL EXAM" OPTION IN THIS COURSE**.
The term work contributes at least 20% to the final grade. Therefore active participation in classes and continuous work on the course material *during* the semester is essential for the success in this course. Also note that although class attendance is not mandatory, years of experience has shown that students who do not attend classes and believe they can keep up with the material on their own do poorly on the final examination.

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Weeks (Lectures)	Sections	Topic	Page	Recommended problems
1 (1,2)	5.1	Areas	369	3, 5, 11, 15, 19
	5.2	The Definite Integral	382	7, 9, 11, 17, 25, 29, 37, 39
	4.9	Antiderivatives	348	5, 7, 9, 13, 25, 33, 39, 45, 61
	5.3	The Fundamental Theorem of Calculus	397	7, 11, 13, 15, 23, 27, 39, 43
2 (3,4)	5.4	Indefinite Integrals	403	7, 11, 17, 19, 23, 31, 37, 43
	5.5	The Substitution Rule	413	1, 5, 7, 9, 19, 21, 25, 29, 31, 53, 63, 67
	7.1	Integration by Parts	468	1, 3, 7, 15, 17, 23, 31, 37, 47, 53
	6.1	Areas Between Curves	427	1, 5, 11, 15, 25, 27, 31, 49
	6.5	Average value of a function	451	5, 7, 9, 19
3 (5,6)	7.2	Trigonometric Integrals	476	1, 3, 7, 11, 13, 17, 21, 23, 31, 39
	7.3	Trigonometric Substitution	483	5, 9, 11, 13, 17, 21, 23, 27
	7.4	Integration of Rational Functions by Partial Fractions	481	1, 3, 7, 9, 11, 15, 31, 39, 47, 61
	6.2	Volumes (*disk/washer method*)	438	3, 7, 9, 11, 13, 15, 17
4 (7)	--	**MIDTERM TEST** (based on material of the Weeks 1-3)	530	1, 5, 9, 11, 15, 17, 23, 27, 43, 45, 73, 75, 79
	7.8	Improper Integrals	527	1, 5, 7, 11, 15, 17, 21, 25, 29, 39
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5 (8,9)	11.2	Series	711	9, 17, 19, 21, 25, 29, 37, 49
	11.3	The Integral Test	720	3, 5, 7, 13, 19, 21, 27, 29
	11.4	The Comparison Test	726	3, 7, 9, 17, 21, 25, 29, 39
	11.5	Alternating Series	731	5, 9, 13, 15, 19, 21, 23, 27, 29
6 (10,11)	11.6	Absolute Convergence and the Ratio and Root Tests	737	5, 7, 11, 17, 27, 29, 31
	11.8	Power Series	745	3, 5, 7, 9, 13, 17, 19, 23, 23, 25
	11.9	Representation of Functions as Power Series	751	3, 7, 9, 15, 19, 23, 27
	11.10	Taylor and Maclaurin series (omit Taylor Inequality and Binomial Series)	765	5, 7, 9, 13, 17, 29, 41, 47, 49, 55, 63, 65
7		**REVIEW**		