MATH 170-01 Calculus I
Spring 2014

Instructor: Dr. Lauren Williams
Class Meeting: Zurn 207, MTWF 8:00 - 9:05 AM
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Office Hours: Monday 12 - 2, Tuesday 9:30 - 1, Wednesday 12 - 1, Friday 12 - 1
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Textbook
Calculus Early Transcendentals, 10th Edition, by Anton, Bivens, and Davis

Topics Covered
We will be covering chapters 0-5 in the textbook. The major topics you will learn include: functions and their properties, limits and continuity, the derivative, and integration.

Homework
There will be several homework assignments that must be turned in. You will have a week to complete each assignment, and late work will not be accepted. You are allowed to work together; however, everyone must submit their own work. Feel free to ask questions about the homework during class or office hours. The lowest homework score will be dropped when your final grade is calculated.
In addition to these assignments, you are encouraged to work on the problems in the textbook. This work will not be collected, but is extremely important to your success in the class.

In Class Examinations
There will be three in class examinations in addition to the final exam:

- Tuesday, February 25
- Tuesday, April 1
- Tuesday, April 29

More information about each exam will be given in class, but the following applies to all:

- Calculators, cell phones, computers, and other devices are not permitted.
- You may not use your notes, textbook, or other materials during the exams.
- A review sheet, including practice problems, will be given to you approximately one week before each exam.
- Your lowest exam grade (including a missed exam) will be replaced by your final exam grade, if the final exam grade is better.

Final Exam
The final exam will be cumulative. As with the other in class exams, you are not permitted to use any devices or materials aside from a scientific calculator.
The final exam will be on **Monday, May 12th, 8:30-10:30 AM.**

Final Grades
Grades will be calculated out of 600 points as follows:

300 points - In Class Exams (3 at 100 points each)
100 points - Homework (lowest grade will be dropped)
200 points - Final Exam

Grading scale:

F	D	D+	C	C+	B	B+	A
0-59	60-64	65-69	70-77	78-83	84-89	90-93	94-100

Other Course Information

- Mercyhurst provides tutoring for students enrolled in Math 170. Sessions are held in Zurn 213 on Sunday, Monday, Tuesday, and Thursday evenings. The tutoring schedule is available at http://math.mercyhurst.edu/∼griff/courses/Tutoring/
- You are neither expected nor required to purchase any materials for the course aside from the required textbook. Graphing calculators and mathematical software could be used to check your work, but should not be relied on to do the work for you.
- I will attempt to return emails as thoroughly and promptly as possible. However, it is better to ask complicated questions during class or in office hours. If you have a question about the homework, it is quite likely someone else has the same question, so you're doing the class a favor by asking!
- There are other calculus textbooks available in the library and in my office. Due to book prices, you may not want to invest in a second book, but it can be helpful to have alternate sources or see topics explained in other ways.
- I do not keep detailed lecture notes. It is highly recommended that you establish contacts among your classmates to get notes in case you miss class.
- Attendance is not required, but coming to class regularly will generally improve your grade. Please contact me if you are absent for an extended period.

Learning Differences
In keeping with college policy, any student with a disability who needs academic accommodations must call Learning Differences Program secretary at 824-3017, to arrange a confidential appointment with the director of the Learning Differences Program during the first week of classes.

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This schedule is approximate - material is subject to be covered earlier or later than stated. Exam dates will not change.

The homework problems listed for each section will not be collected, but represent a *minimal* amount of practice for each topic.

Date	§	Topic	Problems	Due
Jan 29		Introduction		
Jan 31	0.1	Functions	1, 3, 7, 19, 23	
Feb 3	0.2	New Functions From Old	1, 27, 29, 39	
Feb 4	0.3	Familes of Functions	11, 13, 19, 29	
Feb 5	0.4	Inverse Functions	1, 3, 9, 13, 17	
Feb 7	0.5	Exponential, Log Functions	1, 11, 17, 23, 25	HW 1
Feb 10	1.1	Limits, Intuitively	1, 5, 9, 21, 23	
Feb 11	1.2	Computing Limits	1, 3, 5, 23, 31, 39	
Feb 12	1.3	Limits at Infinity	3, 5, 9, 17, 33, 37	
Feb 14	1.4	Limits, More Rigorously	9, 17, 21, 25	HW 2
Feb 17	1.5	Continuity	5, 11, 13, 21, 29	
Feb 18	1.6	Cont. of Trig, Exp, Inv Functions	1, 3, 7, 9	
Feb 19	1.6	The Squeeze Theorem	17, 23, 29, 37	
Feb 21	2.1	Tangent Lines, Rates of Change	1, 11, 15, 25	HW 3
Feb 24		Review		
Feb 25		**Exam I**		
Feb 26	2.2	The Derivative Function	7, 9, 11, 19, 23, 25	
Feb 28	2.3	Techniques of Differentiation	3, 7, 13, 17, 23, 41	
Mar 3	2.4	The Product Rule	1, 5, 7, 9, 19	
Mar 4	2.4	The Quotient Rule	13, 21, 27, 29, 31	
Mar 5	2.5	Derivatives, Trig Functions	1, 7, 15, 23, 31, 43	
Mar 7	2.6	The Chain Rule	1, 7, 13, 17, 27, 39	HW 4
Mar 10-14		*Spring Break*		
Mar 17	3.1	Implicit Differentiation	3, 9, 13, 27	
Mar 18	3.2	Log Functions	3, 9, 13, 25, 27	
Mar 19	3.3	Exp Functions	15, 21, 25, 31, 37	
Mar 21	3.3	Inverse Trig Functions	43, 45, 51, 55	HW 5
Mar 24	3.4	Related Rates	1, 5, 13, 17, 29	
Mar 25	3.5	Local Linear Approx	23, 25, 31, 43	
Mar 26	3.6	L'Hopital's Rule	7, 13, 15, 21, 29	
Mar 28	4.1	Inc, Dec, Concavity	1, 7, 15, 21, 27, 29	HW 6

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Date	§	Topic	Problems	Due
Mar 31		Review		
Apr 1		**Exam II**		
Apr 2	4.2	Extrema, Graphing	3, 7, 9, 25, 33, 51, 55	
Apr 4	4.1	Rational Functions	1, 13, 19, 23	
Apr 7	4.4	Absolute Extrema	1, 3, 7, 13, 21, 27	
Apr 8	4.5	Applied Max & Min	3, 9, 13, 19, 37	
Apr 9	4.6	Rectilinear Motion	1, 7, 17, 21, 33	
Apr 11	4.7	Newton's Method	1, 5	HW 7
Apr 14	4.8	Rolle's Theorem	1, 3, 11	
Apr 15	4.8	Mean Value Theorem	5, 13, 19, 25	
Apr 16	5.1	The Area Problem	13, 17, 25	HW 8
Apr 18		*No Class*		
Apr 21		*No Class*		
Apr 22	5.2	The Indefinite Integral	1, 7, 9, 13, 17, 19, 27, 35, 43	
Apr 23	5.3	Integration by Substitution	3, 7, 9, 15, 27, 35, 43, 57	
Apr 25	5.4	Area as a Limit	1, 5, 27	HW 9
Apr 28		Review		
Apr 29		**Exam III**		
Apr 30	5.5	The Definite Integral	9, 13, 15, 19, 23, 25	
May 2	5.6	Fundamental Thm of Calc	1, 13, 19, 27, 31, 35	
May 5	5.9	Substitution	1, 3, 7, 13, 19	
May 6	5.9	Substitution	23, 31, 35, 39, 47	
May 7		Review		
May 8		Review		HW 10
May 12		**Final Exam**		