Information – Math 231

Professor
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Time and Place Monday, Wednesday: 2:30–4:25pm, 1S-218

Office hours Monday: 4:40–5:30pm,
Wednesday: 4:40–5:30pm, 8:10–8:50pm.

Textbook Calculus-Early Transcendentals, by *Rogawski*
W.H. Freeman & Co. (2015)
ISBN-13: 978-1-4641-1488-5, ISBN-10: 1-4641-1488-9
The book is mandatory

Course Outline This course aims to study functions in one variable. We will discuss the fundamental concepts of derivative introduced in the 17th Century by Leibniz and Newton, and see how they can be applied in some optimization problems. A main result is the so called "Fundamental Theorem of calculus" that turns out to be very useful to compute areas.

Course Grade The final course grade is determined as follows:

Homework	5%	**Second Test**	30%
First Test	15%	**Final**	50%

Homework: You must do the HW related to the sections that have been covered during the week. There is a deadline every Sunday.
The HW must be submitted using "Webwork" that can be found on the mathematics Website of CSI. Go to `http://www.math.csi.cuny.edu/` and follow the links.

First test: Wednesday, February 26th, 2025
Second Test: Wednesday, April 23rd, 2025

The material for the tests is cumulative
Depending on how you have answered a question on an exam, you may be asked to provide additional oral explanations during my office hours.

Extra Credit This class is difficult, but extra credits will be given as follows

Quiz 1, 02/19	10 points on Exam 1
Quiz 2, 04/09	10 points on Exam 2
Quiz 3, 05/12	20 points on Final

Integrity policy Cheating leads to an F.

Cell phone Let us stay focused on the class !
Thus, cell phone must be switched OFF.

Lesson plan: Below, each lesson corresponds to a 50minutes class

Lesson	*Sections*	*Topics*	*Homework (Webwork)*
1	1.2, 1.4	Linear and quadratic functions	1.2, 1.4
2	1.5, 1.6	Inverse functions, Exponential & Log functions	1.5, 1.6
3	2.1, 2.2	Limits	2.1, 2.2
4	2.3	Limit laws	2.3
5	2.4	Continuity	2.4
6	2.5	Evaluating limits	2.5
7	2.6	Trigonometric functions	2.6
8	2.7	Limits at infinity	2.7
9	2.8	Intermediate Value Theorem	2.8
10	3.1, 3.2	Notion of Derivative	3.1, 3.2
11		**Quiz 1**	
12	3.3	Product and Quotient rules	3.3
13	3.4	Rates of change	3.4
14	3.5	Higher derivatives	3.5
15, 16		**Exam 1** (Wednesday, February 26th)	
17, 18	3.6	Derivatives of Trigonometric functions	3.6
19, 20	3.7	Chain rule	3.7
21, 22	3.8	Implicit differentiation	3.8
23, 24	3.9	Derivatives of exponentials and logs	3.9
25	3.10	Related rates	3.10
26	4.1	Linear approximation	4.1
27, 28	4.2	Extreme values	4.2
29, 30	4.3	First derivative test	4.3
31, 32	4.4	Concavity, Second derivative	4.4
33	4.5	L'Hôpital rule	4.5
34	4.6	Graph sketching, asymptotes	4.6
35	4.6	Graph sketching, asymptotes	4.6
36	4.7	Optimization	4.7
37, 38		Optimization	4.7
39		**Quiz 2**	
40		Approximating Area	5.1
41, 42	5.2	Definite Integral	5.2
43, 44		**Exam 2** (April 23rd, 2025)	
45, 46	5.2	Definite Integral	5.2
47, 48	5.3	Antiderivative	5.3
49, 50	5.4, 5.5	Fundamental Theorem of Calculus	5.4, 5.5
51, 52	5.7	Integration by substitution	5.7
53		**Quiz 3**	
54	5.8	Integration of transcendental functions	5.8
55, 56		Review Problems	