Course Information

Instructor: Meesue Yoo
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Office : AP&M 7230
Office Hours : MW 9:30am - 11:30am (AP&M 7230)

Meeting day and time:	MWF 1:00 -1:50pm
Location:	WLH 2001
Web:	`http://www.math.ucsd.edu/~meyoo/math20a.html`
Text:	Calculus, Early Transcendentals by Rogawski

Catalog Description

Foundations of differential and integral calculus of one variable. Functions, graphs, continuity, limits, derivatives, tangent lines. Applications with algebraic, exponential, logarithmic and trigonometric functions. Introduction to the integral.

Exams

- Midterm I : Jan. 25 (Mon) in class
- Midterm II : Feb. 26 (Fri) in class
- Final : Mar. 19 (Fri) 11:30am - 2:30pm, room to be announced

You can bring one 8.5 by 11 inch cheat sheet to the exams, but no books, no calculators are allowed.
There will be NO make-up exams.

Homework

There are assigned homework problems in the syllabus, but you are NOT supposed to hand in the homework and it won't be graded even if you do. Although you will not be graded for the homework, it is practically impossible to do well in the course without working out the homework assignments regularly and the quiz problems will be based on the homework problems. You are encouraged to work together on the assignments.

Quizzes

The quiz will be taken on Fridays, in the end of the class. No cheat sheets and no calculators are allowed during the quiz. There will be 7 quizzes in the quarter, and the quiz problems will be out of the homework problems or similar to the homework problems. **No make up quizzes will be allowed**, but two lowest quiz scores will be dropped in the end.

Grading

The total score will be the best of the two results of the following grading schemes :

Scheme I :

Midterms (2)	200	Exams each worth 100 pts
Quizzes	100	Total points for Quizzes are scaled to 100 pts
Final Exam	200	Accounts for 40% of course grade
Total	500	

Scheme II :

Midterm	150	Best of the two midterms 100 pts × 1.5
Quizzes	100	Total points for Quizzes are scaled to 100 pts
Final Exam	250	Accounts for 50% of course grade
Total	500	

Course Schedule

Note that this is a tentative schedule and is subject to change up to conditions.

	Review	1.1, 1.2, 1.3 HW 1.1 : 2, 10, 18, 22, 23, 24, 29, 43, 48, 60, 70, 76 1.2 : 14, 17, 20, 29, 36, 50 1.3 : 1, 8 ,12, 33, 34, 36
Jan. 1 M	Lec. 1	1.4 Trigonometric functions & 1.5 Inverse functions HW 1.4 : 4, 7, 10, 13, 16, 20, 21, 24, 29, 30, 38, 48, 52 1.5 : 4, 10, 15, 16, 22, 29, 30, 39, 40, 44
Jan. 6 W	Lec. 2	1.6 Exponential and logarithmic functions HW : 4, 6, 14, 22, 24, 28, 32, 37, 39
Jan. 8 F	Lec. 3	2.1 Limits, rates of change and tangent lines & 2.2 A numerical and graphical approach HW 2.1: 1, 4, 8, 18, 22, 26 2.2 : 3, 7, 8, 14, 25, 32, 34, 38, 39, 45
Jan. 11 M	Lec. 4	2.3 Basic limit laws & 2.4 Limits and continuity HW 2.3: 2, 9, 10, 14, 18, 24, 26, 30, 31 2.4: 2, 3, 4, 6, 15, 16, 22, 26, 44, 58, 67, 74, 79, 81, 83, 85
Jan. 13 W	Lec. 5	2.5 Evaluating limits algebraically & 2.6 Trigonometric limits HW 2.5: 4, 7, 11, 16, 21, 25, 30, 48, 50, 52 2.6: 6, 11, 16, 18, 23, 28, 35, 38, 42, 44
Jan. 15 F	Lec. 6	2.7 Intermediate value theorem & 3.1 Definition of the derivative HW 2.7 : 4, 8, 9, 13, 14, 15 3.1 : 4, 10, 11, 14, 25, 32, 35, 39, 42, 44, 52, 53, 58
	Quiz # 1	On 2.1 - 2.4
Jan. 20 W	Lec. 7	3.2 The derivative as a function & 3.3 The product and quotient rules HW 3.2 : 5, 12, 15, 20, 25, 29, 31, 33, 34, 41, 46, 47, 49, 58, 71 3.3 : 4, 9, 12, 23, 28, 29, 33, 37, 42, 49, 51, 53
Jan. 22 F	Lec. 8	3.4 Rates of changes& 3.5 Higher derivatives HW 3.4 : 4, 5, 6, 15, 17, 21, 26, 28, 40, 47 3.5 : 4, 7, 15, 19, 25, 30, 32, 33, 39, 40, 44
	Quiz # 2	On 2.5, 2.6, 2.7
Jan. 25 M	Lec. 9	**Midterm I** (in class) 1.4 - 3.5
Jan. 27 W	Lec. 10	3.6 Trigonometric functions HW : 2, 10, 19, 23, 26, 28, 33, 36, 40, 42, 43, 44
Jan. 29 F	Lec. 11	3.7 The chain rule HW : 11, 17, 18, 23, 29, 34, 42, 55, 63, 68, 69, 70, 82, 89
	Quiz # 3	On 3.1 - 3.5
Feb. 1 M	Lec. 12	3.8 Implicit differentiation & 3.9 Derivatives of inverse HW 3.8: 11, 22, 28, 29, 32, 35, 36, 38, 54 3.9: 6, 10, 13, 18, 21, 29, 31, 38, 39
Feb. 3 W	Lec. 13	3.10 Derivatives of general exponential and logarithmic functions & 3.11 Related rates HW 3.10: 7, 12, 18, 21, 31, 34, 39, 40, 46, 48, 57, 64, 69, 71, 74 3.11: 4, 7, 10, 14, 17, 24, 30, 32, 36

Feb. 5 F	Lec. 14	3.11 Related rates HW : 4, 7, 10, 14, 17, 24, 30, 32, 36
	Quiz # 4	On 3.6 - 3.9
Feb. 8 M	Lec. 15	4.1 Linear approximations and applications HW : 10, 13, 26, 32, 35, 46, 48, 54, 57, 60
Feb. 10 W	Lec. 16	4.2 Extreme values HW : 1, 2, 8, 13, 19, 24, 32, 41, 48, 56, 61, 64, 69
Feb. 12 F	Lec. 17	4.3 The mean value theorem and monotonicity HW : 4, 10, 24, 31, 36, 42, 50, 54, 62, 64
	Quiz # 5	On 3.10, 3.11, 4.1
Feb. 17 W	Lec. 18	4.4 The shape of graph HW : 2, 3, 4, 6, 9, 15, 18, 22, 27, 33, 43, 49, 50
Feb. 19 F	Lec. 19	4.5 Graph sketching and asymptotes HW : 17, 25, 31, 35, 43, 50, 53, 55, 57, 62, 68, 72, 73, 82, 91
	Quiz # 6	On 4.2, 4.3, 4.4
Feb. 22 M	Lec. 20	4.6 Applied optimization HW : 7, 9, 10, 12, 24, 27, 30, 34, 40, 41, 46
Feb. 24 W	Lec. 21	4.7 L'Hôpital's rule & 4.9 Antiderivatives HW 4.7 : 8, 12, 15, 16, 21, 26, 28, 31, 35, 43, 48, 52, 64 4.9 : 9, 10, 11, 12, 25, 29, 39, 41, 43, 51, 57, 62, 67, 70
Feb. 26 F	Lec. 22	**Midterm II** (in class) 3.6 - 4.7
Mar. 1 M	Lec. 23	5.1 Approximating and computing area HW : 5, 9, 31, 33, 35, 39, 41, 45, 53, 63, 69, 73, 76
Mar. 3 W	Lec. 24	5.2 The definite integral HW : 6, 7, 10, 14, 15, 27, 56, 57, 58, 59, 61, 71, 73
Mar. 5 F	Lec. 25	5.3 The Fundamental Theorem of Calculus, part I HW : 7, 10, 19, 22, 25, 31, 35, 38, 41, 44, 49, 57
	Quiz # 7	on 4.6, 4.7, 4.9
Mar. 8 M	Lec. 26	5.4 The Fundamental Theorem of Calculus, part II HW : 4, 11, 14, 20, 24, 27, 30, 33, 40, 42
Mar. 10 W	Lec. 27	5.5 Net or total change as the integral of a rate HW : 6, 10, 15, 17, 23
Mar. 12 F	Lec. 28	Review