

MATH 331 L01 Winter 2005

Instructor: Jędrzej Śniatycki, MS 420. Office hours: by appointment.

Text: Robert Adams, *Calculus: a complete course*. Fifth edition, Pearson Education Canada, Toronto, 2003.

Quizzes: There will be 6 quizzes given in labs. Credit of 30% will be given for 5 best quizzes.

Detailed Lecture Schedule

Day	Date	Topic	Chapter
Tuesday	Jan. 11	Functions of several variables	12.1
Thursday	Jan. 13	Limits and continuity	12.2
Tuesday	Jan. 18	Partial derivatives	12.3
Thursday	Jan. 20	Higher derivatives	12.4
Tuesday	Jan. 25	The chain rule	12.5
Thursday	Jan. 27	Differentiability	12.6
Tuesday	Feb. 01	Gradients	12.7
Thursday	Feb. 03	Implicit functions	12.8
Tuesday	Feb. 08	Taylor series	12.9
Thursday	Feb. 10	Extreme values	13.1
Tuesday	Feb. 15	Extreme values, Lagrange multipliers	13.2-13.3
Thursday	Feb. 17	Review	
Tuesday	Feb. 22	READING WEEK	
Thursday	Feb. 24	READING WEEK	
Tuesday	Mar. 01	MIDTERM (in class)	
Thursday	Mar. 03	Double and iterated integrals	14.1-14.2
Tuesday	Mar. 08	Polar coordinates	14.4
Thursday	Mar. 10	Triple integrals	14.5
Tuesday	Mar. 15	Cylindrical and spherical coordinates	14.6
Thursday	Mar. 17	Vector fields	15.1-15.2
Tuesday	Mar. 22	Line integrals	15.3-15.4
Thursday	Mar. 24	Surface integrals	15.5
Tuesday	Mar. 29	Flux integrals	15.6
Thursday	Mar. 31.	Gradient, divergence and curl	16.1-16.2
Tuesday	Apr. 05	Green's theorem in the plane	16.3
Thursday	Apr. 07	Gauss' theorem in 3-dimensional space	16.4
Tuesday	Apr. 12	Stokes' theorem	16.5
Thursday	Apr. 14	Review	

Labs, Recommended Problems and Quizzes

Labs will begin in the second week of classes, January 17. Recommended problems, taken from the exercise sections of the text, should be attempted by students **before** the following lab. During each lab, the Instructor will answer questions about recommended problems, solve some problems on the blackboard and administers the quiz, if one is scheduled.

Students are encouraged to do all the problems in the relevant section of the text.

Week of		Recommended problems for the following week
Jan. 10	No Labs	12.1: 21, 24, 25, 27, 28; 12.2: 3, 5, 6, 14, 15.
Jan. 17	Quiz 1	12.3: 4, 6, 17, 23, 24; 12.4: 5, 6, 13, 16, 17.
Jan. 24		12.5: 15, 16, 19, 24, 31; 12.6: 2, 6, 7, 13, 14.
Jan. 31	Quiz 2	12.7: 4, 5, 7, 16, 28; 12.8: 3, 13, 15, 16, 26.
Feb. 07		12.9: 1, 5, 6 13.1: 1, 2, 4, 14, 16, 17, 19.
Feb. 14	Quiz 3	13.1: 23, 24; 13.2: 2, 7, 13; 13.3: 1, 2, 4, 6, 22.
Feb. 21	No Labs	Reading days
Feb. 28		14.2: 5, 8, 9, 12, 13, 15, 18, 19, 29, 30.
Mar. 07	Quiz 4	14.4: 1, 3, 10, 14, 28; 14.5: 1, 5, 11, 14, 15.
Mar. 14		14.6: 3, 13, 14, 15, 17; 15.1: 4, 15, 17; 15.2: 7, 9.
Mar. 21	Quiz 5	15.3: 1, 3, 8, 11, 15; 15.4: 6, 8, 10, 16, 22.
Mar. 28		15.5: 3, 7, 13, 16, 17; 15.6: 1, 6, 7, 11, 13.
Apr. 04	Quiz 6	16.1: 3, 6, 9; 16.2: 11, 13; 16.3: 2, 3, 4, 5, 7.
Apr. 11		16.4: 5, 10, 11, 13, 14; 16.5: 1, 3, 4, 5, 6.