

## MAT 187H1F CALCULUS II: COURSE INFORMATION

April 29, 2008

MAT187H1F is the direct continuation of MAT186H1S, and uses the same book. We will do most of Chapters 7, 8 and 10, plus selected sections of Chapters 9, 11 and 12. (Chapters 13 and 14 represent the core material of Calculus III, should you ever have to take such a course.) Note: the material on vectors in Sections 11.1 to 11.4 is the same as material covered in MAT188H1F/S, and will *not* be repeated in MAT187H1F.

**Lectures:** The instructor is D. Burbulla; office: SF B670; email: burbulla@math.utoronto.ca

**Tuesday:** 12-2 PM in BA1180

**Wednesday:** 1-3 PM in BA1180

**Friday:** 2-4 PM in BA1180

**Exceptions:** BA1180 will not always be available. On Friday, May 23 the lecture will be in BA1190; on Tuesday, May 27 the lecture will be in SF1105.

**Office Hours:** Tuesdays: 2-3 PM; Wednesdays: 12-1 PM; Fridays: 12-2 PM

**Tutorials:** In addition to lectures you should attend the tutorial each Friday, 4-6 PM, in SF3201/3202. Whether or not we use both rooms depends on the number of students in the course.

**Textbook:** The textbook for this course is Edwards & Penney's *Calculus*, 7th edition, Early Transcendentals Version. This book is available in the textbook store, should you need it. Most students should already have the book.

**Marking Scheme:** Term test 1: 20% Term test 2: 20% Quizzes: 5% Final Exam: 55%

**Quizzes:** 15 min quizzes are scheduled for Friday May 9th, May 16th, May 30th, June 13th and June 20th.

**Tests:** There will be 90 min tests in tutorial on Friday, May 23rd and Friday, June 6th. This is to be confirmed.

**Final Exam:** The final exam will be scheduled during the week of June 23-27.

**Websites:** <http://www.math.utoronto.ca/burbulla/> and click on MAT187H1 Calculus II which will connect you to the MAT187 Information. The old tests, quizzes and exams come from previous versions of MAT 187, both winter or summer.

We will also use the website for MAT187H1F on the portal, to post marks and make announcements.

**Course outline, with suggested homework problems:** The following outline is only approximate; we may become slightly behind or ahead of schedule in lectures.

Date	Topic	Section	Suggested Exercises
May 6	Hyperbolic Trigonometry Substitutions & Integral Formulas	Sec 6.9	#3,11,17,19,27,33,41,47,55,69
		Sec 7.2	#9, 13, 15, 17, 19, 25, 27, 29, 33, 49
May 7	Integration by Parts Trigonometric Integrals	Sec 7.3	#3, 7, 9, 20, 21, 23, 35, 41, 51, 57
		Sec 7.4	#1, 7, 13, 17, 27, 31, 43, 47, 57, 59
May 9	Trigonometric Substitutions;	Sec 7.6	#3, 9, 19, 23, 27, 31, 33, 47, 49, 51
May 13	Partial Fractions	Sec 7.5	#5, 7, 9, 13, 21, 23, 25, 35, 39, 51
May 14	Quadratic Expressions Improper Integrals	Sec 7.7	#3, 5, 9, 13, 17, 19, 21, 33, 47, 49
		Sec 7.8	#5, 7, 19, 25, 31, 37, 45, 47, 53, 61
May 16	Differential Equations Slope Fields (skip Euler's method)	Sec 8.1	#5, 7, 13, 19, 23, 31, 36, 37, 41, 43
		Sec 8.2	#1, 3, 5, 7, 9
May 20	Separable Equations Linear Equations	Sec 8.3	#3, 7, 9, 11, 15, 19, 23, 27, 32, 39
		Sec 8.4	#3, 5, 11, 15, 19, 23, 27, 31, 33, 43
May 21	Population Models Linear Second-Order DE's	Sec 8.5	#3, 5, 9, 15, 17, 19, 21, 27, 29, 33
		Sec 8.6	#3, 7, 11, 15, 19, 21, 25, 27, 29, 33
May 23	Mechanical Vibrations	Sec 8.7	#3, 5, 7, 9, 21, 27
May 27	Polar Coordinates Areas within Polar Curves	Sec 9.2	#7, 15; #25-63 odd
		Sec 9.3	#5, 9, 15, 17, 19, 21, 23, 27, 29, 35
May 28	Parametric Curves Integrals and Parametric Curves	Sec 9.4	#5, 9, 13, 15, 17, 19, 25, 27, 29, 31
		Sec 9.5	#5, 11, 13, 19, 25, 27, 33, 35, 43, 47
May 30	Curves in Space Length in 3 Dimensions (p. 865)	Sec 11.5	#9, 13, 17, 21, 31, 45, 49, 51, 55, 65
		Sec 11.6	#1, 3, 5
Jun 3	Infinite Sequences and Series	Sec 10.2	#11, 19, 27, 29, 35, 41, 45, 49, 53, 59
		Sec 10.3	#7, 9, 11, 19, 25, 31, 47, 51, 65, 69
Jun 4	Taylor's Theorem	Sec 10.4	#5, 7, 13, 19, 23, 27, 29, 31, 33, 37
Jun 6	Integral Test	Sec 10.5	#5, 7, 13, 15, 19, 29, 37, 39, 43, 45
Jun 10	Comparison Tests Absolute Convergence	Sec 10.6	#5, 11, 17, 19, 21, 27, 31, 35, 39, 41
		Sec 10.7	#1-37 odd; #43, 45, 51, 53, 59
Jun 11	Power Series Computations with Power Series	Sec 10.8	#3-25 odd; #31-53 odd
		Sec 10.9	#1, 5, 13, 19, 25, 31, 35, 41, 45, 49
Jun 13	Functions of Two Variables Partial Derivatives	Sec 12.2	#5, 7, 25, 27, 33, 35, 41, 43, 53, 55
		Sec 12.4	#7, 11, 15, 27, 35, 37, 55, 58, 63, 65
Jun 17	Critical Points and The Second Derivative Test	Sec 12.5	#15, 19, 31, 37, 43, 45, 51, 55, 57, 60
		Sec 12.10	#5, 7, 11, 15, 17, 21, 23, 25, 29, 33
Jun 18	Review		
Jun 20	More Review		