Department of Mathematics, University of Manitoba
MATH 1700 Calculus 2, 2013 Winter Term
Information for Students

You must have passed MATH 1500 or an equivalent to take this course.

Text and reference material:

James Stewart, **Calculus, Early Transcendentals, Metric International Version,** (6th edition), Brooks/Cole. The fifth edition is acceptable, but the chapter sections and exercises are different.

There is an optional student solutions manual available.

Evaluation: You will be graded on a *midterm test, tutorial quizzes,* and a *final exam* .

The **midterm test** will be held Thursday, February 28, 2013 from 6:00 pm to 7:00 pm at locations to be announced later. The test accounts for **30%** of your final mark. Deferrals will be granted only for the usual reasons that the University accepts to justify absence from a final exam; appropriate documentation must be provided to support your request. There are no "supplemental" exams.

You must be registered in and attend one of the tutorial sessions ("labs") associated with your lecture session. Tutorials begin on Monday, January 14, 2013. As well as worked examples and the opportunity to receive help with questions, there will be five **tutorial quizzes** at dates to be announced during the lectures. The scores on the best four out of five of these quizzes will account for **10%** of your final mark. There are no deferred or supplemental quizzes.

There will be a formal two-hour final exam in the April examination period (April 12 - 26). This exam will cover all the material of the course. This exam will account for **60%** of your final mark. A total mark of 60% on all three components will guarantee a C; a mark of 85% will guarantee an A.

However, regardless of your term work marks, you must score at least 40% on the final exam to receive a letter grade of "C" or higher.

Help Centre: The **Mathematics Help Centre** is located in 318 Machray Hall.

Voluntary Withdrawal:

The last date for voluntary withdrawal without academic penalty is **Wednesday, March 20, 2013.**

Calculators, etc: No texts, notes, calculators, cell-phones, personal music devices, or any other references or electrical/mechanical aids are permitted at the quizzes, midterm test or final exam.

Department of Mathematics Statement on Academic Dishonesty

The Department of Mathematics, the Faculty of Science and the University of Manitoba each regard acts of academic dishonesty in quizzes, tests, examinations or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include bringing unauthorized materials into a test or exam, copying from another student, plagiarism and examination personation.

Students are advised to read section 8 (*Academic Integrity*) and section 5.2.9 (*Examinations: Personations*) in the *General Academic Regulations* of the current Undergraduate Calendar. *Note, in particular, that cell phones and pagers are explicitly listed as unauthorized materials, and hence may not be present during tests or examinations.*

Penalties for violation include being assigned a grade of zero on a test or assignment, being assigned a grade of "F" in a course, compulsory withdrawal from a course or program, suspension from a course/program/faculty or even expulsion from the University. For specific details about the nature of penalties that may be assessed upon conviction of an act of academic dishonesty, students are referred to the University's *Student Discipline Bylaw.* All students are advised to familiarize themselves with this Bylaw, which is available through the Office of the University Secretary or on-line:

(http://umanitoba.ca/admin/governance/governing_documents/students/868.htm)

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report incidents of academic dishonesty to the Head of the Department.

A list of the minimum penalties assessed for acts of academic dishonesty is available on the Faculty of Science web page; see:

(http://umanitoba.ca/faculties/science/resources/Acad_Dishon_TABLE_RevCSS_AdminC_Jul2012_WEB.pdf)

MATH 1700 Calculus 2, 2013 Winter Term

Topics and Suggested Questions:

For a range of questions, do the *odd-numbered* questions only, unless otherwise specified, by either "(all)", or listing even numbers. The even-numbered exercises do not have solutions in Appendix I or the Student's Solutions Manual. *The review sections at the end of each chapter are highly recommended also.*

Section	Pages	Topics	Suggested Questions	
4.4	298–304	L'Hôpital's Rule	304	1–21, 25, 29–61
10.1	621–626	Curves defined by Parametric Equations	626	1–15, 19, 21
10.2 (partial)	630–632	Parametric Equations: Tangents	636	1–7, 11–17, 29
10.3	639–647	Polar Coordinates	647	1–27, 29–42 (all), 57–65, 69
App. E	A34–A37	Summation Notation (reference for §5.1 and §5.2)	A38	1–9, 11–19, 21–35, 43, 45
5.1	354–363	Areas and Distances	364	3, 4, 5, 17, 19, 20, 21, 22
5.2	366–376	The Definite Integral	376	1–5, 17–21, 33, 43, 45, 69, 70
5.3	379–387	The Fundamental Theorem of Calculus	387	3–35, 41, 53–58 (all), 63, 65
5.4	391–396	Indefinite Integrals	397	1, 4, 5–11, 15, 17, 21–37, 43, 47–61
5.5	400–406	The Substitution Rule	406	1–39, 43, 49–67, 81
6.1	414–419	Areas between Curves	420	1–23, 45, 49
10.2 (partial)	632–633	Area and Parametric Curves	636	31–35, 36(a)
10.4 (partial)	650–652	Areas in Polar Coordinates	653	1–7, 17–27
6.2	422–430	Volumes (general; Discs and Washers)	430	1–35, 49, 50, 51, 57–63 (all)
6.3	433–436	Volumes (Cylindrical Shells)	436	3–25, 37–45
Midterm Test, Thursday, February 28, 2013 6:00 pm – 7:00 pm				
1.6 (partial)	67–70	Inverse Trigonometric Functions	70	59–68 (all)
3.5 (partial)	211–213	Derivatives of Inverse Trig Functions	214	45–54 (all), 55, 56 (derivatives only; no graphs)
7.1	452–457	Integration by Parts	457	1–35, 57, 59
7.2	460–465	Trigonometric Integrals	465	1–47, 56, 57, 61, 63
7.3	467–472	Trigonometric Substitution	472	1–29, p. 388 #38, p. 420 #25
7.4	473–481	Partial Fractions & Rational Functions	481	1–31, 35, 39, 41, 47, 55, 63
7.5	483–488	Strategies for Integration	488	As many as possible!
7.8	508–515	Improper Integrals	515	1–33, 37, 41, 49–55 (all), 57, 63
8.1	525–530	Arc Length	530	1–17, 33
10.2 (partial)	633–635	Arc Length of Parametric Curves	636	37–44 (all), 53
10.4 (partial)	652–653	Arc Length of Polar Curves	654	45–48 (all)
8.2	532–537	Surface Area	537	1–7, 11–15, 25, 26
10.2 (partial)	635–636	Surface Area and Parametric Curves	637	59–61 (all)