Fall 9-1-2000

MATH 152.04: Calculus I

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Math 152, §4   Calculus I — Fall 2000   Mr. Lane

text: *Calculus: A New Horizon*, Brief 6$^{\text{th}}$ edition, ©1999 — Howard Anton

graphing calculator: TI–86   or   TI–83 plus
TI–83/82/85/81 or HP–48 are ok if you already own, otherwise buy a TI–86 or TI–83 plus.

office	Math 203
office hours	10:10–10:50 AM and 1:10–1:50 PM on Mon, Tues, Wed, Fri
	& by appointment
office phone	243–5207 (voice mail after 4 rings)
e–mail	lane@selway.umt.edu
	Messages received M–F by 5 pm will usually have a reply sent by 7 pm.
URL for class	http://www.math.umt.edu/~lane/152/
study room	Math 212
	That is the Math Student Lounge; it is open 7am–8pm, Monday–Friday.

Your course grade will be based upon your performance on the following items — maximum total points listed on the right:

three mid-term exams	300
computational proficiency (differentiation skills) exam	100
two-hour final exam	200
homework & quizzes for first half-semester (thru 27-Oct)	100
homework & quizzes for second half-semester (after 27-Oct)	100
projects — best work on several with max possible total of 200 points	200

The lowest 100-point item (e.g., one mid-term exam or a half-semester homework+quiz score or half of final-exam score or score on two short projects or on one long project) will be dropped — the maximum adjusted total is 900.

An individual's letter grade for this course will be assigned roughly as follows (values are percentages of adjusted total):
  90–100 %: A;   80–89 %: B;   65–79 %: C;   55–64 %: D;   below 55 %: F.
Grades are based on demonstrated achievement, not quotas (i.e., grades will not be "curved").

important dates for section 4 of Math 152:   56 class sessions

8 Sept	Fri	Are you ready for calculus? Take-home exam on algebra & functions
		This "gateway exam" is for advice; does not count toward course grade.
25 Sept	Mon	last day to add a class or to drop a class with a refund
29 Sept	Fri	exam # 1
16 Oct	Mon	last day to drop a class or to change grading option
27 Oct	Fri	exam # 2 — tentative date
3 Nov	Fri	tentative date for first taking of computational proficiency exam
22–24 Nov	W–F	Thanksgiving Break (**21-Nov & 27-Nov are not vacation!**)
8 Dec	Fri	exam # 3 — tentative date
18 Dec	Mon	final exam (comprehensive), 8:00 am – 10:00 am

The core of our study of Calculus I will explore chapters 2–7; selected topics from chapter 1 will also be discussed. Each student must plan to study the text regularly. Read actively (with pencil & paper): • check assertions; • treat text examples as worked problems — read statement but not solution, try to solve, compare your work with text's; • examine concrete examples of general ideas; • write informal translations of theoretical statements; • write formal translations of intuitive ideas. Additional material and alternative approaches will be presented by classroom lectures or documents published on the class web-site.

Students will have the option of using computer software, Maple, to compute symbolically or numerically, to graph functions, and to write documents which include computations, plots, and prose. (Some class meetings will be held in a computer lab to do mathematical explorations using Maple. Maple is available for student use in several campus computer-labs, Windows & Macintosh.)

Reading and problem assignments will be given for each class. You should plan on studying calculus at the rate of 8–12 hours per week; a regular pace of 1.25–1.75 hours per day (daily, Sunday through Saturday) is recommended.

For some homework assignments, a few problems will be specified to be written-up, handed-in at the start of the next class, graded and returned. Write legibly on regular size paper (8.5"×11", not torn from spiral notebook); fold vertically; with the fold to the left, print your name at the top. Short quizes will be given once or twice per week (most Tuesday classes will include a quiz). Late homework will not be accepted and quizes can not be made-up.

Most class sessions will include discussion of some homework problems. As you arrive prior to the start of a class, you may vote (on the side-board) for homework problems to be discussed during that class. Similarly, I will solicit daily suggestions for one problem to have its solution published on the class web-site. I will explain this during our first class meeting.

Several exams will be given to let you demonstrate your understanding of concepts and applications. I will usually provide a sample exam prior to an in-class mid-term exam. You will usually be allowed to use your graphing calculator wherever you consider it appropriate. [**Exception**: a calculator with symbolic features (e.g., a TI-92 or TI-89 or HP-48) will not be allowed on in-class exams; those who use such a calculator may borrow a TI-85 or TI-82 for use during an exam. See me in advance to arrange this.]   Some exams may have a take-home component or allow the use of a card of notes.

Mastery of routine computational skills using just your mind, plus pencil and paper, is important — chapters 3 & 4 present several crucial procedures for symbolic computations. A "computational proficiency" exam will test fundamentals of using those procedures; it will be given after we finish studying chapter 4. Neither technology nor notes will be allowed for this skills exam. Passing score on this "skills" exam will be at least 9 of 10 problems answered correctly. The computational proficiency exam may be retaken (with different problems) until a passing score is achieved. Re-tests will be done outside class, at arranged occasions (without a time restriction, but at most once per day), until a passing mark is earned (i.e., score will be 100, 90, or 0). The last day to retake the computational proficiency exam is three "course-weeks" after it is first given. (E.g., if first date is 3–Nov, then last is 29–Nov.)

Several extended, open-ended projects will be assigned. Some projects will be worth 50 points and must be completed within a two-week period; others will be worth 100 points and will allow four weeks for work. Each individual can choose which projects to attempt — the best will be considered for purposes of course grade. Furthermore, there will be an option of working in small groups (no more than three in a group) on any of the 100-point projects.