MATH 122 Section 1
University Calculus I
Fall 2009

Instructor: Jonathan Cox
Office: 228 Fenton Hall
Office Phone: 673-3874

Office hours*: 11-12 M Tu W F; 2-3 W
E-mail†: Jonathan.Cox@fredonia.edu
Course Web Page: http://www.fredonia.edu/faculty/math/JonathanCox/calculus/

* While these are the official office hours, I am available at other times as well. If you want to meet at a
time outside of office hours, the best option is to set up an appointment with me. You can also just drop
by any time, but you may want to call/email/IM first to see if I’m there.
† You can also instant message me on AOL at JonathanCox1975 —see the course web page. (Disclaimer:
I am not at my computer 24 hours a day!)


Technology. 1) A TI-eightsomething graphing calculator is strongly recommended. The particular
model (83, 84, 86, or 89) is not important. (Calculators might not be allowed on certain assessments,
and, when they are, you will still be required to show work.)
2) You must get access to your WebAssign account—see the course web page.

Prerequisite. MATH 106 (University Precalculus) or four years of college preparatory mathematics.

Catalog Description. Functions, inverse functions, limits, continuity, derivatives, indeterminate forms,
antiderivatives; applications to rectilinear motion, graphing, maxima-minima, related rates;
computational technology. Credit will not be given for both MATH 120 and MATH 122.

This course satisfies the Mathematics/Quantitative Reasoning requirement of the College
Core Curriculum.

Course objectives. The purposes of this course for the student include (1) Developing an
understanding of the fundamental definitions and concepts of differential calculus, (2) Developing
computational skills in differential calculus, (3) Improving reasoning, critical thinking, and
problem-solving skills, (4) Sampling some of the many application areas of continuous mathematics, (5)
Acquiring an appreciation of the concepts that form the foundation of twenty-first century science and
technology, and (6) Learning to communicate mathematical ideas, arguments, and results. Strong
communication skills are crucial in most mathematics-intensive vocations. We will place
special emphasis on clear communication of mathematical ideas.

Expected results. Our course web page includes a link to the departmental master syllabus for MATH
122. See the “Objectives” section of this master syllabus for a list of abilities you should expect to
develop and concepts you should expect to learn by the end of this course. This is more detailed and
extensive than the list of course objectives given above.
Content and Methodology. The course will cover the material in the first four chapters of the text. Typically, we will cover a section of the text in one to two meetings. The beginning of each class period will be reserved for discussion of the homework and other questions. Up to 1/3 of the period may be used for this purpose. Most of the remaining time will be used for presentation of new material. Sometimes the instructor will lecture. At other times students will present examples. Students are encouraged to ask questions and make relevant comments at any time. There will be brief quizzes, as well as group work and some other fun activities to whatever extent possible.

Homework and quizzes. Homework will be assigned from each section. **Do the homework! How well you do in the class is directly related to how much homework you do. If you don’t do the homework, you probably won’t pass.** It is also to your advantage to ask questions about homework problems that give you difficulty. You might also find it helpful to read the sections in the textbook.

Your completion and understanding of the homework will be assessed regularly. In particular, you will be asked to submit answers to selected problems on WebAssign, an online homework system. At times I might also specify one or more exercises for you to turn in on paper. In addition, there will be quizzes during class about once per week on average. (Some weeks might have two quizzes.) Material for a given quiz will be drawn from one or more of the following sources:

1. Material discussed in our class meetings since the previous quiz,
2. Problems taken directly from regular homework assignments (not WebAssign),
3. Problems very similar to (and often easier than) ones on the regular homework,
4. Examples presented in class by students. (See the “Presentations” section below.)

Quizzes will usually be announced, but may occasionally be unannounced, and you will typically have between 3 and 15 minutes to complete each quiz depending on its length. At the instructor’s discretion, quizzes missed due to serious and unavoidable circumstances may be made up. (If you expect to have an excused absence, see me about taking the quiz early.) Each student’s lowest quiz score for the semester will be dropped.

Some projects and other special assignments might also be collected and graded. Due dates for all assignments will be specified, and no late work will receive full credit, except in the case of an excused absence on the due date. (See the Attendance Policy section below.) I define work to be *late* if it is handed in after the beginning of the class period following the due date. Late work can still be handed in and graded, but will receive credit for only 50% of the points earned. However, no late work may be handed in after the last day of class or more than two weeks after the original due date.

Comments will always be provided on collected work, but some problems might be graded on completion rather than in detail for correctness. I recognize the importance of timely feedback on your work, and will endeavor to return all graded material to you within one week. **If it takes me longer that one week to return any item, I will add one point to the scores of everyone who submitted the item for each additional day that it takes me to return it.** (This arrangement does not apply to presentations.)

Exams. The purpose of the exams is to determine your level of mastery of the concepts of the course. They will test not only your ability to memorize, but also your ability to think. There will be three 50 minute in-class exams and a 120 minute comprehensive final examination. The tentative dates of the in-class examinations are October 2, November 4, and December 2. The final exam will be given on Monday, December 14, at 8:30am.
Normal make-up exams will be given only in serious and unavoidable circumstances, or in the event of an excused absence, and only if your request to make up an exam is approved by the instructor in advance or as soon as reasonably possible. Make-up exams must be taken within three class periods following the day of the exam. If these conditions are not satisfied, it is understood that the opportunity to make up the examination at that time is voided.

Presentations. Each student will be expected to present two predetermined examples to the class during the semester. Students will sign up for an example in advance and then receive a list with all the example statements for that round. Tentative dates will be included. Presenting involves demonstrating the use of newly introduced concepts to the other students and hence carries the significant responsibility of teaching the class. Presenters are strongly encouraged to discuss their examples with the instructor before presenting. Presentations will be graded on numerous factors, including pace, clarity, boardwork, verbal commentary, completion, and creativity, in addition to mathematical correctness. Each presentation is worth 25 points.

Observing a presentation also involves serious responsibility. All students are urged to look over and attempt all examples before they are presented in class. Students in the audience should listen attentively to the presenter, ask questions about anything that is unclear, and (if comfortable doing so) point out mistakes made by the presenter. Feel free also to comment on anything relevant that you noticed or found interesting about the example, as this can add a valuable perspective for the rest of the class. The student presentations are a crucial component toward understanding the course concepts. During the semester at least three quiz problems and three exam problems will be taken directly from student presentations!

Grading and Evaluation. Performance in this course will be evaluated on a percentage system. Your average on the regular exams will constitute 45% of the final grade, so that each exam will individually be 15% of the grade. Example presentations and observations will determine 8% of your grade. Quizzes will account for 12% of the grade, and the online homework via WebAssign will be lumped into one category with any other homework and projects to make up another 15% of the grade. The remaining 20% of the grade will be determined by the final exam. At the end of the course, your cumulative average (AVE) will be computed as follows.

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\begin{align*}
E &= \text{Exam average} \\
F &= \text{Final exam percentage} \\
P &= \text{Presentation average} \\
W &= \text{WebAssign and other homework average} \\
Q &= \text{Quiz average} \\
AVE &= .45E + .20F + .08P + .15W + .12Q
\end{align*}
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During the semester, averages will be posted and regularly updated on ANGEL. Letter grades will be assigned as follows based on a student’s final percentage:

- 93 and above=A; 90-92=A–; 87-89=B+; 83-86=B; 80-82=B–;
- 77-79=C+; 73-76=C; 70-72=C–; 67-69=D+; 63-66=D; 60-62=D–; below 60=F.

The instructor reserves the right to lower the grade ranges. The grade ranges will not be raised.

Attendance Policy. We will follow the SUNY Fredonia attendance policy. (See the 2009–2010 University Catalog, http://www.fredonia.edu/catalog/index.htm.) Attendance is crucial to success in this course. You probably won’t pass if you do not attend regularly. Learning calculus is a cumulative experience. If you miss class even once, you might have difficulty catching up. If you must be absent, please notify the instructor ahead of time. An attendance sheet will be passed around each time the class meets. It is your responsibility to sign this sheet each period in order for your attendance to be
Work missed during an absence can be made up if the absence is determined by the instructor to be an excused absence. Your absence will be excused if you are participating in a university-sponsored program, exercising religious beliefs, hospitalized, or attending the funeral of a relative. Other absences due to unavoidable circumstances may also be excused at the discretion of the instructor. Appropriate documentation for an excused absence must be provided to the instructor within three days of returning to classes.

**Special Accommodations.** “It is the responsibility of students with disabilities to identify themselves by notifying the Coordinator of Disability Support Services for Students.... For specific information about services and facilities for students with disabilities, students should contact: Adam Hino, coordinator of Disability Support Services for Students, Reed Library (fourth floor), by telephone at (716) 673-3270, by TTY at (716) 673-4763, or by email at disability.services@fredonia.edu” (2009–2010 University Catalog). See also www.fredonia.edu/tlc/DSS/dss.htm.

**Withdrawal Policy.** The drop and withdrawal policy for this course will be that of the University. (See the 2009–2010 University Catalog.) IT IS YOUR RESPONSIBILITY TO KNOW AND COMPLY WITH ALL DEADLINES. The last day to DROP this course is **Friday, August 28**. The last day to WITHDRAW from this course is **Friday, October 30**. The last day to completely withdraw from the university is **Monday, November 30**.

**Academic Integrity.** Each student is expected to “support and abide by all provisions of the ... Academic Integrity Policy” (2009–2010 University Catalog). While we will follow this policy, more details are given below regarding what behavior is or is not allowed in this class. Please ask if at any time it is unclear whether some action is or is not allowed.

You are encouraged to work together on homework and in learning the material. While working with another person or in study groups is permitted, **all written work submitted for individual assignments must be your own**. The principle here is simple: *Under no circumstances and in no way should you ever copy any part of anyone else’s work and present it as your own.* Whether discussing hand-in homework with a group, comparing solutions with a friend, or getting help from a tutor, do not take any paper away with you—in other words, you can share your thoughts (say on a blackboard), but you have to walk away with only your understanding. In particular, write the solution up on your own. No collaboration is allowed on exams. In cases where work appears to be copied, I will invite the students involved to my office to explain the relevant material to me. A student who cannot explain his or her work adequately or who fails to present an explanation will lose points or receive a grade of zero on the assignment in question. Ultimately, *in order to be successful in learning the material and preparing for the examinations, you need to try to work out assigned problems yourself as much as possible.* Otherwise you are cheating yourself.

**SUNY Fredonia Counseling Center.** LoGrasso Hall; Phone: 673-3424; www.fredonia.edu/counseling Services are free and confidential.

**Daily schedule.** A tentative daily schedule for this course is available online at http://www.fredonia.edu/faculty/math/JonathanCox/calculus/schf09.pdf.

Any changes to this syllabus will be communicated in class by the instructor.