

Math 123 Calculus I

Spring 2009

4 credits

SDSM&T

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Math Dept: M 308 (394-2471)

Lecture Hours: Section 004: 1:00 pm – 1:50 pm, MTWF, CB 309
Section 005: 2:00 pm – 2:50 am, MWThF, CB 106

Required Text: Calculus with Analytic Geometry, Eighth Edition,
Larson, Hostetler, and Edwards

Required PC: A Tablet or Laptop PC with access to DyKnow and Maple

WebCT Site: <https://d2l.sdbor.edu/index.asp>

Office Hours: 4:00pm-4:50pm, MTThF or by appointment.

Click [here](#) to see my schedule. Feel free to stop by my office at other times as well. If you're having trouble finding me outside of class, talk to me just before or after class or send me an email. I will find a time that works for both of us!

Course description: Differentiation, antidifferentiation, and integration of algebraic and trigonometric functions with applications in each area. Specifically, we will cover chapters 1,2,3,4, and 7 from the text. We may skip some sections of Chapter 7.

Prerequisites: College Algebra and Trigonometry (Trigonometry may, in some cases, be taken concurrently.)

College Algebra is satisfied by :

- Math 102 with a grade of "C" or better, or
- An acceptable score on the Algebra Placement Exam

Trigonometry is satisfied by

- Math 120 with a grade of "C" or better, or
- An acceptable score on the Trigonometry Placement Exam, or
- Concurrent enrollment in Math 120 (Concurrent enrollment in is not allowed for students whose Trigonometry Placement Examination scores fall below an established minimum.)

Technology Skills: Students must have a moderate level of computer literacy, i.e., be capable of producing documents using software such as MS Word, navigating the Web, and using e-mail. The online course management system Desire2Learn is an integral/required part of this course. Students unfamiliar with Desire2Learn will be given training during the first week of classes. Furthermore, homework and occasional quizzes will be collected and graded using WebAssign. Information regarding access to and use of WebAssign will be provided during the first full week of class, but be note that there is an additional fee of ~\$16.

Instructional Methods: This course will be primarily lecture/discussion. Time will be allowed at the beginning of most days to answer a few questions before presenting new material. You will get the most out of the class time if you read the assigned section BEFORE class.

Quick Questions, Homework, Quizzes and Gateways:

- Most class days will begin with a 'Quick Question' available on DyKnow. They will usually be a short-answer question over the material **to be lectured** on that day. You are expected to read the section to be covered in class BEFORE class. Check the Desire2Learn calendar to keep up with current reading assignments. Each class meeting's Quick Question will be worth one point if you answered it, zero if you did not. Any reasonable attempt at an answer will receive credit.

- Homework will be assigned almost every day. Though I will only occasionally collect and grade homework, **it will be difficult to succeed in this course without doing at least all of the assigned exercises.** Mathematics is learned by doing, not watching. If you can, I highly recommend getting together with other members of the class to work on the homework assignments.
- Each week there will be some homework and perhaps a quiz to be completed on WebAssign.
- There will be two "Gateway Exams", one on differentiation and one on integration. Each exam will be given once during class and graded on an all or nothing basis (no partial credit). A "Pass" is achieved by getting all the problems correct. Up to 4 retakes will be allowed. **Failing to pass either gateway exam will mean that the highest possible grade for the course which can be earned is a D.**

Exams: Three hour long exams will be given. Exam 1 will be **February 11th**, Exam 2 will be **March 4th**, and Exam 3 will be **April 8th**. Each of these exams will be given during regular class time.

Makeups: If you must miss a test or quiz or hand in an assignment late for a legitimate reason AND you notify me before the exam/due date, I will gladly give you a makeup or waive the late penalty. **If you do not notify me ahead of time, I will not give you a makeup exam/assignment.** There are many ways to get a hold of me or leave a message (email, office phone, Math Dept phone) Do not expect to make up for missing assignments by doing extra work at the end of the semester. Quizzes may be made up by appointment. Exams will be made up on the last day of the semester or the student may opt to have the final exam count for more points.

Final Exam: The final is scheduled for May 7th, 7:00 - 8:50am. Please note that the department has a strict **No Early Finals** policy so make any travel plans accordingly.

Grading:	Quizzes, Homework, WebAssign, etc.	~150 pts
	3 in-class exams @ 100 points each	300 pts
	Comprehensive Final Exam	200 pts
Total:		~650 pts

All points carry the same weight. Course grades will be determined according to the following percentage scale:

90-100 A 80-89 B 70-79 C 60-69 D 0-59 F

It is possible that this standard may be lowered, but it will not be raised.

Keys to Success: The keys to success are simple concepts, but are important enough to state.

- Attend and participate in class.
- Keep up with the homework and the lecture.
- Read the text.
- If you don't understand something then **ask questions**; come to office hours.
- Set aside plenty of time to study for exams.

Class rules:

What not to do....

- Do not arrive late. It is best to have a seat by 5 mins prior to the hour. Learn how long you'll need to find parking and/or walk to class at the start of the semester.
- Do not leave early. Do not start to pack up your notes and books prior to 10 before the hour, unless we're clearly finished with class early. Exceptions: if you let me know before class that you will need to leave, or you have a genuine emergency.
- Do not talk to other students in class while I'm lecturing. If someone else around you talks too much, please let me know!
- Do not attend to paperwork, homework, or other work that distracts from listening to the lecture.
- Do not eat or chew gum in class. Safely sealed drinks (e.g. coffee cups with lids or water bottles) are OK to bring.
- Do not read papers, listen to music or surf the web in class.
- Do not wear hats, caps, or sunglasses in class.
- Turn off mobile phones when in class. Nobody else wants to hear your phone. If a cell phone or other electronic device disrupts class, then the owner will **sacrifice their highest quiz score for each offense or pay a fine. The fine for electronic device disruption is the purchase of cookies/snacks for the entire class.** This happens to be similar to a policy used at the state legislature. Exceptions: if you must remain available for a child or other dependent, please let me know in advance, and get a phone with a silent vibrating call alert.
- Do not come to class if you are too tired, ill, injured, depressed, hung over, etc. to pay attention properly. Get your rest

and stay healthy. Come to class well-fed with a decent meal that will not make you suffer a hypoglycemic blood sugar crash half-way through class. Your brain needs a good, steady supply of protein and complex carbohydrates. SDSMT is not free. Why waste the money by not getting much as you can out of lecture?

What to do....

- Be prepared. Read the text before class.
- Stay focused. Don't bring in the other worries and distractions of life. You can't solve them while you are in class, so you might as well focus.
- Be inquiring. Keep "what", "how" and "why" in your head and ask questions. Search for additional sources on the web.
- Follow a schedule. This will keep you consistent and reduce the pretest panic.
- Be proactive. Start on projects right when they are assigned, even if you are very busy. Organize a study group.
- Be alert. If you've read this, good for you! Send me an email with the words "I'm alert" in the subject line no later than Friday, Jan 23rd at midnight to receive 5 points. Be sure to include Math 123, your name and student ID number.
- Take notes. Decide before class start how you plan to do this. Get the supplies prior to class. Notes don't have to be extensive to be useful. They are not a transcription of the lecture; but a short hand to remember the lecture. The text contains the details, so sparse notes allow for thinking during the lecture.
- Take care of yourself. Exercise and real food [not fast or fried food] will make a difference in long term performance.

Academic Honesty and Integrity: All students will be held to the institutional standard for academic honesty and integrity. The following are the relevant sections taken from the student handbook (SD Policies and Procedures): Acts of academic dishonesty will include, but are not limited to, the following:

- Cheating, which is defined as, but not limited to, the following:
 - Use or giving of any unauthorized assistance in taking quizzes, tests, or examinations;
 - Use of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; or
 - Acquisition, without permission, of tests or other academic material belonging to a member of the institutional faculty or staff.
- Plagiarism, which is defined as, but is not limited to, the following:
 - The use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgement consistent with accepted practices of the discipline;
 - The unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.
- Other forms of dishonesty relating to academic achievement, research results or academically related public service;
- Furnishing information known or believed to be false to any institutional official, faculty member or office;
- Forgery, fabrication, alteration, misrepresentation or misuse of any document, record, or instrument of identification, including misrepresentations of degrees awarded or honors received;

Cheating: If you cheat on a test or assignment, you may fail the course. At the very least, you will get a **negative score** on that test or assignment since cheating is worse than doing nothing. Discussing a problem with other students is a valuable learning tool, copying someone else's work is not.

Resources:

- Your instructor (please come see me!)
- Other students in class – try to work on homework problems together. It really helps!
- Tech Learning Center (TLC) in Devereaux Library.

Course Objectives and Student Outcomes:

This course meets GenEd Goal #5: Students will understand and apply fundamental mathematical processes and reasoning.

A student who successfully completes this should, at a minimum, be able to:

- understand functions
- be able to use functional notation in manipulating mathematical expressions
- understand the concept of a limit and how it applies to calculus
- be able to compute limits using various methods
- be able to determine where a function is continuous
- understand the concept of the derivative
- be able to compute derivatives using the power rule, product rule, quotient rule and chain rule
- be able to use the concept of the derivatives in applications such as related rates, linear approximations, Newton's Method, curve sketching, optimization, velocity and acceleration
- understand the concept of an antiderivative
- be able to manipulate expressions using sigma notation
- be able to integrate using substitution and the power rule
- understand and be able to apply the Fundamental Theorem of Calculus

- be able to use the concept of the integral in applications such as area, volume, velocity and acceleration.
- understand the use of numerical integration techniques such as Trapezoidal and Simpson's rules

See also http://www.hpcnet.org/math_assessment/course_objectives.

Continued registration for this course implies acceptance of the preceding policies.

ADA statement: Students with special needs or requiring special accommodations should contact the instructor, (Dr. Braman, at 355-3459) and/or the campus ADA coordinator (Jolie McCoy, at 394-2416) at the earliest opportunity.

Freedom in learning: Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the dean of the college which offers the class to initiate a review of the evaluation.