

**Mathematics 141, Fall 2007 (Section #22791)
Honors Calculus I (5 credits)**

Instructor: Jeremy Martin (you can call me either “Prof. Martin” or “Jeremy”)

E-mail: jmartin@math.ku.edu (the best way to contact me)

Office: 541 Snow Hall, (785) 864-7114

Office hours: Mon/Tue/Thu 1:00 – 2:00 PM, or by appointment

Meeting times: MTWRF 11:00 – 11:50 AM, 3092 Malott Hall.

Course description: Math 141 is an honors course in differential and integral calculus of one variable, including some applications. This is a good course to take if you have a strong mathematics background and are considering majoring in mathematics or a related field, such as computer science, physics, engineering or economics. See the KU Calculus webpage for prerequisites, more details, and for a description of the other Calculus I courses at KU.

Website: The class website is:

<http://www.math.ku.edu/~jmartin/math141/>

Bookmark the website and check it frequently! You are responsible for all information posted on the website, including announcements, homework assignments, and exam information. Information pertinent to all sections of Math 121/141 can be found at

<http://www.math.ku.edu/classes/math121/math121-main.html>.

E-mail: I will periodically send class information (announcements, homework hints, etc.) to all students’ KU e-mail accounts. You are responsible for checking your e-mail regularly so as to receive this information.

What’s the difference between Math 141 and Math 121? From the Mathematics Department website: “[Math 141/142] is intended for strong students who wish to study mathematics in more depth and who are seeking mathematical challenge.” The topics covered in Math 141 are the same as those in Math 121 (Calculus I); the courses share common Gateway, midterm, and final exams, and students from Math 121 and Math 141 are graded on a common scale. However, Math 141 will involve less review of topics from precalculus, and will cover some topics more quickly or in greater depth than in Math 121. Most importantly, 10% of your grade in Math 141 will be based on three “honors projects” which will focus on mathematical modeling and writing skills.

Prerequisites: Three years of college preparatory mathematics including trigonometry, plus at least one of the following:

- (a) A score of 34 or more on the Enhanced ACT Mathematics test and a high school GPA of at least 3.5;
- (b) A score of 32 or more on the Enhanced ACT Mathematics test and a high school GPA of at least 3.7;
- (c) Permission of the Department of Mathematics.

For questions about eligibility, consult Prof. Martin or the staff in the Department of Mathematics (405 Snow Hall). Students lacking the necessary prerequisites are subject to being administratively disenrolled.

Textbook: *Calculus: Concepts and Contexts*, University of Kansas edition, by James Stewart. Available at KU Bookstore (<http://www.kubookstore.com>; 1-800-458-1111). There are many different editions of this book, so be sure you have the right one (consult Prof. Martin if you’re unsure). We will cover most of Chapters 1–6, although we will spend very little time on the precalculus review material in Chapter 1.

Calculator: You will be allowed to use a basic graphing calculator on all coursework except the Gateway Exam. Calculators permitted include the Texas Instruments TI-83, TI-83+, TI-84, and TI-84+. If you have a calculator not on this list, consult Prof. Martin as soon as possible. Calculators that can do symbolic integration, such as the TI-89 and TI-92, are not allowed.

Homework: Homework is due in Prof. Martin's office (541 Snow) on Tuesdays at 5:00 PM. The first assignment is due on **Tuesday, August 21**. *Late homework will not be accepted.* The course website will include lists of required and optional homework problems; you should turn in only the required problems.

About five problems from each homework assignment will be checked for correctness (but you won't know in advance which ones). Getting those problems right is worth half the points; the remaining half will be awarded for making a good-faith effort to solve all of the required problems. (If you get stuck, don't leave the problem blank — ask me for help during office hours, or send me e-mail.)

Tests: There will be two in-class tests, tentatively scheduled for **Wednesday, September 5** and **Friday, November 9**. If these dates change, you will have at least two weeks' notice. Each test will be worth 100 points.

Honors Projects: There will be three Honors Projects over the course of the semester. Each project will require you to model and solve a real or simulated problem using calculus and to write a clear, detailed explanation aimed at convincing someone who does not necessarily know any calculus. You will work on each project in small groups (determined randomly). The three projects will be worth a total of 100 points.

Gateway exam: The Gateway Exam is an online exam that is designed to test (1) your familiarity with the technical rules of differentiation (mostly covered in Chapter 3 of the textbook) and (2) your ability to interact with technology in the context of mathematics. The exam consists of two parts: an unproctored *preliminary exam* (worth 10 points) that you can take from any computer with an Internet connection, and a *proctored exam* (worth 90 points) that you must take in the Gateway Lab, Snow 159. You will have multiple chances to pass both exams, but you *must* pass the preliminary exam before attempting the proctored exam. The Gateway Lab opens for all Math 121/141 students on **Tuesday, October 2**. The deadline for passing the preliminary exam is **Monday, October 29**, and the deadline for passing the proctored exam is **Monday, November 12**.

Midterm exam: All Math 121/141 students will take a common midterm exam on **Tuesday, October 9, 5:45–7:45 PM**, location TBA. The midterm exam will cover material from sections 1.1–4.1 of the textbook, and is worth 200 points.

Final exam: All Math 121/141 students will take a common final exam on **Tuesday, December 11, 4:30–7:00 PM**, location TBA. The final exam will cover material from sections 1.1–6.7 of the textbook, and is worth 300 points.

Aids permitted on tests and exams: You will be permitted to use a graphing calculator (see details above), *but no other aids*, on the weekly quizzes and the common midterm and final exams. No outside aids of any kind are permitted on the Gateway Exam.

Makeup work: If, for some legitimate and unavoidable reason, you are unable to turn in a homework assignment on its due date or to attend a scheduled test, midterm or final exam, you must notify Prof. Martin *in advance* to make appropriate arrangements.

KU policy states that no student is required to take more than two final exams on a single day. Check the official final exam schedule and notify Prof. Martin if you have more than one other exam scheduled for December 11.

Approximate time commitment: This is a 5-credit course, so I would guess that the average student should spend about 10 (or more) hours per week outside of class to get a decent grade. In addition to spending time on homework problems, you should get into the habit of reading a section or two ahead in the book, so as to be better prepared for lecture.

Grading: Your final score in the class will be calculated as follows:

- Homework: 100 points
- Test #1: 100 points
- Test #2: 100 points
- Honors Projects: 100 points
- Gateway exam: 100 points
- Midterm exam: 200 points
- Final exam: 300 points
- **Total: 1000 points**

It is expected that earning an A will require 900 points, a B will require 800 points, etc. This scale may be changed at the discretion of the Department of Mathematics. The same requirements will apply to all students in all sections of Math 121 or Math 141.

Incompletes: A grade of I is a rare occurrence and is reserved for cases in which a student has completed most of the course work at an acceptable level, but is prevented from completing the course due to *extraordinary* circumstances. If you think an I may be warranted, you must consult Prof. Martin *before* the final exam. Note that a grade of I cannot be made up by taking the course again.

Drop policy: According to the Registrar's website, drop periods for Fall 2007 are as follows:

Through September 6: You can drop online; the course will be erased from your record.

September 7 to November 12: You need the instructor's signature to drop; you will receive a grade of WP or WF depending on your coursework up to that point.

After November 12: Dropping is no longer permitted.

Academic honesty and collaboration: You are required to abide by all KU policies on academic integrity. Cheating, plagiarism or other academic misconduct will result in a failing grade on the assignment in question, and usually further disciplinary sanctions, possibly including a failing grade in the course.

You are encouraged to collaborate with other students on the homework assignments. However, intellectual honesty requires that each student write up his or her own solutions and acknowledge all collaborators; it is a violation of academic integrity to copy another student's homework, or to let someone else copy yours.

For more information, see the official KU policies on issues involving academic honesty, available online at <http://www2.ku.edu/~unigov/usrr.html#art2sect6>

Students with disabilities: The KU Office of Disability Resources (22 Strong Hall; 785-864-2620 (V/TTY); <http://www.disability.ku.edu>) coordinates accommodations and services for all students who are eligible. If you have a disability for which you wish to request accommodations, please contact Disability Resources as soon as possible. Please also contact Prof. Martin privately in regard to your needs in this course.

Intellectual property: Course materials prepared by the instructor, together with the content of all lectures and review sessions, are the intellectual property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. Upon reasonable request, the instructor will usually grant permission to record lectures, on the condition that such recording is used only as a study aid by the student making the recording, and is not modified or distributed in any way.