

MATH 241 SECTION X8
– CALCULUS & MATHEMATICA 3 –
FALL 2013

Meeting: 12-12:50pm, MTWR

Lab: 239 Altgeld Hall

Classroom: TBD

Instructor: Ben Reiniger

Office: 110 Altgeld Hall

Email: reinigel@illinois.edu

Website: www.math.uiuc.edu/~reinigel/teachingF13

MakingMath: www.makingmath.com

Office Hours: TBD

I can almost always accommodate additional office hours by appointment.

Classroom Assistants: Veronika Tomanova and Jeff Tablerion

General Information: This class will teach basic multivariate and vector calculus through the medium of Making Math. The material will include vectors and their operations, curves and surfaces, vector fields and flows, path integrals, basic dynamics, integration in 2 and 3 dimensions, surface integrals, spherical coordinates, gradient, divergence, and curl. See the C&M website for more information.

Text: “Vector Calculus”, a series of Mathematica files, serve as an interactive textbook. These files will be found and interacted with using the Making Math system, online. You must purchase access to the courseware, through a link I will provide via email. You will need internet access and the latest Firefox browser to view these files.

Academic Integrity: Academic Integrity may be summed up by the phrase, “your work must be your own.” Violations will be processed according to the established guidelines. Please note that “it is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions” (§1-401 of the Student Code). Violations of academic integrity include, but are not limited to, cheating, fabrication, or plagiarizing as outlined in §1-402 of the Student Code. A range of academic sanctions may be taken against a student who engages in academic dishonesty. Please see §1-401 through §1-406 of the Student Code for additional information and procedures.

Homework: At the end of each Unit you will submit several homework problems in Making Math. Explanations of your work are a vital part of this course. You should be writing (in beautiful English sentences) your reasons for doing what you are doing on each homework problem. You are encouraged to *discuss* problems in whatever groups you like. When you *write* your homework, you are allowed and encouraged to work in groups of no more than 3. (In particular, this means that no two groups should have essentially the same work.) Your groups should Hand In just one file per question, with all your names included at the top of the file. You are expected to contribute fully to the homework. (Not only will a failure to do so impair your ability to do well on the quizzes and exams, but it is unfair to your groupmates; if there is sufficient cause I will reduce individuals’ homework grades or break up groups.) In particular, do not just divide up the homework assignments.

For the homework problems, you are encouraged to copy and paste (and modify) Mathematica code from the Basics and Tutorials (and other homework problems). You may not copy and paste explanatory text: explanations should be your own creation.

Grading: Homework is graded on two criteria:

- Content, i.e. correctness of the mathematical ideas.
- Style, i.e. the explanations of your work.

Homeworks will be graded and returned with comments in Making Math. If you have any concerns about your grade, contact me within a week about a regrade.

There will be several quizzes throughout the semester. We will have three exams during the semester as well as a final exam. The exam dates are expected to be October 1, October 31, and December 5. Some quizzes and all exams will be taken in the classroom without the aid of calculators, notes, or classmates. The Literacy problems are a good place to get practice with hand-written work.

Your course grade will be obtained roughly as follows:

- Homework: 30%
- Quizzes: 10%
- Exam 1: 12%
- Exam 2: 12%
- Exam 3: 12%
- Final Exam: 24%

However, your course grade cannot exceed your exam average plus 10 percentage points. (That is, if h, q, x_1, x_2, x_3, f represent the grades above in percents, then compute $w = 0.3h + 0.1q + 0.12x_1 + 0.12x_2 + 0.12x_3 + 0.24f$, $y = (x_1 + x_2 + x_3 + 2f)/5$; your course grade is $\min\{w, y + 10\}$.) The assignment of letter grades will be no more strict than the standard 10 point scale.

Attendance Policy: While most of the course could be completed at home by a very motivated student, my experience is that attendance in the lab is very valuable. Therefore I expect attendance, and participation will form a small part of your quiz category grade.

For University excused absences, contact me to determine appropriate accommodations. You are responsible for all information presented.

Disabilities: If you have a DRES letter, please make sure I get within a week of the start of the semester (or your registration date, whichever is later). If you will be taking an exam outside of normal class hours, I need at least 5 business days' notice to accommodate you.

Feedback: You will have several opportunities during the semester to provide feedback on the C&M program and on this section in particular. Please make use of these opportunities, and have thoughtful comments ready. If, at any other time, you feel the need to comment on the way the course is going, you can talk to me directly, talk to a course assistant, or drop an anonymous note into my mailbox (located in 250 Altgeld).

I look forward to working with all of you this semester. Good luck!