Course description. This course is a standard introduction to multivariable and vector calculus. Major topics include: Euclidean geometry and linear algebra in 3 dimensions; derivatives in the multivariable setting, and applications; multiple integrals, line integrals, and surface integrals; the theorems of Green, Gauss, and Stokes.

Students are expected to be able to perform algebraic and trigonometric calculations accurately and effectively and to be comfortable with concepts and theorems from geometry and a standard single-variable calculus sequence (such as Math 1571H and Math 1572H).

Textbook. We will use Susan Colley’s *Vector Calculus*, 4th edition. The third edition, which may be available used or online, is broadly similar (one or two sections have been added or rearranged); however the exercises are not necessarily the same. So feel free to use it, with appropriate caution about assignments.

We will cover chapters 1–7. Students potentially interested in majoring in mathematics are encouraged to read chapter 8.

Calendar: lectures, discussions and exams. Lectures are MWF 10:10–11 in Rapson 100. There are six discussion sections; they meet TTh 9:05–9:55 and 10:10–11 in Vincent 213 (Chepuri), Vincent 206 (Logan), and Smith 121 (Weinburd).

There will be three exams during the term and a final exam. Hour exams will replace section on Tuesday, October 4; Thursday, November 3; and Tuesday, December 6. The final exam is scheduled for Friday, December 16, 1:30–4:30. It will cover the entire semester’s material.

No collaboration or outside help is allowed on any of the exams. There will be no books, notes or electronic devices allowed on the hour exams. Note that this prohibition includes cell phones! You will be allowed to use a formula sheet on the final exam.
Resources. In roughly decreasing order of importance:

- Lecture, discussion section, and the textbook
- Instructor and TA office hours
- Tutoring:
  - UHP: see http://honors.umn.edu/experiences/courses-and-tutoring/
  - SMART Learning Commons: http://smart.umn.edu
  - for hire: send an e-mail to ugrad@math.umn.edu asking for the private tutor list

In addition, there are many excellent resources available on the internet. Two examples are MIT OpenCourseWare http://ocw.mit.edu (see for example the course 18.02SC, a close analogue of our class) and the Khan Academy http://www.khanacademy.org.

Homework policies. Weekly problem sets will be due on Thursday at the beginning of discussion section. Late homework will absolutely not be accepted for any reason. Collaboration on problem sets is permitted (and indeed, encouraged). You will be asked to record the people you worked with and received help from on each problem set.

Problem sets will be graded as follows: 50% of each problem set grade will be for general completeness, and 50% will be for the correct solution to a problem or problems of the TA’s selection.

Your lowest problem set score will be dropped.

Grading policy. If you have a concern about how your problem set was graded, bring it to your TA. Your TA is the final arbiter of all questions related to grading of problem sets.

If you have a concern about how your midterm was graded, bring it to your TA. If you would like a problem to be regraded, you must raise the issue within one week of the return of the exam, and include a clear and concise written note explaining the issue.

Final grades are determined as follows: problem sets (with lowest score dropped), 20%; hour exams, 50%; final exam, 30%.

Absences and missed work. If you will be absent on the day a problem set is due, please discuss this with your TA in advance, and we will try to work something out. We will not grant requests for accommodation after the fact, except in extraordinary circumstances (e.g., hospitalization).

If you will be absent on the day of a midterm, please discuss this with your instructor in advance. We will not offer make-up exams. See http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html for details of University’s policy regarding legitimate absences.

A note about manners. Be polite to your fellow students, your TA, and your instructor. If you arrive to class late or must leave early, please do so quietly and with minimal disruption. Avoid eating in class if it will result in noise, mess, or odor. Please do not use electronic devices (such as cell phones) in class.