

Calculus and Analytic Geometry III (MAT 272), Spring 2009

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Schedule line number: 11487

Office Hours: Tuesdays and Fridays, 1:30 p.m.–3:00 p.m. (in PSA 833) and by appointment.

Prerequisites: MAT 270 and 271 (Calculus I and II) or equivalent. MAT 242 or 342 (linear algebra) is a helpful pre- or co-requisite.

Text: Marsden and Tromba, *Vector Calculus*, fifth edition.

Software and course content: This course uses the Maple symbolic algebra package as an instructional tool. More details are given below.

Course meetings: We will meet in the regular classroom (LSA L1-94) on MWF and in the computer lab (ECA 225) on Tuesdays. Attendance at all class meetings in their entirety is expected. If you cannot attend due to illness or other obligations, I appreciate being notified by email or telephone.

Coverage: Most of Chapters 1–8.

Make-up exams: Make-up exams will *not* be given. Permission to take an exam at a time other than the scheduled one will be granted at the sole discretion of the instructor. Written documentation may be required to substantiate claims of hardship. Arrangements must be made before the date of the test. Unexcused absences from exams will result in a grade of zero.

Homework: Unless otherwise noted in class, homework assignments given out each week will be due at the beginning of class on Mondays. Late homework will be accepted at the sole discretion of the instructor. Portions of computer lab assignments will be due by the end of class each day.

Collaboration policy: You are permitted to consult with up to two other students in the class on a given homework assignment. However, *you must acknowledge your collaboration*. Failure to do so is considered plagiarism and will be handled accordingly. Your collaboration may extend from a single problem to an entire assignment; in the latter case, you should turn in one paper with each person's name on it.

Estimated workload: Multivariable calculus is a demanding subject. You will be expected to complete homework assignments diligently and on time in order to keep up with the material. You should expect to spend 8 to 12 hours per week on this course, counting homework, computer labs, and lectures.

Grading policy: Grades will be based on a combination of homework assignments, in-class exams, and a comprehensive final examination, as follows:

homework	15%
3 midterm exams	15% each
problem portfolio	15%
final exam	25%

Answers to selected homework problems will be available from the course homepage.

Exam dates: There will be three midterm examinations. The dates and approximate syllabi are as follows:

Friday, Feb. 6	Chapters 1, 2, part of 3
Friday, March 6	Chapters 3, 4, part of 5
Friday, April 3	Chapters 5–6
Thursday, May 7	Final exam, 7:10–9:00 p.m. Note: changed from the original syllabus!

Mathematics Department final exam policy: The Department of Mathematics follows Arizona Board of Regents policy, which states that all final examinations shall be administered at their officially scheduled times. A final exam schedule appears in the Fall Bulletin of classes. Requests to take the final examination at a time other than the published time will *not* be granted except in emergencies or for reasons of religious practice. In particular, nonrefundable plane tickets, weddings, work schedules, and the like are *not* acceptable reasons for rescheduling final examinations. Please keep this policy in mind when making end-of-semester plans.

Course content, emphasis, and lab use

About this course: This course is the third semester of a standard introductory calculus sequence aimed at majors in engineering, physics, chemistry, and mathematics. This section is designated for honors credit.

The problem portfolio: Throughout the semester, various challenging problems will be assigned. You will be expected to attempt most of them with a careful derivation and writeup of the solution; the above collaboration policy applies. At various times during the semester, you will be asked to hand in your portfolio and to meet one-on-one with the instructor to discuss your solutions.

The Maple software package: We will use the Maple symbolic algebra package to explore some of the properties of vector calculus. The Maple software has been installed on all PC's and Macintosh computers in every campus computing site and is available for use through the MyApps application. See www.asu.edu/courses/oasis/MyApps/MyApps.htm for a demo and tutorial.

Maple is intended only as a tool to aid understanding, not as a means in itself. Previous computer programming experience is helpful but not necessary. We will cover the basics that you will need to know to use the software. No separate computer accounts are provided; to save your work, you'll need to copy your files to another machine via the Internet, or bring a USB memory stick, or use MyApps storage.

Computer lab availability: The mathematics computer laboratory in ECA 221 will be open the following hours:

Monday–Thursday	7:00 p.m.–10:00 p.m.
Saturday–Sunday	12:00 p.m.–4:00 p.m.