

INSTRUCTOR

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Office Hours: TBA MWF, and by appointment.

TEXTS

Multivariable Mathematics, 3rd edition, by Richard E. Williamson & Hale F. Trotter,
and
Linear Algebra with Applications, 2nd edition, by Otto Bretscher.

MATERIAL COVERED

This course has two objectives: to continue the Multivariable Calculus you began in the Spring Semester, and give you a solid background in Linear Algebra.

We need to establish “where you are” mathematically, and then we can make a tentative schedule. By the time classes start, I will have met with other Honors instructors, and will have some ideas about what order we should work in. I have in mind to “mix” the two texts too, for Linear Algebra is an essential part of the concepts and languages of advanced mathematics.

This is what we will be working on. I hope you will learn a lot, and that you enjoy doing so!

We might start in Chapter 6, Section 4 of **Multivariable Mathematics**, and you *might* want to work on Exercises 3 – 8 on page 230.

READING

Try to read the next section (as soon as you know it!) ahead of time. Ask questions, even during lecture! I may ask you to stop by after class if the question has a longish answer, or if I don't understand it... *It is very important to read a section, maybe more than once, before you start working problems!* You will then know where to look for the right formula, or method, or whatever, when you begin working problems. **Be sure to read ALL the problems in each section, skimming (not skipping!) repetitive ones.** I'll give you lists of problems that will make up much of each Test's points beforehand, and I'll probably get ideas for making up the more challenging one or two other problems (worth more points each) from the problems in the book that are not on the “standard problem” list.

STUDYING

As many of you may have completed the development of your respective *personae*, your views of the larger worlds about you, and how you might enter some of them more profitably than others, have probably begun to emerge. One good thing about a technical degree from Minnesota is the University's well-deserved reputation for producing problem-solvers. As you know by now, this is because we demand that you work lots of problems! We hope that you will ask lots of questions about the ones that are hard for you, and the ones that interest you.

GRADING

There will be Quizzes or Homework, or both, in your recitation section. Ask questions! The best question to ask in recitation might well be the statement, “I don't understand “(whatever) *at all!*”

There will be **2 Mid Term Exams**, tentatively scheduled for **Thursday, October 11**, and **Thursday, November 15**. Each Test will take place in your recitation section.

There will be a **Final Exam**, on **December 17**, from **1:30pm – 4:30pm**, at a **location to be named later**, a few days before the Final.

Each Test may involve material covered in lectures up to the Test! Thus, *you are responsible for material covered in the lectures!*

There may be one or two Special Problems, that are the analog of Term Papers. If so, the credit for it, or them, will be taken proportionately from the weights given below for the various “Grading Items.”

Your grade in this course will reflect what you did in it, not your ability or potential. It is very important, then, for you to be able to put your work on paper, under time pressure. If you have problems taking tests, there are people on campus who might be able to help you overcome them. Ask about it at an office hour!

You'll have a GPA grade for each Test, your Recitation Section, and the Final. The weighting of the grades, though

subject to change, is, at present: 20% for each Test, 25% for your Discussion Section grade, and 35% for the Final. Grades will perhaps amount to 80–85% for A, 65–70% for B, 50–55% for C, 40–45% for D.

How to calculate your grade-so-far Each grading item will have “Gradelines” assigned to it. For example, if the B gradeline is 70, the A gradeline is 85, and your score is 80, then your GPA grade, \mathbf{G} , for that item is $\mathbf{G} := 3 + \frac{80 - 70}{85 - 70} = 3.67$ (\mathbf{G} is rounded to 2 places). In other words, your GPA grade is B, plus 2/3 of the way between B and A. Your GPA grade, \mathbf{G} , on any grading item is computed using your score on it, and numbers \mathbf{g} (the grade corresponding to the highest gradeline smaller or equal to your score: $\mathbf{g}=2$ if your score is at least the C gradeline, and less than the B gradeline), \mathbf{glb} (the highest gradeline smaller than or equal to your score), \mathbf{gla} (the lowest gradeline greater than your score):

$$\mathbf{G} = \mathbf{g} + \frac{\text{your score} - \mathbf{glb}}{\mathbf{gla} - \mathbf{glb}}$$

where \mathbf{glb} is the gradeline just below or equal to your score, \mathbf{gla} is the next gradeline - the first one above your score, and \mathbf{g} is the grade number: 5 for a 100% score, 4 for the A gradeline, 3 for B, etc. If your score falls on a gradeline, then $\mathbf{G} = \mathbf{g}$. If your score is 100% on a Test, your $G = 5$.

When the \mathbf{G} 's are multiplied by their corresponding weights, and added, the result is your GPA grade for the course. If your total is within 0.02 of the defining value of one of the 10 grades that currently exist, your grade is “borderline.” Case-by-case decisions are made then, whether to award the higher or the lower grade. One important factor is the direction your grades have taken at course's end.

Be sure to talk to me in advance if you have to miss a Test! If you do miss a Test, and you don't make arrangements in advance, your G for that Test is zero! Ask your TA about their corresponding rules!

If, for documented reasons beyond your control, you're passing and you can't complete the course, your grade up to that point may “stay with you” as part of an Incomplete; all I's must be issued according to department guidelines.

SCHOLASTIC CONDUCT

Please read the (appropriate for you) notices in the IT Bulletin, the CLA Bulletin, and so on. You are encouraged to work with others in understanding what problems say, setting up solutions, and so on, but you must submit as YOUR work only what YOU have written up yourself. If you get ideas from a reference or from someone else, GIVE CREDIT! Do not simply copy another person's work. Graders will be asked to bring answers that look alike to my attention.