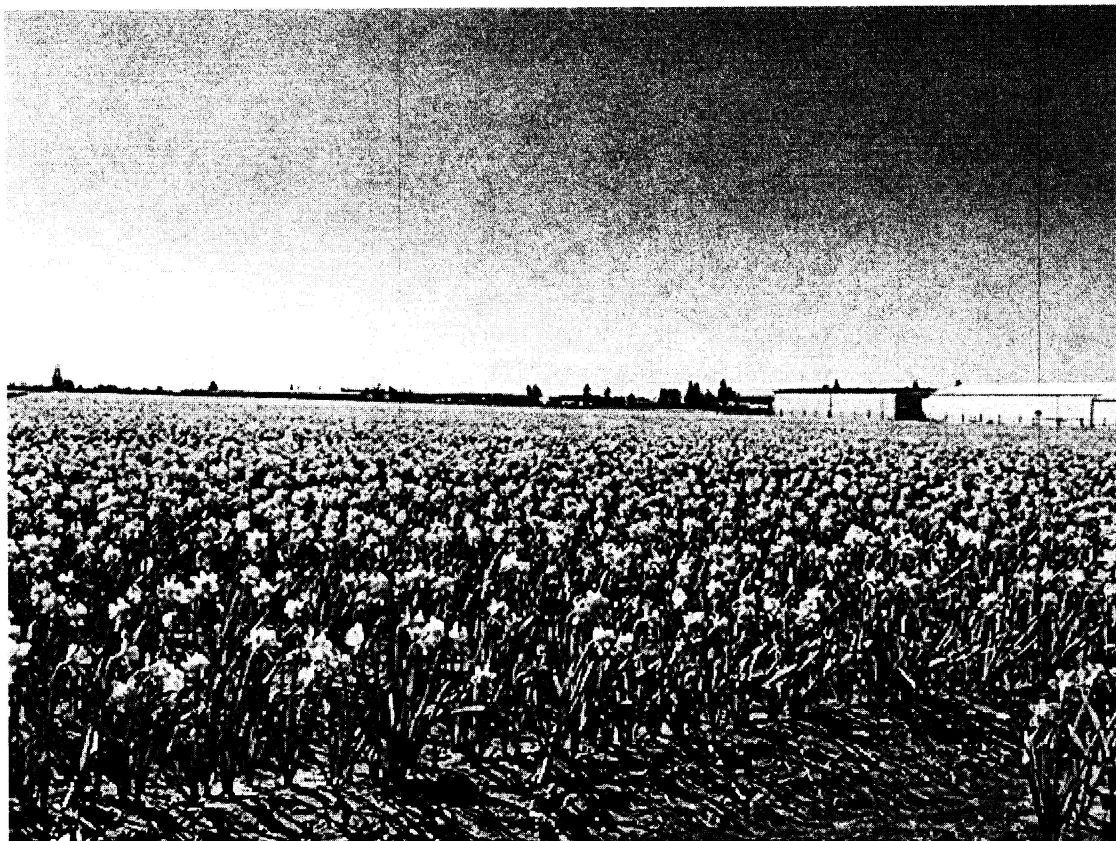


Math 324 A & B



Introduction

Math 324, Advanced Multivariable Calculus I, is at the same time the natural prosecution of the Calculus sequence, and the first in the Advanced Calculus sequence. In this sense, it is based on the material covered in the 124-125-126 sequence (or 134-135-136), but it is more abstract in the material covered, with topics like vector fields and their integration. For a brief description of the course, and the prerequisites, see [here](#).

The text is *Calculus*, by Stewart, seventh edition. You may use the paperback *Multivariable Calculus*, by Stewart, which starts with chapter 10. We will cover (essentially) the final parts of chapters 14, 15, and then we will focus on chapter 16. Be sure to be confident on the topics in the first parts of chapters 14 and 15, and in chapter 12. If time permits we will also use some notes on differential forms that you can find [here](#).

July 15, 2012

- Here are some notes that are relevant to the sections 16.2-16.5 and are similar to the work I will cover in class. Recall that I will teach these topics in a different way than the book does. These notes are provided by Alberto Chiechio and they cover the differences between exact, conservative and closed vector fields and how they behave if defined over regions with different properties. [Notes](#).

Syllabus

Math 324 A & B, Advanced Multivariable Calculus I.

Lectures

Section A: MWF, 9:40am-10:40am

Section B: MWF, 10:50am-11:50am **Location** DEN 314.

Instructor: Camil I. Aponte Román

Office hours (in my office): MW 1:00pm-2:00pm

Office: PDL, C-8D

E-mail: camili@math.washington.edu

Textbooks

The textbook is *Calculus*, by Stewart, or *Multivariable Calculus*, by Stewart seventh edition.

Homework

Homework is collected on Fridays, and you can find it on the calendar. You should start it early, to be sure to have the chance to ask questions.

Since there are no quiz sections, you should think of the homework as the equivalent. Doing the homework - making your hands dirty with computations - is as important as studying.

Beware that the homework on the calendar can change (up to a week before its due day), that you should **keep checking**.

Exams and Quizzes

For quizzes and exams you are allowed to bring a scientific calculator (NOT a graphic one) and a two-sided handwritten sheet of notes. All examinations will only be on materials we have seen in the lectures (unless otherwise stated). This means that you do not have to worry about learning formulas in the textbook unless I mention them in class. On the other hand, in the lectures I may mention a result not in the textbook, and you will be expected to know that result. There are no make-up exams/quizzes. If you have a compelling, unavoidable, and well-documented reason for missing an exam, talk with me as soon as possible.

There will be **THREE** quizzes during the quarter, a midterm and a **TWO** part final.

The **first quiz** will be on Friday, June 22, and will be a review of integration.

The **second quiz** will be on Friday, July 27

The **third quiz** will be on Friday, August 10

The **midterm** will be on Friday, July 13, during lecture.

The **final Part I** will be on Wednesday, August 15, during lecture.

The **final Part II** will be on Friday, August 17, during lecture.

Grades

The final grade will be based on homework, quizzes and exams, in the following proportion

Homework 10%

Quizzes 10% (each)

Midterm 25%

Final 35%

Disabilities

If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.

Calendar

Notes:

The homework is due Friday.

This page can be subject to modifications during the quarter: **keep checking it!**

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Day	Material covered in the lecture	Homework due
Week 1 June 18	Presentation of the course, Review of Integration (Sections 15.1, 15.2, 15.3 and 15.4)	
June 20	Review of Integration (Sections 15.1, 15.2, 15.3 and 15.4), Section 15.5	
June 22	Quiz 1 (on integration), Sections 15.5, 15.6	Not collected (review): §15.2, #7, 13, 17, 27; §15.3, #5, 13, 21, 39, 41, 43; §15.4, #1, 3, 17, 21, 25, 33.
Week 2 June 25	Section 15.7	
June 27	Section 15.8	
June 29	Section 15.9	§15.5, #6, 10, 12, 18; §15.6, #2, 7, 12 § 15.7, #6, 12, 18, 31, 39, 53 (for 53, give justification, not just the region).
Week 3 July 2	Section 15.10	
July 4	NO Class: Independence Day	
July 6	Sections 14.5, 14.6	§15.8, #3,7,9,11,13; §15.9, #1,5, 9,20,29.
Week 4 July 9	Section 16.2 (line integrals)	
July 11	Section 16.1	Not collected (review): §15.10, #1,5,7,9,11,13, 15, 17, 19, 20 §14.5, #3, 10, 24, 38, 40, 45; §14.6, #4, 10, 16, 24, 31, 40, 47.
July 13	Midterm	
Week 5 July 16	Sections 16.2, 16.3	
July 18	Section 16.3	

July 20	Section 16.4	§16.1: #2, 6, 12, 24, 31, 32, 34; §16.2, #2, 8, 12, 14, 16, 21, 34,
Week 6 July 23	Sections 16.4, 16.5	
July 25	Sections 16.5, GvC	
July 27	Quiz 2	§16.3: #1, 6, 8, 16, 23, 29, 31. §16.4: #1, 3, 7, 12, 18, 21;
Week 7 July 30	GvC, Section 16.6	
August 1	Section 16.6	
August 3	Section 16.7	
Week 8 August 6	Sections 16.7, 16.8	
August 8	Section 16.8	
August 10	Quiz 3	
Week 9 August 13	Section 16.9	
August 15	Final Part I	During Lecture
August 17	Final Part II	During Lecture

F.A.Q.

Add codes, Textbook, Writing and answering e-mails, Taking tests, GPA and curving

Add codes

Some remarks.

- I do not accept more students than the capacity of the room and I do not want to overload my sections too much anyway.
- If the section where you want to register is full, send me an e-mail by the end of the **first** week (specifying which section you want to enroll to). I will create a waiting list based on the order in which I receive your e-mails. I will not give add codes to students who do not e-mail me in the first week.
- People usually drop during the first week, so I advise you to keep checking regularly if there is an open spot in the section where you want to register. In this spirit, I do not give add codes until the **second** week.
- If you want an add code, you are anyway expected to do the regular work of the class (this includes homework and possibly quizzes, if it applies).

Textbook

The text is *Calculus*, by Stewart, **seventh** edition. You may use the paperback *Multivariable Calculus*, by Stewart, which starts with chapter 10. We will cover (essentially) the final parts of chapters 14, 15, and then we will focus on chapter 16. Be sure to be confident on the topics in the first parts of chapters 14 and 15, and in chapter 12.

If you have the fifth or sixth editions, the theory is the same, but the problems are different. You can still use it, but you should check the problems from the seventh edition. You can ask some of your classmates. Copies of the seventh edition are in reserve in the library, or you can probably find a copy to consult in the Math Study center.

If your edition is the **fourth or older** also the theory is different, so I advise you to find a more recent edition.

Writing and answering e-mails

Some advice about the etiquette of writing emails to instructors.

- Please be courteous with your instructor, write a proper Header and don't forget to sign at the end.
- Write your name and course you are emailing about.
- Write a Subject that corresponds to the content. Do not reply to an email that has a subject that is unrelated to the topic. (I always have a lot of emails under replies with unrelated topics. For instance I've had people emailing about regades under the subject "Quiz Reminder". Doing this, it is very likely that emails get lost and are never responded.)
- Be specific on the email, for example when writing an email about a regrade specify the thing that needs a regrade, (quiz, hw, midterm) the original grade and the final grade. Do not say things like "remember to change my grade" without any more information.
- When asking about a homework problem write down the problem statement (maybe in a summarized way). The instructor most likely doesn't carry the book around with him/her all the time so he/she cannot check the problem if you just tell him/her the number. Explain

exactly where are you having problems with the exercise so that it is easier to respond, it also helps you to understand what you are having difficulties at. I also found a very fun blog that talks about this as well, take a [look](#).

Replying Emails

If I receive an e-mail, I will try to answer it in 24 hours. If your e-mail consists of a question, and I happen to talk to you about the matter and to answer your question before answering the e-mail, will not reply to your e-mail (since it would simply be a repetition of what I said to you in person). If you prefer to have also a written answer, you should tell me.

Taking tests

One of the most difficult part of doing an exam is the time constrain. The best way to study for an exam is to time yourself and to try to do problems in less than 10 mins each. When writing an exam I then take the exam and time myself. I do the exam carefully with everything written nice and with every detail. Then I make sure that it takes me one third of the time to do that it should take the students to write it up. For example a 50 min exam should take me from 16-17 mins to do.

When doing practice exams or problems, if you still feel like there wasn't enough time, perhaps you want to reevaluate your studying and test taking strategies. I am more than glad to help you with tips on that and to have a 1-1 talk with you about it.

One other reason for feeling like you don't have enough time could be that you are approaching the problems using a method which is not the most efficient. Always try to think if there is a better shorter way, another technique that we learned in class that can answer the question in a more efficient way. [Here](#) is a link with tips on taking timed exams.

[Here](#) is another link with exams taking strategies in general.

GPA and curving

Here is a standard conversion table from percentage to GPA. This table is meant to give you an idea on a lower bound for your GPA given your percentage in the class. If you want to aim for a certain grade I suggest to assume that this is the conversion I will use that way you will get the grade you want or even higher. Note that this is a very strict table and I always curve. That means that for your final grade your percentage will correspond to a higher GPA than the one on the table. How much higher will depend on the overall class performance.

GPA Conversion Scale

Decimal	Percent	Decimal	Percent	Decimal	Percent	Decimal	Percent
4.0	95%	3.0	85%	2.0	75%	1.0	65%
3.9	94%	2.9	84%	1.9	74%	0.9	64%
3.8	93%	2.8	83%	1.8	73%	0.8	63%
3.7	92%	2.7	82%	1.7	72%	0.7	62%
3.6	91%	2.6	81%	1.6	71%	0.6	60%
3.5	90%	2.5	80%	1.5	70%	0.5	50%

3.4	89%	2.4	79%	1.4	69%	0.4	40%
3.3	88%	2.3	78%	1.3	68%	0.3	30%
3.2	87%	2.2	77%	1.2	67%	0.2	20%
3.1	86%	2.1	76%	1.1	66%	0.1	10%