

MATH 349-013
TR 3:30–4:45, PRN 116

Office Hours: M 9:30–10:30 W 1:30–2:30 (PRN 326) or by appointment

Elementary Linear Algebra
Spring 2021

Web Page: <http://www.math.udel.edu/~edwards/download/m349/s21home.html>
(also referenced from QR code at end of document)

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Introduction (2/15 Version)

Welcome to Elementary Linear Algebra! Since many of you are not mathematics majors, we will also be focusing on the applications of linear algebra. The text for this course is *Linear Algebra: A Modern Introduction*, 4th ed., by Poole. **The text is required**, since you will be assigned both reading and homework problems from the book. In addition, I will also be lecturing from various other sources, so class attendance and participation is necessary for successful mastery of the material.

If you have any questions, contact me during my office hours or make an appointment. **Extra copies of handouts are available at the Web page listed above or referenced at the QR code at the end of the document.**

Please silence cellular phones before entering the classroom.

Technology Issues

We will be using Mathematica; please download a free version at

<http://udeploy.udel.edu/software/mathematica-12-for-students/>

Because we will be using Mathematica for exams, you must have access to a laptop. If that is an issue, let me know.

Important announcements (corrections to typographical errors, etc.) will be handled by e-mail. Also at the URL

<http://www.math.udel.edu/~edwards/download/suggest.html>

you will find an anonymous suggestion box.

Homework

In most cases, homework will be distributed on Thursdays (the first assignment is attached to this introduction), and will be due at the beginning of class the following Thursday. The homework will ideally cover material up through the day of its distribution. **ABSOLUTELY NO LATE HOMEWORK WILL BE ACCEPTED!** If you must miss a due date because of University business, it is your responsibility to make sure the homework gets to me *before* the due date. However, I will drop your two lowest homework scores. Therefore, low scores for assignments where you were pressed for time can be erased as long as you don't have too many of them.

Though you may not copy directly from another's paper or use someone else's ideas as your own¹, I encourage you to discuss the homework problems with your classmates. Any scientific endeavor is rarely done in a vacuum; therefore it is to your advantage to learn the benefits of collaborating. Model homework solutions will be posted to the course Web site after the assignment is due. Hopefully these will assist you in learning the material.

Homework assignments should be folded like a book with the following information on the "front cover":

Name
Math 349-013—Edwards
Assignment Number
Date

You will turn in your assignments this way so that your grade may be placed on the inside, thus ensuring your privacy. I will make every effort to ensure that your graded homework is returned in a timely manner.

Each homework assignment will consist of ten questions. Of those, some randomly selected problems will *not* be graded. For these questions, you will receive one point if you attempted the problem. For the problems that will be graded, you may receive up to four points, depending on the completeness and accuracy of your solution.

Obviously, I can assign only a select few homework problems to be turned in. Therefore, I choose ones which, if mastered, show adequate understanding of the material. The examinations will largely be based on the material covered in the homework assignments. However, you are encouraged to try other problems in the book for practice.

¹ For more details regarding academic dishonesty, see the Student Handbook (<http://www.udel.edu/stuguide/>).

Exams

Exam dates are listed on the attached schedule. **NO MAKEUP EXAMS WILL BE GIVEN!** The first three will take place during a regular lecture period; the final exam will be two hours long. Each exam will contain problems which must be done using Mathematica. When the exams are returned, they will have a numerical score and a letter grade on them. The numerical score is your score for the exam; *the letter grade is your grade for the course to that point, including all homework scores.*

Attached to each examination will be a course evaluation form, so that I may receive your suggestions for how the course could be improved. These forms will be seen only by me, so if you have comments that you wish the department to hear, please contact them directly.

Assessment

Your grade for the course will be determined in two stages. First your *raw score* will be calculated using the *higher* of the two algorithms:

- 1) The exams will count for 90% of your grade (final counts double), and the homework counts 10%.
- 2) The exams will count for 80% of your grade (final counts double), and the homework counts 20%.

Therefore, performing well on the homework will not only help you learn the material, it can also directly help your grade. (In the past, it has been my experience that the vast majority of students improve their grades by using their homework scores.) Then each of the raw scores will be scaled to determine final grades.

Tentative Schedule

Note: This is only a tentative schedule; there may be deviations from it.

week of February 15: sections 1.1, 1.2, 2.3, vector analysis (parts of section 3.5)

February 16: Homework 1 distributed

week of February 22: sections 1.2, 2.1, 2.2

February 25: Homework 1 due; Homework 2 distributed

week of March 1: sections 2.2, 2.4, 3.1, 3.2

March 4: Homework 2 due; Homework 3 distributed

week of March 8: sections 3.1–3.3

March 11: Homework 3 due; Homework 4 distributed

March 16: sections 3.3, 3.5, 6.1

March 18: Exam I (covers vector analysis, chapters 1 and 2, sections 3.1, 3.2)

week of March 22: sections 3.5, 6.1–6.3

March 25: Homework 4 due; Homework 5 distributed

March 30: No class

April 1: sections 6.3, 7.1, 7.2

April 1: Homework 5 due; Homework 6 distributed

week of April 5: sections 5.1, 5.2, 7.1, 7.2

April 13: sections 3.6, 5.2, 5.3, 6.4, 7.1

April 15: Exam II (covers sections 3.3, 3.5, 5.1, 5.2, 6.1–6.3, 7.1, 7.2)

week of April 19: sections 3.6, 4.2, 6.4–6.6

April 22: Homework 6 due; Homework 7 distributed

week of April 26: section 4.2

April 29: Homework 7 due; Homework 8 distributed

week of May 3: sections 4.1–4.4

May 6: Homework 8 due; Homework 9 distributed

May 11: Exam III (covers sections 3.6, 4.1, 4.2, 5.3, 6.4–6.6, 7.1)

May 13: section 4.4

May 18: Homework 9 due; supplemental study material distributed

May 18: section 4.4, review

TBA: Final Exam (covers entire course, but especially sections 4.3, 4.4)

Course Web Page:

