MATH 342-010 Differential Equations with Linear Algebra II
MWF 11:15–12:05, WHL 006 Fall 2007
Web Page: http://www.math.udel.edu/~edwards/download/m342/f07home.html

Instructor: Prof. D. A. Edwards Office Hours: F 1–2, T 12:30–1:30, or by appointment
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Introduction

Welcome to Differential Equations with Linear Algebra II! In this class we will use an integrated approach to learn these two subjects together. Since the course is designed for electrical and computer engineering majors, many of the examples in class presentations and homework assignments will be from the area of basic circuit theory as covered in ELEG 205.

The texts for this course are

E) Edwards, C. Henry, and Penney, David E. *Differential Equations and Boundary Value Problems: Computing and Modeling*, 3rd ed. Upper Saddle River: Pearson, 2000.
L) Leon, Steven J. *Linear Algebra with Applications*, 7th ed. Upper Saddle River: Prentice-Hall, 2006.

The texts are required, since you will be assigned both reading and homework problems from the books. In addition, I may 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.**

You may bring a tape recorder with you to class, if you wish; however, unattended tape recorders will not be permitted.

Electronic Communication

The Web page for this course is listed on the top of the first page. There you will find copies of handouts available for downloading, as well as any important announcements (corrections to typographical errors, etc.). Also at the URL

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

you will find an anonymous suggestion box.

Particularly important messages regarding this course may also be e-mailed to you directly. For more information on how to use electronic resources, contact the Help Center (x6000).

Exams

There will be four exams in the course; the dates are listed on the attached schedule. **NO MAKEUP EXAMS WILL BE GIVEN!** The first three will be 45 minutes long and will take place during a regular lecture period. The final exam will be two hours long. 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.

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.

Assessment

Your grade for the course will be determined in two stages. First your *raw score* will be calculated from your exam scores, with the final counting as two exams. However, if including your homework scores will improve your score, I will let them count for 20% of your grade. Therefore, doing the homework *can only help* your grade. (In the past, it has been my experience that the vast majority of students improve their grades significantly by using their homework scores.) Then each of the raw scores will be scaled to determine final grades.

Homework

Homework will be distributed on Wednesdays during lecture (the first assignment is attached to this introduction), and it will be due at the beginning of class the following Wednesday. The homework will cover material up through the day it is distributed. **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. Since mathematics is a subject where the material for one section builds on the section before, it is critical that you keep up to date on the homework: hence the stringent policy. However, to calculate your semester-long homework average, 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 own, 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 placed on reserve in the library 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 342-010—Edwards
Assignment Number
Date

You will turn in your assignments this way so that I may put your grade 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.

Tentative Schedule

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

August 29–31: Sections E5.1, E5.2, E6.1
August 29: Homework 1 distributed
September 3: Labor Day (no school)
September 5–7: Sections E5.2, E5.4, E6.1, L4.1
week of September 10: Sections L4.1–4.3
September 12: Homework 1 due; homework 2 distributed
week of September 17: Sections L4.3, E7.1, E7.2
September 19: Homework 2 due; homework 3 distributed
week of September 24: Sections E7.2–7.5
September 26: Homework 3 due; homework 4 distributed
October 1: Exam I (covers chapters E5, L4, and sections E7.1–7.3)
October 3–5: Sections E7.4, E7.6–8.2
week of October 8: Sections E8.2, E8.3
October 10: Homework 4 due; homework 5 distributed
week of October 15: Sections E8.3, E8.4, L5.1
October 17: Homework 5 due; homework 6 distributed

October 22–24: Sections L5.1, L5.4

October 24: Homework 6 due; homework 7 distributed

October 26: Fall Recess

October 29: Exam II (covers chapter E8, sections E7.4–7.6)

October 31–November 2: Sections L5.2, L5.4

week of November 5: Sections L5.2, L5.3, L5.5

November 7: Homework 7 due; homework 8 distributed

week of November 12: Sections L5.5, L6.6

November 14: Homework 8 due; homework 9 distributed

November 19–21: Sections L6.6, L6.7, E9.1, E9.2, E9.4

November 21: Homework 9 due; homework 10 distributed

November 23: Thanksgiving Recess

November 26: Exam III (covers chapter L5)

November 28–30: Sections E9.1–9.4

December 3: Section E9.3

December 5: Formal review session

December 5: Homework 10 due; supplemental study problems distributed

TBA: Final Exam (covers entire class, but especially sections L6.6, L6.7, E9.1–9.4)