

Vanderbilt University
MATH 196 Spring 13, Lecture Section 03
Instructor: Marcelo Disconzi (marcelo.disconzi@vanderbilt.edu)

1. LECTURE

Instructor: Marcelo Disconzi. Office: Stevenson Center 1222. Office phone: 322-1998.
email: marcelo.disconzi@vanderbilt.edu.

Lecture time and location: Tuesday and Thursday, 09:35am–10:50am, Stevenson Center 1320.

Course webpage:

www.disconzi.net/Teaching/MAT196-Spring-13/MAT196-Spring-13.html

Office hours: Tuesday and Thursday 11:00am–12:00pm, Tuesday 1:00pm–2:00pm, or by appointment.

Math Office: Stevenson Center 1326.

2. RECITATION

Recitation Instructor (TA): Matthew Smedberg. Office: Stevenson Center 1227H.

Recitation Section: 04

email: matthew.smedberg@vanderbilt.edu.

Office hours: Friday, 10:00am–12:00pm.

Recitation time and location: Wednesday, 03:10pm–4:00pm, Stevenson Center 1320.

3. COURSE INFORMATION

3.1. **Textbook.** Differential Equations and Linear Algebra, 3rd edition, by Edwards and Penney.

3.2. **Prerequisites.** MATH 175.

3.3. **Description.** Differential equations with linear algebra is an introductory course in differential equations. It is intended for students in Biomedical Engineering, Electrical Engineering, and Computer Engineering. It will cover the following topics: scalar differential equations, Laplace transforms, systems of differential equations, Gauss-elimination, algebra of matrices, determinants, vector spaces, linear operators, eigenvalues and eigenvectors. This material corresponds to topics from Chapters 1, 3-7, and 10 in the textbook.

4. GRADING POLICY AND EXAMS DATES

The course will have two midterms and one final exam. There will be *no make-up exams*. If you miss a test and have an *acceptable justification*, then your grade in the final exam will be used to replace it — otherwise you will receive a zero in the missed test; see section 6.6 for more details. There will be two quizzes, and homework problems to be handed in will be assigned on a weekly basis. These will be collected *every Thursday in class* and will correspond to the sections covered on the previous week. For example, on Thursday, Jan 17, you are expected to turn in the assigned problem from material covered on the week of Jan 8, which corresponds to sections 1.1, 1.2 and 1.4 according to the schedule below. Notice, however, that depending on the pace of the course, small adjustments to the schedule may have to be made, in which occasion the problems which are due may also change. An up-to-date schedule will be maintained on the course webpage, indicating which problems will be collected on each coming Thursday (see the column “HW problems due in class” on the table of section “Schedule” on the course webpage).

For each section, a subset of the assigned homework problems will be graded in full detail, with points given for the remaining ones provided the student demonstrates a serious attempt in solving them. After problems are graded, it will be indicated on the webpage which problems have been selected to be fully graded.

Incidentally, extra credit work may be assigned. Extra credit assignments will not count a specific number of points towards your total grade, *unless otherwise specified*. The primary goal of such extra assignments is to help the course instructors to decide on borderline cases. For example, suppose your final grade corresponds to a B+, but it is sufficiently close to the cutoff for an A-. In such a case, having done all or most of the extra credit problems may lead the instructors to decide that you deserve a little boost in your grade, giving you an A-.

If this policy is not clear, please talk to your lecturer during his office hours.

Description	Date and Location	Points
Midterm 1	Thu, Feb 28, in class	20
Midterm 2	Thu, Apr 11, in class	20
Final Exam	Thu, May 2, 3:00pm, location TBA	35
Quizz 1	Wed, Feb 20th, in class	2.5
Quizz 2	Wed, Apr 3, in class	2.5
Homework problems	weekly	20
TOTAL		100

5. SCHEDULE¹

Lesson	Date	Sections	HW Problems
1	Tue, Jan 8	Introduction. 1.1	1-27 (odd), 33-43 (odd)
2	Wed, Jan 9	Recitation Session	
3	Thu, Jan 10	1.2	1-17 (odd), 25, 27, 29, 35
4	Tue, Jan 15	1.4	1-27 (odd), 31, 33, 35, 36, 40, 41, 43, 51, 54, 69
5	Wed, Jan 16	Recitation Session	
6	Thu, Jan 17	1.5	1-33 (odd), 36, 37
7	Tue, Jan 22	1.3	1-19 (odd)
8	Wed, Jan 23	Recitation Session	
9	Thu, Jan 24	3.1	1-15 (odd), 23, 25, 27, 31
10	Tue, Jan 29	3.2	1-27 (odd)
11	Wed, Jan 30	Recitation Session	
12	Thu, Jan 31	3.3 3.4	1-19 (odd) 1-21 (odd), 31, 33, 39, 43
10	Tue, Feb 5	3.5	1-23, 27, 30-33 (odd)
11	Wed, Feb 6	Recitation Session	
12	Thu, Feb 7	3.6 3.7	1-17 (odd), 21-25 (odd), 33, 37, 47, 48, 52, 53, 57 1-9 (odd), 13, 15
13	Tue, Feb 12	4.1 4.2	1-7 (odd), 13, 17, 19-23 (odd), 29-37 (odd) 1-31 (odd)

¹This is *tentative*. See the webpage for an up-to-date schedule. All sections and homework problems are from the textbook.

Lesson	Date	Sections	HW Problems
14	Wed, Feb 13	Recitation Session	
15	Thu, Feb 14	4.3	1-27 (odd), 29-32
16	Tue, Feb 19	4.4	1-11 (odd), 15-23 (odd), 27, 29
17	Wed, Feb 20	Recitation Session	Quiz 1
18	Thu, Feb 21	4.5	1-11 (odd), 13, 15
		4.6	1, 3, 13-31 (odd), 23, 26
19	Tue, Feb 26	4.7	1-17 (odd), 29
20	Wed, Feb 27	Recitation Session	
21	Thu, Feb 28	Midterm 1	
22	Tue, Mar 5	Spring break	
23	Wed, Mar 6	Spring break	
24	Thu, Mar 7	Spring break	
25	Tue, Mar 12	5.1	1-15 (odd), 21-29 (odd), 33-41 (odd), 45
26	Wed, Mar 13	Recitation Session	
27	Thu, Mar 14	5.2	1-11 (odd), 15-27 (odd)
		5.3	1-13 (odd), 21-27 (odd), 35
28	Tue, Mar 19	5.4	1-7 (odd), 11, 12, 15-21 (odd), 25, 27
		5.5	1-39 (odd)
29	Wed, Mar 20	Recitation Session	
30	Thu, Mar 21	5.5	47-55 (odd), 59, 61
		5.6	1-13 (odd), 21, 25, 27
31	Tue, Mar 26	6.1	1-23 (odd), 34, 37
		6.2	1-27 (odd), 31, 36
32	Wed, Mar 27	Recitation Session	
33	Thu, Mar 28	6.2	
		6.3	1-11 (odd), 38
34	Tue, Apr 2	7.1	1-15 (odd), 21, 24-26
		7.2	1-9 (odd), 13-17 (odd), 26
35	Wed, Apr 3	Recitation Session	Quiz 2
36	Thu, Apr 4	7.3	1-25 (odd), 38, 43
37	Tue, Apr 9	7.4	1, 3, 11, 16
		7.5	1-23 (odd)
38	Wed, Apr 10	Recitation Session	
39	Thu, Apr 11	Midterm 2	
40	Tue, Apr 16	10.1	1-33 (odd)
		10.2	1-25 (odd), 28, 32, 37
41	Wed, Apr 17	Recitation Session	
42	Thu, Apr 18	10.3	1-19 (odd), 23-26, 27-37 (odd)
		10.4	1-33 (odd)
	Thu, May 2	Final Exam, 3:00pm, location TBA	

6. COURSE POLICIES

6.1. **Calculators.** Calculators will not be used in this course.

6.2. Classroom Policy. Students are not allowed to use electronic equipment such as cell phones, music players, or computers during class. Texting during class is not acceptable.

6.3. Honor Code. All work submitted for credit must be the student's own and is subject to the provisions of the Vanderbilt Honor Code. Details can be found at the Honor Council web site: <http://studentorgs.vanderbilt.edu/HonorCouncil>.

6.4. Accommodation Procedure. A student who needs course accommodations due to a disability, special arrangements in case the building must be evacuated, or has emergency medical information that needs to be shared with the instructor, should contact the instructor as soon as possible. Equal Opportunity, Affirmative Action, and Disability Services (2-4705 or <http://www.vanderbilt.edu/ead>) at Vanderbilt provides specific accommodations for students with physical or learning disabilities. Upon receiving appropriate documentation from the student, the Opportunity Development Center will make arrangements with the instructor for the accommodations.

6.5. Complaint Procedure. If at any time during the semester the student wishes to discuss class procedure, schedule, grades, or any class situation, contact the instructor during regularly scheduled office hours or via email. Both office hours and email address are given above. Any complaint that cannot be resolved directly with the instructor should be referred to the Director of Teaching (John Rafter in SC 1332).

6.6. Attendance. The student who misses a class meeting is responsible for any assignments and/or announcements made. Office hours will not be utilized to re-teach material presented in class. The stated attendance policy of the College of Arts and Science applies in this course: Students are expected to attend all scheduled meetings of classes in which they are enrolled; they have an obligation to contribute to the academic performance of all students by full participation in the work of each class. The faculty of the College of Arts and Science recognizes that occasions arise during the academic year that merit the excused absence of a student from a scheduled class or laboratory during which an examination, quiz, or other graded exercise is given. Examples include participation in sponsored university activities (e.g., debate team, varsity sports), observance of officially designated religious holidays, serious personal problems (e.g., serious illness, death of a member of the students family), and matters relating to the students academic training (e.g., graduate or professional school interviews). Conflicts arising from personal travel plans or social obligations do not qualify as excused absences.

6.7. Anonymous feedback. Students are encouraged to bring suggestions and to discuss with the course instructors any concerns they may have, including something they think is not being properly handled in the course. But if you do not feel comfortable about doing that, you have the opportunity to send some anonymous feedback at the course webpage.