

**Departmental syllabus for MAT 485**  
**Fall 2017**  
**Differential Equations and Matrix Algebra for Engineers**

**Course Supervisor**  
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**Class meetings are in Carnegie 122, 11:00--12:20, TTh**

**Office hours: T 3:30-5:00 PM, Th 12:30-2:00 PM or by appointment**

**Course Description:** Solutions of ordinary differential equations, Laplace transforms, vector spaces, matrix algebra, linear systems, eigenvalues and eigenvectors. Prerequisites: MAT 397. Credit cannot be given for both MAT 485 and MAT 514 or for both MAT 485 and MAT 331. MAT 485 does not count towards mathematics major, and students in CIS should not take it.

**Text:** Differential Equations & Linear Algebra by Farlow, Hall, McDill, and West, Pearson, 2<sup>nd</sup> edition.. We expect to cover Chapters 1-6, 8 with some omissions. A tentative day-by-day schedule of sections covered and the list of assigned homework problems are given below.

**Exams:** There will be two tests during the semester and a cumulative final examination, as well as quizzes and/or graded homework. The date for the final will be given by the individual instructor. The final exam will be given Thursday, December 14, 3:00-5:00 PM, and at no other time. The course grade will be computed as follows: each term exam counts 25%, quizzes are worth of 10%, homework and class participation count 10%, and the final exam counts 30%.

At the end of the semester your average may be curved so that the final grade will be given by the rule:

A= 93-100	A-= 90-92	B+=87-89	B=83-86	B-=80-82
C+=77-79	C=73-76	C-=70-72	D=60-69	F= less than 60

**Make-ups**

No make-up examinations will be given. If you expect to miss an examination for a legitimate reason, discuss this, in advance, with your instructor, who may then substitute the relevant score from your final examination for the missing grade.

**Calculator policy:** A calculator is not required for this course. In particular, no calculators will be allowed on the exams or quizzes. Use or availability of any calculator or other electronic device on the exams or quizzes will be a violation of the Academic Integrity Policy. You may use calculators for learning purposes and for solving homework. On exams and quizzes complete solutions, and not merely answers, must be presented to receive credit.

**Attendance:** You are expected to attend class and participate in it. If you miss a class, you are responsible for obtaining notes and any announcements from that class from another student.

**Students with disabilities:** If you believe that you need accommodations for a disability, please contact the Office of Disability Services(ODS), <http://disabilityservices.syr.edu>, located in Room 303 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

**Academic integrity:** Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice.

Complete academic honesty is expected of all students. Any incidence of academic dishonesty as defined by the SU Academic Integrity Policy will result in both course sanctions and formal notification of the College of Arts and Sciences.

The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level. For more information and the complete policy, see <http://class.syr.edu/academic-integrity/policy/>

**Religious observances policy:** SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice (Student Services → Enrollment → My Religious Observances) from the first day of class until the end of the second week of class.

**MAT 485**  
Homework, TTh Sections  
Fall 2017

Class	Date	Sections	Exercises
1.	8/29	1.2 1.3 1.4-1.5	3, 5, 7 11, 13, 17, 21, 25, 27, 31, 33, 57
2.	8/31	2.1 2.2 2.3	1, 3, 5 3, 5, 7, 11, 15, 17, 19 1, 5, 7, 11, 13
3.	9/5	2.4 2.5 2.6	3, 5, 7, 15, 21(a) 1, 3, 5, 15 1(ad), 3(ad)
4.	9/7	3.1	1, 3, 7, 11, 13, 17, 21, 34(ab), 51, 55, 59
5.	9/12	3.2	1, 11, 25, 31, 33, 53, 62, 64
6.	9/14	3.3	6, 7, 9, 11, 15, 20, 48
7.	9/19	3.4	1, 3, 5, 12, 20, 23, 39, 41
8.	9/21	3.5 3.6	1, 5, 11, 13, 15, 19, 21, 53, 54, 55 1, 3, 7, 9, 11
9.	9/26	3.6	19, 21, 23, 45, 62, 63, 64
10.	9/28	<b>Catch-up, Review</b>	

11.	10/3	<b>EXAM 1</b>	
12.	10/5	4.1	1, 3, 15, 17, 19, 23, 25, 46, 58
13.	10/10	4.2	1, 3, 5, 7, 15, 17, 56, 59
		4.3	1, 3, 5, 11, 13, 62, 64
14.	10/12	4.4	7, 9, 11, 13, 29, 33, 35, 41, 45, 47
		4.5	3, 5, 9, 11, 13
15.	10/17	4.6	7, 9, 10, 12, 14, 32
		5.1	1, 5, 9, 33, 35, 37, 39, 43
16.	10/19	5.2	2, 5, 7, 13, 25, 27, 29, 31, 35, 37
		5.3	1, 2, 3
17.	10/24	5.3	19, 21, 27
		5.4	25, 26, 35, 37
18.	10/26	6.1	1, 3, 5, 7
		6.2	9, 11, 21, 23, 25, 29, 31
19.	10/31	6.3	1, 3, 5, 13, 30, 32
20.	11/2	6.4	1, 2, 3, 4, 5, 6, 7, 8
21.	11/7	6.5	1, 3, 5, 11, 13, 15
22.	11/9	<b>Catch-up, Review</b>	
23.	11/14	<b>EXAM 2</b>	
24.	11/16	7.2	1, 3, 5, 7, 9, 11, 12, 15
25.	11/28	8.1	1, 2, 5, 9, 11, 12, 17, 32, 33, 41, 45, 49
26.	11/30	8.2	1, 3, 5, 9, 11, 13, 15
27.	12/5	8.3	3, 11, 17, 20, 24, 28, 30, 33, 34, 36
28.	12/7	<b>Catch-up, Review</b>	

**Thursday 12/14, 3:00-5:00 PM**

**FINAL EXAM**