Math 2700-001 Course Syllabus - Spring 2019

Meets: MWF 9:00-9:50 in BLB 250

Instructor: Dr. Pieter Allaart

Office: GAB, Room 415; Phone: 369-7313   **E-mail:** allaart@unt.edu

Office Hours:
- Mon, Wed 10:30-12:00
- Tue 1:00-2:00
- and by appointment
- I will usually be able to answer a few brief questions immediately after class.

(There is a slight chance that these hours will change.)

You are also welcome to drop by outside office hours without an appointment. However, there will be occasions when I will be busy, and I may ask you to wait or to come back later.

Book: Linear Algebra and its Applications (5th Edition), by David C. Lay.

Prerequisite: Math 1720

Grading: Grades will be based on three mid-term exams, homework, quizzes, and a final exam, weighted as follows:

- Mid-term exams: 50%
- Homework: 10%
- Quizzes: 10%
- Final exam: 30%

The lowest of your three mid-term exams only carries half weight. Thus, your best two exams each make up 20% of your grade, and your worst exam makes up 10% of your grade.

Exams: The regular exams will be given in class on February 15, March 22 and April 26. (There is a slight chance these dates will change.) If you show up late for an exam, without a valid excuse, do not expect to be given extra time for the exam. Not finding a parking space is *not* a valid excuse! The final exam is on Wednesday, May 8 at 8:00. If you miss an exam due to illness or other circumstances beyond your control, you should contact me within 24 hours in order to be granted a make-up exam. The make-up exam may be different from the original.

Homework: Homework will be assigned at the end of each class period, and will be collected the following **Wednesday**, at the beginning of class. Even though not the entire homework assignment will be graded, you are expected to do all the assigned problems because you can only master the material through ample practice. You should expect to spend at least two hours on work for the course outside class for every class hour. That makes six (6) hours per week! Your two lowest homework grades will be dropped. As a consequence, late homework will not be accepted, NO EXCEPTIONS. Homework which is messy or difficult to read will not be graded.

For your convenience, homework assignments will be posted on Canvas. If nothing is posted, it does not mean no homework is due. Contact me to make sure.

Quizzes: There will be a short quiz each Friday. It will cover material learned that week. In some cases you may be allowed to collaborate on quizzes. *This will always be clearly communicated.*

Attendance: Attendance is not required for this class. However, I strongly recommend that you come to class each class day, in order to keep track of what is going on and not to fall behind.

Extra credit: Do not expect to be able to do some extra work to help your grade either before or after the final exam. There will be no extra credit other than perhaps an extra problem on an exam. Your best bet to help your grade is to do the required work at the time it is assigned.

Disabilities: The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940.565.4323.

Cheating: No cheating will be tolerated. Anyone caught cheating will be subject to any penalty the instructor deems appropriate, up to and including an automatic F for the course. Furthermore, a letter will be sent to the appropriate dean.

List of topics:

Lecture(s)	Section(s)	Topic(s)
1,2	1.1	Systems of linear equations
3,4,5	1.2	Row reduction and echelon forms
6,7	1.3	Vector equations
8,9	1.4	The matrix equation $\mathbf{Ax} = \mathbf{b}$
10	1.5	Solution sets of linear systems
11	1.6	Applications of linear systems
12,13	1.7	Linear independence
14	-	Exam 1
15	1.8	Introduction to linear transformations
16,17	1.8, 1.9	The matrix of a linear transformation
18	2.1	Matrix operations
19,20	2.2	The inverse of a matrix
21	2.3	Characterization of invertible matrices
22	2.4	Partitioned matrices
23	2.5	Matrix factorizations
24,25	2.7	Applications to computer graphics
26	-	Exam 2
27,28	4.1	Vector spaces and subspaces
29,30	4.2	Null spaces, column spaces, and linear transformations
31,32	4.3	Linearly independent sets; bases
33	4.5	The dimension of a vector space
34	4.6	Rank
35	3.1	Introduction to determinants
36,37	3.2	Properties of determinants
38	5.1	Eigenvectors and eigenvalues
39	5.2	The characteristic equation
40	5.3	Diagonalization
41	-	Exam 3