

MA 305

(the following information may have some changes - follow the online version)

Lecture

Instructor : Medvinsky Michael
Classes : MTWHF 11:40am - 1:10pm SAS 2106
Office Hours : MTWHF right after the class, or by appointment
Office : SAS 3266
Website : <https://mmedvin.math.ncsu.edu/Teaching/MA305.html>
E-mail : mmedvin@ncsu.edu

Prerequisites: Prerequisite: MA 241 or MA 231 with MA 132.

Description of the course: MA305 is an introductory course in linear algebra. Students will be introduced to matrices and basic concepts such as vector spaces, linear independence, bases, dimension, orthogonality, eigenvalues, reduction of matrices to diagonal forms. Emphasis is given to topics that will be useful in other disciplines.

Note: *Credit is not allowed for both MA 305 and MA 405.*

Text: Linear Algebra and its Applications, by D.C. Lay, S.R. Lay, J.J. McDonald, 5th ed., 2016.

Exams: Dates are fixed. Please plan your schedule around these dates now. All absences must be excused in advance. No make up test will be given.

Test I : Tuesday May 29 (in class)
Test II : Monday Jun 11 (in class)
Final Exam : Th Jun 21 (in class, 1:00 pm – 4:00 pm)

Tentative plan of lectures:

week	dates	sections	main content
1	May 16-18	1.1-1.5	Introduction, System of Linear Equations, Eshlelon form, Vectors and Matrices Equations, Solution Set
2	May 21-25	1.7-1.9, 2.1-2.5	Linear independence, Introduction to Linear Transformations, Matrix Algebra, Invertible Matrces, Block Matrix, Matrix Factorization
3	May 28-June 1	3.1-3.3,4.1-4.3	<i>Memorial Day</i> , Test I , Determinants, Cramer Rule, Vector Spaces, Subspaces, Special Spaces, Linear Transformations, Linearly Independent Sets, Bases
4	Jun 4-8	4.4-4.8, 5.1-5.3	Coordinate System, Rank and Dimension of Vector Space , Change of Basis, Applications Eigenvalues, Eigenfunctions, Diagonalization
5	Jun 11-15	5.4, 6.1-6.3	Test II , Eigen Vectors and Linear Transformations, Inner Product, Orthogonality, Orthogonal Sets, Projections
6	Jun 18-20	6.4,6.5	Gram-Schmidt Process, Least Squares, Review

Grading (not final): Provided that you have submitted at least 70% of asigments your grade will be determined by your scores on the tests ($2 \times 20 = 40\%$), the final exam (30%), and Homework (30%).

Letter grades are determined as follows: If X is your percentage grade, then $X \geq 98\% \Rightarrow A+$; $X \geq 92\% \Rightarrow A$; $X \geq 90\% \Rightarrow A-$; $X \geq 88\% \Rightarrow B+$; $X \geq 82\% \Rightarrow B$; $X \geq 80\% \Rightarrow B-$; $X \geq 78\% \Rightarrow C+$; $X \geq 72\% \Rightarrow C$; $X \geq 70\% \Rightarrow C-$; $X \geq 68\% \Rightarrow D+$; $X \geq 62\% \Rightarrow D$; $X \geq 60\% \Rightarrow D$ - $X < 60\% \Rightarrow D$.

I reserve the right to modify these in special cases and to decide if the curve is needed.

Strategies for Success:

- You are many - I am one. Your help is needed!!! If for any reason you think something is wrong or can be improved or you are unhappy with what is happening - please inform me immediately. I cannot solve your problem or provide a help if I'm not aware of it. From the other side, the sooner you come to me the faster your problem (and may be not only yours) will be solved. It will help nobody if you won't inform me - it may help every one if you do it in time.
- Attend class regularly.
Read the relevant text book sections (and/or additional material if will be given) *before* you attend class. Ask questions and become involved during class sessions.
- Plan to do homework daily. You are encouraged to use computers to help learn and enhance the course material, as well as to solve and check homework problems. But keep in mind that your goal is to *understand* the material and that you will not have a computer with you during exams.
- Know how grades are computed at the start of the semester and plan your effort accordingly.
- Form study groups with other students. However, the assignments you turn in *must represent your own work*.
- Come to the office hours .

Mathematics Tutoring Center: Free tutorial is available in Mathematics Multimedia Center (<https://www.math.ncsu.edu/mmc/>) at 2103 and 2105 SAS Hall. Hours are 8am-5pm Monday-Thursday. A schedule of tutors' hours is available at <https://www.math.ncsu.edu/mmc/tutoring.php>. A list of private tutors is available at <https://www.math.ncsu.edu/mmc/tutorinfo.php>.

Academic Integrity Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct at <http://policies.ncsu.edu/policy/pol-11-35-01>

Academic Honesty See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty.

Honor Pledge Your signature on any test or assignment indicates "I have neither given nor received unauthorized aid on this test or assignment."

Accommodations for Disabilities Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, student must register with the Disability Services Office (<http://www.ncsu.edu/dso>) located at 1900 Student Health Center, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at <http://policies.ncsu.edu/regulation/reg-02-20-01>

Non-Discrimination Policy NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05> or http://www.ncsu.edu/equal_op. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.