

Date	Lecture	Topic	Text	My Notes	Due
M:1-18	1	what is the matrix			
W:1-20	2	fun with matrices			
F:1-22	3	Gaussian elimination			
M:1-25	4	elementary matrices, the CCP, span and LI			H1 due
W:1-27	5	inverse matrices			
F:1-29	6	more fun with matrices			
M:2-1	7	vector space	3		H2 due
W:2-3		Quiz 1 (100pts)(covers material of H1, H2 and Lec. 1-6)			
F:2-5	8	subspaces and linear dependence	4		
M:2-8	9	the concepts of basis and dimension	5		H3 due
W:2-10	10	general thms. about finitely generated vector spaces	7		
F:2-12	11	on systems of equations & linear manifolds	8, 9, 10		
M:2-15	12	linear transformations	11		H4 due
W: 2-17	13	matrix of linear transformation and coordinate change	13		
F: 2-19	14	additional examples			
M:2-22	15	Questions			H5 due
W:2-24		Test 1 (150pts)(comprehensive ) mostly about 3,4,5,7,11, 13 and Lectures after Quiz 1			
F:2-26	16	determinants	16-19		
M:2-29	17	determinants	16-19		
W:3-2	18	polynomials & complex numbers	20 & 21		
F:3-4	19	concepts in the theory of a single linear transformation	22		
M: 3-7	20	invariant subspaces	23		H6 due
W:3-9	21	the triangular form theorem	24		
F:3-11	22	the rational and Jordan canonical form	25		
		Spring Break: (3-14 to 3-18)			
M:3-21	23	concept of symmetry	14		Quiz 2
W: 3-23	24	inner products (definition, examples, theory)	15		
F: 3-25	25	inner products (more theory, least squares data fit)	15		
M:3-28		Easter Monday			
W: 3-30	26	quotient spaces and dual vector spaces	26		H7 due
F: 4-1	27	bilinear forms and duality	27		
M:4-4	28	direct sums and tensor products	28		H8 due
W: 4-6		Assessment Day			
F: 4-8	29	structure of orthogonal transformation	30		
M:4-11	30	the principal-axis theorem	31		H9 due
W: 4-13	31	the second derivative test in n-dimensions			
F: 4-15	32	unitary transformations and the spectral theorem	32		
M:4-18	33	unitary transformations and the spectral theorem	32		H10 due
W: 4-20	34	application to differential equations	34		
F: 4-22	35	application to differential equations	34		
M:4-25	36	Questions			H11 due
W: 4-27		Test 2 (150pts)(focus on topics after Spring Break)			
F: 4-29	37	sums of squares and Hurwitz' theorem	35		
M: 5-2	38	introduction to associative algebras			
W: 5-4		Reading Day (no classes)			
F: 5-6		Final Exam 1-3pm (comprehensive)			

- I would like you to study both my notes and the text as this course unfolds. That said, for Quiz 1, my notes will suffice. We begin studying Charles W. Curtis' *Linear Algebra An Introductory Approach* on 2-1.

- In order to keep on schedule, I may post some additional examples and/or proofs on You Tube.
- I plan for two Quizzes, one in-class, one take-home. Both are worth 100pts. You are allowed to work together on the take-home quiz. However, you must report with whom you worked.
- There will be two in-class Tests. Each is worth 150pts. Anytime I give a test any material we have discussed in lecture, the assigned reading, or the assigned homework is fair game.
- The assigned homework in this course will be a mixture of problems from the required text and those I write. I intend to post pdfs of the assigned homework in Course Content and I try to post solutions soon after the homework is collected. There will be about 180 problems assigned. They are usually worth 1pt a problem.
- The Final Exam is worth 300pts.
- In summary:
  - Tests 1 & 2 = 300pts
  - Final Exam = 300pts
  - Quizzes = 200pts
  - Homework = 180pts
  - Participation = 20pts
- No notes or notecards are permitted for the in-class exam, tests or quizzes.
- If you would like to petition for Honors in this class, let me know.
- I do have many resources posted from previous years of Math 321 and most of my lectures from Spring 2015 are posted on You Tube. I don't expect you study these things unless I say otherwise. This semester marks a rather significant reformulation of my presentation for Math 321, so, it might take some thinking to translate previous semester work.