

North Carolina State University Department of Mathematics
 MA 305 Introduction to Linear Algebra SU I 2019

Instructor: Dr. N. Jing, Office: SAS 3142, 3-3584. email: jing@ncsu.edu

Lectures: MTWHF, 9:50–11:20, WI 150

Schedule: Chaps. 1–6 and part of Chap. 7 in David Lay, Steven Lay and Judi McDonald’s book: Linear Algebra and its Applications, 5th ed., Pearson, 2016.

There are roughly 18 days for lectures, 4 days for exams and 1 flexible. Memorial Day: May 27

| Chapter | Topics | List of Topics |
|------------|--|----------------|
| 1-2 | Linear Systems, echelon forms, vector equations | 1 |
| | solutions of $Ax = b$, matrix operators | 2 |
| | Inverse, invertibility, Applications | 3 |
| | span, vector equations, linear independence | 4 |
| | linear transformations, matrix representation | 5 |
| 3 | Determinants, Cramer’s rule | 6 |
| 4 | Vector spaces, subspaces, nullspaces | 7 |
| | row/column spaces, Bases, coordinate vectors | 8 |
| | rank, base change, linear transformation revisit | 9 |
| 5 | Eigenvalue eigenvectors, char. equations | 10 |
| | Diagonalization problem | 11 |
| 6 | Inner product, orthogonal sets, Gram-Schmidt | 13 |
| | Least squares, normal equation | 14 |
| May 23 Th | Test 1, | (in class) |
| May 31 Fr | Test 2, | (in class) |
| Jun 7 Fr | Test 3 | (in class) |
| Jun 14 Fri | Test 4 | (in class) |
| Jun 20 | Final | (in class) |

Attendance You are required to attend each class. Usually no permission is granted for skipping a test, unless this is entirely unforeseen medical condition or other similar situation. Proper documentation must be established, otherwise your score is deemed to be zero. If you miss a test by an excused reason, the mark for that test will be determined by your later performance. No make-up tests will be planned for any situation.

Grading Policy Your grades will be calculated by the following weight scale

Quizzes/Attendance 2%-5%+ Exams 60%+ & Final 35%-38%

Homework Homework consists of reading assignment and problems for understanding the materials and preparing for the tests.

Attendance is required. NCSU policy is strictly enforced. You may review the definition of excused absences at <http://policies.ncsu.edu/regulation/reg-02-20-03> No quiz or test makeups will be granted.

Course Evaluations: Online class evaluations will be available for students to complete near the semester end. Students will receive an email message directing them to a website where they can login using their Unity ID and complete evaluations. All evaluations are confidential; instructors will never know how any one student responded to any question, and students will never know the ratings for any particular instructors.