
SYLLABUS FOR MATH 581A2:

LINEAR ALGEBRA FOR DATA SCIENCE I:

LINEAR ALGEBRA FOR NON-MATHEMATICIANS

THIS 1 CREDIT COURSE IS AVAILABLE ON-LINE ONLY DURING WEEKS 1-5 FALL 19. CSU STUDENTS REGISTER FOR CRN 82440 AND CSU ON-LINE DISTANCE STUDENTS REGISTER FOR CRN 82360.

INSTRUCTOR INFORMATION

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CSU On-Line ONLY Fall 2019
Prerequisites: M160

Lecture Topics

1. Matrix Operations
2. Linear Systems and Row Operations
3. Underdetermined Systems, RREF, rank/Nullity
4. Solving Systems, a geometric view
5. The matrix inverse and the LU decomposition
6. Vector spaces and subspaces
7. Linear Combinations, span, column space
8. Linear dependence, independence, the null space
9. The basis.
10. Basis for the row space.
11. Basis for the column space.
12. Orthogonality and Direct Sums.
13. Projections.
14. Model Fitting.
15. Change of basis.

Epilogue: Intro to the EVD and SVD

