Updated on Tuesday, December 27, 2022

Tentative Calendar of STAT 24300

○ Week 1
- ‣ Jan 4
  - · Introduction to Linear Algebra, Vector Geometry, Vector Spaces, Vector Spaces, Linear Combination
- ‣ Jan 6
  - · Linear Systems, Gaussian Elimination
- ‣ Assignment 1, due Jan 18 before lecture

○ Week 2
- ‣ Jan 9
  - · General Gaussian Elimination
- ‣ Jan 11 (Remote)
  - · Geometry of Linear System, singular cases.
- ‣ Jan 13
  - · Linear Independence, dependence, and nullspace.
- ‣ Assignment 2, due Jan 23 before lecture

○ Week 3
- ‣ Jan 18
  - · Subspace, Bases, span, range and rank.
- ‣ Jan 20
  - · The rank-nullity theorem. Rectangular systems
- ‣ Assignment 3, due Jan 30 before lecture

○ Week 4
- ‣ Jan 23
  - · Numerical consideration over Gaussian elimination- pivot, stability, time
- ‣ Jan 25
  - · The fundamental theorem of linear algebra. Matrix operation.
- ‣ Jan 27 (Remote)
  - · Gauss Jordan Elimination,
- ‣ Assignment 4, due Feb 6 before lecture

○ Week 5
- ‣ Jan 30
  - · Row Reduced Echelon Form
- ‣ Feb 1
  - · Special Matrices

- Feb 3
  - Projection onto a line/subspace
- Assignment 5, due Feb 13 before lecture
- Week 6
  - Feb 6
    - Least squares problems
  - Feb 8
    - Gram-Schmidt
  - Feb 10
    - QR decomposition
  - Assignment 6, due Feb 20 before lecture
- Week 7
  - Feb 13
    - General Gram-Schmidt
  - Feb 15
    - Linear Transform and Determinant
  - Feb 17
    - Intro to spectral linear algebra
  - Assignment 7, due Feb 27 before lecture
- Week 8
  - Feb 20
    - Eigen decomposition
  - Feb 22
    - Power of Matrix
  - Feb 24
    - Introduction to the SVD.
  - Assignment 8, due March 4 at noon
- Week 9
  - Feb 27
    - SVD
  - Mar 1
    - SVD (continued)
  - Mar 3
    - PCA, low rank approximations.
- Week 10
  - Reading and Final