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| ***Syllabus, Math 346*** | | | | | | |
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| ***The numbering refers to Strang's "Introduction to Linear Algebra", 5th Ed.*** | | | | | | |
| | ***Number of Classes*** | | | | | |
| ***1.1, 1.2, 1.3, 2.1 - Geometry of Linear Equations*** | *1* | | | | | |
| ***2.4 & 2.5 - Matrix Operations, Inverses*** | *1* | | | | | |
| ***2.2 and 2.3- Elimination (revisiting inverses)*** | *2* | | | | | |
| ***3.1 - Vector Spaces and Subspaces*** | *2* | | | | | |
| ***3.2 - The Nullspace*** | *1* | | | | | |
| ***3.3 - Complete solution to Ax=b*** | *1* | | | | | |
| ***3.4 - Independence, basis and dimension*** | *1* | | | | | |
| ***3.5 - Four fundamental subspaces*** | *1* | | | | | |
| ***4.1 - Orthogonality of Four Fund Subspaces*** | *1* | | | | | |
| ***4.2 - Projections*** | *1* | | | | | |
| ***4.3 - Least Squares Approximation*** | *1* | | | | | |
| ***4.4 - Gram-Schmidt process*** | *1* | | | | | |
| ***5.1 & 5.2 - Determinants*** | *1* | | | | | |
| ***6.1 - Eigenvectors and Eigenvalues*** | *1* | | | | | |
| ***6.2 - Diagonalization*** | *1* | | | | | |
| ***6.3 - Systems of Differential Equations*** | *1* | | | | | |
| ***6.4 - Symmetric Matrices, Spectral Theorem*** | *1* | | | | | |
| ***7.1- Image Processing*** | *1* | | | | | |
| ***7.2- Singular Value Decomposition*** | *1* | | | | | |
| ***7.3- PCA by SVD*** | *1* | | | | | |
| ***8.1 - Idea of Linear Transformation*** | *1* | | | | | |
| ***8.2 - Matrix of a Linear Transformation*** | *1* | | | | | |
| ***8.3 - The search for a good basis (Jordan form)*** | *1* | | | | | |
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| ***Total*** | ***25*** | | | | | |
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