Linear Algebra for Data Science

1 credit courses I-IV:

I: Linear algebra for Data Science Primer. This course is intended for the motivated beginner, and will also serve to as a fast-paced refresher course. It covers the fundamental subspaces, bases and projections. It is offered on-line only and serves as a prerequisite to courses II-IV.

II: Geometric Techniques for Data Reduction: Eigenvectors to the singular value decomposition via principal component analysis. (Required for III)

III: Matrix Factorizations and Transformations: This course covers spectral methods including Laplacian Eigenmaps and multi-dimensional scaling, discrete Fourier and wavelet transforms, angles between subspaces and the generalized singular value decomposition. (Required for IV)

IV: Q!: Background theory: theory supporting modules I-III and additional topics including the pseudo-inverse.