This chart compares the equivalent sections of the UC Davis MAT 22A and Stanford XM511 courses.

Linear Algebra Course Comparison

Equivalency of UC Davis (MAT 22A) and Stanford University OHSx (XM511)

Textbook used for Stanford XM511 course: *Linear Algebra* by R. Bronson (ISBN 0121352455)

UC Davis MAT 22A Linear Algebra Sections	**Stanford XM511 Linear Algebra Sections**
1.1 Vectors and linear combinations	2.1 Vectors, 2.2 Subspaces, 2.3 Linear Independence
1.2 Lengths and dot products	2.1 Vectors, (also went over this in Calc 3)
1.3 Matrices	1.1 Basic Concepts, 1.2 Matrix Multiplication,
2.1 Vectors and linear equations	2.1 Vectors, 1.4 Linear Systems of Equations
2.2 The idea of elimination	1.4 Linear Systems of Equations
2.3 Elimination using matrices	1.4 Linear Systems of Equations
2.4 Rules for matrix operations	1.1 Basic Concepts, 1.2 Matrix Multiplication
2.5 Inverse matrices	1.5 The Inverse
2.6 Elimination = Factorization: A = LU	1.6 LU Decomposition
2.7 Transposes and permutations	1.3 Special Matrices
3.1 Spaces and vectors	2.1 Vectors, 2.2 Subspaces
3.2 Nullspace of A: Solving Ax = 0	2.2 Subspaces, 2.6 Rank of a Matrix
3.3 The Rank and the Row Reduced Form	1.3 Special Matrices, 2.6 Rank of a Matrix
3.4 The complete solution to Ax = b	2.6 Rank of a Matrix
3.5 Independence, basis, and dimension.	2.3 Linear Independence, 2.4 Basis and Dimension
3.6 Dimensions of the Four Subspaces	2.4 Basis and Dimension
4.1 Orthogonality of the Four Subspaces	5.1 Orthogonality
4.2 Projections	5.2 Projections
4.3 Least squares approximations	5.4 Least squares
4.4 Orthogonal bases and Gram-Schmidt	5.1 Orthogonality, 5.2 Projections
5.1 The properties of determinants	4.2 Properties of Determinants
5.2 Permutations and cofactors	4.1 Determinants
6.1 Introduction to eigenvalues	4.3 Eigenvectors and Eigenvalues, 4.4 Properties of Eigenvalues and Eigenvectors
6.2 Diagonalizing a matrix	4.5 Diagonalization
6.4 Symmetric matrices	1.3 Special Matrices
6.5 Positive definite matrices (time permitting)	4.5 Diagonalization