MATH3333 - Linear Algebra

Indicative weekly outline of topics (subject to change)

Week	Commencing Monday	Topics	Section
1	18 Jan	Systems of linear equations; Matrices; Augmented matrices; Elementary row operations	One.I
2	25 Jan	(Reduced) Row echelon form; Solving linear systems; Describing solution sets	One.III
3	1 Feb	Vector spaces; subspaces; span	Two.I
4	8 Feb	Linear independence; Basis and dimension	Two.II-III
5	15 Feb	Rank of a matrix. **Midterm 1 (Friday)**	Two.III
6	22 Feb	Linear transformations; Kernel and range	Three.II
7	29 Feb	Matrix representations; Special matrices; Matrix operations	Three.III-IV
8	7 Mar	Elementary matrices; Matrix inverses	Three.IV
	14 Mar	**Spring Break**	
9	21 Mar	**Midterm 2 (Monday).** Change of basis; Orthogonal/orthonormal bases	Three.V-VI
10	28 Mar	Orthogonal/orthonormal bases continued; Determinants	Three.VI, Four.I
11	4 Apr	Determinants continued; Matrix inverse via determinants	Four.II-III
12	11 Apr	Eigenvalues and eigenvectors. **Midterm 3 (Friday)**	Five.II
13	18 Apr	Diagonalisation and similar matrices	Five.II
14	25 Apr	Selected applications from: Graphs; Pagerank; Population models (time permitting).	Five.topics
15	2 May	More applications (time permitting); Review	

Sections refer to the designated course text "Linear Algebra" by J. Hefferon