

**MA 35100 - 061**  
(Tentative Weekly Readings/Sections)

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**Week # 1** Aug 19 - Aug 23:

- § 1.1 - *Basic Matrix Theory and NOTATION*
- § 3.2 - *Matrix Multiplication; Partitioned matrices*

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**Week # 2** Aug 26 - Aug 30:

- § 1.2 - *Linear Systems; augmented matrices, consistent/inconsistent systems; ERO; row equivalence*
- § 1.3 - *Gaussian Elimination Method (GEM), Gauss-Jordan Elimination Method (GJEM); echelon form; REF; RREF*

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**Week # 3** Sept 4 - Sept 6:

- § 2.1 - *Independence/Dependence; span; linear combination; IDE*

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**Week # 4** Sept 9 - Sept 13:

- § 2.1 - *Independence/Dependence; span; linear combination; IDE* — continued
- **Quiz # 1** (See Blackboard for topics list)

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**Week # 5** Sept 16 - Sept 20:

- § 2.1 - *Minimal spanning sets (basis)*
- § 1.4 - *Column Space and Row Space of a matrix  $A$ ; Null Space of a matrix  $A$*
- § 1.1 - *General Vector Spaces; table of common vector spaces*
- § 1.4 - *Subspaces of vector spaces*

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**Week # 6** Sept 23 - Sept 27:

- § 1.4 - *Subspaces (cont'd)*
- Exam Review
- **EXAM # 1** on September 27 (See Blackboard for topics list, practice exams, and other resources)

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**Week # 7** Sept 30 - Oct 4:

- § 1.4 - *Subspaces (cont'd)*
- § 2.1 - *Basis (minimal spanning set)*
- § 2.1 - *Basis for Column Space, Row Space, and Null Space of a matrix A*
- § 2.2 - *Dimension of a Vector Space*

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**Week # 8** Oct 9 - Oct 11:

- § 2.1 - *Basis (minimal spanning set) (cont'd)*
- § 2.1 and § 2.2 - *Dimension; Basis for Column Space, Row Space, and Null Space of a matrix A*
- § 2.3 - *Rank of a matrix A; Rank-Nullity Thm*
- § 2.3 - *Some results/applications of Rank*

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**Week # 9** Oct 14 - Oct 18:

- § 2.3 - *Rank, Rank-Nullity Thm; Some results/applications of Rank (cont'd)*

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**Week # 10** Oct 21 - Oct 25:

- § 3.1 - *Transformations, Linear Transformations, Matrix transformations*
- § 3.1 - **Matrix Representation Theorem**
- § 3.2 - *Matrix Multiplication - (Already Done)*
- § 3.3 - *Inverse of a Matrix*

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**Week # 11** Oct 28 - Nov 1:

- § 3.5 - *Matrix Representation for general Linear Transformations*

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**Week # 12 and # 13** Nov 4 - Nov 15:

- § 3.4 - *LU Factorization NOT ON EXAM*
- § 4.1 - *Determinants; Properties of determinants*
- Exam #2 Review Day
- § 4.2 , 4.3 - *Determinants cont'd*

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**Week # 14** Nov 18 - Nov 22:

- *Applications of Determinants - Cramer's Rule, Inverses, Adjoins/Adjugates, Wronskians, Differential Equations, Areas, Volumes, Jacobians*
- § 5.1 - *Eigenvalues & Eigenvectors*