

Math 0280 Schedule and Practice Problems

Important Deadlines:

- **September 9: Fall term Add/Drop ends.**
- **September 16: Extended Add/Drop ends.**
- **October 28: Deadline to submit Monitored Withdrawal to the Dean's office**
- **October 28: Deadline to submit the Final Exam Conflict form.**

August 29:

Introduction.

1.1. The Geometry and Algebra of Vectors.

1.1 Problems 1--28

August 31:

1.1.(cont.) The Geometry and Algebra of Vectors

1.1 Problems 1--28

September 2:

1.2. Length and Angle. The Dot Product. Projections.

1.2 Problems 1--52.

September 5: Labor Day (University Closed)

September 7:

1.2.(cont.) Length and Angle. The Dot Product. Projections.

1.3. Lines and Planes.

1.2 Problems 61--67.

1.3 Problems 1--15.

September 9:

1.3. Lines and Planes.

1.3 Problems 18--30, 35--38.

September 12:

2.1. Introduction to Systems of Linear Equations.

2.1 Problems 1--38.

September 14:

2.2. Direct Methods for Solving Linear Systems.

2.2 Problems 1--18.

September 16:

2.2.(cont.) Direct Methods for Solving Linear Systems.

2.2 Problems 23--46.

September 19:

2.3. Spanning Sets and Linear Independence.
2.3 Problems 1--42.

September 21:

2.3.(cont.) Spanning Sets and Linear Independence.
2.3 Problems 1--42.

September 23:

2.3.(cont.) Spanning Sets and Linear Independence.
2.3 Problems 1--42.

September 26:

Chapters 1 and 2 Review. Applications.

September 28:

3.1. Matrix Operations.
3.1 Problems 1--22, 31--36

September 30:

3.2. Matrix Algebra.
3.2 Problems 1--28.

October 3:

3.3. The Inverse of a Matrix. Elementary Matrices. The Fundamental Theorem of Invertible Matrices.
3.3 Problems 1--23.

October 5:

3.3. (cont.) The Inverse of a Matrix. Elementary Matrices. The Fundamental Theorem of Invertible Matrices.
3.3 Problems 24--40.

October 7:

3.3.(cont.) The Inverse of a Matrix. Elementary Matrices. The Fundamental Theorem of Invertible Matrices.
3.3 Problems 48--59.

October 10:

Review.

October 12:

Midterm Exam 1

October 14: Fall Break for Students (No Class)

October 17:

3.5. Subspaces, Basis, Dimension, Rank. Coordinates.
3.5 Problems 1--48, 51, 52.

October 19:

3.5.(cont.) Subspaces, Basis, Dimension, Rank. Coordinates.
3.5 Problems 1--48, 51, 52.

October 21:

3.5.(cont.) Subspaces, Basis, Dimension, Rank. Coordinates.
3.5 Problems 1--48, 51, 52.

October 24:

3.6. Introduction to Linear Transformations.
3.6 Problems 1--25, 29--39.

October 26:

3.6.(cont.) Introduction to Linear Transformations.
3.6 Problems 1--25, 29--39.

October 28:

Chapter 3 Review. Applications.

October 31:

4.1. Introduction to Eigenvalues and Eigenvectors.
4.1 Problems 1--18.

November 2:

4.2. Determinants. The Laplace Expansion Theorem.
4.2 Problems 1--52.

November 4:

4.2.(cont.) Determinants. Cramer's Rule. Adjoint.
4.2 Problems 57--65.

November 7:

4.3. Eigenvalues and Eigenvectors of $n \times n$ Matrices
4.3 Problems 1--18.

November 9:

4.3. (cont.) Eigenvalues and Eigenvectors of $n \times n$ Matrices
4.3 Problems 1--18.

November 11:

Review

November 14:
Midterm Exam 2

November 16:
4.4. Similarity and Diagonalization.
4.4 Problems 1--41.

November 18:
4.4.(cont.) Similarity and Diagonalization.
4.4 Problems 1--41.

November 20-27: Thanksgiving Recess for students (no classes)

November 28:
5.1. Orthogonality. Orthogonal Matrices.
5.1 Problems 1--21.

November 30:
5.2. Orthogonal Complements and Orthogonal Projections. The Orthogonal Decomposition.
5.2 Problems 1--22.

December 2:
5.2. (cont.) Orthogonal Complements and Orthogonal Projections. The Orthogonal Decomposition.
5.2 Problems 1--22.

December 5:
5.3. The Gram-Schmidt Process.
5.3 Problems 1--14.

December 7:
5.4. Orthogonal Diagonalization of Symmetric Matrices.
5.4 Problems 1--12.

December 9:
5.4. (cont.) Orthogonal Diagonalization of Symmetric Matrices.
5.4 Problems 1--12.

December 15:
Final exam for all day sections
4:00-5:50PM Room: TBA