**Instructor:** Andrzej Czygrinow  
**Email:** Andrzej.Czygrinow@asu.edu  
**Office:** PSA 828  
**Phone:** (480)965-2352  
**Url:** http://math.la.asu.edu/~andrzej/mat342.html  
**Office hours:** Monday 9:00-10:30, Thursday 3:30-5:00

**Text:** *Linear Algebra with Applications*, Steven J. Leon (7th edition).

**Homework and Quizzes:** There will be regular homework assignments and occasional quizzes. Homework will be collected every Tuesday. **No late homework will be accepted and no make-up quizzes will be given.**

**Tests:** There will be two in-class tests. Make-up tests are at the discretion of the instructor. **No make-up test will be given unless a student has notified the instructor before the test is given.**

**Grading:** Your final grade will be computed as follows: 25% - homework and quizzes, 40% - tests (20% each), 35% - final.

**Grading scale:** A: above 90%, B: 80% - 90%, C: 70% - 79%, D: 60%-69%, E: below 60%.

**Important Dates**

<table>
<thead>
<tr>
<th>Test</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>02/23/11</td>
</tr>
<tr>
<td>Test 2</td>
<td>04/11/11</td>
</tr>
<tr>
<td>Final</td>
<td>05/11/11 12:10-2:00 PM</td>
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</tbody>
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**Important:** All rules are approximate; dates are tentative and are subject to change.

**List of Topics**

1.1 Systems of Linear Equations  
1.2 Row Echelon Form  
1.3 Matrix Algebra  
1.4 Elementary Matrices  
1.5 Partition Matrices

2.1 The Determinant of a Matrix  
2.2 Properties of Determinants
3.1 Definition of a Vector Space
3.2 Subspaces
3.3 Linear Independence
3.4 Basis and Dimension
3.5 Change of Basis
3.6 Row Space and Column Space

4.1 Linear Transformations
4.2 Matrix Representations
4.3 Similarity

5.1 The Scalar Product
5.2 Orthogonal Subspaces
5.3 Least Squares Problems
5.4 Inner Product Spaces
5.5 Orthonormal Sets
5.6 The Gram-Schmidt Orthogonalization

6.1 Eigenvalues and Eigenvectors
6.3 Diagonalization
6.4 Hermitian Matrices
6.5 The Singular Value Decomposition
6.6 and 6.2 Quadratic Forms and Systems of Linear Differential Equations