Fall 2014 - Math 401 Section 0401
Applications of Linear Algebra

Lectures: MWF 10:00am-10:50am MTH 0405

Instructor: Enrique Otarola
Office: Math building 4302
Email: kike@math.umd.edu
Office hours: W 12:00-13:00

Webpage: http://www.math.umd.edu/~eotaro11/

References

Course description:
1. Gaussian Elimination, Matrix Factorization and Determinants (Chapter 1 of [1]) \approx 3 weeks.
2. Vector Spaces and Bases (Chapter 2 of [1]) \approx 2 weeks.
3. Orthogonality and Least Squares (Chapter 3, 4, 5 of [1]) \approx 3 weeks.
4. Eigenvalues and Eigenvectors (Chapter 8 of [1]) \approx 2 weeks.
5. Computations with Matrices (Chapter 10 of [1] and Chapter 7 of [2]) \approx 2 weeks.
6. Linear Programming and Game Theory (Chapter 8 of [2]) \approx 1-2 weeks.

Grading scheme: Final grades will be a joint effort:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>10 %</td>
</tr>
<tr>
<td>Homework and Matlab</td>
<td>20 %</td>
</tr>
<tr>
<td>Midterms (2 exams \times 20 % each)</td>
<td>40 %</td>
</tr>
<tr>
<td>Final</td>
<td>30 %</td>
</tr>
</tbody>
</table>

Exams (70%): There will be two midterm exams each worth 20\% of the final grade and a cumulative final exam worth 30\%. The mid term exams will be held during class on the following days (tentative):
Final exam: Saturday, December 20: 8:00-10:00am.

**Quizzes (10%)**: There will be a 10-minute quiz about every two weeks, unless stated otherwise, which will cover the material developed since the previous quiz. Quizzes will be announced the class before.

**Homework and Matlab (20%)**: Homework problems will be assigned each class and some of them graded. Quizzes will be slight modifications of homework problems. A list of homework assignments will be posted on the webpage of the course and updated frequently. There will be several Matlab assignments. Students are encouraged to work in groups of up to three students but must hand in an individual project report.

**Make-up Quiz/Midterm Policy**: Make-up examinations will be given only in the case of an absence caused by illness, religious observance, participation in a University activity at the request of of the University authorities, or compelling circumstances beyond the students’ control. Convincing documentation such as a doctor’s note will be required. For further information visit:

http://www.testudo.umd.edu/soc/atedasse.html

The reason for absence must to unavoidable, documented, and reported to me at least 48 hours before the exam date.

**Academic Integrity**: You are expected to abide by the University’s policy on academic integrity:

http://studenthonorcouncil.umd.edu/SHC/

All cases of academic dishonesty will be referred to the Office of Student Conduct. Academic dishonesty includes cheating on quizzes and exams. Students are encouraged to work in groups of up to three students but must hand in an individual project report.