QUEENSBOROUGH COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK

COURSE OUTLINE

TITLE: MA-461 LINEAR ALGEBRA

Pre-requisite: MA-442 with a grade of C or better

Hours: 4 Class Hours 1 Recitation Hour 4 Credits

Course Description: Vector spaces; systems of linear equations; determinants; linear operations; matrices; inner product spaces; eigenvalues and eigenvectors. Students will solve application problems using software such as Maple.

Curricula for which the Course is required/recommended: A.S. Degree programs in the Liberal Arts and Sciences and Engineering

General Education Objectives: Reason quantitatively and mathematically as required in their fields of interest and everyday life.

Course Objectives/Expected Student Learning Outcomes: Students will investigate solutions of linear systems of equations and develop an intuition about vector spaces through familiarity with two- and three-dimensional Euclidean spaces, use matrices and determinants to represent linear transformations, and apply eigenvalues and eigenvectors. Students will derive and analyze proofs.

Reference:
Linear Algebra with Applications by Gareth Williams, 8th ed.
Published by Jones and Bartlett

Grading:
Final: 30%
Two Midterm Exams: 40%
Homework (including Maple assignments): 20%
Quiz: 10%

Academic Integrity:
Academic honesty is taken extremely seriously and is expected of all students. All assignments must be the original work of the student (and partners or group, if applicable). All questions or concerns regarding ethical conduct should be brought to the course instructor. “It is the official policy of the College that all acts or attempted acts that are violations of academic integrity be reported to the Office of Student Affairs (OSA). At the faculty member’s discretion and with the concurrence of the student or students involved, some cases, though reported to the OSA, may be resolved within the confines of the course and department. The instructor has the authority to adjust the offender’s grades as deemed appropriate, including assigning an F to the assignment or exercise or, in more serious cases, an F to the student for the entire course.” (Taken from the QCC Academic Integrity Policy, 2/14/2005.)

Note: Any student who feels that he/she may need an accommodation based upon the impact of a disability should contact me privately to discuss his/her specific needs. Please contact the Office of Student Disabilities, room S-132 (718-631-6257) to coordinate reasonable accommodations for students with documented disabilities.
<table>
<thead>
<tr>
<th>TOPIC</th>
<th>CHAPTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Equations and Vectors</td>
<td>1</td>
</tr>
<tr>
<td>Matrices and Linear Transformations (excl. Fractals)</td>
<td>2</td>
</tr>
<tr>
<td>Determinants and Eigenvectors</td>
<td>3</td>
</tr>
<tr>
<td>General Vector Spaces</td>
<td>4</td>
</tr>
<tr>
<td>Coordinate Representations</td>
<td>5</td>
</tr>
<tr>
<td>Inner product Spaces</td>
<td>6</td>
</tr>
<tr>
<td>Applications as determined by instructor</td>
<td></td>
</tr>
</tbody>
</table>

JB/WL:cs  FALL 2014
[SYLLABI F14 MA-461]