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.

TEXT: Introduction to Linear Algebra, 3rd edition,
by: Gilbert Strang
Wellesley Cambridge Press

Grading:

3 Exams	40%
Final	30%
HW/Lab Assignments	30%

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.

OTHER RESOURCES: Graphing Calculator, Maple CAS, web sites

TOPIC	CHAPTER
Introduction to Vectors	**1**
Solving Linear Equations	**2**
Vectors Spaces and Subspaces	**3**
Orthogonality	**4**
Determinants	**5**
Eigenvalues and Eigenvectors	**6**
Linear Transformations	**7**

The approximate hours per chapter are guidelines and are at the discretion of the instructor. The instructor is responsible for making assignments and scheduling examinations. The Final Exam date is scheduled by the Registrar.

JB: cs SPRING 2009
[MATH28\MA461 S09 JB]