QUEENSBOROUGH COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK

COURSE OUTLINE

MA-471 **INTRODUCTION TO DISCRETE STRUCTURES**

Pre-requisite: MA-440 Pre-Calculus Mathematics

Hours: 3 Class Hours 3 Credits

Course Description: Concepts in set theory, functions, logic, proofs, elementary number theory, introduction to abstract algebra.

Curricula for which the course is required/recommended:
A.S. Degree Programs in Liberal Arts and Sciences (Computer Science, Mathematics and Science) as well as for those students interested in a program in Secondary Mathematics Education.

General Education Objectives: Use analytical reasoning skills to identify issues or problems and evaluate evidence in order to make informed decisions; reason quantitatively and mathematically as required in their fields of interest and in everyday life; integrate knowledge and skills in their program of study; use information management and technology skills effectively for academic research and lifelong learning.

Course Objectives/ Expected Student Learning Outcomes: To study discrete structures applicable to mathematics, computer science and mathematics education and to develop within the student the ability to reason and communicate within the context of the course material.

Text: Discrete Mathematics and Its Applications (6th Edition) by Kenneth H. Rosen
McGraw-Hill Publications

Methods by which student learning will be evaluated:

Suggested (the distribution may be changed at the discretion of the individual instructor):

- Assignments and Classroom Performance 15%
- 3 In-class Exams (20% each) 60%
- Final Examination 25%

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 the instructor privately to discuss his/her specific needs. Please contact the office of Services for Students with Disabilities in Science Building, room 132 (718 631 6257) to coordinate reasonable accommodations for students with documented disabilities.*

Summary of main topics covered in the course:

TOPIC	CHAPTER	SECTIONS	WEEKS
Logic and Proofs; Sets; Functions; Sequences; Sums	**1** **2**	**1-7** **1-4**	**5**
Algorithms; Complexity; Integers;	**3**	**1-8**	**4**
Mathematical Induction and Recursion	**4**	**1-4**	**3**
Counting	**5**	**1-3**	**2**

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.

MMF:cs SPRING 2009