QUEENSBOROUGH COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK
ACADEMIC SENATE REPORT

FROM: Frank Cotty, Chair, Committee on Curriculum
TO: E. Tai, Secretary, Academic Senate Steering Committee
CC: P. Pecorino, Dean K. Steele, College Archives (C.Williams)
DATE: December 6, 2005
SUBJECT: **Monthly Report for December 2005**

The Curriculum Committee recommends the following for adoption by the Academic Senate:

NEW COURSE

Mathematics and Computer Science:

MA 260 Pre-Calculus and Elements of Calculus for Business Students
4 class hours, 1 Recitation Hour, 4 Credits
Prerequisite: **MA-120**

Course description: Mathematical foundations necessary for the application of Basic Technical Calculus to the solution of business problems. Economic Functions, Matrix Operations and Applications, Limits and Continuity, Derivatives, Chain Rule, Implicit Differentiation, Marginal Functions, Newton's Method , Related Rates, Elements of Geometry, Regression.
   Note: Can be taken as a free elective. Does not satisfy the mathematics requirements for the liberal arts and sciences core or the concentration for the A.S. in Liberal Arts and Sciences (Mathematics and Science)

Rationale As part of CUNY's articulation efforts, dropping MA-240 & 250, Mathematics for Business and Economics Students (4 credits total) and replacing these courses with one 4 credit course, MA-260 Pre-Calculus and Elements of Calculus for Business Students will provide Business transfer students with stronger preparation in mathematics than does the current combination of MA-240/250. MA-240 and MA-250 are not accepted by Baruch or Queens College the two major intuitions for Queensborough transfer students. Upon transfer our students have to take two math courses at the senior college before entering their Junior year of studies. The suggested course substitution was designed by Baruch to be a business specific pre-calculus course. Current negotiations with Queens may result in their acceptance of MA-260.
Also under development is a calculus for business students which will fulfill the calculus requirement suggested by Baruch.
Instituting a single math course requirement for the curriculum at this time, rather than a complete package of curriculum changes, permits the concerned departments an opportunity to assess the impact of more rigorous course work on student completion rates.

QUEENSBOROUGH COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK

4 credits
4 class hours
1 recitation hour

TITLE: MA-260 PRE-CALCULUS AND ELEMENTS OF CALCULUS FOR
                  BUSINESS STUDENTS

TEXT: 1. Pre-Calculus and Elements of Calculus, First Edition
                  by: Gordon and Wang
                  Addison-Wesley Publishing Co. (ISBN 0-536-95236-1)
              2. Graphing Calculator Required (TI-89)

OBJECTIVES OF THE COURSE: This course is intended to provide business students with a foundation in the basic mechanics of calculus. The topics are: linear functions, economic functions, marginal functions, regression, matrix operations, derivatives and applications, and elements of geometry.

TOPIC	SECTION	CLASS HOURS
REVIEW	0.1-1.1	4
FUNCTIONS		
Basic Notion of Functions	1.2	3
Applications of Linear Functions	1.3	3
Quadratic Functions	1.4	2
The Circle	1.5	2
Economic Functions	1.6	3
More on Functions	1.7	2
REGRESSION		
Regression and Applications	1.8	3
MATRICES		
Basic Matrix Operations	2.1	3
Matrix Multiplication	2.2	3
Gauss-Jordan Reduction	2.3	3
Systems of Equations	2.4	3
DERIVATIVES		
Slopes of curves and Derivatives	3.1	3

Derivative Rules I	3.2	4
Limits and Continuity	3.3	2
Limits at Infinity	3.4	2
Derivative Rules 2	3.5	3
Chain Rule	3.6	3
Marginal Functions and Rates of Change	3.7	3
Implicit Differentiation	3.8	3
Elements of Geometry	3.9	3
Related Rates	3.10	3
Newton's Methods	3.11	3
EXAMS		4

TOTAL   70

PROGRAM REVISIONS

<u>Business Department:</u>
Change in Program: A.A.S. in Accounting

Rationale: Approval of MA 260 to replace MA 240 and MA 250 requires changes in the A.A.S. in Accounting.
Program revisions on addendum # A

<u>Business Department</u>:
Change in Program: A.S. in Business Administration.

Rationale: Approval of MA 260 to replace MA 240 and MA 250 requires changes in the A.S in Business Administration.
Program revisions on addendum # B

<u>Business Department</u>:
Change in Program A.A.S. in Computer Information Systems

Rationale: Approval of MA 260 to replace MA 240 and MA 250 requires changes in the A.A.S. in Computer Information Systems
Program revisions on addendum # C

COURSE REVISIONS:

<u>Chemistry Department:</u>
Change in Co-requisites:
CH-902, 903 Cooperative Education in Chemical Instrumental AnalysisII
From   CH-251, 252
To: CH-151, 152

Rationale: Students will now be able to start research projects while still in their freshman (CH-151, 152) year which will allow them to get adequate results <u>for </u>a peer reviewed publication. At the same time they will have the opportunity to conduct more research, obtain more results, which they can present in more conferences and get a better "resume" that will enhance their chances of getting accepted to a more prestigious conference.

.
NEW COURSE

<u>Chemistry Department:</u>

69

CH 904, CH 905 Cooperative Education in Chemical Instrumental Analysis III
90 hours per course- most of the course time will be lab time. 2 credits per course
Co-requisite: CH-251/252 and departmental permission

Course Description:
    These courses provide an opportunity for a student to continue learning modern instrumental techniques, to gain practical experience working in professional chemistry laboratory and to do supervised research. Students will meet with their coordinator/mentor at least once a month to discuss their progress. A minimum of 90 hours of work (for each course per semester) and submitting a paper that summarizes their work at the end of the semester are required. The students are also expected to present their work at a chemical undergraduate conference. A letter grade will be given at the end of the semester. Students may request consecutive or concurrent enrollment totaling no more than 4 credits, if combined with CH-251, 252. CH-904 and CH-905 can be taken as free electives in any curriculum and can be applied to the major concentration but not the basic liberal arts and sciences core of the A.S. (Mathematics and Sciences) degree program. A maximum of 6 credits in the 900 series (CH-900-905) may be applied to the concentration.

Rationale: The new courses (CH-904, 905) will be taken as co-requisites with CH-251, 252. Students will now be able to start research projects while still in their freshman (CH-151, 152) year, and continue that research while they take sophomore chemistry courses, CH-251, 252. This increased opportunity to take research courses will allow them to get adequate results, hopefully in peer reviewed publications, and to .obtain more results, which they can present in more conferences and get a better "resume" that will enhance their chances of getting accepted to a more prestigious conference.

Addendum A   **Program: A.A.S. in Accounting**
Revisions: Drop MA-240 & 250 and add MA-260 or MA-128 with the option of MA-441.

FROM: **TO:**

Requirements

General Education Core Requirements

Course	Description	Credits
EN-101, 102	English Composition I, II 6	
[MA-240	Mathematics for Business & Economics I .... 2]	
[MA-250	Mathematics for Business & Economics II .... 2]	
	 4	
	Laboratory Science	4
	Social Sciences or History elective or	
	Speech Communication (SP-211)………………………3	
SS-211 or 212	Economics……………………………………………3	
	Sub-total	20

Requirements

General Education Core Requirements

Course	Description	Credits
EN-101, 102	English Composition I, II……………………………..	
MA-260 **or**	Pre-calculus and Elements of Calculus for Business Students# **or**	
MA-128	Calculus for Technical or Business Students# …….	
	Laboratory Science……………………………………	
	Social Sciences or History elective or	
	Speech Communication (SP-211)…………….........	
SS-211 or 212	Economics……………………………………..........	
	Sub-total	

Requirements for the Major....................................

BU-101, 102	Principles of Accounting I, II... 8	
BU-103	Intermediate Accounting I... 4	
BU-104	Intermediate Accounting II.. 3	
BU-110	Cost Accounting 4	

Requirements for the Major

BU-101, 102	Principles of Accounting I, II……………………....	
BU-103	Intermediate Accounting I……………………………	
BU-104	Intermediate Accounting II………………………....	
BU-110	Cost Accounting………………………………….....	

BU-108	Income Taxation 3	BU-108
BU-111	Computer Applications in Accounting 3	BU-111
BU-201	Business Organization & Management 3	BU-201
BU-203	Principles of Statistics 3	BU-203
BU-301	Business Law I 3	BU-301
BU-500	Introduction to Microcomputer Applications 3	BU-500
BU-701	Principles of Finance 3	BU-701

Left column:

BU-108   Income Taxation 3

BU-111   Computer Applications in Accounting 3

BU-201   Business Organization & Management 3

BU-203   Principles of Statistics 3

BU-301   Business Law I 3

BU-500   Introduction to Microcomputer Applications 3

BU-701   Principles of Finance 3

                                 Sub-total   40

Right column:

BU-108   Income Taxation……………………………...

BU-111   Computer Applications in Accounting………......

BU-201   Business Organization & Management……………

BU-203   Principles of Statistics……………………….......

BU-301   Business Law I…………………………………..

BU-500   Introduction to Microcomputer Applications……………………………….........

BU-701   Principles of Finance………………………………

                                 Sub-total

Total Credits Required for the A.A.S.…………………………………60

#For students planning to transfer to an accounting program at a four-year institution, it is **strongly recommended** that they complete a calculus course [such as MA-128 (Calculus for may substitute Technical or Business Students) or MA-441 (Analytic Geometry and Calculus I),] prior to the institution to which transfer. Students should check with the institution to which they plan to transfer regarding the course that will satisfy this requirement ....

Total Credits Required for the A.A.S.……………………………...60

For students planning to transfer to an accounting program at a four-year institution, it **strongly recommended** that they complete a calculus course prior to transfer. Students MA-441 (Analytic Geometry and Calculus I). Students should check with they plan to transfer regarding the course that will satisfy this requirement.

72

Rationale: As part of the City University's articulation efforts, Baruch College has created an articulation plan with all the CUNY community colleges which identifies a core set of "pre-BBA" courses that community college students should complete as part of their associate degree studies if they wish to transfer into a BBA program at Baruch, at the junior level. As a result, Queensborough is dropping MA-240 & 250, Mathematics for Business and Economics Students (4 credits total) and replacing these courses with one 4 credit course, MA-260 Pre-Calculus and Elements of Calculus for Business Students.   MA-260 will provide accounting students with stronger preparation in mathematics than does the current combination of MA-240/250. For students in the A.A.S. in Accounting who wish to continue in a four year program, students are still recommended to take a calculus course prior to transfer, so the option of MA-128 is provided in this change.   MA-120 is the pre-requisite for both MA-128 and MA-260.

Addendum B **Program: A.S. in Business Administration**
HEGIS Code: 5004
Program Code: 01520
Revisions: **Drop MA-240 & 250, and add MA-128 or MA-260 or MA-440.**
FROM **TO**
Requirements **Requirements**

General Education Core Requirements Requirements

Course	Description	Credits
EN-101, 102	English Composition I, II	6
	Foreign Language and/or	
	Liberal Arts and Sciences*	4-8
	....	
[MA-240	Mathematics for Business & Economics I#..................	2]
[MA-250	Mathematics for Business & Economics II#	2]
_____	Laboratory Science	4-4½
HE-101 or 102	Health Education	1-2
HI-110, 111		
or 112	History................................	3
SS-211 or 212	Economics............................	3
SP-211	Speech Communication..................	3
_____	Social Sciences, History, or	
	Humanities elective..................	3
	Sub-total	**31-36½**

General Education Core

Course	Description	Credits
EN-101, 102	English Composition I, II	6
	Foreign Language and/or	
	Liberal Arts and Science*	4-8
MA-128 **or**	Calculus for Technical and Business Students #	
MA-260 **or**	Pre-Calculus and Elements of Calculus for	
Business Students# **or**		
MA-440	Pre-Calculus Mathematics#.....................	4
_____	Laboratory Science....................	4-4½
HE-101 or 102	Health Education.....................	1-2
HI-110, 111		
or 112	History................................	3
SS-211 or 212	Economics............................	3
SP-211	Speech Communication.............	3
_____	Social Sciences, History, or	
	Humanities elective.................	3
	Sub-total........	**31-36½**

Requirements for the Major................................

BU-101	Principles of Accounting I	4
BU-102	Principles of Accounting II...................	4
BU-201	Business Organization & Management..................	3
BU-203	Principles of Statistics......................	3
BU-301	Business Law I........................	3
BU-401	Elements of Marketing......................	3
BU-701	Principles of Finance.......................	3

Requirements for the Major

BU-101	Principles of Accounting I........................	4
BU-102	Principles of Accounting II.......................	4
BU-201	Business Organization & Management..........	3
BU-203	Principles of Statistics...........................	3
BU-301	Business Law I.....................................	3
BU-401	Elements of Marketing...........................	3
BU-701	Principles of Finance.............................	3

74

	Sub-total	23		Sub-total	23 **ELECTIVES**

ELECTIVES

Free electives**…………………………… 1-6

Free electives**……………………………………………………1-6

Total Credits Required for the A.S.…………….….………..60

* Note on Foreign Languages and Literatures Requirements: ....
(see catalog)   ....

Total Credits Required for the A.S.……………………………..60

* Note on Foreign Languages and Literature Requirements: (see catalog)

Students should check with the institution to which they plan to transfer regarding the course that will satisfy this requirement   Students planning to transfer to a BBA program at Queens should take MA-128. Students planning to transfer to Baruch should *also* take a calculus course such as MA-441

(Analytic Geometry and Calculus I), prior to transfer. This course may be taken as part of the Liberal Arts and Sciences electives or as part of the free electives

[For students planning to transfer to an accounting program at a four-year institution, it is strongly recommended that they complete a calculus course such as MA-128 (Calculus for Technical or Business Students) or MA-441 (Analytic Geometry and Calculus I), prior to transfer.] Students should check with the institution to which they plan to transfer regarding the course that will satisfy this requirement. ....

** Students planning to transfer to Baruch are advised to [take BU-500]

** Students planning to transfer to Baruch are advised to consult the Business Department about additional requirements for transfer to junior status.

Rationale:

One of the "pre-BBA" requirements (at Baruch, Queens, and other colleges) is that students complete a course in calculus. Baruch is revising its applied calculus sequence, and will no longer be accepting the MA-240 & 250 plus MA-128 sequence, which many BT students have been following at Queensborough. Queensborough's Mathematics and Computer Science Department has developed a new course, MA-260 Pre-Calculus and Elements of Calculus for Business Students, which parallels MTH 2003 at Baruch; and, the Math Department is also developing a new applied calculus course which will parallel the applied calculus course under revision at Baruch. Including MA 260 in the BA curriculum has transfer students taking only one math course instead of two at Baruch.

MA-260 will give students a stronger preparation in mathematics than the current MA-240/250 sequence. The Business Department is proposing to drop MA-240 & 250 from the program and replace it with MA-260, which will be the pre-requisite to the new applied calculus course under development. In addition, students will be given the option of taking MA-440 Pre-calculus Mathematics, the pre-requisite to QCC's traditional calculus course, MA-441.

Students in this program who wish to pursue their studies at Queens College are advised, on the basis of an existing articulation agreement and ongoing discussions with Queens College, to take MA-128 (as an option to MA-440, 441). The proposed change makes this option clearer both for advisement and for financial aid purposes. Queens College did not accept MA 240/250 and expected students to take MA 440 / 441. The Business Dept. is currently in negotiation with Queens College on the matter of acceptance of MA-260. At this time there is no Business specific calculus math course available at QCC.

Additional adjustments to the Business Administration program are under development, but this change is being made now so students will be able to take the new MA-260 during the Spring 2006 term. The Committee on Curriculum feels the piecemeal changes are warranted at this time to get a sense of how making this curriculum more rigorous will affect Queensborough students' progress.

Students registering for the Spring 2006 semester will register for linked Math courses: MA240 / MA-250. Registered students will be informed that the course is MA-260 if this proposal is accepted. Students who have taken MA-240 will be permitted to take an unlinked MA-250. Students who have previously taken MA-250 will be able to take an unlinked MA-240 in the spring 2006 semester.

Addendum C   **Program: A.A.S. in Computer Information Systems**

Revisions: Drop MA-240 & 250 and replace with MA-260

FROM: **TO:**

Requirements   **Requirements**
General Education Core Requirements   **General Education Core Requirements**

Course Credits	Description	Credits
EN-101, 102	English Composition I, II …………….....................6	
	 6	
	Mathematics*…………………………………………3-4	
Mathematics…………………………………………….3-4		
	Students may select one of the following:	
MA-321*	Mathematics in Contemporary Society*………………..3	
	………. 3	
	or	
[MA-240	Mathematics for Business & Economics I…………........2]	
	and	
……………………………………………4		
[MA-250	Mathematics for Business and Economics II …………………………………………2]	
	or	
MA-128	Calculus for Technical & Business Students……………4	
	………..4	
_____	Humanities elective…………………………………...3	
	………..3	
_____	Laboratory Science ……………………………….......4	
	………..4	
SS-211 or 212	Economics..3	
.... 3		
SS-or-HI	Social Sciences or History electives (HI-100 series)…………………………3	
....3		

Course	Description	
EN-101, 102	English Composition I, II**…………………………..**	
	Students may select one of the following:	
MA-321*	Mathematics in Contemporary Society*…………..…	
	or	
MA-260	Pre-calculus and Elements of Calculus for Business Students	
	or	
MA-128	Calculus for Technical & Business Students…….....	
_____	Humanities elective……………………………….…	
_____	Laboratory Science……………………………….…	
SS-211 or 212	Economics…………………………………………....	
SS-or-HI	Social Sciences, or History electives (HI-100series)………………….…	

	Sub-total	22-23		Sub-total

22-23

Requirements for the Major

Requirements for the Major

BU-101	Principles of Accounting I…….....................................4	BU-101	Principles of Accounting I………………………

………..4

BU-201	Business Organization & Management…………………3	BU-201	Business Organization & Management…………..

………………………………………………………3

BU-203	Principles of Statistics...3	BU-203	Principles of Statistics……………………........

………………………………………………………3

BU-500	Introduction to Microcomputer Applications………......3	BU-500	Introduction to Microcomputer Applications……..

………………………………………………………3

BU-509	Projects in Data Processing……………………….....3	BU-509	Projects in Data Processing………………………

………………………………………………………3

BU-520	Introduction to Computer Programming For Business ……………………………………….3	BU-520	Introduction to Computer Programming For Business …………………………………..

………………………………………………………3

Sub-total 19

Sub-total

19

Optional Tracks A or B

Optional Tracks A or B

(see catalog)   **Sub-total**   18-19   (see catalog)

Sub-total   18-19

Total Credits Required for the A.A.S.……………………….………... 60
A.A.S.………………………………………...60

Total Credits Required for the

A.A.S.

*See an adviser regarding selection of mathematics courses. [The MA-240/250 combination
if they plan to
and MA-128 are recommended for students planning to transfer to four-year colleges.]
Students who take MA-321 must complete 19 credits in the optional track.

*Students should See an adviser regarding selection of mathematics courses, especially

to transfer to four-year colleges. Students who take MA-321 must complete 19 credits
in the optional track.

Rationale: Queensborough is dropping MA-240 & 250, Mathematics for Business and Economics Students (4 credits total) and replacing these courses with one 4- credit course, MA-260 Pre-Calculus and Elements of Calculus for Business Students.   MA-260 will provide students with stronger preparation in mathematics than does the current combination of MA-240/250.   MA-120 is the pre-requisite for both MA-128 and MA-260.