

MONTHLY REPORT: NOVEMBER 2018 - COMMITTEE ON CURRICULUM

To: Joel Kuszai, Academic Senate Steering Committee
From: Todd Holden, November 28, 2018
Subject: Committee on Curriculum November 2018 Monthly Report for the December 2018 Senate
CC: College Archives (CWilliams@qcc.cuny.edu)

The Committee on Curriculum has voted to send the following recommendations and notices to the Academic Senate:

- 6 course revisions
- 1 new course
- 3 program revisions

1. COURSE REVISIONS

FOREIGN LANGUAGES AND LITERATURES

LS-112 Elementary Spanish II
 Departmental approval: October 3, 2018

FROM	TO
Elementary Spanish II	Elementary Spanish II
4 class hours 4 credits	4 class hours 4 credits
Pre-requisite: LS-111 with a grade of C or higher or placement by the Department of Foreign Languages and Literatures	Pre-requisite: LS111 <u>or</u> LS161 with a grade of C or higher, or placement by the Department of Foreign Languages and Literatures
Co-requisite: None	Co-requisite: None
This course is the second half of a first-year course in Spanish. Emphasis is on the progressive development of listening, speaking, reading and writing skills. Students continue to explore Spanish and Spanish-American cultures. Weekly listening, speaking, and viewing activities online or in the language laboratory are part of the course.	This course is the second half of a first-year course in Spanish. Emphasis is on the progressive development of listening, speaking, reading and writing skills. Students continue to explore Spanish and Spanish-American cultures. Weekly listening, speaking, and viewing activities online or in the language laboratory are part of the course.

Rationale:

The clarification of the prerequisites would help students understand that not only LS111, but also LS161 can serve as the first semester of Spanish.

LS-161 Spanish for Medical Personnel I
 Departmental approval: October 3, 2018

FROM	TO
Spanish for Medical Personnel I	<u>Elementary Spanish I for Health Care Professionals</u>

FROM	TO
4 class hours 4 credits	4 class hours 4 credits
Pre-requisite: none	Pre-requisite: <u>Placement by the Department of Foreign Languages and Literatures</u>
Co-requisite: None	Co-requisite: None
Course equivalent to LS-111, or the first semester of the basic language requirement Elements of Spanish grammar and orthography with emphasis on the vocabulary, scientific terms, and idioms necessary to communicate with Spanish speaking patients.	<u>LS161 satisfies the first semester of the basic language requirement. The course is an alternative to LS-111 that introduces the non-Spanish speaker to the language, with a focus on grammar and conversational skills relevant to healthcare terminology. It focuses on vocabulary, scientific terms, and idioms necessary to communicate with Spanish-speaking patients. Weekly listening, speaking, and viewing activities online or in the language laboratory are part of the course. No previous knowledge of the language is required.</u>

Rationale:

The course description is more specific and explanatory.

BIOLOGICAL SCIENCES AND GEOLOGY

BI-357 Bioinformatics and Computational Biology

Departmental approval: November 14, 2018

FROM	TO
Bioinformatics and Computational Biology	Bioinformatics and Computational Biology
3 class hours	3 class hours
Pre-requisite: BI-201 and BI-453 with a grade of C or better	Pre-requisite: BI-201 with a grade of C or better
Co-requisite: None	Co-requisite: None
Scientific concepts and computational methods of bioinformatics. Topics include sequence alignments, searching for homologous sequences, building phylogenetic trees and protein modeling. Current applications of computational biology in biotechnology and biochemistry. Use of bioinformatics as a tool for research in various biological fields.	Scientific concepts and computational methods of bioinformatics. Topics include sequence alignments, searching for homologous sequences, building phylogenetic trees and protein modeling. Current applications of computational biology in biotechnology and biochemistry. Use of bioinformatics as a tool for research in various biological fields.

Rationale:

Students who enroll in BI-357 have enough background on molecular evolution from BI-201. As long as students pass BI-201 with at least a C or better, they will have no problem understanding the material in BI-357. Students in the biotechnology program take BI-356 (Genetics), BI-357 (Bioinformatics) and BI-453 (Biotechnology) which are required for their graduation. If students who are not Biotechnology majors want to only take BI-357 as an elective, they will now be permitted to do so without having to take BI-453 or needing permission for an override each time we register the student.

MATHEMATICS AND COMPUTER SCIENCE

MA-119 College Algebra

Departmental approval: October 3, 2018

FROM	TO
College Algebra	College Algebra
3 Class hours, 1 Recitation hour, 3 Credits	3 Class hours, 1 Recitation hour, 3 Credits
Pre-requisite: MA-010 or exempt from remedial mathematics, or permission of the department.	Pre-requisite: MA-010 or <u>MA-010 ALP</u> or <u>MA-010 WS</u> or exempt from remedial mathematics, or permission of the department.
Co-requisite: None	Co-requisite: None
A basic presentation of the fundamental concepts of college algebra, systems of linear equations, inequalities, linear, quadratic, exponential and logarithmic functions. During the recitation hour, students review properties of signed numbers, graphing of linear equations, basic geometric concepts, solution of linear equations, factoring algebraic expressions and its applications to rational expressions. A graphing calculator will be required.	A basic presentation of the fundamental concepts of college algebra, systems of linear equations, inequalities, linear, quadratic, exponential and logarithmic functions. During the recitation hour, students review properties of signed numbers, graphing of linear equations, basic geometric concepts, solution of linear equations, factoring algebraic expressions and its applications to rational expressions. A graphing calculator will be required.

Rationale:

MA-010 ALP and MA-010 WS will be added as pre-requisite for MA-119 since both courses satisfy remedial requirements established by CUNY.

MA-321 Mathematics in Contemporary Society

Departmental approval: October 3, 2018

FROM	TO
Mathematics in Contemporary Society	Mathematics in Contemporary Society
3 Class hours, 3 Credits	3 Class hours, 3 Credits
Pre-requisite: MA-010 or MA-013 or satisfactory score on the mathematics placement test	Pre-requisite: MA-010 or <u>MA-010 ALP</u> or <u>MA10 WS</u> or <u>MA-071</u> or satisfactory score on the mathematics placement test
Co-requisite: None	Co-requisite: None
Designed to provide students with mathematical ideas and methods found in the social sciences, the arts, and in business. Topics will include fundamentals of statistics, scatterplots, graphics in the media, problem solving strategies, dimensional analysis, mathematics in music and art, and mathematical modeling. EXCEL will be used to explore real world applications.	Designed to provide students with mathematical ideas and methods found in the social sciences, the arts, and in business. Topics will include fundamentals of statistics, scatterplots, graphics in the media, problem solving strategies, dimensional analysis, mathematics in music and art, and mathematical modeling. EXCEL will be used to explore real world applications.

Rationale:

On a 10-25-2016 memo, CUNY Executive VC of Academic Affairs requested mathematics departments across the university to offer at least one alternative pathway for students who plan to pursue non-Algebra-intensive studies. In response, the Mathematics & Computer Science department at Queensborough Community College designated MA-321 as an alternative entry-level course for non-STEM students.

Course MA-071 was designed for Non-STEM students needing remediation. Also has been added permanently to the offerings of the department. The pre-requisite for MA-321 will be modified to allow non-STEM students to take the course after passing MA-071.

MA-010 ALP and MA-010 WS will also be added as pre-requisite for MA-321 since both courses satisfy remedial requirements established by CUNY.

MA-013 is being removed from the list of prerequisites as this course is no longer offered and has been removed from the college catalog.

HEALTH, PHYSICAL EDUCATION, AND DANCE

HE-110 Cardiopulmonary Resuscitation

Departmental approval: September 12, 2018

FROM	TO
Cardiopulmonary Resuscitation	Cardiopulmonary Resuscitation
1 credit	1 credit
Pre-requisite: None	Pre-requisite: None
Co-requisite: None	Co-requisite: None
Basic life support knowledge and skills in cardiopulmonary resuscitation developed, including artificial circulation, artificial respiration, and clearing obstructed airways. Upon successful completion of the course, students will receive American Red Cross CPR Certification.	Basic life support knowledge and skills in cardiopulmonary resuscitation developed, including artificial circulation, artificial respiration, and clearing obstructed airways. Upon successful completion of the course, students will <u>be eligible to receive a Basic Life Support CPR and AED for Healthcare Professionals Certificate through the American Heart Association</u>

Rationale:

Students no longer receive certification through the American Red Cross. Students receive certification through the American Heart Association. The American Heart Association Basic Life Support for the Healthcare Provider certification is required for certification/licensure for our emergency medical technician, nursing, medical office assistant, and massage therapy students.

2. NEW COURSE

MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT

Departmental approval date: October 3, 2018

CS-105 Topics in Computer Science

135 hours per course, 3 Credits

Prerequisite: Permission of the department

Co-requisite: None

Course Description for college catalog:

Intended for students who wish to investigate, in an individual manner, a topic chosen from an introduction to programming and/or computer science course. Each student works individually with a faculty member and is assigned readings and problems in his/her chosen topic. Formal meetings occur at least once a week depending on the student’s needs, and the student’s grade is determined both by the problems assigned and a final examination.

Rationale:

This course is being created to give credit in a computer science course to incoming students who received a score of 3 in the AP Computer Science Exam. This is the minimum score to receive any credit. Higher scores will receive credit in other computer science courses.

3. PROGRAM REVISIONS

MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT Departmental approval date: November 14, 2018
 Revisions of the Environmental Science – Associate in Science (A.S.) Program

Rationale:

Only a small percentage of students (2%) place into MA-440 upon arrival at QCC. Previously, students who placed at a lower level needed to take additional credit-bearing math courses (MA-119 and MA-121) beyond the 60 credits of degree requirements to graduate. Those additional math courses can be viewed as “hidden pre-requisites.” The changes indicated below allow students to count those additional math courses toward the degree as Advised Major Electives, eliminating the hidden prerequisites.

1. **Department:** Biology
2. **Program Name:** Environmental Science – Associate in Science (A.S.)
3. **Program Code:** 37858
4. **HEGIS Number:** 5408
5. **Date approved by department (DD/MM/YYYY):** 11/14/2018
6. **Date consulted with the Office of Academic Affairs:** 11/5/2018
7. **Date submitted to the Committee on Curriculum:** 11/14/2018
8. **Date approved by the Committee on Curriculum:** 11/20/2018
9. **Date the changes will be effective (if approved)**

Detailed Revisions

All text or items that will be deleted or changed should be marked with a strikethrough.
 All new text, courses, credits, etc. should be marked by underlining.
 Show the whole set of program requirements in a From/To format.

From:		To:	
Common Core	Credits	Common Core	Credits
REQUIRED CORE 1A: ENGL-101 English Composition I ENGL-102 English Composition II	3 3	REQUIRED CORE 1A: ENGL-101 English Composition I ENGL-102 English Composition II	3 3
REQUIRED CORE 1B: MA-440 Pre-Calculus Mathematics	4	REQUIRED CORE 1B: MA-440 ¹ Pre-Calculus Mathematics ¹	4
REQUIRED CORE 1C: BI-201 ¹ General Biology I ¹	4	REQUIRED CORE 1C: BI-201 ² General Biology I ²	4
FLEXIBLE CORE 2A: World Cultures & Global Issues (select one from 2A)	3	FLEXIBLE CORE 2A: World Cultures & Global Issues (select one from 2A)	3
FLEXIBLE CORE 2B: U.S. Experience & Its Diversity (select one from 2B)	3	FLEXIBLE CORE 2B: U.S. Experience & Its Diversity (select one from 2B)	3
FLEXIBLE CORE 2C:		FLEXIBLE CORE 2C:	

From:		To:	
Creative Expression (select one from 2C)	3	Creative Expression (select one from 2C)	3
FLEXIBLE CORE 2D: Individual & Society (select one from 2D)	3	FLEXIBLE CORE 2D: Individual & Society (select one from 2D)	3
FLEXIBLE CORE 2E: CH-151 ¹ General Chemistry I ¹	4.5	FLEXIBLE CORE 2E: CH-151 ² General Chemistry I ²	4.5
FLEXIBLE CORE 2E: CH-152 ¹ General Chemistry II ¹	4.5	FLEXIBLE CORE 2E: CH-152 ² General Chemistry II ²	4.5
Sub-Total	35	Sub-Total	35
Requirements for the Major		Requirements for the Major	
BI-160 Ecology	4	BI-160 Ecology	4
BI-202 General Biology II	4	BI-202 General Biology II	4
BI-461 General Microbiology	4	BI-461 General Microbiology	4
BI-480 Environmental Science	4	BI-480 Environmental Science	4
GE-101 Physical Geology	4	GE-101 Physical Geology	4
Subtotal	20		20
Advised Major Electives		Advised Major Electives	
Choose 5 Credits from:		Choose 5 Credits from:	
		MA-119 ¹ College Algebra ¹	3
		MA-121 ¹ Trigonometry ¹	1
BI-505 Current Environmental Issues	1	BI-505 Current Environmental Issues	1
BI-554 Research Laboratory Internship	2	BI-554 Research Laboratory Internship	2
CH-110/111 Chemistry and the Environment/Lab	4	CH-110/111 Chemistry and the Environment/Lab	4
ET-840 Energy for a Green Society	4	ET-840 Energy for a Green Society	4
ET-841 The Science of Energy and Power in the Modern World	3	ET-841 The Science of Energy and Power in the Modern World	3
ET-843 The Role of Energy in Society	3	ET-843 The Role of Energy in Society	3
GE-102 Historical Geology	4	GE-102 Historical Geology	4
HE-110 Cardiopulmonary Resuscitation	1	HE-110 Cardiopulmonary Resuscitation	1
MA-336 Statistics	3	MA-336 Statistics	3
MA-441 Analytic Geometry & Calculus I	4	MA-441 ¹ Analytic Geometry & Calculus I ¹	4
PH-120/121 Introduction to Meteorology/Lab	4	PH-120/121 Introduction to Meteorology/Lab	4
PH-124 Global Warming	3	PH-124 Global Warming	3
Subtotal	5	Subtotal	5
Total Credits Required	60	Total Credits Required	60

Program Notes

From:	To:
	¹ Students who do not place into MA-440 are required to take MA-119 and MA-121 prior to that course as <u>Advised Major Electives</u> .
¹ Students are required to take particular courses in some areas of the Common Core that fulfill both general education and major requirements. If students do not take the required courses in the Common Core, they will have to take additional credits to complete their degree requirements.	² Students are required to take particular courses in some areas of the Common Core that fulfill both general education and major requirements. If students do not take the required courses in the Common Core, they will have to take additional credits to complete their degree requirements.

Course Notes (Number your notes).

From:	To:
All students must successfully complete two (2) writing-intensive classes (designated "WI") to fulfill degree requirements.	All students must successfully complete two (2) writing-intensive classes (designated "WI") to fulfill degree requirements.

Write a summary for all of the changes.

The degree program now allows students who do not place into MA-440 to count the prerequisites for the course (MA-119 and MA-121) as advised major electives.

If the program revision includes course revisions or new courses, submit the appropriate Course Revision form and/or New Course Proposal Form, along with the Syllabus and Course Objectives form.

No new courses are required.

If courses will be deleted from the program, make clear whether the courses are to be deleted from the department's offerings as well.

No courses are being deleted from the program or departmental offerings.

Explain briefly how students currently in the program will be able to complete the requirements.

Because no courses are being deleted from the program or departmental offerings, students currently in the program will still be able to complete the original degree program.

Business

Departmental approval dates: November 7, 2018

Revisions of the Accounting – A.A.S. Degree Program

Rationale:

Most students do not place into precalculus or calculus upon arrival at QCC. Previously, students who placed at a lower math level needed to take additional math courses (MA-114 or MA-119 and MA-121) beyond the 60 credits of degree requirements to graduate. Those additional math courses can be viewed as “hidden pre-requisites.” The changes indicated below allow students to count those math courses toward Required Core 1B. That change will eliminate the problem of hidden prerequisites.

1. **Department:** Business
2. **Program Name:** Accounting – A.A.S. Degree Program
3. **Program Code:** 01524
4. **HEGIS Number:** 5002
5. **Date approved by department (DD/MM/YYYY):** 11/7/2018
6. **Date consulted with the Office of Academic Affairs:** 11/5/2018
7. **Date submitted to the Committee on Curriculum:** 11/17/2018
8. **Date approved by the Committee on Curriculum:** 11/27/2018
9. **Date the changes will be effective (if approved)** 1/25/2018

Detailed Revisions

All text or items that will be deleted or changed should be marked with a strikethrough.

All new text, courses, credits, etc. should be marked by underlining.

Show the whole set of program requirements in a From/To format.

From:		To:	
COMMON CORE REQUIREMENTS	Credits	COMMON CORE REQUIREMENTS	Credits
REQUIRED CORE 1A: ENGL-101 English Composition I	3	REQUIRED CORE 1A: ENGL-101 English Composition I	3
ENGL-102 English Composition II	3	ENGL-102 English Composition II	3
REQUIRED CORE 1B: Mathematics and Quantitative Reasoning (Required: MA-260 ¹ , MA-128 ¹ or MA-440 ¹)	4	REQUIRED CORE 1B: Mathematics and Quantitative Reasoning Required: MA-114¹ or <u>MA-119¹ and MA-121¹ or</u> <u>MA-128¹ or</u>	<u>4</u>

From:		To:	
		MA-260 ¹ or MA-440 ¹	
REQUIRED CORE 1C: Life & Physical Sciences (select from 1C ²)	3-4	REQUIRED CORE 1C: Life & Physical Sciences (select from 1C ²)	3-4
FLEXIBLE CORE 2A, 2B, 2D or SP-211 (select one course):	3	FLEXIBLE CORE Select one course from 2A, 2B, or 2D	3
ECON-101 Introduction to Microeconomics or ECON-102 Introduction to Macroeconomics	3	FLEXIBLE CORE ECON-101 Introduction to Microeconomics or ECON-102 Introduction to Macroeconomics	3
Sub-total	19-20³	Sub-total	19-20³
REQUIREMENTS FOR THE MAJOR		REQUIREMENTS FOR THE MAJOR	
BU-101 Principles of Accounting I	4	BU-101 Principles of Accounting I	4
BU-102 Principles of Accounting II	4	BU-102 Principles of Accounting II	4
BU-103 Intermediate Accounting I	4	BU-103 Intermediate Accounting I	4
BU-104 Intermediate Accounting II	3	BU-104 Intermediate Accounting II	3
BU-110 Cost Accounting	4	BU-110 Cost Accounting	4
BU-108 Income Taxation	3	BU-108 Income Taxation	3
BU-111 Computer Applications in Accounting	3	BU-111 Computer Applications in Accounting	3
BU-201 Business Organization and Management	3	BU-201 Business Organization and Management	3
BU-203 Principles of Statistics	3	BU-203 Principles of Statistics	3
BU-301 ⁴ Business Law I ⁴	3	BU-301 ⁴ Business Law I ⁴	3
BU-701 Principles of Finance	3	BU-701 Principles of Finance	3
CIS-101 Introduction to Computers and Applications	3	CIS-101 Introduction to Computers and Applications	3
Sub-total	40	Sub-total	40
MAJOR ELECTIVES		ADDITIONAL MAJOR REQUIREMENTS	
Laboratory Science ⁵ BI-132, BI-171, CH- 102, CH-111, CH-121, ET-842 or PH-112	0-1	Laboratory Science ⁵ BI-132, BI-171, CH- 102, CH-111, CH-121, ET-842 or PH-112	0-1
Sub-total	0-1	Sub-total	0-1
Total Credits Required	60	Total Credits Required	60

Program Notes

From:	To:
<i>All students must successfully complete two (2) writing-intensive classes (designated "WI") to fulfill degree requirements.</i>	<i>All students must successfully complete two (2) writing-intensive classes (designated "WI") to fulfill degree requirements.</i>

Course Notes (Number your notes).

From:	To:
¹ For students planning to transfer to an accounting program at a four-year institution, it is strongly recommended that they complete a calculus course prior to transfer. Students should check with the institution to which they plan to transfer regarding the course that will satisfy this requirement.	¹ For students planning to transfer to an accounting program at a four-year institution, it is strongly recommended that they complete a calculus course prior to transfer. Students should check with the institution to which they plan to transfer regarding the course that will satisfy this requirement.
² Laboratory science elective required for students who do not take STEM Variant in Required Core 1C.	² Laboratory science elective required for students who do not take STEM Variant in Required Core 1C.

From:	To:
³ The credit range accounts for STEM Variant in 1C.	³ The credit range accounts for STEM Variant in 1C.
⁴ Sections of this course denoted as “WI” may be taken to satisfy the writing-intensive requirement.	⁴ Sections of this course denoted as “WI” may be taken to satisfy the writing-intensive requirement.
⁵ For students who do take 4 credit STEM Variant in Required Core 1C this laboratory science elective is not required.	⁵ For students who do take 4 credit STEM Variant in Required Core 1C this laboratory science elective is not required.

Write a summary for all of the changes.

The math course required for the degree has been changed from MA-128 or MA-260 or MA-440 to MA-114 or MA-119 or MA-128 or MA-260 or MA-440.

Additional changes were made to clarify the core requirements.

If the program revision includes course revisions or new courses, submit the appropriate Course Revision form and/or New Course Proposal Form, along with the Syllabus and Course Objectives form.

No new courses or course revisions are required.

If courses will be deleted from the program, make clear whether the courses are to be deleted from the department’s offerings as well.

No courses are being deleted from the program or departmental offerings.

Explain briefly how students currently in the program will be able to complete the requirements.

Because no courses are being deleted from the program or departmental offerings, students currently in the program will still be able to complete the original degree program.

Biological Sciences and Geology, Chemistry, Mathematics and Computer Science, and Physics

Departmental approval dates: November 14, 2018 (Biology), November 12, 2018 (Chemistry), November 11, 2018 (Math), November 26, 2018 (Physics)

Revisions of the Liberal Arts and Sciences (Mathematics and Science) Associate in Science (A.S.) Degree Program

Rationale:

CUNY Central and the NYSED are requiring that this degree program start with MA-119. They have pointed out that by starting the degree program with MA-440, we have created hidden prerequisites (MA-119 and MA-121) for students who did not place into MA-440 upon arrival at QCC that would need to be taken outside the 60 credits required for the A.S. degree.

1. **Department:** Biology, Chemistry, Mathematics and Computer Science, and Physics
2. **Program Name:** Liberal Arts and Sciences (Mathematics and Science) Associate in Science (A.S.) Degree
3. **Program Code:** 01523
4. **HEGIS Number:** 5649
5. **Date approved by department (DD/MM/YYYY):** 11/26/2018
6. **Date consulted with the Office of Academic Affairs:** 10/23/2018
7. **Date submitted to the Committee on Curriculum:** 11/14/2018
8. **Date approved by the Committee on Curriculum:** 11/27/2018
9. **Date the changes will be effective (if approved)**

Detailed Revisions

All text or items that will be deleted or changed should be marked with a strikethrough.
 All new text, courses, credits, etc. should be marked by underlining.
 Show the whole set of program requirements in a From/To format.

From:		To:	
Common Core	Credits	Common Core	Credits
REQUIRED CORE 1A: ENGL-101 English Composition I ENGL-102 English Composition II	6	REQUIRED CORE 1A: ENGL-101 English Composition I ENGL-102 English Composition II	6
REQUIRED CORE 1B: MA-440 or higher	4	REQUIRED CORE 1B: <u>MA-119^{1,2} College Algebra</u>	<u>3</u>
REQUIRED CORE 1C: Life and Physical Sciences (one of the following required: BI-201, CH-151, PH-301, PH-311, PH-401 or PH-411)	4	REQUIRED CORE 1C: Life and Physical Sciences <u>(one of the following required²: BI-201, CH-151, PH-301, PH-311, or PH-421)</u> <u>The following options are recommended for students planning on pursuing a degree in one of the subjects listed below</u> <u>Biology: BI-201</u> <u>Chemistry: CH-151</u> <u>Computer Science: BI-201, CH-151, PH-301, PH-311, or PH-421</u> <u>Mathematics: PH-301, PH-311, or PH-421</u> <u>Physics: PH-421</u>	<u>4-5</u>
FLEXIBLE CORE 2A: World Cultures & Global Issues (select one from 2A)	3	FLEXIBLE CORE 2A: World Cultures & Global Issues (select one from 2A)	3
FLEXIBLE CORE 2B: U.S. Experience & Its Diversity (select one from 2B)	3	FLEXIBLE CORE 2B: U.S. Experience & Its Diversity <u>SP-211 Speech Communication²</u>	3
FLEXIBLE CORE 2C: Creative Expression (select one from 2C)	3	FLEXIBLE CORE 2C: Creative Expression (select one from 2C)	3
FLEXIBLE CORE 2D: Individual & Society (select one from 2D)	3	FLEXIBLE CORE 2D: Individual & Society (select one from 2D)	3
FLEXIBLE CORE 2E: Scientific World, one of following required: BI-201, CH-151 (or higher level), MA-443, MA-451, MA-461, CS-101, CS-201, CS-203, CS-204, PH-301, PH-311, PH-401 or PH-411	4	FLEXIBLE CORE 2E: <u>Scientific World</u> <u>Two of the following required²: BI-201, BI-202, CH-151, CH-152, CH-251, CH-252, MA-442, MA-443, MA-451, MA-461, CS-101³, CS-201, CS-203³, PH-301, PH-302, PH-311, PH-312, PH-421, PH-422</u>	<u>8-10</u>
FLEXIBLE CORE 2E: one of following required: BI-201, CH-151 (or higher level), MA-443, MA-451, MA-461, CS-101, CS-201, CS-203, CS-204, PH-301, PH-311, PH-401 or PH-411	4	<u>The following options are recommended for students planning on pursuing a degree in one of the subjects listed below:</u> <u>Biology: BI-202 and CH-151</u> <u>Chemistry: CH-152 and CH-251</u> <u>Computer Science: CS-101³ and CS-201</u> <u>Mathematics: PH-302, PH-312, or PH-422 and MA-442</u>	

From:		To:	
		Physics PH-422 and MA-442	
Sub-Total	34	Sub-Total	33-36
Requirements for the Major		Requirements for the Major	
MA-441 (or higher) Analytic Geometry & Calculus I	4	Students must complete MA-441 and any pre-requisites, based on their math placement ¹ . MA-121 Trigonometry MA-440 Pre-Calculus Mathematics MA-441 Analytic Geometry and Calculus I	$\frac{1}{4}$ 4
		<u>Sub-Total</u>	<u>4-9</u>
Select one from: BI-202, BI-356, BI-453, CH-152 (or higher level), PH-302 or PH-312, or PH-402, ² MA-442 (or higher level) Select one from: BI-202, CH-152 (or higher level), CS-101 (or higher level), MA-442 (or higher level), PH-302 or PH-312, or PH-402 ² Concentration ³ (range depends on course choices above ³)	8-14 3-6	Select 9-18 credits of coursework (in addition to those already taken in the core) from: ⁴ <u>BI-201, BI-202, BI-356, BI-357, BI-453, CH-151, CH-152, CH-251, CH-252, MA-442, MA-443, MA-451, MA-461, MA-471, MA-481, CS-101³, CS-201, CS-203³, CS-204, CS-220, PH-301, PH-302, PH-311, PH-312, PH-421, PH-422, PH-440</u> The following courses are recommended for students planning on pursuing a degree in one of the subjects listed below (some courses may have been already taken to satisfy core areas 1C and 2E): ⁴ <u>Biology: BI-201, BI-202, CH-151, CH-152, BI-356, BI-357, BI-453, PH-311, PH-312</u> <u>Chemistry: CH-151, CH-152, CH-251, CH-252, MA-442, MA-443, MA-451, PH-421, PH-422</u> <u>Computer Science: CS-101², CS-201, CS-203², CS-204, CS-220, MA-442, MA-461, MA-471, MA-481</u> <u>Mathematics:⁵ PH-301 (or PH-311 or PH-421), PH-302 (or PH-312 or PH-422), MA-442, MA-443, MA-451, MA-461, MA-471, MA-481</u> <u>Physics: PH-421, PH-422, PH-440, MA-442, MA-443, MA-451, MA-461</u>	9-18
Sub-Total	48	Sub-Total	<u>9-18</u>
Additional Requirements for the Major		Additional Requirements for the Major	
SP-211 ⁴ Speech Communication ⁴	3		

From:		To:	
History or Social Sciences course ⁴	3	History or Social Sciences course ⁶	3
HE-101 Introduction to Health Education or HE-102 Health Behavior & Society	4	HE-101 Introduction to Health Education or HE-102 Health Behavior & Society	1-2
One credit in PE-400 or PE-500 series or DAN-100 series (one credit courses only)	1	One credit in PE-400 or PE-500 series or DAN-100 series (one credit courses only)	1
Sub-Total	8	Sub-Total	<u>5-6</u>
Total Credits Required	60	Total Credits Required	60

Program Notes

From:	To:
All students must successfully complete two writing-intensive classes (designated “WI”) to fulfill degree requirements.	All students must successfully complete two writing-intensive classes (designated “WI”) to fulfill degree requirements.

Course Notes (Number your notes).

From:	To:
	¹ <u>Students who place into MA-121, MA-440 or MA-441 will use that course to satisfy Required Core 1B. A higher math placement will allow students to take additional Major Requirement courses.</u>
²Student may not receive credit for both PH-302 or PH-312 and either PH-402 or a combination of PH-412 and PH-413. Continuing students may complete the 3-course sequence (PH-411, PH-412 and PH-413) for PH-401 and PH-402.	² <u>Students are required to take particular courses in some areas of the Common Core that fulfill both general education and major requirements. If students do not take the required courses in the Common Core, they will have to take additional credits to complete their degree requirements.</u>
	³ <u>ET575 and ET580 may not be substituted for CS101 and CS203</u>
⁴Students must take at least one two-course sequence in each of two different disciplines (i.e., BI-201, BI-202; CH-151, CH-152; PH-301, PH-302; CS-101, CH-201, or CH-203; MA-441, MA-442).	⁴ <u>Students must take at least one two-course sequence in each of two different disciplines (for example, BI-201 and 202; CH-151 and 152; PH-301 and 302; PH-311 and 312, PH-421 and 422; MA-441 and 442, CS-101 and CS-201, CS-203, or CS-204). Students should consult with their concentration department when choosing major requirement courses.</u>
³With permission of the Department of Mathematics and Computer Science students in the TIMEQCC secondary mathematics program may count credits for EDUC-101 and INTE-221 toward the concentration.	⁵ <u>With permission of the Department of Mathematics and Computer Science, students in the TIMEQCC secondary mathematics program may count credits for EDUC-101 and INTE-221 toward the Major Requirements</u>

From:	To:
⁴If taken in the Common Core, an additional course in concentration is recommended.	⁶ <u>If taken in the Common Core, an additional course in the concentration is recommended.</u>

Write a summary for all of the changes.

The program has been changed to include the “hidden” prerequisites to MA-440 within the degree plan. To avoid reducing the number of credits available for Major Requirements, SP-211 has been moved to the common core. Additionally, the choices in the Major Requirements have been updated to include more choices and to provide guidance in course choice for the various concentrations.

If the program revision includes course revisions or new courses, submit the appropriate Course Revision form and/or New Course Proposal Form, along with the Syllabus and Course Objectives form.

No courses are being created or revised.

If courses will be deleted from the program, make clear whether the courses are to be deleted from the department’s offerings as well.

No courses are being deleted from the program.

Explain briefly how students currently in the program will be able to complete the requirements.

No additional requirements are being placed on students pursuing this degree. In fact, including MA-119 and MA-121 within the 60 credits of the degree program should make it easier for students who do not place at MA-440 to complete it.