KINGSBOROUGH COMMUNITY COLLEGE The City University of New York

CURRICULUM TRANSMITTAL COVER PAGE

Department:	Date:
Title Of Course/Degree/Concentration/Cer	tificate:
Change(s) Initiated: (Please check)	
Change(s) Initiated: (Please check) Closing of Degree Closing of Certificate New Certificate Proposal New Degree Proposal New Course New 82 Course (Pilot Course) Deletion of Course(s)	 Change in Degree or Certificate Change in Degree: Adding Concentration Change in Degree: Deleting Concentration Change in Prerequisite, Corequisite, and/or Pre-/Co-requisite Change in Course Designation Change in Course Description Change in Course Title, Number, Credits and/or Hours Change in Academic Policy Pathways Submission: Life and Physical Science Math and Quantitative Reasoning A. World Cultures and Global Issues B. U.S. Experience in its Diversity C. Creative Expression
	D. Individual and Society
	E. Scientific World Dutcomes USTRATE AND EXPLAIN ALL CHANGES
DEPARTMENTAL ACTION	STRATE AND EALERINALE CHANGES
Action by Department and/or Depa	ortmental Committee, if required:
	nature, Committee Chairperson: <u>John Mikalopas</u>
If submitted Curriculum Action af required:	fects another Department, signature of the affected Department(s) is
Date Approved:Sig	nature, Department Chairperson:
Date Approved:Sign	nature, Department Chairperson:
I have reviewed the attached mater	ial/proposal
Signature, Department Chairperso	n: <u>John Mikalopas</u>

TO:	Special Meeting of the Curriculum Committee Meeting
FROM:	Dr. John Mikalopas, Chair, Department of Physical Sciences
DATE:	2/17/22
RE:	Degree Change for the A.S. Engineering Science

The Department of Physical Sciences is proposing a degree change for the A.S. Engineering Science

Change:

1. Under Required Core, Mathematics and Quantitative Reasoning, the **addition** of MAT 9010 – Introduction to Mathematics with College Algebra

Rationale for Change:

CUNY had mandated the elimination of stand-alone developmental courses effective Fall 2022. MAT 9010 replaces the developmental pathway of MAT M100 to MAT M200 to MAT R300 that lead to MAT 900. The update to the degree requirements reflects this pathway.

HEGIS: 5609.00 PROGRAM CODE: 87212 CUNY CORE REQUIRED CORE: (4 Courses, 13 Credits) When Required Core Courses are specified for a category, they are required for the major ENG 1200 - Composition I Mathematical & Quantitative Reasoning*: ADD MAT 9910 - Introduction to Mathematics with College Algebra or MAT 990 - College Algebra for STEM Majors or MAT 990 - College Algebra or MAT 100 - Calloyits (Ceometry and Pre-Calculus Mathematics or MAT 100 - Calloyits (Ceometry and Pre-Calculus Mathematics or MAT 100 - Calloyits (Courses, 20 Credits) When Flexible Core Courses are specified for a category, they are required for the major. One course from each Group A to D (Group E is satisfied by the courses shown). No more than two courses can be selected from the same discipline. A. World Cultures and Global Issues B. U.S. Experience In Its Diversity C. Creative Expression D. Individual & Society E. Scientific World*: CHM 1200 - Galerial Physics I DEPARTMENT REQUIREMENTS. (9 to 12 Courses, 13 Credits) Additional Physical Sciences Requirements (4 Courses, 13 Credits) Additional Physical Sciences Requirements (5 - 6 Courses, 15 - 24 Credits) Additional Anthematics Requirements (5 - 6 Courses,	dd/Delete/Change	A.S. ENGINEERING SCIENCE	
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DEPARTMENT REQUIREMENTS (9 to 12 Courses, 28 to 37 Credits) Additional Physical Sciences Requirements (4 Courses, 13 Credits) PHY 1400 – Advanced General Physics II EGR 2100 – Engineering Design EGR 2200 – Introduction to Electrical Engineering EGR 2300 – Introduction to Engineering Thermodynamics Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry ^A MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1600 - Calculus I (Recommended) MAT 2100 - Calculus III (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
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Additional Physical Sciences Requirements (4 Courses, 13 Credits) PHY 1400 – Advanced General Physics II EGR 2100 – Engineering Design EGR 2200 – Introduction to Electrical Engineering EGR 2300 – Introduction to Engineering Thermodynamics Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1600 - Calculus I (Recommended) MAT 2100 - Calculus III MAT 25500 - Differential Equations			28 - 37
PHY 1400 – Advanced General Physics II EGR 2100 – Engineering Design EGR 2200 – Introduction to Electrical Engineering EGR 2300 – Introduction to Engineering Thermodynamics Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1600 - Calculus I (Recommended) MAT 2100 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
EGR 2100 – Engineering Design EGR 2200 – Introduction to Electrical Engineering EGR 2300 – Introduction to Engineering Thermodynamics Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			13
EGR 2200 – Introduction to Electrical Engineering EGR 2300 – Introduction to Engineering Thermodynamics Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			4
EGR 2300 – Introduction to Engineering Thermodynamics Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			3
Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 2500 - Differential Equations			3
Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations		EGR 2300 – Introduction to Engineering Thermodynamics	3
Select five (5) to eight (8) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations		Additional Mathematics Deguirements /E 9 Courses 15 94 Credits)	15 - 24
Reasoning (MQR) course from the following: CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 2500 - Differential Equations			15 - 24
CS 1200 – Introduction to Computing MAT 1000 - College Trigonometry^ MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
MAT 1000 - College Trigonometry ^A MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics (Recommended) MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
MAT 1500 - Calculus I (Recommended) MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
MAT 1600 - Calculus II (Recommended) MAT 2100 - Calculus III MAT 5500 - Differential Equations			
MAT 2100 - Calculus III MAT 5500 - Differential Equations			
MAT 5500 - Differential Equations			
MAT 5600 - Linear Algebra			
		MAT 5600 - Linear Algebra	
ELECTIVES: 0 credits sufficient to meet the required total 60 credits for the degree.			0

CURRENT

TOTAL CREDITS: 61 - 70	61 - 70
*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.	
[^] Depending on Math placement, students may be required to select MAT 1000	

A.S. ENGINEERING SCIENCE	
HEGIS: 5609.00	
PROGRAM CODE: 87212	
CUNY CORE	CREDITS
	13
	13
	3
	3
	3
	, v
	4
	4
FLEXIBLE CORE: (6 Courses, 20 Credits)	20
When Flexible Core Courses are specified for a category, they are required for the major. One	
course from each Group A to D (Group E is satisfied by the courses shown). No more than two	
A. World Cultures and Global Issues	
DEPARTMENT REQUIREMENTS (9 to 12 Courses, 28 to 37 Credits)	28 - 37
Additional Physical Sciences Requirements (4 Courses 13 Credits)	13
	4
	3
	3
	3
	•
Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits)	15 - 24
MAT 2100 - Calculus III	
INAAL EEOO INHEERERE I E workene	
MAT 5500 - Differential Equations	
MAT 5600 - Linear Algebra	
	HEGIS: 5609.00 PROGRAM CODE: 87212 CUNY CORE REQUIRED CORE: (4 Courses, 13 Credits) When Required Core Courses are specified for a category, they are required for the major ENG 1200 - Composition I MAtt 900 - College Algebra or specified for a category, they are required for the major MAT 9010 - Introduction to Mathematics with College Algebra or MAT 900 - College Algebra or STEM Majors or MAT 900 - College Algebra or STEM Majors or MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics or MAT 1500 - Calculus I Life and Physical Sciences*: CHM 1100 - General Chemistry I FLEXIBLE CORE: (6 Courses, 20 Credits) When Flexible Core Courses are specified for a category, they are required for the major. One course from each Group A to D (Group E is satisfied by the courses shown). No more than two courses can be selected from the same discipline. A. World Cultures and Global Issues B. U.S. Experience In Its Diversity C. Creative Expression D. Individual & Society E. Scientific Word*: CHM 1200 - General Chemistry II PHY 1400 - Advanced General Physics I DEPARTMENT REQUIREMENTS (9 to 12 Courses, 28 to 37 Credits) Additional Physical Sciences Requirements (4 Courses, 15 - 24 Credits) Additional Mathematics Requirements (5 - 8 Courses, 15 - 24 Credits) Se

PROPOSED

TOTAL CREDITS: 61 - 70	61 - 70
*This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.	
 [^] Depending on Math placement, students may be required to select MAT 1000	