## KINGSBOROUGH COMMUNITY COLLEGE

## **Curriculum Committee Meeting**

Thursday, May 3, 2018 2:00 P.M. – 4:00 P.M.

President's Conference Room A-226

| President's Co  | nteren | CE ROOM A-226   |    |
|---|--------|---|----|
| А   | GEND   | )A  |    |
| Program Learning Outcomes (Informational Item)                                    |        |   |    |
| Department of Mathematics and Computer Science                                    |        |   |    |
| 1. A.S. Mathematics   |        |   |    |
| SPECIAL ACTIONS   |        |   |    |
| NONE  |        |   |    |
| CHANGE IN DEGREE TYPE   |        |   |    |
| NONE  |        |   |    |
| CHANGE IN DEGREE REQUIREMENT  |        |   |    |
| A. Department of Behavioral Sciences & Human Services                             |        |   |    |
| Removal of reference to CSI Articulation Agreement (Informational Item)           |        |   |    |
| A.S. Early Childhood Education/Child Care   |        |   |    |
| FROM:   |        | TO:   |    |
| DEGREE REQUIREMENTS: (9 Courses, 24 Credits)                                      |        | DEGREE REQUIREMENTS: (9 Courses, 24 Credits)            |    |
| PSY 2400 – Psychological Disorders in Young Children OR                           |        | PSY 2400 – Psychological Disorders in Young Children OR |    |
| For transfer to The College of Staten Island - HIS 7000 –<br>Historical Geography | 3      | HIS 7000 – Historical Geography                         | 3  |
| Change in Degree Requirements   |        |   |    |
| 2. A.S. Education Studies   |        |   |    |
| FROM:   |        | TO:   |    |
| CUNY CORE   |        | CUNY CORE   |    |
| REQUIRED CORE: (4 Courses, 12 Credits)  | 12     | REQUIRED CORE: (4 Courses, 12 Credits)                  | 12 |

| When Required Core courses are specified for a category,   |    | When Required Core courses are specified for a category,   |    |
|--|----|--|----|
| they are strongly suggested and/or required for the major  |    | they are strongly suggested and/or required for the major  |    |
| ENG 1200 Composition I   | 3  | ENG 1200 Composition I   | 3  |
| ENG 2400 Composition II  | 3  | ENG 2400 Composition II  | 3  |
| ± Mathematical & Quantitative Reasoning  | 3  | ± Mathematical & Quantitative Reasoning  | 3  |
| ± Life and Physical Sciences   | 3  | ± Life and Physical Sciences   | 3  |
| FLEXIBLE CORE: (6 Courses, 18 Credits)   | 18 | FLEXIBLE CORE: (6 Courses, 18 Credits)   | 18 |
| When Flexible Core courses are specified for a category, they are strongly suggested and/or required for the major One course from each Group A to E. and one (1) additional course from any group |    | When Flexible Core courses are specified for a category, they are strongly suggested and/or required for the major One course from each Group A to E. and one (1) additional course from any group |    |
| A. World Cultures and Global Issues  |    | A. World Cultures and Global Issues  |    |
| B. U.S. Experience In Its Diversity  |    | B. U.S. Experience In Its Diversity  |    |
| C. Creative Expression   |    | C. Creative Expression   |    |
| D. Individual & Society  |    | D. Individual & Society  |    |
| SOC 3100 – Introduction to Sociology   |    | SOC 3100 – Introduction to Sociology   |    |
| PSY 3000 – Child and Adolescent Development  |    | PSY 3000 – Child and Adolescent Development  |    |
| ± E. Scientific World  |    | ± E. Scientific World  |    |
| Suggested: PSY 1100 – General Psychology   |    | PSY 1100 – General Psychology  |    |
| ± Plus another course selected from any Group A – E  |    | ± Plus another course selected from any Group A – E  |    |
| DEGREE REQUIREMENTS: (8 Courses, 23 Credits)   |    | DEGREE REQUIREMENTS: (8 Courses, 23 Credits)   |    |
| EDC 200 – Social Foundations of Education  | 3  | EDC 200 – Social Foundations of Education  | 3  |
| EDC 2200 – Art Workshop in Education   | 3  | EDC 2200 – Art Workshop in Education   | 3  |
| EDC 2300 - Music and Movement Workshop in Education  | 2  | EDC 2300 – Music and Movement Workshop in Education  | 2  |
| EDC 90A4 – Practicum in Teacher Development I  | 3  | EDC 90A4 – Practicum in Teacher Development I  | 3  |
| Liberal Arts Elective – One Course from Groups A to E  | 3  | PSY 1100 - General Psychology  | 3  |
| PSY 2400 – Psychological Disorders in Young Children   | 3  | PSY 2400 – Psychological Disorders in Young Children   | 3  |
| PSY 3000 – Child and Adolescent Development  | 3  | PSY 3000 – Child and Adolescent Development  | 3  |
| SOC 3100 – Introduction to Sociology   | 3  | SOC 3100 – Introduction to Sociology   | 3  |
| Select <b>one</b> (1) of the following concentrations:   |    | Select <b>one (1)</b> of the following concentrations:   |    |
| BIRTH – 2ND GRADE (2 Courses, 6 Credits)   |    | BIRTH – 2ND GRADE (2 Courses, 6 Credits)   |    |
| EDC 3200 – Infant/Toddler Development  | 3  | EDC 3200 – Infant/Toddler Development  | 3  |
| EDC 4000 – Educational Practices for Early Language and Literacy Development   | 3  | EDC 4000 – Educational Practices for Early Language and Literacy Development   | 3  |

| <u>OR</u>  |       | <u>OR</u>   |        |
|--|-------|---|--------|
| <u></u>  |       | <del>===</del>  |        |
| 1ST – 6TH GRADE: (3 Courses, 7 Credits)  | 7     | 1ST – 6TH GRADE: (3 Courses, 7 Credits)   | 7      |
| EDC 3100 – Social Science in Childhood Education   | 3     | EDC 3100 – Social Science in Childhood Education  | 3      |
| SOC 3200 – Urban Sociology   | 3     | SOC 3200 – Urban Sociology  | 3      |
| HUM 8181 – Development of Literacy in Children   | 1     | HUM 8181 – Development of Literacy in Children  | 1      |
| The in the term of the process of the control of th |       | Promise of Energy in Simulation   | '      |
| ELECTIVES: 0 12 credits sufficient to total 60 credits for the degree.   | θ -12 | <b>ELECTIVES:</b> 1- 12 credits sufficient to total 60 credits for the degree.  | 1 - 12 |
| TOTAL CREDITS: 60  | 60    | TOTAL CREDITS: 60   | 60     |
| B. Department of Biology   |       |   |        |
| Change in Degree Requirements  |       |   |        |
| 1. A.S. Biology  |       |   |        |
|  |       |   |        |
| FROM:  |       | ТО:   |        |
|  |       |   |        |
| CUNY CORE  |       | CUNY CORE   |        |
| REQUIRED CORE: (4 Courses, 14 Credits)   | 14    | REQUIRED CORE: (4 Courses, 13 Credits)  | 13     |
| When Required Core Courses are specified for a category,   |       | When Required Core Courses are specified for a category,  |        |
| they are required for the major  |       | they are required for the major   |        |
| ENG 1200 - English Composition I   | 3     | ENG 1200 - English Composition I  | 3      |
| ENG 2400 - English Composition II  | 3     | ENG 2400 - English Composition II   | 3      |
| Mathematical & Quantitative Reasoning*:  | 4     | Mathematical & Quantitative Reasoning*:   | 3      |
| MAT 1400 - Analytic Geometry and Pre-Calculus Math   |       | MAT 900 - College Algebra   |        |
| Life and Physical Sciences*:   | 4     | Life and Physical Sciences*:  | 4      |
| BIO 1300 – General Biology I   |       | BIO 1300 – General Biology I  |        |
|  |       |   |        |
| FLEXIBLE CORE: (6 Courses, 20 Credits)   | 20    | 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 courses can be selected from the same discipline.  |       | 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  |       | A. World Cultures and Global Issues   |        |
| B. U.S. Experience In Its Diversity  |       | B. U.S. Experience In Its Diversity   |        |
| C. Creative Expression   |       | C. Creative Expression  |        |
| D. Individual & Society  |       | D. Individual & Society   |        |
| E. Scientific World*:  |       | E. Scientific World*:   |        |

| BIO 1400 – General Biology II   |       | BIO 1400 – General Biology II   |       |
|---|-------|---|-------|
| CHM 1100 – General Chemistry  |       | MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics                                 |       |
| DEPARTMENT REQUIREMENTS (2 Courses, 7 to 8-Credits)   |       | DEPARTMENT REQUIREMENTS (3 Courses, 11 to 12 Credits)                                     |       |
|   |       | CHM 1100 – General Chemistry I  | 4     |
| CHM 1200 - General Chemistry II   | 4     | CHM 1200 - General Chemistry II   | 4     |
| CP 1100 - Introduction to Computers and Computer Applications (4 crs) <b>or</b>             | 4 - 3 | CP 1100 - Introduction to Computers and Computer Applications (4 crs) <b>or</b>           | 4 - 3 |
| BIO/CIS 6000 – Computer Applications in Bioinformatics (3 crs.)                             |       | BIO/CIS 6000 – Computer Applications in Bioinformatics (3 crs.)                           |       |
| CONCENTRATIONS: (2 Courses, 8 Credits)  | 8     | CONCENTRATIONS: (2 Courses, 8 Credits)  | 8     |
| Select one (1) of the following concentrations:   |       | Select one (1) of the following concentrations:   |       |
| Biology Transfer: (2 Courses, 8 Credits)  |       | Biology Transfer: (2 Courses, 8 Credits)  |       |
| Select <b>two (2)</b> of the following Biology Laboratory courses:                          |       | Select <b>two (2)</b> of the following Biology Laboratory courses:                        |       |
| BIO 2100 - Comparative Anatomy (4 crs.) or  |       | BIO 2100 - Comparative Anatomy (4 crs.) or  |       |
| BIO 2200 - Developmental Biology (4 crs.) or  |       | BIO 2200 - Developmental Biology (4 crs.) <b>or</b>                                       |       |
| BIO 5000 - General Microbiology (4 crs.) or   |       | BIO 5000 - General Microbiology (4 crs.) <b>or</b>  |       |
| BIO 5200 - Marine Biology (4 crs.) or   |       | BIO 5200 - Marine Biology (4 crs.) or   |       |
| BIO 5300 - Ecology (4 crs.) <b>or</b>   |       | BIO 5300 - Ecology (4 crs.) <b>or</b>   |       |
| BIO 5800 - Recombination DNA Technology (4 crs.) or   |       | BIO 5800 - Recombination DNA Technology (4 crs.) or                                       |       |
| BIO 5900 – Genetics (4 crs.) or   |       | BIO 5900 – Genetics (4 crs.) <b>or</b>  |       |
| BIO 6500 - Molecular and Cellular Biology (4 crs.)  |       | BIO 6500 - Molecular and Cellular Biology (4 crs.)  |       |
| <u>OR</u>   |       | <u>OR</u>   |       |
| Allied Health Transfer (2 Courses, 8 Credits):  |       | Allied Health Transfer (2 Courses, 8 Credits):  |       |
| BIO 1100 - Human Anatomy and Physiology I (4 crs.)  |       | BIO 1100 - Human Anatomy and Physiology I (4 crs.)  |       |
| BIO 1200 - Human Anatomy and Physiology II (4 crs.)   |       | BIO 1200 - Human Anatomy and Physiology II (4 crs.)                                       |       |
| ELECTIVES: 10 - 11 credits sufficient to meet the required total 60 credits for the degree. | 10-11 | ELECTIVES: 7 - 8 credits sufficient to meet the required total 60 credits for the degree. | 7 - 8 |
| Allied Health Transfer Option, Suggested Elective:  |       | Allied Health Transfer Option, Suggested Elective:  |       |
| BIO/MAT 9100 – Biostatistics (4 crs.)   |       | BIO/MAT 9100 – Biostatistics (4 crs.)   |       |
|   |       |   |       |

| Transfer to a Physician Assistant Program, Suggested  |    | Transfer to a Physician Assistant Program, Suggested  |    |
|---|----|---|----|
| Elective:   |    | Elective:   |    |
| BIO 5100 – Microbiology in Health and Disease (4 crs.)  |    | BIO 5100 – Microbiology in Health and Disease (4 crs.)  |    |
| BIO 3100 - MICIODIOlogy III Ficaltif and Disease (+ crs.)   |    | DIO 3100 – Microbiology III Fleditif and Disease (4 cis.)   |    |
| TOTAL CREDITS: 60   | 60 | TOTAL CREDITS: 60   | 60 |
|   |    |   |    |
| *This program has a waiver to require particular courses in the   |    | *This program has a waiver to require particular courses in the   |    |
| Common Core, otherwise more than the minimum credits for the  |    | Common Core, otherwise more than the minimum credits for the  |    |
| degree may be necessary.  |    | degree may be necessary.  |    |
|   |    |   |    |
| D. Department of Mathematics and Computer Science   |    |   |    |
| Change in Degree Requirements   |    |   |    |
| 1. A.S. Computer Science  |    |   |    |
| FROM  |    | <br> TO   |    |
| FROM:   |    | TO:   |    |
| CUNY CORE   |    | CUNY CORE   |    |
| CONTOOKE  |    | CONTOONE  |    |
| REQUIRED CORE: (4 Courses, 13-Credits)  | 13 | REQUIRED CORE: (4 Courses, 12 Credits)  | 12 |
|   |    |   |    |
| When Required Core Courses are specified for a category,  |    | When Required Core Courses are specified for a category,  |    |
| they are required for the major   |    | they are required for the major   |    |
| ENG 1200 - English Composition I  | 3  | ENG 1200 - English Composition I  | 3  |
| ENG 2400 - English Composition II   | 3  | ENG 2400 - English Composition II   | 3  |
| Mathematical & Quantitative Reasoning*:   | 4  | Mathematical & Quantitative Reasoning*:   | 3  |
| MAT 1500 - Calculus I   |    | MAT 1500 - Calculus I ^   |    |
| Life and Physical Sciences:   | 3  | Life and Physical Sciences:   | 3  |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20 | FLEXIBLE CORE: (6 Courses,19 Credits)   | 19 |
|   | 20 |   | 13 |
| When Flexible Core Courses are specified for a category,  |    | 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). |    | 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  |    | No more than two courses can be selected from the same  |    |
| discipline.   |    | discipline.   |    |
| A. World Cultures and Global Issues   |    | A. World Cultures and Global Issues   |    |
| B. U.S. Experience In Its Diversity   |    | B. U.S. Experience In Its Diversity   |    |
| C. Creative Expression  |    | C. Creative Expression  |    |
| D. Individual & Society   |    | D. Individual & Society   |    |
| E. Scientific World*:   |    | E. Scientific World*:   |    |
| MAT 1600 - Calculus II  | 4  | MAT 1600 - Calculus II  | 3  |
| CS 1200 - Introduction to Computing   | 4  | CS 1200 - Introduction to Computing   | 4  |
|   |    |   |    |
| DEPARTMENT REQUIREMENTS (7 Courses, 27 Credits)   |    | DEPARTMENT REQUIREMENTS (7 Courses, 25 to 26  |    |
|   |    | Credits)  |    |
| CS 13A0 – Advanced Programming Techniques   | 4  | CS 13A0 – Advanced Programming Techniques   | 4  |

| CS 1400 – Computer Organization and Assembly Language Programming   | 4  | CS 1400 – Computer Organization and Assembly Language Programming   | 4    |
|---|----|---|------|
| CS 3500 – Discrete Structures   | 4  | CS 3500 – Discrete Structures   | 4    |
| CS 3700 – Data Structures   | 4  | CS 3700 – Discrete Structures   | 4    |
|   | _  |   |      |
| MAT 2100 – Calculus III   | 4  | MAT 2100 – Calculus III   | 3    |
| MAT 5600 – Linear Algebra   | 3  | MAT 5600 – Linear Algebra   | 3    |
| MAT/BIO 9100 – Biostatistics (4 crs.) <b>or</b>   | 4  | MAT/BIO 9100 – Biostatistics (4 crs.) or  | 3-4  |
| BA/MAT 2200 – Business Statistics ( <del>4 crs.</del> )   |    | BA/MAT 2200 – Business Statistics (3 crs.)  |      |
| ELECTIVES: -0 credits sufficient to meet the required total 60 credits for the degree.  | θ  | ELECTIVES: ^Note that MAT 9900 is the prerequisite to MAT 1500. MAT 9900 (if required) and 0 - 1 credit of electives, or 3 - 4 credit of electives sufficient to meet the required total 60 credits for the degree.                         | 0 -4 |
| TOTAL CREDITS: 60   | 60 | TOTAL CREDITS: 60   | 60   |
| *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.   |    | *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.   |      |
| Change in Degree Requirements 2. A.S. Mathematics   |    |   |      |
| z. A.S. Iviatriematics  |    |   |      |
| FROM:   |    | TO:   |      |
| CUNY CORE   |    | CUNY CORE   |      |
| REQUIRED CORE: (4 Courses, 13-Credits)  | 13 | REQUIRED CORE: (4 Courses, 12 Credits)  | 12   |
| When Required Core Courses are specified for a category, they are required for the major  |    | When Required Core Courses are specified for a category, they are required for the major  |      |
| ENG 1200 - English Composition I  | 3  | ENG 1200 - English Composition I  | 3    |
| ENG 2400 - English Composition II   | 3  | ENG 2400 - English Composition II   | 3    |
| Mathematical & Quantitative Reasoning*:   | 4  | Mathematical & Quantitative Reasoning*:   | 3    |
| MAT 1500 - Calculus I   |    | MAT 1500 - Calculus I ^   |      |
| Life and Physical Sciences:   | 3  | Life and Physical Sciences:   | 3    |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20 | FLEXIBLE CORE: (6 Courses,19 Credits)   | 19   |
| 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. |    | 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   |    | A. World Cultures and Global Issues   |       |
|---|----|---|-------|
| B. U.S. Experience In Its Diversity   |    | B. U.S. Experience In Its Diversity   |       |
| C. Creative Expression  |    | C. Creative Expression  |       |
| D. Individual & Society   |    | D. Individual & Society   |       |
| E. Scientific World*:   |    | E. Scientific World*:   |       |
| MAT 1600 - Calculus II  | 4  | MAT 1600 - Calculus II  | 3     |
| CS 1200 - Introduction to Computing   | 4  | CS 1200 - Introduction to Computing   | 4     |
| <b>DEPARTMENT REQUIREMENTS</b> (8 Courses, 27 Credits)  |    | DEPARTMENT REQUIREMENTS (8 Courses, 25 to 26 Credits)   |       |
| MAT 2100 – Calculus III   | 4  | MAT 2100 – Calculus III   | 3     |
| MAT 5500 – Differential Equations   | 3  | MAT 5500 – Differential Equations   | 3     |
| MAT 5600 – Linear Algebra (3 crs.)  | 3  | MAT 5600 – Linear Algebra (3 crs.)  | 3     |
| MAT/BIO 9100 – Biostatistics <b>or</b>  | 4  | MAT/BIO 9100 – Biostatistics (4 crs) <b>or</b>  | 3-4   |
| MAT/BA 2200 – Business Statistics   |    | MAT/BA 2200 – Business Statistics (3 crs.)  |       |
| CS 3500 – Discrete Structures (4 crs.)  | 4  | CS 3500 – Discrete Structures (4 crs.)  | 4     |
| HE 1400 – Critical Issues in Personal Health  | 1  |   |       |
|   |    | MAT 3000 - Introduction to Mathematical Concepts in Proof   | 1     |
|   |    |   |       |
| <u>AND</u>  |    | AND   |       |
| Select two (2) courses from the following:  |    | Select two (2) courses from the following:  |       |
| CS 13A0 – Advanced Programming Techniques (4 crs.) or   |    | CS 13A0 – Advanced Programming Techniques (4 crs.) or   |       |
| CS 1400 – Computer and Assembly Language Programming (4 crs.) <b>or</b>   |    | CS 1400 – Computer and Assembly Language Programming (4 crs.) <b>or</b>   |       |
| MAT 1100 – Finite Mathematics (4 crs.) or   |    | MAT 1100 – Finite Mathematics (4 crs.) or   |       |
| MAT 3200 – Introduction to Set Theory (4 crs.) or   |    | MAT 3200 – Introduction to Set Theory (4 crs.) or   |       |
| MAT 7100 – Applications of Linear Algebra and Vector Analysis (4 crs.)  |    | MAT 7100 – Applications of Linear Algebra and Vector Analysis (4 crs.)  |       |
| ELECTIVES: -0 credits sufficient to meet the required total 60 credits for the degree.  | 0  | ELECTIVES: ^Note that MAT 9900 is the prerequisite to MAT 1500. MAT 9900 (if required) and 0 - 1 credit of electives, or 3 - 4 credit of electives sufficient to meet the required total 60 credits for the degree. | 0 - 4 |
| TOTAL CREDITS: 60   | 60 | TOTAL CREDITS: 60   | 60    |
| *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. |    | *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.   |       |

| E. Department of Physical Sciences  |    |   |    |
|---|----|---|----|
| Change in Degree Requirements   |    |   |    |
| 1. A.S. Chemistry   |    |   |    |
| I. A.S. Oliellistry   |    |   |    |
| FROM:   |    | TO:   |    |
| CUNY CORE   |    | CUNY CORE   |    |
| REQUIRED CORE: (4 Courses, 14-Credits)  | 14 | REQUIRED CORE: (4 Courses, 13 Credits)  | 13 |
| When Required Core Courses are specified for a category, they are required for the major  |    | When Required Core Courses are specified for a category, they are required for the major  |    |
| ENG 1200 - English Composition I  | 3  | ENG 1200 - English Composition I  | 3  |
| ENG 2400 - English Composition II   | 3  | ENG 2400 - English Composition II   | 3  |
| Mathematical & Quantitative Reasoning*:   | 4  | Mathematical & Quantitative Reasoning*:   | 3  |
| MAT 1500 - Calculus I   |    | MAT 9900 - Pre-Calculus for STEM Majors   |    |
| Life and Physical Sciences*:  | 4  | Life and Physical Sciences*:  | 4  |
| CHM 1100 - General Chemistry I  |    | CHM 1100 - General Chemistry I  |    |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20 | 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 courses can be selected from the same discipline. |    | 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   |    | A. World Cultures and Global Issues   |    |
| B. U.S. Experience In Its Diversity   |    | B. U.S. Experience In Its Diversity   |    |
| C. Creative Expression  |    | C. Creative Expression  |    |
| D. Individual & Society   |    | D. Individual & Society   |    |
| E. Scientific World*:   |    | E. Scientific World*:   |    |
| MAT 1600 - Calculus II  |    | PHY 1300 – Advanced General Physics I   |    |
| CHM 1200 - General Chemistry II   |    | CHM 1200 - General Chemistry II   |    |
| DEPARTMENT REQUIREMENTS (4 Courses, 18 Credits)   | 18 | DEPARTMENT REQUIREMENTS   |    |
|   |    | Physical Sciences Requirements (4 to 5 Courses, 21 Credits)   |    |
| CHM 3100 – Organic Chemistry I  | 5  | CHM 3100 – Organic Chemistry I  | 5  |
| CHM 3200 – Organic Chemistry II   | 5  | CHM 3200 – Organic Chemistry II   | 5  |
| PHY 1300 – Advanced General Physics I   | 4  | i i   |    |
| PHY 1400 – Advanced General Physics II  | 4  | PHY 1400 – Advanced General Physics II  | 4  |

|   |    | Advanced Elective Credits in Chemistry, Engineering Science, Earth and Planetary Sciences, Physics, or Science  | 7  |
|---|----|---|----|
|   |    | Mathematics Requirements (2 Courses, 6 Credits)   |    |
|   |    | MAT 1500 - Calculus I MAT 1600 - Calculus II  | 3  |
|   |    | IMAT 1000 - Calculus II   | 3  |
| <b>ELECTIVES</b> : 8 credits sufficient to meet the required total 60 credits for the degree.   | 8  | ELECTIVES: 0 credits sufficient to meet the required total 60 credits for the degree.   | 0  |
| TOTAL CREDITS: 60   | 60 | TOTAL CREDITS: 60   | 60 |
| *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.   |    | *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.   |    |
| Change in Degree Requirements   |    |   |    |
| 2. A.S. Earth and Planetary Sciences  |    |   |    |
| FROM:   |    | TO:   |    |
| CUNY CORE   |    | CUNY CORE   |    |
| REQUIRED CORE: (4 Courses, 14-Credits)  | 14 | REQUIRED CORE: (4 Courses, 13 Credits)  | 13 |
| When Required Core Courses are specified for a category, they are required for the major  |    | When Required Core Courses are specified for a category, they are required for the major  |    |
| ENG 1200 - English Composition I  | 3  | ENG 1200 - English Composition I  | 3  |
| ENG 2400 - English Composition II   | 3  | ENG 2400 - English Composition II   | 3  |
| Mathematical & Quantitative Reasoning*:   | 4  | Mathematical & Quantitative Reasoning*:   | 3  |
| MAT 1500 - Calculus I   |    | MAT 9900 - Pre-Calculus for STEM Majors   |    |
| Life and Physical Sciences*:  | 4  | Life and Physical Sciences*:  | 4  |
| CHM 1100 - General Chemistry I  |    | CHM 1100 - General Chemistry I  |    |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20 | 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 courses can be selected from the same discipline. |    | 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   |    | A. World Cultures and Global Issues   |    |
|---|----|---|----|
| B. U.S. Experience In Its Diversity   |    | B. U.S. Experience In Its Diversity   |    |
| C. Creative Expression  |    | C. Creative Expression  |    |
| D. Individual & Society   |    | D. Individual & Society   |    |
| E. Scientific World*:   |    | E. Scientific World*:   |    |
| MAT 1600 - Calculus II  |    | EPS 3800 – Introduction to Earth Science  |    |
| EPS 3100 - Meteorology  |    | EPS 3100 - Meteorology  |    |
| DEPARTMENT REQUIREMENTS (6 Courses, 24 Credits)   |    | DEPARTMENT REQUIREMENTS   |    |
|   |    | Physical Sciences Requirements (5 Courses, 20 Credits)  |    |
| EPS 3200 – Oceanography   | 4  | EPS 3200 – Oceanography   | 4  |
| EPS 3300 – Physical Geography   | 4  | EPS 3300 – Physical Geography   | 4  |
| EPS 3500 – Astronomy  | 4  | EPS 3500 – Astronomy  | 4  |
| EPS 3600 – Planetology  | 4  | EPS 3600 – Planetology  | 4  |
| EPS 3800 - Introduction to Earth Science  | 4  |   |    |
| PHY 1100 – General Physics I  | 4  | PHY 1100 – General Physics I  | 4  |
|   |    | Mathematics Requirements (2 Courses, 6 Credits)   |    |
|   |    | MAT 1500 - Calculus I   | 3  |
|   |    | MAT 1600 Calculus II  | 3  |
| <b>ELECTIVES</b> : 2 credits sufficient to meet the required total 60 credits for the degree.   | 2  | ELECTIVES: 1 credit sufficient to meet the required total 60 credits for the degree.  | 1  |
| TOTAL CREDITS: 60   | 60 | TOTAL CREDITS: 60   | 60 |
| *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. |    | *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. |    |
| Change in Degree Requirements   |    |   |    |
| 3. A.S. Engineering Science   |    |   |    |
| FROM:   |    | TO:   |    |
| CUNY CORE   |    | CUNY CORE   |    |
| REQUIRED CORE: (4 Courses, 14-Credits)  | 14 | REQUIRED CORE: (4 Courses, 13 Credits)  | 13 |

| When Required Core Courses are specified for a category, they are required for the major  |    | When Required Core Courses are specified for a category, they are required for the major  |    |
|---|----|---|----|
| ENG 1200 - English Composition I  | 3  | ENG 1200 - English Composition I  | 3  |
| ENG 2400 - English Composition II   | 3  | ENG 2400 - English Composition II   | 3  |
| Mathematical & Quantitative Reasoning*:   | 4  | Mathematical & Quantitative Reasoning*:   | 3  |
| MAT 1500 - Calculus I   |    | MAT 9900 - Pre-Calculus for STEM Majors   |    |
| Life and Physical Sciences*:  | 4  | Life and Physical Sciences*:  | 4  |
| CHM 1100 - General Chemistry I  |    | CHM 1100 - General Chemistry I  |    |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20 | 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 courses can be selected from the same discipline. |    | 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   |    | A. World Cultures and Global Issues   |    |
| B. U.S. Experience In Its Diversity   |    | B. U.S. Experience In Its Diversity   |    |
| C. Creative Expression  |    | C. Creative Expression  |    |
| D. Individual & Society   |    | D. Individual & Society   |    |
| E. Scientific World*:   |    | E. Scientific World*:   |    |
| MAT 1600 - Calculus II  |    | PHY 1300 – Advanced General Physics I   |    |
| CHM 1200 - General Chemistry II   |    | CHM 1200 - General Chemistry II   |    |
| DEPARTMENT REQUIREMENTS (9-Courses, 32 Credits)   |    | DEPARTMENT REQUIREMENTS   |    |
|   |    | Physical Sciences Requirements (4 Courses,13 Credits)   |    |
| PHY 1300 – Advanced General Physics I   | 4  |   |    |
| PHY 1400 – Advanced General Physics II  | 4  | PHY 1400 – Advanced General Physics II  | 4  |
| EGR 2100 – Engineering Design   | 3  | EGR 2100 – Engineering Design   | 3  |
| EGR 2200 – Introduction to Electrical Engineering   | 3  | EGR 2200 – Introduction to Electrical Engineering   | 3  |
| EGR 2300 – Introduction to Engineering Thermodynamics   | 3  | EGR 2300 – Introduction to Engineering Thermodynamics   | 3  |
|   |    | Mathematics Requirements (6 Courses, 19 Credits)  |    |
| CS 1200 – Introduction to Computing   | 4  | CS 1200 – Introduction to Computing   | 4  |
|   |    | MAT 1500 - Calculus I   | 3  |
|   |    | MAT 1600 - Calculus II  | 3  |
| MAT 2100 – Calculus III   | 4  | MAT 2100 – Calculus III   | 3  |
| MAT 5500 – Differential Equations   | 3  | MAT 5500 – Differential Equations   | 3  |

| MAT 5600 – Linear Algebra   | 3     | MAT 5600 – Linear Algebra   | 3  |
|---|-------|---|----|
| ELECTIVES: 0 - 4 credits sufficient to meet the required total-66 to 70 credits for the degree.   | 0-4   | ELECTIVES: 0 credits sufficient to meet the required total 65 credits for the degree.   | 0  |
| TOTAL CREDITS: 66 to 70   | 66-70 | TOTAL CREDITS: 65   | 65 |
| *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.   |       | *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.   |    |
| Change in Degree Requirements   |       |   |    |
| 4. A.S. Physics   |       |   |    |
| FROM:   |       | TO:   |    |
| CUNY CORE   |       | CUNY CORE   |    |
| REQUIRED CORE: (4 Courses, 14-Credits)  | 14    | REQUIRED CORE: (4 Courses, 13 Credits)  | 13 |
| When Required Core Courses are specified for a category, they are required for the major  |       | When Required Core Courses are specified for a category, they are required for the major  |    |
| ENG 1200 - English Composition I  | 3     | ENG 1200 - English Composition I  | 3  |
| ENG 2400 - English Composition II   | 3     | ENG 2400 - English Composition II   | 3  |
| Mathematical & Quantitative Reasoning*:   | 4     | Mathematical & Quantitative Reasoning*:   | 3  |
| -MAT 1500 - Calculus I  |       | MAT 9900 - Pre-Calculus for STEM Majors   |    |
| Life and Physical Sciences*:  | 4     | Life and Physical Sciences*:  | 4  |
| CHM 1100 - General Chemistry I  |       | CHM 1100 - General Chemistry I  |    |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20    | 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 courses can be selected from the same discipline. |       | 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   |       | A. World Cultures and Global Issues   |    |
| B. U.S. Experience In Its Diversity   |       | B. U.S. Experience In Its Diversity   |    |
| C. Creative Expression  | 1     | C. Creative Expression  |    |
| D. Individual & Society   | İ     | D. Individual & Society   |    |
| E. Scientific World*:   |       | E. Scientific World*:   |    |
| MAT 1600 - Calculus II  |       | PHY 1300 – Advanced General Physics I   |    |
| CHM 1200 - General Chemistry II   |       | CHM 1200 - General Chemistry II   |    |

| DEPARTMENT REQUIREMENTS (9-Courses, 32 Credits)               |   | DEPARTMENT REQUIREMENTS  |   |
|---|---|--|---|
|   |   | Physical Sciences Requirements (4 Courses, 14 Credits)             |   |
|   |   | EGR 2200 – Introduction to Electrical Engineering                  | 3 |
|   |   | EGR 2300 – Introduction to Engineering Thermodynamics              | 3 |
| PHY 1300 – Advanced General Physics I-                        | 4 |  |   |
| PHY 1400 – Advanced General Physics II                        | 4 | PHY 1400 – Advanced General Physics II                             | 4 |
| AND   |   |  |   |
|   |   | Select ONE (1) of the Following:                                   |   |
|   |   | EPS 3100 - Meteorology (4 crs.) OR                                 |   |
|   |   | EPS 3200 - Oceanography (4 crs.) OR                                |   |
|   |   | EPS 3300 - Physical Geography (4 crs) OR                           |   |
|   |   | EPS 3500 - Introduction to Astronomy (4 crs) OR                    |   |
|   |   | EPS 3600 - Planetology: A Trip Through the Solar System (4 crs) OR |   |
|   |   | Advanced Elective Credits in Physics (4 crs.)                      |   |
|   |   | Mathematics Requirements (4 Courses, 12 Credits)                   |   |
|   |   | MAT 1500 - Calculus I  | 3 |
|   |   | MAT 1600 - Calculus II   | 3 |
|   |   | Select TWO (2) of the Following:                                   |   |
|   |   | MAT 2100 – Calculus III  | 3 |
|   |   | MAT 5500 – Differential Equations                                  | 3 |
|   |   | MAT 5600 – Linear Algebra  | 3 |
| Advanced Electives (8 to 11 credits):                         |   |  |   |
| Select only ONE, Either                                       |   |  |   |
| MAT 5500 – Differential Equations (3 crs.) or                 |   |  |   |
| MAT 5600 – Linear Algebra (3 crs.)                            |   |  |   |
| OR  |   |  |   |
| Select only ONE, Either                                       |   |  |   |
| EGR 2200 – Introduction to Electrical Engineering (3 crs.) or |   |  |   |
| EGR 2300 – Introduction to Engineering Thermodynamics (3      |   |  |   |
| ers.)   |   |  |   |
| <u>OR</u>   |   |  |   |

| Select only ONE, Either   |                 |   |    |
|---|-----------------|---|----|
| EPS 3300 — Physical Geology (4 crs.) or   |                 |   |    |
| EPS 3500 — Introduction to Astronomy (4 crs.) or  |                 |   |    |
| EPS 3600 — Planetology: A Trip Through the Solar System (4  |                 |   |    |
| crs.)   |                 |   |    |
| <u>OR</u>   |                 |   |    |
| PHY 81XX – Independent Study (1 to 3 crs.)  |                 |   |    |
|   |                 |   |    |
| ELECTIVES: 7-10 credits sufficient to meet the required   | <del>7-10</del> | ELECTIVES: 1 credit sufficient to meet the required total 60  | 1  |
| total 60 credits for the degree.  |                 | credits for the degree.   |    |
| TOTAL CREDITS: 60   | 60              | TOTAL CREDITS: 60   | 60 |
|   |                 |   |    |
| *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.   |                 | *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.   |    |
| Change in Degree Requirements   |                 |   |    |
| 5. A.S. Science for Forensics   |                 |   |    |
|   |                 |   |    |
| FROM:   |                 | то:   |    |
| CUNY CORE   |                 | CUNY CORE   |    |
| REQUIRED CORE: (4 Courses, 14-Credits)  | 14              | REQUIRED CORE: (4 Courses, 13 Credits)  | 13 |
| When Required Core Courses are specified for a category, they are required for the major  |                 | When Required Core Courses are specified for a category, they are required for the major  |    |
| ENG 1200 - English Composition I  | 3               | ENG 1200 - English Composition I  | 3  |
| ENG 2400 - English Composition II   | 3               | ENG 2400 - English Composition II   | 3  |
| Mathematical & Quantitative Reasoning*:   | 4               | Mathematical & Quantitative Reasoning*:   | 3  |
| -MAT 1500 - Calculus I  |                 | MAT 9900 - Pre-Calculus for STEM Majors   |    |
| Life and Physical Sciences*:  | 4               | Life and Physical Sciences*:  | 4  |
| BIO 1300 - General Biology I  |                 | BIO 1300 - General Biology I  |    |
| FLEXIBLE CORE: (6 Courses, 20 Credits)  | 20              | 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 courses can be selected from the same discipline. |                 | 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   |                 | A. World Cultures and Global Issues   |    |

| B. U.S. Experience In Its Diversity   |    | B. U.S. Experience In Its Diversity   |    |
|---|----|---|----|
| C. Creative Expression  |    | C. Creative Expression  |    |
| D. Individual & Society   |    | D. Individual & Society   |    |
| E. Scientific World*:   |    | E. Scientific World*:   |    |
| MAT 1600 - Calculus II  |    | CHM 1100 – General Chemistry I  |    |
| BIO 1400 - General Biology II   |    | BIO 1400 - General Biology II   |    |
|   |    |   |    |
| DEPARTMENT REQUIREMENTS (9-Courses, 32 Credits)   |    | DEPARTMENT REQUIREMENTS   |    |
|   |    | Physical Sciences Requirements (5 Courses, 22 Credits)  |    |
| A cumulative grade point average of 2.50 or above, which includes BIO 1300 and BIO 1400, as well as the following 26 credits is required:             |    | A cumulative grade point average of 2.50 or above, which includes BIO 1300, BIO 1400, <b>and CHM 1100</b> as well as the following <b>22</b> credits is required: |    |
| CHM 1100 — General Chemistry I  | 4  |   |    |
| CHM 1200 – General Chemistry II   | 4  | CHM 1200 – General Chemistry II   | 4  |
| CHM 3100 – Organic Chemistry I  | 5  | CHM 3100 – Organic Chemistry I  | 5  |
| CHM 3200 – Organic Chemistry II   | 5  | CHM 3200 – Organic Chemistry II   | 5  |
| PHY 1300 – Advanced General Physics I   | 4  | PHY 1300 – Advanced General Physics I   | 4  |
| PHY 1400 – Advanced General Physics II  | 4  | PHY 1400 – Advanced General Physics II  | 4  |
|   |    | Mathematics Requirements (1 Course, 3 Credits)  |    |
|   |    | MAT 1500 - Calculus I   | 3  |
| ELECTIVES: 0-credits sufficient to meet the required total 60 credits for the degree.   | θ  | ELECTIVES: 2 credits sufficient to meet the required total 60 credits for the degree.   | 2  |
|   |    | Recommended MAT 1600 - Calculus II  |    |
| TOTAL CREDITS: 60   | 60 | TOTAL CREDITS: 60   | 60 |
|   |    |   |    |
| *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. |    | *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.             |    |
| NEW COURSES   |    |   |    |
| A. Department of Art  |    |   |    |
|   |    |   |    |
| 1. ART 2200, Medieval Art   |    |   |    |
| 1. ART 2200, Medieval Art Prerequisite: None  |    |   |    |
| ·   |    |   |    |

| Credits: 3  |  |   |
|---|--|---|
| Equated Credits: N/A  |  |   |
| Hours: 3  |  |   |
| Early Christian, Jewish, Byzantine, Islamic, Carolingian, Ottor<br>chronologically and by region and theme in an effort to create<br>its historical context, and its relationships to other cultures. It  | culture of the medieval era by studying the art of the following periods: onian, Romanesque, and Gothic. The course covers the material e an understanding of each culture's characteristic style, connection to lt also explores how artworks functioned within religious and political from trade, diplomacy, pilgrimage, the crusades, migration, and other |   |
|   |  |   |
| B. Department of English  |  | _ |
| 1. ENG 5400, Introduction to Creative Writing   |  | _ |
| Prerequisite: ENG 1200  |  | _ |
| Corequisite: None   |  | _ |
| Pre/Co-requisite: None  |  |   |
| Credits: 3  |  |   |
| Equated Credits: N/A  |  | _ |
| Hours: 3  |  |   |
| works by contemporary authors.  | work with other members of the class, and read and analyze selected  |   |
| C. Department of Health, Physical Education and Recreation  |  |   |
| 1. PEC 7200, First Responders Physical Fitness Training   |  |   |
| Prerequisite: None  |  |   |
| Corequisite: None   |  | _ |
| Pre/Co-requisite: None  |  |   |
| Credits: 1  |  | _ |
| Facusta d Cradita, NI/A   |  |   |
| Equated Credits: N/A  |  |   |
| Hours: 2 hrs.   |  | _ |
| Hours: 2 hrs.  Course Description: This course is specifically designed to d physical requirements for entrance to the Police and Fire Aca  | develop general fitness to enhance a candidate's ability to pass the ademies in New York City, as well as other first responder exams in pic training, and resistance training, to build strength and endurance.   |   |
| Hours: 2 hrs.  Course Description: This course is specifically designed to d physical requirements for entrance to the Police and Fire Aca  | ademies in New York City, as well as other first responder exams in  |   |
| Hours: 2 hrs.  Course Description: This course is specifically designed to d physical requirements for entrance to the Police and Fire Aca the United States. The course includes aerobic and anaerob  D. Department of History, Philosophy and Political | ademies in New York City, as well as other first responder exams in  |   |

| Corequisite: None   |                      |  |  |
|---|----------------------|--|--|
| Pre/Co-requisite: None  |                      |  |  |
| Credits: 3  |                      |  |  |
| Equated Credits: N/A  |                      |  |  |
| Hours: 3  |                      |  |  |
| Course Description: Application of ethical theories to moral is disobedience, police corruption, whistle blowing, stop and frist unethical conduct, and the war on terror.  |                      | • •  |  |
| E. Department of Mathematics and Computer Science   |                      |  |  |
| 1. MAT 3000, Introduction to Mathematical Concepts in Proof   |                      |  |  |
| Prerequisite: MAT 1400 or MAT 9900  |                      |  |  |
| Corequisite: None   |                      |  |  |
| Pre/Co-requisite: None  |                      |  |  |
| Credits: 1  |                      |  |  |
| Equated Credits: N/A  |                      |  |  |
| Hours: 2 hrs. lab   |                      |  |  |
| Course Description: This course introduces majors in mathen serves as a bridge to the more advanced mathematics they w include: Basic Set Theory, logic, counting principles, direct pr counterexamples, induction, relations, functions, and cardinali | ill study<br>oof, co | at the baccalaureate level and beyond. Expected topics |  |
|   |                      |  |  |
| 2. MAT 9800, Intermediate Algebra for STEM Majors   |                      |  |  |
| Prerequisite: Exit from mathematics remediation, per CUNY   |                      |  |  |
| Corequisite: None   |                      |  |  |
| Pre/Co-requisite: None  |                      |  |  |
| Credits: 0  |                      |  |  |
| Equated Credits: 8  |                      |  |  |
| Hours: 8  |                      |  |  |
|   |                      |  |  |

| Prerequisite: MAT 9800 Corequisite: None Pre/Co-requisite: None Pre/Co-requisite: None Credits: 3 Equated Credits: 3 Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and ir trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.  NEW 82 COURSES  NONE  COURSES FOR PATHWAYS APPROVAL A. Department of Art 1. ART 2200, Medieval Art, Flexible Core: World Cultures and Global Issues (Group A)  B. Department of English 1. ENG 5400, Introduction to Creative Writing, Flexible Core: Creative Expression (Group C)  Included in New Course Proposal | nverse<br>ded for                                 |
|--|---|
| Corequisite: None Pre/Co-requisite: None Credits: 3 Equated Credits: 3 Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and in trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommend students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.  NEW 82 COURSES  NONE  COURSES FOR PATHWAYS APPROVAL A. Department of Art  1. ART 2200, Medieval Art, Flexible Core: World Cultures and Global Issues (Group A)  Included in New Course Proposal  | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3 Equated Credits: 3 Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.  NEW 82 COURSES  NONE  COURSES FOR PATHWAYS APPROVAL A. Department of Art  1. ART 2200, Medieval Art, Flexible Core: World Cultures and Global Issues (Group A)  Included in New Course Proposal   | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3  Equated Credits: 3  Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and ir trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.  NEW 82 COURSES  NONE  COURSES FOR PATHWAYS APPROVAL A. Department of Art  1. ART 2200, Medieval Art, Flexible Core: World Cultures  Included in New Course Proposal  | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3 Equated Credits: 3 Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and ir trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.  NEW 82 COURSES  NONE  COURSES FOR PATHWAYS APPROVAL  | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3 Equated Credits: 3 Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and in trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.  NEW 82 COURSES  NONE   | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3  Equated Credits: 3  Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and ir trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.   | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3  Equated Credits: 3  Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and ir trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.   | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3 Equated Credits: 3 Hours: 6  Course Description: A course in analytic geometry and function theory. It covers both algebraic and functional aspects polynomial and rational functions, radical functions, exponential and logarithmic functions, and both trigonometric and ir trigonometric functions. It also includes a study of the conic sections and solving trigonometric equations. Recommenc students who will eventually take Calculus I. This course is intended only for students whose majors require Calculus I 1500). Students who have completed MAT 1400 will not get credit for this course.   | nverse<br>ded for                                 |
| Corequisite: None Pre/Co-requisite: None Credits: 3  |   |
| Corequisite: None Pre/Co-requisite: None   |   |
| Corequisite: None  |   |
|  |   |
| Prerequisite: MAT 9800   |   |
|  |   |
| 3. MAT 9900. Pre-Calculus for STEM Majors  |   |
| Course Description: This course offers a comprehensive treatment of topics in algebra and trigonometry. These include numbers and their properties, evaluating algebraic expressions, integer and rational exponents, polynomial expressions techniques, rational expressions and mixed quotients, radical expressions, geometric formulas, solving linear and quadrequations, complex numbers, linear inequalities, absolute value equations and inequalities, linear equations in two variations of circles, right triangle trigonometry and trigonomy and the properties of any angle, algebraic operations with trigonometric expressions, establishing trigonometric identities, the Sum of Angles/Difference of Angles/Double Angle/Half Angle formulas. This course is intended only for students whose major Calculus I (MAT 1500). Students who have completed MAT 900 will not receive credit for this course.  3. MAT 9900, Pre-Calculus for STEM Majors  | s, factoring<br>ratic<br>ables, the<br>igonometry |
| Course Description: This course offers a comprehensive treatment of topics in algebra and trigonometry. These include  | e the real  |

| 2. HIS 3700, The Middle East - World War I to the Present, Flexible Core: World Cultures and Global Issues (Group A) |  |
|--|--|
| 3. PHI 6600, Criminal Justice Ethics, Flexible Core: Individual and Society (Group D)                                | Included in New Course Proposal                          |
| D. Department of Mathematics and Computer Science  |  |
| MAT 800, Practical Mathematics for Today's World,     Required Core: Mathematical and Quantitative Reasoning         | Included in Change in Number of Credits/Hours            |
| CHANGES IN EXISTING COURSES  |  |
| A. Department of Health, Physical Education and Recreation   |  |
| Change: Pre/Co-requisite   |  |
| RPE 3600, Assessment Process in Therapeutic Recreation   |  |
| FROM:  | TO:  |
| Pre/Co-requisite: PSY 1100 and REC 3100  | Pre/Co-requisite: RPE 3100, PSY 1100 is recommended      |
| B. History, Philosophy, and Political Science  |  |
| Change: Course Title and Description   |  |
| HIS 1800, U.S. History in a Global Context: From Reconstruction to Present   |  |
| FROM:  | TO:  |
| U.S. History in a Global Context: From Reconstruction to Present   | U.S. History in a Global Context: <b>1865 to Present</b> |
| FROM:  | TO:  |

| This course examines the period from 1865 to present. It explores how U.S. History fits into the global context and investigates how such events and historical phenomenon as American industrialization, progressivism, and race relations can be better understood by examining them in a transitional historical context. | This course explores United States history in the context of global affairs from the late nineteenth century onwards. It investigates, for example, how the United States has defined itself in relation to the wider world; the rise of the United States as a global superpower; and the ways the United States interactions with peoples from around the world, both at home and abroad, have shaped the nation's history. |
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| 2. HIS 2000, The Immigrant in American Society   |   |
|  |   |
| FROM:  | TO:   |
| The Immigrant in American Society  | U.S. Immigration History  |
| FROM:  | TO:   |
| Changing immigration pattern from the 17th century to the present. Immigrants, their motives and ambitions (background, role in American society, and contributions to American life).   | This course explores the history of migration to the United States. It investigates the experiences of diverse groups of migrants and examines the interactions between migrants and the nation, exploring the changing meaning of "foreign" and "American."  |
| C. Department of Mathematics and Computer Science  |   |
| Change: Pre/Co-requisite   |   |
| CS 1200, Introduction to Computing   |   |
|  |   |
| FROM:  | TO:   |
| Pre/Co-requisite: MAT 1400   | Pre/Co-requisite: MAT 1400 or MAT 9900  |
| Change: Course Credits/Hours   |   |
| 2. MAT 800, Practical Mathematics for Today's World  |   |
| FROM:  | TO:   |
| 4 credits, 4 hours   | 3 credits, 4 hours (2 hrs. lecture, 2 hrs. lab)   |
|  |   |
| Change: Prerequisite and Course Description  |   |
| 3. MAT 900, College Algebra  |   |
|  |   |
| FROM:  | TO:   |

| Prerequisites: (1) Successful completion of the Elementary Algebra portion of the ACCUPLACER CUNY Assessment Test in Math and a score of 55-69 on the College Level Math portion of the ACCUPLACER CUNY Assessment Test in Math; or (2) Successful completion of Pre-Algebra and a grade of 45 or higher on the Elementary Algebra portion of the CUNY Mathematics Skills Test (COMPASS), or (3) Successful completion of Pre-Algebra and successful completion of a Kingsborough Math M200 workshop culminating in a grade of 88 or higher on the CEAFE exam, or (4) Successful completion of Pre-Algebra and an "S" grade in MAT M200 taken at Kingsborough; or (5) MAT R300 | Prerequisites: (1) MAT R300, or (2) Successful completion of the Elementary Algebra portion of the ACCUPLACER CUNY Assessment Test in Math and a score of 55 - 69 on the College Level Math portion of the ACCUPLACER CUNY Assessment Test in Math.   |
|--|---|
| FROM:  | TO:   |
| A comprehensive treatment of the following: real numbers, absolute value, integer and rational exponents, polynomial operations, factoring techniques, roots and radicals, linear and quadratic equations, graphing techniques, systems of linear equations, and Gaussian elimination. Introduces the study of functions in preparation for the study of pre-calculus. Demonstration of proficiency in subject matter via departmental final exam is required for successful completion.   | A comprehensive treatment of the following: real numbers, absolute value, integer and rational exponents, polynomial operations, factoring techniques, roots and radicals, linear and quadratic equations, graphing techniques, systems of linear equations, and Gaussian elimination. Introduces the study of functions in preparation for the study of pre-calculus. Demonstration of proficiency in subject matter via departmental final exam is required for successful completion. This course is intended only for students whose major does not require Calculus I (MAT 1500). Students who intent to take Calculus I (MAT 1500) should instead register for MAT 9800 (Intermediate Algebra for STEM Majors). Students who have completed MAT 9800 will not get credit for this course. |
| Change: Prerequisite   |   |
| 4. MAT 2000, Elements of Statistics  |   |
| FROM:  | TO:   |

| Prerequisites: (1) Successful completion of the Elementary Algebra portion of the ACCUPLACER CUNY Assessment Test in Math and a score of 55 or higher on the College Level Math portion of the ACCUPLACER CUNY Assessment Test in Math, or (2) Successful completion of Pre-Algebra and a grade of 45 or higher on the Elementary Algebra portion of the CUNY Mathematics Skills Test (COMPASS), or (3) Successful completion of Pre-Algebra and successful completion of a Kingsborough Math M200 workshop culminating in a grade of 88 or higher on the CEAFE exam, or (4) Successful completion of Pre-Algebra and an "S" grade in MAT M200 taken at Kingsborough, or (5) MAT R300 | Prerequisites: (1) MAT R300, or (2) MAT 9800, or (3) Successful completion of the Elementary Algebra portion of the ACCUPLACER CUNY Assessment Test in Math and a minimum of score of 55 on the College Level Math portion of the ACCUPLACER CUNY Assessment Test in Math |
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|   |   |
| Change: Prerequisite and Credits/Hours  |   |
| 5. MAT/BA 2200, Business Statistics   |   |
| FROM:   | TO:   |
| Prerequisites: (1) Successful completion of the Elementary Algebra portion of the ACCUPLACER CUNY Assessment Test in Math and a score of 55 or higher on the College Level Math portion of the ACCUPLACER CUNY Assessment Test in Math, or (2) Successful completion of Pre-Algebra and a grade of 45 or higher on the Elementary Algebra portion of the CUNY Mathematics Skills Test (COMPASS), or (3) Successful completion of Pre-Algebra and successful completion of a Kingsborough Math M200 workshop culminating in a grade of 88 or higher on the CEAFE exam, or (4) Successful completion of Pre-Algebra and an "S" grade in MAT M200 taken at Kingsborough, or (5) MAT R300 | Prerequisites: (1) MAT R300, or (2) MAT 9800, or (3) Successful completion of the Elementary Algebra portion of the ACCUPLACER CUNY Assessment Test in Math and a minimum of score of 55 on the College Level Math portion of the ACCUPLACER CUNY Assessment Test in Math |
| FROM:   | TO:   |
| 4 credits, 4 hrs.   | 3 credits, 4 hrs. (2 hrs. lecture, 2 hrs. lab)  |
| Change: Presequisite  |   |
| Change: Prerequisite  6. MAT/BIO 9100, Biostatistics  |   |
| FROM:   | TO:   |
| Prerequisite: MAT 900   | Prerequisite: MAT 900 or MAT 9800   |

| Change: Course Description  |   |
|---|---|
| 7. MAT 1400, Analytic Geometry and Pre-Calculus   |   |
|   |   |
| FROM:   | TO:   |
| This pre-calculus course stresses real numbers, open sentences, functions and relations, and serves as an introduction to analytic geometry and to probability. Recommended for students planning to continue with calculus and/or mathematics electives. | This pre-calculus course stresses real numbers, open sentences, functions and relations, and serves as an introduction to analytic geometry and to probability.  Recommended for students planning to continue with calculus and/or mathematics electives. This course is intended only for students whose major does not require Calculus I (MAT 1500). Students who intent to take Calculus I (MAT 1500) should instead register for MAT 9900 (Pre-Calculus for STEM Majors). Students who have completed MAT 9900 will not get credit for this course. |
| Change: Prerequisite and Credit/Hours   |   |
| 8. MAT 1500, Calculus I   |   |
|   |   |
| FROM:   | TO:   |
| Prerequisite: MAT 1400 with a grade of "C" or better  | Prerequisite: (1) MAT 1400 with a grade of "C" or better and Corequisite MAT 1000; or (2) MAT 9900 with a grade of "C" or better  |
| Pre/Co-requisite: MAT 10000   |   |
|   |   |
| FROM:   | TO:   |
| 4 credits, 4 hours  | 3 credits, 4 hours (2 hrs. lecture, 2 hrs. lab)   |
| Change: Course Credit/Hours   |   |
| 9. MAT 1600, Calculus II  |   |
|   |   |
| FROM:   | TO:   |
| 4 credits, 4 hours  | 3 credits, 4 hours (2 hrs. lecture, 2 hrs. lab)   |
| 10. MAT 2100, Calculus III  |   |
| FROM:   | TO:   |
| 4 credits, 4 hours  | 3 credits, 4 hours (2 hrs. lecture, 2 hrs. lab)   |

| D. Department of Physical Sciences   |  |
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| Change: Pre/Co-requisites  |  |
| CHM 100, Preview of General Chemistry  |  |
| FROM:  | TO:  |
| Pre/Co-requisite: MAT 900  | Pre/Co-requisite: MAT 900 or MAT 9800, or Department Permission  |
| CHM 200, Introduction to Green Chemistry   |  |
| FROM:  | TO:  |
| Pre/Co-requisite: MAT 900  | Pre/Co-requisite: MAT 900 or MAT 9800, or Department Permission  |
| 3. EGR 2100, Engineering Design  |  |
| FROM:  | TO:  |
| Prerequisites: Passed, exempt, or completed developmental course work for the CUNY Assessment Tests in Reading and Writing and MAT 900 | Prerequisites: Passed, exempt, or completed developmental course work for the CUNY Assessment Tests in Reading and Writing and MAT 900 or MAT 9800 |
| Corequisite: MAT 1400  | Corequisite: NONE  |
|  | Pre/Co-requisite: MAT 1400, or MAT 9900, or Department Permission  |
| EGR 2200, Introduction to Electrical Engineering   |  |
| FROM:  | TO:  |
| Prerequisites: MAT 2100 and PHY 1400   | Prerequisites: NONE  |
| Corequisite: MAT 5500  | Corequisite: NONE  |
|  | Pre/Co-requisite: MAT 5500 and PHY 1400, or Department Permission  |
| EGR 2300, Introduction to Engineering Thermodynamics   |  |
| FROM:  | TO:  |
| Prerequisites: CHM 1200 and PHY 1400   | Prerequisites: NONE  |
| Corequisite: CS 1200   | Corequisite: NONE  |

|  | Pre/Co-requisite: CHM 1200 and PHY 1400, or Department Permission   |
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| 6. PHY 100, Preview of General Physics I           |   |
| FROM:  | TO:   |
| Pre/Co-requisite: MAT 900                          | Pre/Co-requisite: MAT 900, or MAT 9900, or Departmental Permission  |
| 7. PHY 1100, General Physics I                     |   |
| FROM:  | TO:   |
| Prerequisite: MAT 1400                             | Prerequisite: NONE  |
|  | Pre/Co-requisite: MAT 1400, or MAT 9900, or Departmental Permission |
| 8. PHY 1300, Advanced General Physics I            |   |
| FROM:  | TO:   |
| Pre/Co-requisite: MAT 1500                         | Pre/Co-requisite: MAT 1500, or Departmental Permission              |
| 9. PHY 1400, Advanced General Physics II           |   |
| FROM:  | TO:   |
| Prerequisite: PHY 1300                             | Prerequisite: PHY 1300  |
| Pre/Co-requisite: MAT 1600                         | Pre/Co-requisite: MAT 1600, or Departmental Permission              |
| COURSES WITHDRAWN                                  |   |
| A. Department of Art                               |   |
| 1. ART 4200, Three Dimensional Illustrations       |   |
| 2. ART 6600, Printmaking I                         |   |
| 3. ART 6700, Printmaking II                        |   |
| INFORMATIONAL GUIDELINES FOR THE COMMITTEE         |   |
| Discussion of substantial degree changes and NYSED |   |
| Feedback prior to submission                       |   |

| 3. Codifying process for proposing concentrations |  |  |
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| 4. Civic Engagement (CE) update                   |  |  |
| 5. New E-catalog                                  |  |  |
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