## CURRICULUM TRANSMITTAL COVER PAGE

Department:
Physical Sciences Date: $9 / 21 / 2020$

Title Of Course/Degree/Concentration/Certificate:

## A.S. Physics

Change(s) Initiated: (Please check)

| $\square$ Closing of Degree | Change in Degree or Certificate |
| :--- | :--- |
| $\square$ Closing of Certificate | $\square$ Change in Degree: Adding Concentration |
| $\square$ New Certificate Proposal | $\square$ Change in Degree: Deleting Concentration |
| $\square$ New Degree Proposal | $\square$ Change in Prerequisite, Corequisite, and/or Pre/Co-requisite |
| $\square$ New Course | $\square$ Change in Course Designation |
| $\square$ New 82 Course (Pilot Course) | $\square$ Change in Course Description |
| $\square$ Deletion of Course(s) | $\square$ Change in Course Title, Number, Credits and/or Hours |
|  | $\square$ Change in Academic Policy |
|  | $\square$ Pathways Submission: |
|  | $\square$ Life and Physical Science |
| $\square$ | $\square$ Math and Quantitative Reasoning |
|  | $\square$ A. World Cultures and Global Issues |
| $\square$ | $\square$ B. U.S. Experience in its Diversity |
|  | $\square$ C. Creative Expression |
| $\square$ | $\square$ D. Individual and Society |
| $\square$ | E. Scientific World |

$\square$ Change in Program Learning Outcomes
$\square$ Other (please describe): $\qquad$

## PLEASE ATTACH MATERIAL TO ILLUSTRATE AND EXPLAIN ALL CHANGES

## DEPARTMENTAL ACTION

Action by Department and/or Departmental Committee, if required:
Date Approved: $\qquad$ Signature, Committee Chairperson: $\qquad$
If submitted Curriculum Action affects another Department, signature of the affected Department(s) is required:

Date Approved: $\qquad$ Signature, Department Chairperson: $\qquad$
Date Approved: $\qquad$ Signature, Department Chairperson: $\qquad$
I have reviewed the attached material/proposal
Signature, Department Chairperson: John Mikalopas

TO: FALL 2020 Curriculum Committee
FROM: John Mikalopas, Ph.D. Professor and Chair, Department of Physical Sciences
DATE: $\quad$ September 21, 2020
RE: $\quad$ Change Degree Requirements for the A.S. Physics
The Department of Physical Sciences is proposing a change in degree requirements for the A.S. Physics.

## Change:

1. Addition of MAT 9B0 - College Algebra for STEM Majors, under Required Core: Mathematics and Quantitative Reasoning (MQR)

## Rationale for Change:

These changes are necessary based on the proposed new course, MAT 9B0 - College Algebra for STEM Majors, by the Department of Mathematics and Computer Science to the Fall 2020 Curriculum Committee.

| Add/Delete/Change | A.S. PHYSICS |  |
| :---: | :---: | :---: |
|  | HEGIS: 5619.00 |  |
|  | PROGRAM CODE: 01042 |  |
|  | CUNY CORE | CREDITS |
|  | REQUIRED CORE: (4 Courses, 13 Credits) | 13 |
|  | When Required Core Courses are specified for a category, they are required for the major |  |
|  | ENG 1200 - Composition I | 3 |
|  | ENG 2400 - Composition II | 3 |
|  | Mathematical \& Quantitative Reasoning*: | 4 |
|  | Mathematical and Quantitative Reasoning*: | 3 |
| ADD | MAT 9B0 - College Algebra for STEM Majors or |  |
|  | MAT 900 - College Algebra or |  |
|  | MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics or |  |
|  | MAT 1500-Calculus I |  |
|  | Life and Physical Sciences*: | 4 |
|  | CHM 1100-General Chemistry I |  |
|  |  |  |
|  | 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. |  |
|  | A. World Cultures and Global Issues |  |
|  | B. U.S. Experience In Its Diversity |  |
|  | C. Creative Expression |  |
|  | D. Individual \& Society |  |
|  | E. Scientific World*: |  |
|  | CHM 1200-General Chemistry II |  |
|  | PHY 1300 - Advanced General Physics I |  |
|  |  |  |
|  | DEPARTMENT REQUIREMENTS (8 Courses, 26 to 27 Credits) | 26-27 |
|  | Additional Physical Sciences Requirements (4 Courses, 14 Credits) | 14 |
|  | PHY 1400 - Advanced General Physics II | 4 |
|  | EGR 2200 - Introduction to Electrical Engineering (3 crs.) | 3 |
|  | EGR 2300 - Introduction to Engineering Thermodynamics (3 crs.) | 3 |
|  |  |  |
|  | Select one (1) from the following: |  |
|  | EPS 3100 - Meteorology |  |
|  | EPS 3200 - Oceanography |  |
|  | EPS 3300 - Physical Geology |  |
|  | EPS 3500 - Introduction to Astronomy |  |
|  | EPS 3600 - Planetology: A Trip Through the Solar System |  |
|  | EPS 3800 - Introduction to Earth Science |  |
|  |  |  |
|  | Additional Mathematics Requirements (2 Courses, 6 Credits) | 6 |



| Add/Delete/Change | A.S. PHYSICS |  |
| :---: | :---: | :---: |
|  | HEGIS: 5619.00 |  |
|  | PROGRAM CODE: 01042 |  |
|  |  |  |
|  | CUNY CORE | CREDITS |
|  |  |  |
|  | REQUIRED CORE: (4 Courses, 13 Credits) | 13 |
|  | When Required Core Courses are specified for a category, they are required for the major |  |
|  | ENG 1200 - Composition I | 3 |
|  | ENG 2400 - Composition II | 3 |
|  | Mathematical \& Quantitative Reasoning*: | 4 |
|  | Mathematical and Quantitative Reasoning*: | 3 |
|  | MAT 9B0 - College Algebra for STEM Majors or |  |
|  | MAT 900 - College Algebra or |  |
|  | MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics or |  |
|  | MAT 1500-Calculus I |  |
|  | Life and Physical Sciences*: | 4 |
|  | CHM 1100-General Chemistry I |  |
|  |  |  |
|  | 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. |  |
|  | A. World Cultures and Global Issues |  |
|  | B. U.S. Experience In Its Diversity |  |
|  | C. Creative Expression |  |
|  | D. Individual \& Society |  |
|  | E. Scientific World*: |  |
|  | CHM 1200-General Chemistry II |  |
|  | PHY 1300 - Advanced General Physics I |  |
|  |  |  |
|  | DEPARTMENT REQUIREMENTS (8 Courses, 26 to 27 Credits) | 26-27 |
|  | Additional Physical Sciences Requirements (4 Courses, 14 Credits) | 14 |
|  | PHY 1400 - Advanced General Physics II | 4 |
|  | EGR 2200 - Introduction to Electrical Engineering (3 crs.) | 3 |
|  | EGR 2300 - Introduction to Engineering Thermodynamics (3 crs.) | 3 |
|  |  |  |
|  | Select one (1) from the following: |  |
|  | EPS 3100 - Meteorology |  |
|  | EPS 3200 - Oceanography |  |
|  | EPS 3300 - Physical Geology |  |
|  | EPS 3500 - Introduction to Astronomy |  |
|  | EPS 3600 - Planetology: A Trip Through the Solar System |  |
|  | EPS 3800 - Introduction to Earth Science |  |
|  |  |  |
|  | Additional Mathematics Requirements (2 Courses, 6 Credits) | 6 |


|  | Select Two (2) additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following: |  |
| :---: | :---: | :---: |
|  | 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 |  |
|  | MAT 5600 - Linear Algebra |  |
|  |  |  |
|  | Additional Science and Mathematics Electives (2 Courses, 6 to 7 Credits) | 6.7 |
|  | Elective Credits in CHM, CS, EGR, EPS, MAT, PHY, or SCI |  |
|  |  |  |
|  | ELECTIVES: $0-1$ credits sufficient to meet the required total 60 credits for the degree. | 0-1 |
|  |  |  |
|  | 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. |  |
|  | ^ Depending on Math placement, students may be required to select MAT 1000 |  |

