

The City University of New York
CURRICULUM DATA TRANSMITTAL SHEET

DEPARTMENT: **PHYSICAL SCIENCES**

DATE: **Spring 2018**

Title of Course or Degree Change: **A.S. CHEMISTRY**

Change(s) Initiated: (Please Check)

- | | |
|---|--|
| <input type="checkbox"/> Closing of Degree | <input checked="" type="checkbox"/> Change in Degree or Certificate Requirements |
| <input type="checkbox"/> Closing of Certificate | <input type="checkbox"/> Change in Degree Requirements (adding concentration) |
| <input type="checkbox"/> New Certificate Proposal | <input type="checkbox"/> Change in Pre/Co-Requisite |
| <input type="checkbox"/> New Degree Proposal | <input type="checkbox"/> Change in Course Designation |
| <input type="checkbox"/> New Course | <input type="checkbox"/> Change in Course Description |
| <input type="checkbox"/> New 82 Course | <input type="checkbox"/> Change in Course Title, Numbers Credit and/or Hour |
| <input type="checkbox"/> Deletion of Course | <input type="checkbox"/> Change in Academic Policy |
| | <input type="checkbox"/> Pathways Submission: |
| | <input type="checkbox"/> Life and Physical Science |
| | <input type="checkbox"/> Math and Quantitative Reasoning |
| | <input type="checkbox"/> A. World Cultures and Global Issues |
| | <input type="checkbox"/> B. U.S. Experience in its Diversity |
| | <input type="checkbox"/> C. Creative Expression |
| | <input type="checkbox"/> D. Individual and Society |
| | <input type="checkbox"/> E. Scientific World |

Other (please describe):

PLEASE ATTACH PERTINENT MATERIAL TO ILLUSTRATE AND EXPLAIN ALL CHANGES

I. DEPARTMENTAL ACTION

Action by Department &/or Departmental Curriculum Committee, if required:

Date approved:

Signature, Committee Chairperson:

Signature, Department Chair:

Date:

Appended are:

1. Proposed Degree Requirements A.S. Chemistry
2. Proposed 4 semester Degree Map A.S. Chemistry
3. List of Proposed Changes A.S. Chemistry
4. Current catalog description A.S. Chemistry (Marked-up to show add/drop changes)
5. Proposed catalog description A.S. Chemistry

Reason for Changes:

Comport with CUNY Degree and Academic Standards policies memo of 20 July 2016 requiring degree to be 60 credits including all pre-requisites and completed 4 semesters.

Degree Requirement A.S. Chemistry

CUNY's General Education requirements: [excluding math and science requirement]

One year of English Composition: ENG 12 & ENG 24 (6 crs.)

Group A: One semester World (3 crs.)

Group B: One semester United States (3 crs.)

Group C: One semester Creative (3 crs.)

Group D: One semester Individual (3 crs.)

18 credits

Department Degree Requirements:

Physical Sciences Requirements:

CHM 1100 – General Chemistry I (4 crs.)

CHM 1200 – General Chemistry II (4 crs.)

CHM 3100 – Organic Chemistry I (5 crs.)

CHM 3200 – Organic Chemistry II (5 crs.)

PHY 1300 – Advanced General Physics I (4 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

Advanced Elective Credits in CHM, EGR, EPS, PHY, or SCI (7 crs.)

33 credits

Mathematics Requirements:

MAT 9900 Pre-Calculus (3 crs)

MAT 1500 Calculus I (3 crs)

MAT 1600 Calculus II (3 crs)

9 credits

Elective Credits

0 credits

Total 60 credits

AS Chemistry Degree Map

CHM, ENG, MAT development (if required) 0 crs.

<u>Semester 1 (16 Credits)</u> <ul style="list-style-type: none">• CHM11 - Chemistry I 4 crs.• ENG12- English Composition I 3 crs.• MAT 99 Pre-Calculus 3 crs• Group A or B or C or D 3 crs.• Group A or B or C or D 3 crs.	<u>Semester 2 (16 Credits)</u> <ul style="list-style-type: none">• CHM12- Chemistry II 4 crs.• ENG24 English Composition II 3 crs.• MAT 15 Calculus I 3 crs.• Group A or B or C or D 3 crs.• Group A or B or C or D 3 crs.
<u>Semester 3 (15 credits)</u> <ul style="list-style-type: none">• CHM 31 Organic Chemistry I 5 crs.• PHY13 Advanced Physics I 4 crs.• MAT 16 Calculus II 3 crs.• Advanced Elective Credits in CHM, EGR, EPS, PHY, or SCI 3 crs.	<u>Semester 4 (13 credits)</u> <ul style="list-style-type: none">• CHM 32 Organic Chemistry II 5 crs.• PHY14 Advanced Physics II 4 crs.• Advanced Elective Credits in CHM, EGR, EPS, PHY, or SCI 4 crs.

PROPOSED CHANGES A.S. CHEMISTRY

FROM:

Required Core (4 Courses, 14 Credits):

Mathematical & Quantitative Reasoning Course* ~~MAT 1500 – Calculus I (4 crs.)~~

TO:

Required Core (4 Courses, 13 Credits):

Mathematical & Quantitative Reasoning Course* **MAT 99 Pre-Calculus(3crs)**

FROM:

Flexible Core (6 Courses, 20 Credits):

E. Scientific World Designated Courses*

~~MAT 1600 – Calculus II (4 crs.)~~

CHM 1200 – General Chemistry II (4 crs)

TO:

Flexible Core (6 Courses, 20 Credits):

E. Scientific World Designated Courses*

PHY 1300 – Advanced General Physics I (4 crs.)

CHM 1200 – General Chemistry II (4 crs)

FROM:

~~**Major Requirements (4 Courses, 18 Credits):**~~

~~CHM 3100 – Organic Chemistry I (5 crs.)~~

~~CHM 3200 – Organic Chemistry II (5 crs.)~~

~~PHY 1300 – Advanced General Physics I (4 crs.)~~

~~PHY 1400 – Advanced General Physics II (4 crs.)~~

~~**Electives: 8 credits sufficient to meet required total of 60 credits**~~

TO:

Additional Department Degree Requirements:

Physical Sciences Requirements (4-5 Courses, 20 Credits):

CHM 3100 – Organic Chemistry I (5 crs.)

CHM 3200 – Organic Chemistry II (5 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

Advanced Elective Credits in CHM, EGR, EPS, PHY, or SCI (7 crs.)

Mathematics Requirements (2 Courses, 6 Credits):

MAT 15 Calculus I (3 crs)

MAT 16 Calculus II (3 crs)

Electives: 0 credits sufficient to meet required total of 60 credits

CURRENT

A.S. CHEMISTRY

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5619.00

PROGRAM CODE: 01043

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

The curriculum presented here applies to students who started the major in Fall 2017 or Spring 2018. If you enrolled as a matriculant prior to that, please see the *College Catalog* for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Learning Outcomes:

Upon successful completion of the Chemistry degree program requirements, graduates will:

1. employ mathematics, science, and computing techniques to support the study and solution of chemistry problems
2. understand the principles and methods of chemistry and how these are applied to the solution of chemical problems
3. demonstrate practical skills in modern laboratory techniques, methods, instrumentation, and data analysis
4. communicate clearly their understandings of chemistry and of their specific activity in the field orally and in writing
5. understand the importance of professional and ethical responsibilities of chemists
6. recognize environmental constraints and safety issues in chemistry
7. exhibit good teamwork skills and serve as effective members of teams
8. be prepared for a lifetime of continuing education

College Requirements:

Successful completion of CUNY Assessment Tests in Reading, Writing, and ACCUPLACER CUNY Assessment Test in Math with passing examination scores, unless otherwise exempt, or developmental courses may be required.

Civic Engagement Experiences:

Two (2) Civic Engagement experiences satisfied by Civic Engagement Certified or Civic Engagement Component courses or approved outside activity.

Writing Intensive Requirement:

One (1) Writing Intensive course in any discipline is required. Participation in a Learning Community that includes ENG 1200 or ENG 2400 also satisfies this requirement.

Refer to course descriptions for prerequisite, corequisite and/or pre-corequisite requirements

~~DROP: Required Core (4 Courses, 14 Credits):~~

ADD: 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 (3 crs.)

ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course* –

~~DROP: MAT 1500 – Calculus I (4 crs.)~~

ADD: MAT 99 Pre-Calculus(3crs)

Life & Physical Sciences Course* - CHM 1100 – General Chemistry I (4 crs.)

*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.

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 show.)

- A. World Cultures and Global Issues Designated Course
- B. U.S. Experience in its Diversity Designated Course
- C. Creative Expression Designated Course
- D. Individual and Society Designated Course
- E. Scientific World Designated Courses*

~~DROP: MAT 1600 – Calculus II (4 crs.)~~

ADD: PHY 1300 – Advanced General Physics I (4 crs.)

CHM 1200 – General Chemistry II (4 crs.)

*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.

No more than two courses can be selected from the same discipline

DROP:

~~Major Requirements (4 Courses, 18 Credits):~~

~~CHM 3100 – Organic Chemistry I (5 crs.)~~

~~CHM 3200 – Organic Chemistry II (5 crs.)~~

~~PHY 1300 – Advanced General Physics I (4 crs.)~~

~~PHY 1400 – Advanced General Physics II (4 crs.)~~

ADD:

Additional Degree Requirements:

Physical Sciences Requirements (4-5 Courses, 21 Credits):

CHM 3100 – Organic Chemistry I (5 crs.)

CHM 3200 – Organic Chemistry II (5 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

Advanced Elective Credits in CHM, EGR, EPS, PHY, or SCI (7 crs.)

Mathematics Requirements (2 Courses, 6 Credits):

MAT 15 Calculus I (3 crs)

MAT 16 Calculus II (3 crs)

Electives:

~~DROP: 8 credits sufficient to meet required total of 60 credits~~

ADD: 0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60

PROPOSED

A.S. CHEMISTRY

ACADEMIC DEPARTMENT: Physical Sciences

HEGIS: 5619.00

PROGRAM CODE: 01043

CHAIRPERSON: Dr. John Mikalopas

OFFICE LOCATION: S-243

TELEPHONE: (718) 368-5746

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Upon successful completion of the Chemistry degree program requirements, graduates will:

1. employ mathematics, science, and computing techniques to support the study and solution of chemistry problems
 2. understand the principles and methods of chemistry and how these are applied to the solution of chemical problems
 3. demonstrate practical skills in modern laboratory techniques, methods, instrumentation, and data analysis
 4. communicate clearly their understandings of chemistry and of their specific activity in the field orally and in writing
 5. understand the importance of professional and ethical responsibilities of chemists
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 7. exhibit good teamwork skills and serve as effective members of teams
 8. be prepared for a lifetime of continuing education
-

College Requirements:

Successful completion of CUNY Assessment Tests in Reading, Writing, and ACCUPLACER CUNY Assessment Test in Math with passing examination scores, unless otherwise exempt, or developmental courses may be required.

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ENG 2400 Composition II (3 crs.)

Mathematical & Quantitative Reasoning Course*

Mathematical & Quantitative Reasoning Course* – MAT 9900 Pre-Calculus (3 crs.)

Life & Physical Sciences Course* - CHM 1100 – General Chemistry I (4 crs.)

*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.

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- b. U.S. Experience in its Diversity Designated Course
- c. Creative Expression Designated Course
- d. Individual and Society Designated Course
- e. Scientific World Designated Courses*
PHY 1300 – Advanced General Physics I (4 crs.)
CHM 1200 – General Chemistry II (4 crs.)

*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.

No more than two courses can be selected from the same discipline

Additional Department Degree Requirements:**Physical Sciences Requirements (5 Courses, 21 Credits):**

CHM 3100 – Organic Chemistry I (5 crs.)

CHM 3200 – Organic Chemistry II (5 crs.)

PHY 1400 – Advanced General Physics II (4 crs.)

Advanced Elective Credits in CHM, EGR, EPS, PHY, or SCI (7 crs.)

Mathematics Requirements (2 Courses, 6 Credits):

MAT 1500 Calculus I (3 crs)

MAT 1600 Calculus II (3 crs)

Electives:

0 credits sufficient to meet required total of 60 credits

TOTAL CREDITS: 60