

Chemistry, A.S.

HEGIS: 5619.00

PROGRAM CODE: 01043

PROGRAM DIRECTOR: Dr. John Mikalopas

DEPARTMENT: PHYSICAL SCIENCES

The Chemistry AS degree is designed to provide students with foundational courses in chemistry, physics, and mathematics in preparation for transfer to baccalaureate programs. Courses focus on understanding the principles of chemistry, application of modern laboratory techniques, methods, instrumentation, and data analysis to the solution of chemical problems, environmental constraints and safety issues, importance of ethical responsibilities, and support quantitative reasoning, scientific writing, and research.

The curriculum presented here applies to students who started the major in Fall 2026 or Spring 2027. 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.

Degree Maps:

Degree Map for Chemistry, A.S. - MAT 9010 or MAT 9B0 or MAT 900 Placement (**see below**)

Degree Map for Chemistry, A.S. - MAT 1500 Placement - Calculus I (**see below**)

Your Degree Map contains the suggested term-by-term course sequence for your academic path towards graduation.

To ensure successful and timely completion of your degree, it is recommended that you meet with your academic advisor to discuss your unique map.

Please note some courses *may* only be offered once an academic year.

Program 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
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College Requirements:

English and Math proficient as determined by the CUNY Proficiency Index, unless otherwise exempt, or successful completion of any required developmental course(s).

Civic Engagement Experiences:

One (1) Civic Engagement experience satisfied by Civic Engagement Certified or Civic Engagement Component course or approved outside activity.

Writing Intensive Requirement:

One (1) Writing Intensive Course in any discipline is required.

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 Credit(s)
 - ENG 2400 - Composition II 3 Credit(s)
 - **Mathematical & Quantitative Reasoning Course 3 Credit(s)***
 - MAT 9010 - Introduction to Mathematics with College Algebra 3 Credit(s) **or**
 - MAT 9B0 - College Algebra for STEM Majors 3 Credit(s) **or**
 - MAT 900 - College Algebra 3 Credit(s) **or**
 - MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics 3 Credit(s) **or**
 - MAT 1500 - Calculus I 3 Credit(s)
 - **Life & Physical Sciences Course 3 Credit(s)***
 - CHM 1100 - General Chemistry I 4 Credit(s)
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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). **No more than two courses can be selected from the same discipline**

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 Course*

- CHM 1200 - General Chemistry II 4 Credit(s)
 - PHY 1300 - Advanced General Physics I 4 Credit(s)
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Major Requirements (7 Courses, 26 to 27 Credits):

Additional Physical Sciences Requirements (3 Courses, 14 Credits)

- CHM 3100 - Organic Chemistry I 5 Credit(s)
- CHM 3200 - Organic Chemistry II 5 Credit(s)
- PHY 1400 - Advanced General Physics II 4 Credit(s)

Additional Mathematics Requirements (2 Courses, 6 Credits)

Select **two (2)** additional courses beyond the Mathematical and Quantitative Reasoning (MQR) course from the following:

- MAT 1000 - College Trigonometry 3 Credit(s) ^
- MAT 1400 - Analytic Geometry and Pre-Calculus Mathematics 3 Credit(s) (*Recommended*)
- MAT 1500 - Calculus I 3 Credit(s) (*Recommended*)
- MAT 1600 - Calculus II 3 Credit(s) (*Recommended*)
- MAT 2100 - Calculus III 3 Credit(s)
- MAT 5500 - Differential Equations 3 Credit(s)
- MAT 5600 - Linear Algebra 3 Credit(s)

Additional Science and Mathematics Electives (2 Courses, 6 to 7 Credits)

- Elective Credits in CHM, CS, EGR, EPS, MAT, PHY or SCI
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Electives:

0 - 1 credits sufficient to meet required total of 60 credits

Notes:

^ Depending on Math placement, students may be required to select MAT 1000

*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.

Total Credits: 60

Degree Map: A.S. Chemistry

Degree InformationCatalog Year: **2026 - 2027**Plan: **Chemistry AS**Sub Plan: **None**Required Credits: **60**General RequirementsReq GPA: **2.0**Req Residential Credits: **30**Req Pathways Credits: **33**Req Civic Engagement: **1**Req Writing Intensive: **1**

1

Session A

COURSE	CRS
ENG 1200	3
CHM 100*	0
CHM 1100*	4
MAT 9010 ¹ or MAT 9B0 ¹ or MAT 900 ¹ (NEED MIN. GRADE C)	3

Session B

COURSE	CRS
Additional Math 1: MAT 1400 ¹ (NEED MIN. GRADE C)	3

SEMESTER CRS: 13

2

Session A

COURSE	CRS
ENG 2400	3
CHM 1200	4
Additional Math 2: MAT 1000 ¹	3
Choose 1: Flexible Core U.S. Experiences in Its Diversity	3

Session B

COURSE	CRS
Choose 1: Flexible Core Individual and Society	3

SEMESTER CRS: 16

3

Session A

COURSE	CRS
CHM 3100	5
PHY 1300	4
^Science & Math Elective: CHM, CS, EGR, EPS, MAT, PHY, or SCI	3
Choose 1: Flexible Core Creative Expression	3

Session B

COURSE	CRS

SEMESTER CRS: 15

4

Session A

COURSE	CRS
CHM 3200	5
PHY 1400	4
^Science & Math Elective: CHM, CS, EGR, EPS, MAT, PHY, or SCI	4
Choose 1: Flexible Core World Cultures & Global Issues	3

Session B

COURSE	CRS

SEMESTER CRS: 16

NOTE: The term-by-term course sequence takes into account necessary Prerequisites, Corequisites, and Pre-/Co-requisites**NOTE: Select ONE (1) WRITING INTENSIVE course & ONE (1) CIVIC ENGAGEMENT course. Some courses meet BOTH requirements, see CUNYfirst to determine course status**Important Notes:

*Based on the Chemistry Ready Placement Score, students may test directly into CHM 1100 and not be required to take CHM 100. Contact the Physical Sciences Department for Chemistry Ready Placement information.

^It is recommended that students take both MAT 1500¹ - Calculus I and MAT 1600² - Calculus II as their Science and Math Elective for the degree. Students need a grade of **C+** in MAT 1500 to enroll in MAT 1600

Math Course Information

¹ Course is usually offered every semester

² Course is usually offered every Fall and Spring semesters

Degree Map: A.S. Chemistry

Degree InformationCatalog Year: **2026 - 2027**Plan: **Chemistry AS**Sub Plan: **None**Required Credits: **60**General RequirementsReq GPA: **2.0**Req Residential Credits: **30**Req Pathways Credits: **33**Req Civic Engagement: **1**Req Writing Intensive: **1****1**

Session A

COURSE	CRS
ENG 1200	3
CHM 1100*	4
CHM 100*	0
MAT 1500 ¹ (NEED MIN. GRADE C)	3
Choose 1: Flexible Core Individual and Society	3

Session B

COURSE	CRS
Choose 1: Flexible Core World Cultures & Global Issues	3

NOTE: The term-by-term course sequence takes into account necessary Prerequisites, Corequisites, and Pre-/Co-requisites

NOTE: Select ONE (1) WRITING INTENSIVE course & ONE (1) CIVIC ENGAGEMENT course. Some courses meet BOTH requirements, see CUNYfirst to determine course status

SEMESTER CRS: 16

2

Session A

COURSE	CRS
ENG 2400	3
CHM 1200	4
Additional Math 1: MAT 1600 ² (NEED MIN. GRADE C)	3
Choose 1: Flexible Core U.S. Experiences in Its Diversity	3

Session B

COURSE	CRS
Choose 1: Flexible Core Creative Expression	3

SEMESTER CRS: 16

3

Session A

COURSE	CRS
CHM 3100	5
PHY 1300	4
Science & Math Elective: CHM, CS, EGR, EPS, MAT, PHY, or SCI	3
Additional Math 2: MAT 2100 ² , MAT 5500 ² , or MAT 5600 ²	3

Session B

COURSE	CRS

SEMESTER CRS: 15

4

Session A

COURSE	CRS
CHM 3200	5
PHY 1400	4
Science & Math Elective: CHM, CS, EGR, EPS, MAT, PHY, or SCI	4

Session B

COURSE	CRS

SEMESTER CRS: 13

Important Notes:

*Based on the Chemistry Ready Placement Score, students may test directly into CHM 1100 and not be required to take CHM 100. Contact the Physical Sciences Department for Chemistry Ready Placement information.

Math Course Information¹ Course is usually offered every semester² Course is usually offered every Fall and Spring semesters