**2020-2021**

**Degree Map:** [**Chemistry – Track #2 Biochemistry (BS)**](https://www.york.cuny.edu/produce-and-print/contents/bulletin/school-of-arts-and-sciences/chemistry/chemistry-bs)

Department of Chemistry

School of Arts & Sciences | York College | CUNY

Academic Core 3F01 | 718-262-2650

The following is a **suggested** plan of study for completion of this degree program.

The goal of a Degree Map is to ensure that students graduate with no more than 120 credits and in four years.

* All students should speak with an academic advisor about their academic programs.

**This document is not a substitute for academic advisement.**

* Students are encouraged to take Winter and Summer courses to facilitate their progress towards graduation.
* Transfer students do not need to take all courses in the plan; they should consult with an academic advisor.

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **FIRST YEAR - FALL** | **15** | **FIRST YEAR - SPRING** | **16** |
| English Composition (EC): ENG 125 | 3 | English Composition (EC): ENG 126 | 3 |
| Mathematical & Quantitative Reasoning (MQR): MATH 121 | 4 | MATH 122 | 4 |
| Scientific World (SW):  CHEM 108 + CHEM 109 | 5 | CHEM 111 + CHEM 112 | 5 |
| College Option: HE 111 | 3 | Life & Physical Science (LPS): BIO 201 | 4 |

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **SECOND YEAR - FALL** | **14** | **SECOND YEAR - SPRING** | **14** |
| BIO 202 | 4 | BIO 301 | 4 |
| CHEM 231 | 3 | CHEM 233 | 3 |
| CHEM 232 | 2 | CHEM 234 | 2 |
| PHYS 117 + PHYS 113 | 5 | Additional Flexible Core Course (SW): PHYS 118 + PHYS 114 | 5 |

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **THIRD YEAR - FALL** | **15** | **THIRD YEAR - SPRING** | **15** |
| Writing Intensive (WI) | 3 | Creative Expression (CE) | 3 |
| Free Elective | 3 | Individual & Society (IS) | 3 |
| CHEM 321 | 3 | CHEM 322 | 3 |
| CHEM 341 | 3 | CHEM 342 | 3 |
| CHEM 460 | 3 | CHEM 461 | 3 |

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **FOURTH YEAR - FALL** | **15** | **FOURTH YEAR - SPRING** | **16** |
| College Option: Foreign Language† | 3 | College Option: Foreign Language† | 3 |
| College Option: Writing Requirement | 3 | US Experience in its Diversity (USED) | 3 |
| World Culture & Global Issues (WCGI) | 3 | Writing Intensive (WI): CHEM 462 WI | 3 |
| CHEM 310 | 3 | CHEM Elective (B) | 3 |
| CHEM Elective (A) | 3 | Free Elective | 4 |

* York students are required to complete (pass) three (3) Writing intensive (WI) courses: two (2) in the lower division (100-200 level) and one (1) in the upper division (300-level).
* If you transferred to York College with credit for General Education requirements, you must still complete one (1) WI course in the upper division within your major. If your major has no upper division WI course, you must take a WI course chosen in consultation with your major advisor.
* B.S. students must complete 60 credits of liberal arts – See Bulletin.
* Students are strongly encouraged to select a Minor program of study, in consultation with an academic advisor, especially those planning to attend graduate school. Minor courses would replace the “free electives” in the Degree Map.

†Foreign language courses are determined through placement by the Foreign Language Department, AC-3C08

**Notes:**

1. CHEM 108, CHEM 109, PHYS 114, and PHYS 118 fulfill the Pathways requirements in Scientific World.
2. MATH 121 fulfills the Pathways requirements in Mathematics and Quantitative Reasoning.
3. Students that do not place directly into MATH 121 may need to take up to 8 credits of MATH prerequisites, MATH 120 (4 credits) and/or MATH 102 (1 credit) or MATH 104 (3 credits) or MATH 115 (4 credits)
4. PHYS 113, and PHYS 117 fulfill the Pathways requirements in Life and Physical Sciences.
5. MATH 102, MATH 104, and MATH 115 are not open to students placed into or with credits in MATH 120 or MATH 121.
6. MATH 120 is not open to students placed into or with credits in MATH 121.

**Track #2 Biochemistry**

**Choose 6-8 credits from among the following under advisement of the department (laboratory course\*):**

| **Course** | **Title** | **Credit** | **Prerequisite** |
| --- | --- | --- | --- |
| [BIO320](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/BIO/BIO320) | Cell Biology | 4.5 | BIO202 |
| [BIO444](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/BIO/BIO444) | Genetics | 4.5 | BIO 301; CHEM 231 or CHEM 230 |
| [CHEM323](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM323) | Physical Chemistry: Drug Processes | 3 | CHEM 321, MATH 122, PHYS 118 & 114 |
| [CHEM330](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM330) | Structure and Mechanism in Biochemistry | 3 | CHEM233 |
| [CHEM339](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM339) | Heterocyclic Chemistry and Drug Chemistry | 3 | CHEM233 |
| [CHEM360](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM360) | Medicinal Chemistry | 3 | CHEM233 |
| [CHEM421](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM421) WI | Physical-Inorganic Laboratory\* | 3 | CHEM 310, CHEM 322, CHEM 342; WRIT 301 or WRIT 302 or WRIT 303 or WRIT 304 or completion of at least 3 Writing Intensive credits at the 100- or 200-level |
| [CHEM450](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM450) | Advanced Topics in Chemistry | 3 | Perm. of instr. prior to registration |
| [CHEM490](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM490) | Independent Study\* | 3 | Perm. of instr. prior to registration |
| [CHEM491](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/CHEM/CHEM491) | Independent Study\* | 3 | MATH 011 or by placement |
| [MATH102](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/MATH/MATH102) | Intermediate Algebra | 1 |  |
| or |  |  |  |
| [MATH104](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/MATH/MATH104) | College Algebra | 3 |  |
| or |  |  |  |
| [MATH115](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/MATH/MATH115) | Quantitative Methods for Decision Making | 4 | MATH 102 or MATH 104 or MATH 115 or placement by exam |
| [MATH120](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/MATH/MATH120) | Pre-Calculus | 4 | CHEM231, 232, and 321; PHS 300 |
| [PHS301](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/PHS/PHS301) | Pharmaceutics | 3 | CHEM330 or CHEM412 or CHEM460 |
| [PHS401](https://www.york.cuny.edu/produce-and-print/contents/bulletin/listing-of-courses/listing-of-courses-by-department/PHS/PHS401) | Pharmacology | 3 | BIO202 |