**2019-2020**

**Degree Map:** [**Physics (BS)**](https://www.york.cuny.edu/produce-and-print/contents/bulletin/school-of-arts-and-sciences/earth-and-physical-sciences/physics-bs)

Department of Earth and Physical Science

School of Arts & Sciences | York College | CUNY

Academic Core 2F09 | 718-262-2654

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** | **15** |
| English Composition (EC): ENGL 125 | 3 | English Composition (EC): ENGL 126 | 3 |
| Mathematical & Quantitative Reasoning (MQR): MATH 121 | 4 | MATH 122 | 4 |
| Life & Physical Science (LPS):PHYS 113 + 117  | 5 | Scientific World (SW):PHYS 114 + PHYS 118 | 5 |
| US Experience in its Diversity (USED) | 3 | World Culture & Global Issues (WCGI) | 3 |

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **SECOND YEAR - FALL** | **15** | **SECOND YEAR - SPRING** | **14** |
| College Option: Foreign Language† | 3 | College Option: Foreign Language† | 3 |
| Additional Flexible Core Course:CHEM 108 + CHEM 109 (SW) | 5 | Creative Expression (CE) | 3 |
| MATH 221 | 4 | CHEM 111 + CHEM 112 | 5 |
| PHYS 241 | 3 | PHYS 231 | 3 |

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **THIRD YEAR - FALL** | **15** | **THIRD YEAR - SPRING** | **15** |
| Individual & Society (IS) | 3 | College Option: Writing Intensive:PHYS 383 WI | 3 |
| PHYS 312 | 3 | College Option: HE 111 | 3 |
| PHYS 351 | 3 | PHYS 321 | 3 |
| MATH 223 | 3 | Minor Course or Free Elective | 3 |

| Course | Credit | Course | Credit |
| --- | --- | --- | --- |
| **FOURTH YEAR - FALL** | **16** | **FOURTH YEAR - SPRING** | **15** |
| Writing Intensive (WI) | 3 | Writing Intensive (WI) | 3 |
| PHYS 441 | 3 | PHYS/ASTR Elective (400-level or higher)\* | 3 |
| MATH 333 | 4 | Minor Course or Free Elective | 3 |
| PHYS/ASTR Elective (400-level or higher)\* | 3 | Minor Course or Free Elective | 3 |

* 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 on Physics Major Requirements**

\*Physics Electives: Choose two at 400-level or higher:

| **Course** | **Title** | **Credit** | **Prerequisite** |
| --- | --- | --- | --- |
| PHYS 412 | Classical Mechanics II | 3 | PHYS 312 / Coreq: MATH 223 |
| PHYS 422 | Electricity and Magnetism II | 3 | PHYS 321 |
| PHYS 431 | Modern Optics  | 3 | PHYS 231, PHYS 241 or CHEM 322 / Coreq: MATH 223 |
| PHYS 442 | Nuclear and Particles Physics | 3 | PHYS 241 or CHEM 322 / Coreq: PHYS 321 |
| PHYS 461 | Solid State Physics | 3 | PHYS 351 / Coreq: MATH 223 |
| PHYS 491 | Astrophysics I: Planetary Astronomy | 3 | Coreq: PHYS 351 or CHEM 322 |
| PHYS 492 | Astrophysics II: Stellar Astronomy | 3 | Coreq: PHYS 351 or CHEM 322 |
| PHYS 493 | Astrophysics II: Extragalactic | 3 | PHYS 351 or CHEM 322 |
| PHYS 495 | Independent Study | 3 | Perm. of Instr.  |
| PHYS 496 | Independent Study | 3 | Perm. of Instr.  |
| ASTR 495 | Independent Study | 3 | Perm. of Dept.  |
| ASTR 496 | Independent Study | 3 | Perm. of Dept.  |