

ENGINEERING PHYSICS (CHEMICAL ENGINEERING) - BACHELOR OF SCIENCE IN ENGINEERING PHYSICS

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change. Full-time students are usually required to take at least 15 credits per semester. This requirement could be satisfied for example by taking a one-credit supplemental instruction course.

| First Year | | | |
|---|--|--|-----------|
| Semester 1 | | | Credits |
| MATH 1511G | Calculus and Analytic Geometry I ¹ | | 4 |
| PHYS 2110 & 2110L | Mechanics and Experimental Mechanics ^{1,2} | | 4 |
| CHME 101 | Introduction to Chemical Engineering Calculations ¹ | | 2 |
| CHEM 1215G | General Chemistry I Lecture and Laboratory for STEM Majors ¹ | | 4 |
| Credits | | | 14 |
| Semester 2 | | | |
| MATH 1521G or MATH 1521H | Calculus and Analytic Geometry II ¹ or Calculus and Analytic Geometry II Honors | | 4 |
| PHYS 2140 & 2140L | Electricity and Magnetism and Electricity & Magnetism Laboratory ^{1,2} | | 4 |
| CHME 102 | Material Balances ¹ | | 2 |
| CHEM 1225G | General Chemistry II Lecture and Laboratory for STEM Majors ¹ | | 4 |
| Credits | | | 14 |
| Second Year | | | |
| Semester 1 | | | |
| MATH 2530G | Calculus III ¹ | | 3 |
| PHYS 2120 & 2120L | Heat, Light, and Sound and Heat, Light, and Sound Laboratory ¹ | | 4 |
| CHME 201 | Energy Balances & Basic Thermodynamics ¹ | | 3 |
| ENGL 1110G | Composition I | | 4 |
| Area IV: Creative and Fine Arts Course ³ | | | 3 |
| Credits | | | 17 |
| Semester 2 | | | |
| MATH 3160 | Introduction to Ordinary Differential Equations ¹ | | 3 |
| PHYS 315 | Modern Physics ¹ | | 3 |
| PHYS 325 | Intermediate Experimental Physics | | 3 |
| CHME 303 | Chemical Engineering Thermodynamics ¹ | | 4 |
| CHME 305 | Transport Operations I: Fluid Flow ¹ | | 3 |
| Credits | | | 16 |

| Third Year | | | |
|----------------|--|--|-----------|
| Semester 1 | | | |
| PHYS 395 | Intermediate Mathematical Methods of Physics ¹ | | 3 |
| PHYS 461 | Intermediate Electricity and Magnetism I ¹ | | 3 |
| CHME 306 | Transport Operations II: Heat and Mass Transfer ¹ | | 4 |
| CHEM 313 | Organic Chemistry I ¹ | | 3 |
| ENGL 2210G | Professional and Technical Communication Honors | | 3 |
| Credits | | | 16 |

| Semester 2 | | | |
|----------------|--|--|-----------|
| PHYS 462 | Intermediate Electricity and Magnetism II ¹ | | 3 |
| CHME 307 | Transport Operations III: Staged Operations ¹ | | 3 |
| CHME 352 L | Simulation of Unit Operations ¹ | | 2 |
| CHME 361 | Engineering Materials ¹ | | 3 |
| CHME 341 | Chemical Kinetics and Reactor Engineering | | 3 |
| COMM 1115G | Introduction to Communication | | 3 |
| Credits | | | 17 |

| Fourth Year | | | |
|--|--|--|-----------|
| Semester 1 | | | |
| PHYS 451 | Intermediate Mechanics I ¹ | | 3 |
| PHYS 454 | Intermediate Modern Physics I ¹ | | 3 |
| ENGR 401 | Engineering Capstone I | | 3 |
| VWW: Viewing a Wider World Course ⁴ | | | 3 |
| Technical Elective Course ⁵ | | | 3 |
| Credits | | | 15 |

| Semester 2 | | | |
|--|---|--|------------|
| PHYS 455 | Intermediate Modern Physics II ¹ | | 3 |
| ENGR 402 | Engineering Capstone II ¹ | | 3 |
| VWW: Viewing a Wider World Course ⁴ | | | 3 |
| Area IV: Social and Behavioral Science Course ³ | | | 3 |
| Area V: Humanities Course ³ | | | 3 |
| Credits | | | 15 |
| Total Credits | | | 124 |

¹ These courses may have prerequisites and/or co-requisites, and it is the students responsibility for checking and fulfilling all those requirements.

² PHYS 2110 Mechanics/PHYS 2110L Experimental Mechanics and PHYS 2140 Electricity and Magnetism/PHYS 2140L Electricity & Magnetism Laboratory will not automatically count towards the Area III: Laboratory Science requirement, an exception will be made if students elect to take these courses.

³ See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses.

⁴ See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses.

⁵ Approved technical electives are decided by Engineering Physics advisors