

Physics Secondary Education – Typical Four-Year Sequence

| Freshman Year | | | |
|--|-----------|---|-----------|
| Fall Term | | Spring Term | |
| Course | Units | Course | Units |
| SEMS110 Introduction to STEM Teaching I: Inquiry Approaches to Teaching | 1 | SEMS 120 Introduction to STEM Teaching II: Inquiry-Based Lesson Design: Inquiry-Based Lesson Design | 1 |
| MATH 273 Calculus I | 4 | PHYS 241 General Physics I or PHYS 251 Honors General Physics (Core Category 8) | 4 |
| CHEM 131 General Chemistry I and CHEM 131L General Chemistry I Lab (Core Category 7) | 3 1 | MATH 274 Calculus II (Core Category 3) | 4 |
| PHYS 185 Introductory Honors Seminar | 1 | TSEM 102 (Core Category 1) | 3 |
| ENGL 102 (Core Category 2) | 3 | Core Curriculum | 3 |
| Core Curriculum | 3 | | |
| Total | 16 | Total | 15 |

| Sophomore Year | | | |
|---|-----------|---|-----------|
| Fall Term | | Spring Term | |
| Course | Units | Course | Units |
| SEMS 230 Knowing and Learning | 3 | SEMS 240 Classroom Interactions | 3 |
| PHYS 242 General Physics II or PHYS 252 Honors General Physics II | 4 | PHYS 243 General Physics III | 4 |
| ASTR 161 General Astronomy | 4 | PHYS 307 Introduction to Mathematical Physics | 3 |
| Core Curriculum | 3 | PHYS 270 Computers in Physics | 4 |
| Core Curriculum | 3 | Core Curriculum | 3 |
| Total | 17 | Total | 17 |

| Junior Year | | | |
|---|-----------|--|-----------|
| Fall Term | | Spring Term | |
| Course | Units | Course | Units |
| SEMS 250 Perspectives on Science and Math (Core Category 5) | 3 | SEMS 370 Project-Based Instruction | 3 |
| SCED 460 Using Reading & Writing in the Secondary Schools | 4 | SCED 461 Teaching Reading in the Secondary Content Areas | 3 |
| PHYS 311 Modern Physics | 3 | PHYS 354 Electricity and Magnetism | 4 |
| PHYS 341 Intermediate Physics Laboratory | 3 | PHYS 385 Physics Seminar | 1 |
| BIOL 201 Biology I | 4 | Core Curriculum | 3 |
| | | Core Curriculum | 3 |
| Total | 17 | Total | 17 |

| Senior Year | | | |
|--|----------------|--|-----------|
| Fall Term | | Spring Term | |
| Course | Units | Course | Units |
| SEMS 360 Research Methods (Core Curriculum 9) | 3 | SCIE 393 Student Teaching in Secondary Education – Science | 12 |
| SEMS 498 Internship in Mathematics and Science Secondary Education | 3 | | |
| SCIE 380 Teaching Science in the Secondary School | 3 | | |
| PHYS 351 Mechanics I | 4 | SCIE 430 Seminar in Student Teaching – Science | 1 |
| Upper Level Physics Elective | 3 – 4 | | |
| Total | 16 – 17 | Total | 13 |

The total number of units required for graduation is 128 to 129.