Candidates also complete a secondary education professional program. Endorsement courses require a cumulative GPA of 2.5 or better and a grade of C (2.0) or better for individual courses. Course substitutions must be clearly noted below.

**Chemistry and Physics (94-114 Credits)**

- ASTR 315 - The Solar System (3)
- Choose either:
  - CHEM 121 - General Chemistry I (5)
  - CHEM 122 - General Chemistry II (5)
  - CHEM 123 - General Chemistry III (4)
  - CHEM 333 - Analytical Chemistry (5)
  or
  - CHEM 125 - General Chemistry I, Honors (5)
  - CHEM 126 - General Chemistry II, Honors (5)
  - CHEM 225 - General Chemistry III, Honors (5)
- CHEM 461 - Physical Chemistry (4)
- CHEM 462 - Physical Chemistry (4)
- Choose either option A or B:
  - Option A:
    - CHEM 251 - Elementary Organic Chemistry (5)
    - CHEM 375 - Elements of Biochemistry (4)
  - Option B:
    - CHEM 351 - Organic Chemistry (4)
    - CHEM 352 - Organic Chemistry (4)
    - CHEM 353 - Organic Chemistry (3)
    - CHEM 354 - Organic Chemistry Laboratory I (3)
    - CHEM 375 – Elements of Biochemistry (4) (or the following):
      - CHEM 471 - Biochemistry I (4)
      - CHEM 472 - Biochemistry II (4)
      - CHEM 473 - Molecular Biology (3)

- Choose either:
  - MATH 124 - Calculus and Analytic Geometry I (5) and
  - MATH 125 - Calculus and Analytic Geometry II (5)
  or
  - MATH 134 - Calculus I Honors (5) and
  - MATH 135 - Calculus II Honors (5)
  or
  - MATH 138 - Accelerated Calculus (5)
- MATH 224 - Multivariable Calculus and Geometry I (5)
- PHYS 161 - Physics with Calculus I (5)
- PHYS 162 - Physics with Calculus II (5)
- PHYS 163 - Physics with Calculus III (5)
- PHYS 226 - Physics with Calculus IV (4)
- PHYS 224 - Modern Physics I (3)
- PHYS 225 - Modern Physics II (3)
- PHYS 326 - Tools and Data Analysis (3)
- SCED 370 - Science and Society (3)
- SCED 481 - Fundamentals of Teaching Science (2)
- SCED 491 - Methods in Secondary Education for Science Teachers (5)
- 6 additional credits of upper-division physics or astronomy to include 2-3 credits of PHYS 491 - Independent Research
- NES Chemistry Test Code 306
- NES Physics Test Code 308

Outstanding Courses:

---

*Endorsement Advisor Signature / Date*