



Chemistry and Physics with Option to Add Science

Name: _____ Student ID Number: _____

Candidates also complete a secondary education professional program. Grade required for endorsement courses: C (2.0) or better. Course substitutions **must be clearly noted below**.

Chemistry and Physics

- ASTR 315 - The Solar System
- Choose one of the following series:
 - CHEM 161 - General Chemistry I
 - CHEM 162 - General Chemistry II
 - CHEM 163 - General Chemistry III
 - CHEM 333 - Analytical Chemistry
- OR**
- CHEM 175 - General Chemistry I, Honors
- CHEM 176 - General Chemistry II, Honors
- CHEM 225 - General Chemistry III, Honors
- CHEM 461 - Physical Chemistry
- CHEM 462 - Physical Chemistry
- Choose either option A or B:
 - Option A:
 - CHEM 251 - Elementary Organic Chemistry
 - CHEM 375 - Elements of Biochemistry
 - Option B:
 - CHEM 351 - Organic Chemistry
 - CHEM 352 - Organic Chemistry
 - CHEM 353 - Organic Chemistry
 - CHEM 354 - Organic Chemistry Laboratory I
- and choose either:
 - CHEM 375 – Elements of Biochemistry
- OR**
- CHEM 471 - Biochemistry I ◇
- CHEM 472 - Biochemistry II
- CHEM 473 - Molecular Biology ◇
- Choose either:
 - MATH 124 - Calculus and Analytic Geometry I ◇ and
 - MATH 125 - Calculus and Analytic Geometry II
- OR**
- MATH 134 - Calculus I Honors ◇ and
- MATH 135 - Calculus II Honors
- OR**
- MATH 138 - Accelerated Calculus
- MATH 224 - Multivariable Calculus and Geometry I

- PHYS 161 - Physics with Calculus I ◇
- PHYS 162 - Physics with Calculus II ◇
- PHYS 163 - Physics with Calculus III ◇
- PHYS 220 - Physics with Calculus IV ◇
- PHYS 224 - Modern Physics I ◇
- PHYS 225 - Modern Physics II ◇
- PHYS 326 - Tools and Data Analysis ◇
- SCED 370 - Science and Society
- SCED 481 - Fundamentals of Teaching Science
- SCED 491 - Methods in Secondary Education for Science Teachers
- 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

Add Science (Optional)

You can add a science add-on endorsement by passing the NES Science Test Code 311 ([Pathway 1](#)). You can be recommended by WWU, waive the OSPI fee, and get test preparation through taking the following coursework:

- One course from:
 - o ASTR 103 - Intro to Astronomy
 - o ASTR 113 - Sun, Moon, and Planets
- BIOL 204 - Introduction to Evolution, Ecology and Biodiversity
- BIOL 205 - Introduction to Cellular and Molecular Biology
- BIOL 206 - Introduction to Organismal Biology
- GEOL 211 - Physical Geology
- GEOL 212 - Historical Geology
- NES Science Test Code 311

◇ These classes at WWU have associated prerequisites not listed in the above endorsement requirements. When planning your course of study, please attend to these. You are encouraged to talk with an [advisor](#) about how to do this.

- CHEM 471: BIOL 205
- CHEM 473: BIOL 321 or BIOL 323



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- MATH 124: MATH 115 or MATH 118 with C- or better or suitable assessment score
- MATH 134: MATH 115 or MATH 118 with A or better or suitable assessment score
- PHYS 224: MATH 203 or MATH 204
- PHYS 225: MATH 303 or MATH 331
- PHYS 326: MATH 203 or MATH 204; CSCI 140 or CSCI 141.

Outstanding Courses:

Endorsement Advisor Signature / Date