

PHYSICS/SECONDARY MAJOR, BACHELOR OF ARTS IN EDUCATION (BAE)

This major satisfies the endorsement for grades 5–12. See the School of Education (<http://catalog.ewu.edu/ps/se/>) for prerequisites, core requirements, and additional PLOs.

Note: this major does not require the completion of a minor—students are encouraged to complete a secondary endorsement in at least one other subject area.

Secondary Education students must complete the required Secondary Education Core and the following courses.

Required Courses Outside Department

CHEM 171 & 171L & CHEM 172 & CHEM 172L	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LABORATORY I and GENERAL CHEMISTRY II and GENERAL CHEMISTRY LABORATORY II	10
MATH/HONS 161	CALCULUS I	5
MATH 162	CALCULUS II	5
MATH 163	CALCULUS III	5
SCED 390	SCIENCE TEACHING METHODS	5

Required Physics/Secondary Courses

PHYS 151	GENERAL PHYSICS I	4
PHYS 152	GENERAL PHYSICS II	4
PHYS 153	GENERAL PHYSICS III	4
PHYS 221	GENERAL PHYSICS IV	4
PHYS 371	QUANTUM PHYSICS I: INTRODUCTION	4
or PHYS 361	CLASSICAL MECHANICS I	

Required Laboratory Courses

PHYS 161	MECHANICS LABORATORY	1
PHYS 162	HEAT AND OPTICS LABORATORY	1
PHYS 163	ELECTRONICS LABORATORY I	1
PHYS 263	ELECTRONICS LABORATORY II	1
PHYS 321	ADVANCED PHYSICS LABORATORY I	3
or PHYS 421	COMPUTATIONAL PHYSICS	

Electives—choose from any 300- 400-level PHYS courses, except PHYS 497. 15

Required Senior Capstones—must be taken concurrently

SCED 490A	SCIENCE TEACHING CAPSTONE SEMINAR	3
SCED 490B	SCIENCE TEACHING CAPSTONE FIELD APPLICATION	2

Total Credits 77

School of Education (<http://catalog.ewu.edu/ps/se/>)

Secondary Education Core

EDUC 303 & EDUC 309 & EDUC 341 & EDUC 386A & EDUC 413	FOUNDATIONS OF ASSESSMENT and FOUNDATIONS OF SECONDARY CLASSROOM MANAGEMENT and SECONDARY STRATEGIES, MANAGEMENT, ASSESSMENT and FIELD EXPERIENCE AND PRACTICUM and CONTENT AREA LITERACY: MANAGEMENT AND ASSESSMENT FOR SECONDARY EDUCATION CANDIDATES	15
EDUC 386B & EDUC 427	FIELD EXPERIENCE AND PRACTICUM and GENERAL STUDENT TEACHING K-12 (These are variable credit courses. The minimum for each is 3 credits.)	6-15
EDUC 426	SECONDARY STUDENT TEACHING 5-12	12

Total Credits 33-42

University Competencies and Proficiencies

English (<http://catalog.ewu.edu/undergraduate-degree/#newitemtext>)
 Quantitative and Symbolic Reasoning (<http://catalog.ewu.edu/undergraduate-degree/#mathcompproficienciestext>)
 Placement and Clearance (<http://catalog.ewu.edu/placement/>)
 Prior Learning/Sources of Credit AP, CLEP, IB (<http://catalog.ewu.edu/prior-learning/>)

General Education Requirements (<http://catalog.ewu.edu/undergraduate-degree/#generaleducationrequirementsger>) (GER)

- Minimum Credits—180 cumulative credit hours
 - 60 upper-division credits (300 level or above)
 - 45 credits in residence (attendance) at Eastern, with at least 15 upper-division credits in major in residence at Eastern
- Minimum Cumulative GPA ≥ 2.0

Breadth Area Core Requirements (BACR)

Humanities and Arts (<http://catalog.ewu.edu/undergraduate-degree/#humanitiesandfineartsgecrtext>)
 Natural Sciences (<http://catalog.ewu.edu/undergraduate-degree/#naturalsciencesgecrtext>)
 Social Sciences (<http://catalog.ewu.edu/undergraduate-degree/#socialsciencesgecrtext>)

University Graduation Requirements (<http://catalog.ewu.edu/undergraduate-degree/#universitygraduationrequirementsugr>) (UGR)

Diversity Course List (<http://catalog.ewu.edu/undergraduate-degree/#cultureandgenderdiversityintheuslisttext>)
 World Language (<http://catalog.ewu.edu/undergraduate-degree/#worldlanguagetext>) (for Bachelor of Arts)
 Global Studies Course List (<http://catalog.ewu.edu/undergraduate-degree/#internationalstudiesrequirementtext>)
 Minor or Certificate (<http://catalog.ewu.edu/undergraduate-degree/#majorminororcertificateugrtext>)
 Senior Capstone Course List (<http://catalog.ewu.edu/undergraduate-degree/#capstonecourselisttext>)

Application for Graduation (use EagleNET (<https://inside.ewu.edu/eaglenet/>)) must be made at least two terms in advance of the term you expect to graduate (undergraduate and post-baccalaureate).

Use the Catalog Archives (<http://catalog.ewu.edu/archives/>) to determine *two important catalog years*.

Requirements in Degree Works (<https://inside.ewu.edu/records-and-registration/degree-works/>) are based on these two catalog years:

- a. The catalog *in effect at the student's first term* of current matriculation is used to determine **BACR** (Breadth Area Credit Requirements) **and UGR** (Undergraduate Graduation Requirements).
- b. The catalog *in effect at the time the student declares a major or minor* is used to determine the program requirements.

Students who earn a BAE in Physics/Secondary from EWU should be able to:

- demonstrate knowledge of the basic concepts of physics (such as mechanics, thermodynamics and electricity and magnetism);
- make and interpret laboratory measurements in physics;
- write effectively using the language of physics.