

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

This major satisfies the endorsement for grades 5–12. See the Education Department for prerequisites, core requirements and additional PLOs.

Notes: 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	2

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 or PHYS 361	QUANTUM PHYSICS I: INTRODUCTION CLASSICAL MECHANICS I	4
PHYS 390	PHYSICS TEACHING METHODS	2

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 or PHYS 421	ADVANCED PHYSICS LABORATORY I COMPUTATIONAL PHYSICS	3

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

Required Senior Capstone

SCED 490		5
Total Credits		76

Education (<http://catalog.ewu.edu/archives/2021-2022/ps/se/>)

Secondary Education Core

30-hour multicultural education field requirement

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 7-12	12
Total Credits		33-42

University Competencies and Proficiencies

English (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#newitemtext>)
 Quantitative and Symbolic Reasoning (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#mathcompproficienciestext>)
 Placement and Clearance Exams (<http://catalog.ewu.edu/archives/2021-2022/placement/>)
 Prior Learning/Sources of Credit AP, CLEP, IB (<http://catalog.ewu.edu/archives/2021-2022/prior-learning/>)

General Education Requirements (<http://catalog.ewu.edu/archives/2021-2022/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 (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#generaleducationcorerequirementsger>) (BACR)

Humanities and Arts (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#humanitiesandfineartsger>)
 Natural Sciences (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#naturalsciencesger>)
 Social Sciences (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#socialsciencesger>)

University Graduation Requirements (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#universitygraduationrequirementsger>) (UGR)

Diversity Course List (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#cultureandgenderdiversityintheuslisttext>)
 Foreign Language (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#foreignlanguageugrtext>) (for Bachelor of Arts)
 Global Studies Course List (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#internationalstudiesrequirementtext>)
 Minor or Certificate (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#majorminororcertificateugrtext>)

Senior Capstone Course List (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#capstonecourselisttext>)

All admitted students must officially Declare a Major (<https://inside.ewu.edu/center-for-academic-advising-and-retention/academic-planning-tools/declare-your-major/>) by the time they reach 90 credits (junior standing).

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 (<https://catalog.ewu.edu/archives/>) to determine two important catalog years (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#activecatalogrulettext>).

SOAR (<https://soar.ewu.edu/selfservice/general/home.html>) calculates based on these two catalog years.

1. 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).
2. The catalog *in effect at the time the student declares a major or minor* is used to determine the program requirements.

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

- 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.