

Physical Science

Bachelor of Science Secondary Teaching

Career Choices:

Secondary Science Teacher

Science Educator

Science Curriculum Specialist

Student Profile:

Do you have an ...

Interest in the environment and environmental protection?

aptitude in natural sciences?

skills in planning, organization and problem solving?

ability to communicate effectively in writing?

ability to effectively organize and present information verbally?

ability to communicate and work with a broad array of people?

Program Description:

This program is an approved secondary teaching major leading to Michigan Teacher Certification in Physical Science (program code DP). This program combines an interdisciplinary preparation in the natural sciences (chemistry and physics) with your interest in a career as a secondary teacher at the junior or senior high level, grades 6-12.

When completing option A the candidate is not required to complete a teaching minor. A complete list of teaching minors is available from the School of Education website: <http://education.lssu.edu>. Option B candidates must complete a teaching minor.

Secondary teacher certification enables the candidate to teach chemistry, physics and physical science in grades 6-12. Contact the School of Education for additional information.

The Comprehensive (5-year) Program includes student teaching as a requirement within the bachelor's degree. Candidates completing the Core (4-year) Program graduate and enter student teaching as post-baccalaureate candidates. In addition to classroom teaching, graduates can pursue careers as science educators, curriculum specialists or enter graduate study in science, science education or related fields.

Career Description:

Science Teacher, Curriculum Specialist, Science Educator — Responsible for developing and implementing science curriculum in grades 6-12, daily classroom operations, and developing relationships with students, parents. The physical science program prepares candidates to teach chemistry, physics and physical science courses.

Physical Science Secondary Teaching Bachelor of Science

Complete one of the two options listed below (A or B), and all departmental cognates, general education requirements, teacher education courses and free electives for a minimum of 124 credits.

A. Comprehensive Physical Science Major: no minor required (54 credits)

CHEM115	General Chemistry I	5
CHEM116	General Chemistry II	4
CHEM225	Organic Chemistry I	4
CHEM226	Organic Chemistry II	4
CHEM231	Quantitative Analysis	4
CHEM332	Instrumental Analysis	4
CHEM361	Physical Chemistry I	4
CHEM362	Physical Chemistry II	3
CHEM451	Biochemistry I	4
CHEM462	Advanced Inorganic and Physical Chemistry Lab	1
CHEM	Electives	3
PHYS221	Principles of Physics I	4
PHYS222	Principles of Physics II	4
PHYS	Electives	3

Complete one of the following methods courses:
 EDUC443 Secondary Methods: Science 3
 EDUC453 Directed Study: Science Methods 3

B. Group Physical Science Major: a teachable minor is required (40 credits)

CHEM105	Life Chemistry II	4
CHEM115	General Chemistry I	5
CHEM116	General Chemistry II	4
CHEM231	Quantitative Analysis	4
CHEM332	Instrumental Analysis	4
CHEM361	Physical Chemistry I	4
CHEM362	Physical Chemistry II	3
CHEM462	Advanced Inorganic and Physical Chemistry Lab	1
PHYS221	Principles of Physics I	4
PHYS222	Principles of Physics II	4

Complete one of the following methods courses:
 EDUC443 Secondary Methods: Science 3
 EDUC453 Directed Study: Science Methods 3

In addition to the program option A or B, complete the following:

Departmental Cognates (14 credits)	
EVRN395	Junior Seminar 1
EVRN495	Senior Project 1-3
EVRN499	Senior Seminar 1
MATH151	Calculus I 4
MATH152	Calculus II 4
MATH207	Principles of Statistical Methods 3

General Education (22 credits minimum)	
COMM101	Fund. of Speech Communication 3
ENGL110	First-Year Composition I 3
ENGL111	First-Year Composition II 3
	Social Science electives 6-8
HUMN251	Humanities I 4
	Humanities elective 3

Teacher Education (19 credits)	
EDUC150	Reflections on Learning and Teaching 3
EDUC250	Student Diversity and Schools 3
EDUC301	Learning Theory and Teaching Practice 4
EDUC430	General Methods for Secondary Teachers 3
EDUC431	The Secondary Learner 3
EDUC440	Reading in the Content Area 3

Free Electives as needed to reach 124-credit minimum

2.70 GPA overall and major/minor B- (2.70) minimum in each EDUC course

NOTE: A candidate may double count math courses from the cognate section when completing a math teaching minor.

Bachelor of Science Degree:

At least eight (8) semester credits *in addition* to courses used for general education requirements from categories of social science, natural science or mathematics.

These bachelor of science degree requirements can be used for majors or minors, but not general education.