

B.S.Ed. Secondary Education: Physics and Mathematics Requirements

The BSED Secondary Education Physics & Mathematics Program provides course preparation in education, physics, and mathematics and includes clinical experience. The program leads to a bachelor's degree and teaching certification in 7-12 Secondary Physics and Mathematics.

Note that all students must achieve 120 undergraduate credits and a minimum 3.0 overall GPA to graduate. The final GPA requirement for Secondary Education Physics & Mathematics is 3.0. Most students will graduate from this program with 126 credits.

Required Physics Courses – 28 credits

PHYS 100 Physics I (4 credits)
PHYS 102 Physics II (4 credits)
PHYS 212 Modern Physics I (3 credits)
PHYS 230 Optics (3 credits)
PHYS 312 Classical Mechanics I (4 credits)
PHYS 315 Advanced Physics Laboratory (3 credits)
PHYS 316 Electricity and Magnetism I (3 credits)

Additional Science Course:

See also Directed General Education below.

CHEM 102 General Chemistry II (4 credits)

Required Mathematics Courses – 26 credits

MATH 182 Calculus II (4 credits)
MATH 283 Calculus III (4 credits)
MATH 224 Foundations of Higher Mathematics (3 credits)
MATH 240 Synthetic Geometry (3 credits)
MATH 260 Linear Algebra (3 credits)
MATH 301 Probability and Statistics I (3 credits)
MATH 311 Abstract Algebra I (3 credits)
MATH 340 Differential Equations (3 credits)

Education Professional Courses – 15 credits

Students must achieve a B or better in professional coursework. The courses require teacher candidacy.

SEED 312 Principles of Learning (3 credits)
SEED 313 Principles of Learning Lab (3 credits)
SEED 342 Principles of Teaching (3 credits)
SEED 343 Principles of Teaching Lab (3 credits)
SEED 430 Math Methods for Middle & High School (3 credits)

Clinical Experience Courses – 12 credits

SEED 390 Clinical Experience I (6 credits)
SEED 391 Clinical Experience II (6 credits)

Directed General Education Courses – 27 credits

While counting toward General Education fulfillment, these courses are required for completion of the major.

Required before candidacy:

The following courses must be taken before a student can take their education professional coursework. Additionally, to achieve candidacy, a student must pass the state's basic skills requirement, earn a 3.0 GPA or higher and complete pre-candidacy field hours.

COMP 100-level course – Category A1 (3 credits) *Final grade of C or better is required.*

ENGL Literature course – Category D (3 credits) *Final grade of C or better is required.*

EDUC 100 Perspectives on American Education – Category B (3 credits)

SPEE 201 Cognitive Development of Diverse Learners – Category B (3 credits)

SPEE 314 Effective Instructional Strategies – Category B (3 credits)

Not required before candidacy:

BIOL 104 Principles of Biology – Category C1 (4 credits)

MATH 181 Calculus I – Category C2 (4 credits)

CHEM 100 General Chemistry I – Category C3 (4 credits)

Program Plan Code: BSED_SCED_PHMA

Effective Date: Fall 2018



Secondary Education Physics & Mathematics Major Check Sheet

Student Name:

Student ID Number:

This check sheet provides a mechanism for students and advisors to keep track of a student's progress in the program. Please refer to the program requirements for more details regarding options.

Note that all students must achieve 120 undergraduate credits and a minimum 3.0 overall GPA to graduate. Most students will graduate this program with 126 credits. The final GPA requirement for Secondary Education Physics and Mathematics is 3.0.

Required Physics Courses – 24 credits

PHYS 100 Physics I	4 credits	Grade:
PHYS 102 Physics II	4 credits	Grade:
PHYS 212 Modern Physics I	3 credits	Grade:
PHYS 230 Optics	3 credits	Grade:
PHYS 312 Classical Mechanics I	4 credits	Grade:
PHYS 315 Advanced Physics Laboratory	3 credits	Grade:
PHYS 316 Electricity and Magnetism I	3 credits	Grade:
Total Credits	24 total credits	

Additional Required Science Course – 4 credits

CHEM 102 General Chemistry II	4 credits	Grade:
Total Credits	4 total credits	

Required Mathematics Courses – 26 credits

MATH 182 Calculus II	4 credits	Grade:
MATH 283 Calculus III	4 credits	Grade:
MATH 224 Foundations of Higher Mathematics	3 credits	Grade:
MATH 240 Synthetic Geometry	3 credits	Grade:
MATH 260 Linear Algebra	3 credits	Grade:
MATH 301 Probability and Statistics I	3 credits	Grade:
MATH 311 Abstract Algebra I	3 credits	Grade:
MATH 340 Differential Equations	3 credits	Grade:
Total Credits	26 total credits	

Education Professional Courses – 15 credits

SEED 312 Principles of Learning	3 credits	Grade:
SEED 313 Principles of Learning Lab	3 credits	Grade:
SEED 342 Principles of Teaching	3 credits	Grade:
SEED 343 Principles of Teaching Lab	3 credits	Grade:
SEED 410 Science Methods for Middle & High School	3 credits	Grade:
Total Credits	15 total credits	

Clinical Experience Courses – 12 credits

SEED 390 Clinical Experience I	6 credits	Grade:
SEED 391 Clinical Experience II	6 credits	Grade:
Total Credits	12 total credits	

Directed General Education Courses – 27 credits*While counting toward General Education fulfillment, these courses are required for completion of the major.*

COMP 100 Level (Category A1)	3 credits	Grade:
EDUC 100 Perspectives on American Education (Cat B)	3 credits	Grade:
SPEE 201 Cognitive Development of Diverse Learners (Category B)	3 credits	Grade:
SPEE 314 Effective Instructional Strategies (Category B)	3 credits	Grade:
BIOL 104 Principles of Biology (Category C1)	4 credits	
MATH 181 Calculus I (Category C2)	4 credits	Grade:
CHEM 100 General Chemistry I (Category C3)	4 credits	Grade:
1 ENGL Literature Course (Category D)	3 credits	Grade:
Total Credits	27 total credits	

Summary of Graduation Requirements

Total credits from major courses	81
Total credits from general education program	42-45
Minimum total credits to graduate	120
Minimum overall GPA	3.0
Minimum GPA in major program	3.0

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Secondary Education Physics & Mathematics 8-Semester Planner

Student Name:

Student ID Number:

Each semester listed below provides information including course categories, typical credit hours (CH.), and space to add specific course selections. This planner is a suggested path. Consult with your advisor regarding your unique plans and interests as you make choices about your schedule.

First Semester Plan

Gen Ed	COMP 100 (Category A1)	3 CH.	Selection:
Gen Ed	BIOL 104 (Category C1)	4 CH.	Selection:
Gen Ed	FYSM 100	3 CH.	Selection: FYSM 100 -
Gen Ed	EDUC 100 (Category B)	3 CH.	Selection:
Gen Ed	MATH 181 (Category C2)	4 CH.	Selection:
Total		17 CH.	

Second Semester Plan

Gen Ed	Category A2	3 CH.	Selection:
Gen Ed	SPEE 201 (Category B)	3 CH.	Selection:
Gen Ed	CHEM 100 (Category C3)	3 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Total		15-17 CH.	

Third Semester Plan

Gen Ed	Category A3	3 CH.	Selection:
Gen Ed	ENGL Literature (Category D)	3 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Total		15-18 CH.	

Fourth Semester Plan

Gen Ed	SPEE 314 (Category B)	3 CH.	Selection:
Gen Ed	Category A4	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Total		15-17 CH.	

Fifth Semester Plan

Gen Ed	Category D	3 CH.	Selection:
Major	SEED 312	3 CH.	Selection:
Major	SEED 313	3 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Total		18-21 CH.	

Sixth Semester Plan

Major	SEED 342	3 CH.	Selection:
Major	SEED 343	3 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Total		15-18 CH.	

Seventh Semester Plan

Major	SEED 430	3 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Major	Required Content Area Course	3 or 4 CH.	Selection:
Total		12-15 CH.	

Eighth Semester Plan

Major	SEED 390	6 CH.	Selection:
Major	SEED 391	6 CH.	Selection:
Total		12 CH.	

Additional Notes:

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