

# MATHEMATICS, B.S.ED.

The Bachelor of Science in Education for Mathematics Majors provides training in Secondary Mathematics Education and is the degree program for prospective teachers of mathematics in secondary schools. Students receive thorough mathematical content knowledge and pedagogical training to prepare them to teach. In order to graduate in 4 years, students in the B.S.E. program must complete all their academic coursework in 7 semesters, as their final semester is spent in a full-time student teaching field placement. Successful graduates will be certified to teach mathematics in grades 7 through 12 in Pennsylvania and can easily transfer this certification to any state.

## Major in Mathematics, BSE

Code	Title	Hours
Credits Required for Major		
true		
Minimum Residency 50% of Major Courses		
true		
Minimum GPA 2.0 for Major		
true		

### REQUIRED MATHEMATICS COURSES

A grade of C- or higher is required in all required math courses, except MATH 464.

Calculus I - Choose 1 of the following:		4-5
MATH 161	Calculus 1	
MATH 163H	Honors Calculus 1	
MATH 211	Calculus 2	4
MATH 301	History of Mathematics	3
MATH 305	Teaching Math in Secondary Schools 1	2
MATH 310	Intro to Mathematical Proof	3
MATH 311	Calculus 3	4
MATH 322	Linear Algebra 1	4
MATH 325	Mathematical Connections	3
MATH 345	Abstract Algebra 1	3
MATH 354	Classical and Transformational Geometry	4
MATH 405	Teaching Math in Secondary Schools 2	3
MATH 464	Real Analysis 1	3

### REQUIREMENTS FOR NO OPTION DECLARED

STATISTICS REQUIREMENT - Choose 1 of the following options 1-2:		4-6
Option 1. Intro to Probability and Statistics (C- or Better)		
MATH 333	Probability and Statistics	
Option 2. Math Statistics I (C- or Better) and Statistics II (C- or Better)		
MATH 335	Mathematical Statistics 1	
MATH 435	Mathematical Statistics 2	
MATHEMATICS ELECTIVES - Choose 3 hours from:		3
MATH 365	Ordinary Differential Equation	

MATH 370	Operations Research
MATH 372	Financial Mathematics I
MATH 375	Numerical Analysis
MATH 393	Number Theory
MATH 395	Introduction Combinatorics
MATH 422	Linear Algebra 2
MATH 445	Abstract Algebra 2
MATH 457	Elementary Differential Geometry
MATH 465	Real Analysis 2
MATH 467	Partial Differential Equations
MATH 471	Mathematical Modeling
MATH 472	Financial Mathematics II
MATH 483	Point-Set Topology
Any 4@8 MATH course(s)	
MATH 498	Independent Study
MATH 535	Statistical Methods 1
MATH 536	Statistical Methods 2
MATH 566	Complex Variables
MATH 577	Problems in Applied Math
MATH 592	Graph Theory

**Total Hours** 47-50

## Professional Education

Code	Title	Hours
EDUCATIONAL FOUNDATIONS		
EDFN 211	Foundations Modern Education	3
EDFN 241	Psychological Foundations of Teaching	3
REQUIRED EDUCATION COURSES		
EDSE 321	Issues in Secondary Education	3
ACCOMMODATIONS AND ADAPTATIONS		
EDSE 340	Content Area Literacy for Diverse Classrooms	3
SPED 346	Secondary Students w/Disabilities in Inclusive Settings	3
STUDENT TEACHING		
EDSE 471	Student Teaching Seminar	3
EDMA 461	Student Teaching in Math	9
<b>Total Hours</b>		<b>27</b>

## Req Related for Mathematics, BSE

Code	Title	Hours
REQUIRED RELATED COURSES		
CSCI 161	Introduction to Programming 1	4
CSCI 140	Discrete Structures	4
<b>Total Hours</b>		<b>8</b>

## Advanced Professional Studies, BSE

Code	Title	Hours
*Clearances are valid for one year from the date that appears in the header of this degree audit in the field 'Clearance Date.' Clearances cannot expire in the middle of a semester.		
APS REQUIREMENTS		
English Composition - Choose 1 of the following:		3
ENGL 110	English Composition	

ENGL 110H	Hnrs:English Composition	
English Literature - Choose 1 of the following:		3
ENGL 230	Introduction to Literature	
ENGL 231	World Literature 1	
ENGL 232	World Literature 2	
ENGL 233	Early British Literature	
ENGL 234	Later British Literature	
ENGL 235	American Literary Tradition I	
ENGL 236	American Literary Tradition II	
ENGL 241H	H:Explorations in World Lit	
ENGL 242	Reading Our World:	
ENGL 292	Science Fiction	
ENGL 333	African-American Literature 1	
ENGL 333H	Hnrs:African American Lit 1	
ENGL 334	African American Literature 2	
ENGL 334H	Hnrs:African American Lit 2	
ENGL 336	New Dimensions to World Lit	
ENGL 338	Folklore and Literature	
ENGL 401	Old Eng Lang and Literature	
ENGL 402	Middle Eng Lang and Literature	

#### Mathematics

Two Mathematics courses are required for BSE students. You have taken 0 course(s). It is preferable to take two courses designated as G2. Click here to search for MATH courses on the current web schedule. BIOL 375 will fulfill one Mathematics course for BSE BIOL students.

EDFN 211	Foundations Modern Education	6
& EDFN 241	and Psychological Foundations of Teaching	
48 earned (transcript) credit hours are required		

#### APS registration status

You ARE NOT eligible to register for courses requiring APS status.

#### ACT 126 - Educator Ethics Training

You must submit your Educator Ethics Training.

#### Pre-Service Testing Required

Pre-Service Testing Status is indicated by one of the following: 1.) PSTA - Pre-Service Testing Accomplished: Verified passing pre-service test scores meet the requirement. 2.) PSTI - Pre-Service Testing Incomplete: Non-passing pre-service test scores were submitted prior to the August 1, 2015 policy change. Passing scores must still be achieved in order to meet the PA certification requirements. 3.) PSTU - Pre-Service Testing Unverified: Unofficial copies of pre-service test scores were submitted. Official scores must be sent from the testing company in order to meet PA certification requirements. 4.) PSTX - Pre-Service Testing Waived: Per PDE - ACT 136, the Pre-Service Testing Requirement has been waived.

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#### Your GPA is below 3.0 - please see an advisor

If you are given the 2.8 GPA Exception for graduation and you graduate with a GPA lower than 3.0, you must have higher certification test scores in order to meet PA state certification requirements.

#### No dispositions-related holds

If the requirement above is checked as complete, then there are currently no dispositions-related holds on your APS Status. Registration for APS courses is permitted when all APS requirements have been met. If it is incomplete, you have a hold and APS registration will not be allowed.

#### Full Admission to APS

When all requirements are met, you must submit application for admission to APS status. Click here for the application.

#### Total Hours

12