

# Mathematics & Science Education

Bachelor of Science in Education (B.S. Ed.)



## High Demand Teaching Areas!

The demand is high for teachers to be certified in both math and science! Why not get certified in both and expand your job opportunities?

## Prepare For Your Future

Black Hills State University leads the way in integrated teaching and learning of math and science, preparing future teachers to teach effectively in both fields. This affords students the opportunity to develop principles, explore connections between areas of mathematics, and develop theories and techniques that model events in related fields, such as engineering and natural sciences.

## Learn From The Best

The faculty is devoted to making sure students succeed. The faculty operates a Math Assistance Center for students who need extra help, uses computer-based learning programs to enhance the classroom experience, and adopts an innovative class scheduling to ensure success. The faculty members are actively engaged in research and grant projects and involve students in these research opportunities. You'll benefit from the dedicated faculty, the one-on-one instruction, and the small class sizes.

## Enjoy the Experience

You can enhance your Mathematics experience by becoming a tutor or doing research with a faculty mentor.

Joining the Math Club, which is open to all BHSU students and sponsors special presentations, participates in outreach activities, and sends students to regional conferences. Members also receive a free student membership to the Mathematical Association of America (MAA). BHSU also offers several clubs and organizations of special interest to students interested in science.

If your interest is in education, research, science or economics, a degree in Mathematics and science education will prepare you for your career choice.

## find your career:

After completing the math and science education program, you will be fully prepared to pass certification exams, find numerous job opportunities, and teach in your own classroom as a math and science teacher.

Some other career opportunities are:

Software Engineering, Business Management, Technical Writing, Banking, Market Research, Data processing, Statistical Processing, or Law school.

BHSU also has a graduate program available, making the math and science degree even more attractive to potential employers. The master's program available in Curriculum and Instruction with specialties in math, science, or technology is a great way to advance a career and your teaching abilities. The core courses for the master's math and science specialties are now available online.

## connect with us



1.800.ALL.BHSU

[www.BHSU.edu/MathScience](http://www.BHSU.edu/MathScience)

[facebook.com/BlackHillsState](https://facebook.com/BlackHillsState)

[twitter.com/BlackHillsState](https://twitter.com/BlackHillsState)

[YouTube.com/BlackHillsState](https://YouTube.com/BlackHillsState)

[www.BHSU.edu/Connect](http://www.BHSU.edu/Connect)

# Composite Major in Mathematics & Science Education

## Required Core

3cr	CSC 150	Computer Science I
4cr	MATH 123	Calculus I
4cr	MATH 125	Calculus II
4cr	MATH 225	Calculus III
3cr	MATH 281	Introduction to Statistics
3cr	MATH 316	Discrete Mathematics
3cr	MATH 361	Modern Geometry
3cr	MATH 413	Abstract Algebra I
		OR MATH 425 Real Analysis I

## Choose 1 course from the following

MATH 315	Linear Algebra
MATH 321	Differential Equations
MATH 411	Theory of Numbers
MATH 413	Abstract Algebra I
MATH 416	Combinatorics
MATH 425	Real Analysis I
MATH 481	Probability & Statistics

## Select 1 area of science

### Earth Science

4cr	GEOL 201	Physical Geology	AND 201L Lab
4cr	GEOL 203	Historical Geology	AND 203L Lab
3cr	GEOL 321	Conservation of Natural Resources	
3cr	PHYS 185	Introduction to Astronomy I	AND 185L Lab

### Choose 2 courses from the following

3cr	GEOL 340	Mineralogy/Petrology
3cr	GEOL 350	Environmental Geology
3cr	GEOL 360	Environmental Geochemistry
3cr	GEOL 370	Hydrogeology
3cr	SCI 388	Global Positioning & Geographical Info. Systems

### Chemistry

4cr	CHEM 112	General Chemistry I	AND 112L Lab
4cr	CHEM 114	General Chemistry II	AND 114L Lab
4cr	CHEM 326	Organic Chemistry I	AND 326L Lab
4cr	CHEM 328	Organic Chemistry II	AND 328L Lab
4cr	CHEM 332	Analytical Chemistry	AND 332L Lab

### Physics

3cr	PHYS 185	Introduction to Astronomy I	AND 185L Lab
5cr	PHYS 211	University Physics I	AND 211L Lab
5cr	PHYS 213	University Physics II	AND 213L Lab
3cr	PHYS 331	Introduction to Modern Physics	
3cr	PHYS 451	Classical Mechanics	OR PHYS 471 Quan. Mechanics

### Biology

4cr	BIOL 151	General Biology I	AND 151L Lab
4cr	BIOL 153	General Biology II	AND 153L Lab
4cr	BIOL 311	Principles of Ecology	AND 311L Lab
4cr	BIOL 325	Physiology	AND 325L Lab
4cr	BIOL 331	Microbiology	AND 331L Lab
4cr	BIOL 371	Genetics	AND 371L Lab

## Pre-Professional Teaching Core

1cr	EDFN 295	Practicum: Pre-Admission Teaching
2cr	EDFN 338	Foundations of American Education
3cr	EPSY 302	Educational Psychology
3cr	ESPY 428	Child & Adolescent Development
3cr	INED 411	South Dakota Indian Studies
3cr	PSYC 101	General Psychology **
3cr	SPED 100	Introduction to Persons with Exceptionalities

## Professional Secondary Ed Teaching Core

3cr	EDFN 365	Computer-Based Technology & Learning
1cr	EDFN 375	Methods of Technology Integration
1cr	EDFN 440	Classroom Management
2cr	MLED 480	Middle Level Methods
3cr	SEED 408	Plan, Manage & Assess the 7-12 Diverse Classroom
3cr	SEED 450	7-12 Reading and Content Literacy
1cr	SEED 495	Practicum: Pre-Student Teaching
3cr	EDFN 475	Human Relations
9cr	SEED 488	7-12 Student Teaching

## Methods

3cr	SEED 413	7-12 Science Methods
3cr	SEED 418	7-12 Math Methods

## General Education Requirements

Gen Ed	Mathematics	<i>Satisfied by major</i>	
Gen Ed	Social Science	<i>3 semester hours</i>	
Gen Ed	Arts & Humanities	<i>6 semester hours</i>	
Gen Ed	Natural Science AND Lab	<i>Satisfied by major</i>	
ENGL 101	Composition I		
ENGL 201	Composition II		
SPCM 101	OR SPCM 215	OR SPCM 222	Speech

A *minor* is NOT required with this major but electives are required to total 120 hours.

\*\*Completes one general education requirement.

*Students are encouraged to pursue a minor, but to be certified to teach, a content praxis exam must be passed in both the major & minor areas of study.*