

COMPOSITE IN MATHEMATICS AND SCIENCE TEACHING¹

If you are interested in teaching middle or high school science and math, this major affords an excellent opportunity. High quality math and science teachers are in tremendous demand throughout the region and across the country.

This composite major is designed to provide undergraduates with exemplary preparation for careers as middle and high school math and science teachers. Students with aptitude and interest in math and science are strongly encouraged to consider a career in teaching. Math and science teachers enjoy outstanding employment prospects, and the teaching of these disciplines is intrinsically rewarding, challenging, and noble.

Middle and high school teachers who are certified to teach science and math are in high demand throughout South Dakota and across the country. A national commission recently noted that "the demand for certified and fully qualified math and science teachers is far outpacing supply" and projected that 170,000 new middle and high school math and science teachers will be needed over next 10 years.¹ This composite major in mathematics and science teaching offers flexibility in combining one area of science with mathematics. Completion of the program will lead to a BSED degree from BHSU and South Dakota certification for middle and secondary school in at least two disciplines.² Teachers certified to teach both math and science are particularly valuable, especially in smaller schools and rural regions.

Fundamental to this major is a new 33-credit education block designed to prepare teachers of grades 7-12. This block is scheduled to be offered for the first time in 2004-2005 and is intended to serve as the student's final year. The block is highly intensive and incompatible with the taking of additional courses on campus. Therefore, prior to enrolling, a student is expected to have already completed all non-education course requirements for the major. In addition, students are expected to have participated in at least 36 contact hours through the Distinguished Scholars Program in Math and Science Education and have successfully completed both EDFN 395 (Pre-Admission Teaching Practicum), EDFN 338 (Foundations of American Education), and EPSY 302 (Educational Psychology). If any of the last four requirements has not been met prior to the final year, a student is encouraged to contact a program representative about possible accommodation.

In addition to the above requirements, admission to the education block requires students to have completed a minimum of 63 semester hours with a grade point average of 2.60 or higher. Students must also pass the Preprofessional Skills Test (PPST) or submit acceptable scores on the Regents' Rising Junior (CAAP) examination.

¹National Commission on Mathematics and Science Teaching for the 21st Century Report, p. 21, 2000.

²Teacher certification is pending final approval by the South Dakota Board of Education.

DEGREE REQUIREMENTS

To obtain a Composite Major in Mathematics and Science Teaching at BHSU, students must complete the following course requirements.

General Requirements Prior to Final Year

ENGL	101, 201	Composition I & II	6
SPCM	101	Speech	3
HLTH	100/101	Wellness for Life	2
PSYC	101	General Psychology	3
		Social Sciences Electives	6
		Humanities & Arts Electives	12
EDFN	395	Pre-Admission Teaching Practicum (typically as sophomore)	1
EDFN	338	Foundations of American Education	2
EPSY	302	Educational Psychology (typically as junior)	3
		Total	38

Mathematics

MATH	123/L	Calculus I (prereq: MATH 115 or equivalent or by placement).....	5
MATH	125/L	Calculus II	5
MATH	225	Calculus III.....	4
MATH	361	Modern Geometry.....	3
MATH	381	Probability and Statistics.....	3
Select 2 of the following:			
MATH	315	Linear Algebra	3
MATH	316	Discrete Mathematics	3
MATH	413	Abstract Algebra I.....	3
MATH	425	Real Analysis I	3
		Total	26

Science (select one of the following areas of focus)

Biology

BIOL	150	Principles of General Biology	2
BIOL	151/153/L	General Biology	6
BIOL	331/L	Microbiology	5
BIOL	371/L	Genetics	3
BIOL	411/L	Ecology	4
BIOL	300+	Biology Elective	3
CHEM	112/114/L	General Chemistry	8
		Total	31

Chemistry

CHEM	112/114/L	General Chemistry	8
CHEM	326/328/L	Organic Chemistry	10
CHEM	232/L	Analytical Chemistry I	3
		Total	21

Earth Science

PHYS	185/L	Astronomy	3
BIOL	150/151/153/L	General Biology	8
GEOL	201/L	Physical Geology.....	4
GEOL	203/L	Historical Geology.....	4
GEOL	321	Cons. of Natural Resources	3
Select 2 of the following:			
GEOL	340	Minerology/Petrology (pre: CHEM 112/L).....	4
GEOL	350	Environmental Geology.....	3
GEOL	360	Environmental Geochemistry (pre: CHEM 114/L)....	3
GEOL	370	Hydrology (pre: PHYS 211/L).....	3
SCI	388	Global Position. & Geog. Info. Syst. (pre: CIS 105).....	3
		Total	28 - 29

Physics

PHYS	211/213/L	University Physics 1 & 2	10
PHYS	185/L	Astronomy	3
PHYS	325	Modern Physics	3
PHYS	431	Quantum Mechanics	3
		Total	19

Final Year Education Block	33
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Course of study subject to change.

*This course of study is designed
to prepare high quality
teachers of math and science
who have deep content
backgrounds as well expertise
in how to foster learning.*

Enrollment Information

For additional information, please contact:

Black Hills State University
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