

# Master of Science in Science Education

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Home Page: [www.montana.edu/msse](http://www.montana.edu/msse) (<http://www.montana.edu/msse/>)

## Program Director

Dr. John Graves

## Admission

Entrance requirements include: A bachelor's degree in science, science education, elementary/middle school/secondary education, or a related area; be a practicing educator with a strong science background; and an undergraduate GPA of 3.0 or higher. (Students with a GPA of less than 3.0 have the opportunity to begin the program as a non-degree student to earn admission.)

Applications are accepted throughout the fall, spring, and summer sessions.

Application documents include all official transcripts, three letters of recommendation, essay, and resume. For more information about the application process, visit the MSSE website (<http://www.montana.edu/msse/>).

## Program Features

- Designed for science educators by experienced science, science education, and mathematics faculty with the collaboration of outstanding classroom teachers
- Online courses offered during the academic year allowing the flexibility to participate when it is most convenient for you
- Summer field and lab courses based out of campus that vary in length from one day to two weeks
- Accredited 30-credit graduate program
- Graduate in 2 to 3 years
- Courses are structured to support both formal classroom teachers and informal science educators
- Emphasizes Next Generation Science Standards
- Personalized science education capstone project for each student
- Interdisciplinary program with the opportunity to expand knowledge in all science disciplines
- Affordable online only graduate tuition fees

Online graduate courses are offered during the fall, spring, and summer sessions. Montana-based field and lab graduate courses are offered during the summer session.

In addition to completing a group of core courses (14 credits total) which includes the 3-credit capstone project, students develop interdisciplinary combinations of science courses (12 credits minimum) from offerings in biology, chemistry, earth science, engineering, microbiology, physics, plant sciences, and other related areas. The final four credits in the thirty-credit program are electives selected from education and/or science courses.

Interdisciplinary efforts and incorporation of both science content and pedagogy have been encouraged during the development of courses. Each student seeking the degree is advised by a three-person faculty committee, and programs are designed taking into account the student's background, interests, and career goals.

## Instructors

The MSSE degree program was developed by Montana State University faculty members who are active in science, science education, and mathematics. The program is a unique, cooperative effort of several colleges and departments. Faculty members of the departments of Biology, Chemistry and Biochemistry, Earth Science, Education, Engineering, Health and Human Development, Land Resources and Environmental Science, Mathematics, Microbiology, Plant Science and Environmental Science, Physics, and other related areas will teach most courses. Faculty members of other departments and units will play a major role in some courses. When appropriate, courses may be taught by faculty members of other institutions.

The program of study may begin with online courses in any semester, or summer field/lab courses based from the MSU-Bozeman campus. Study continues with online courses that students take from their homes or workplaces, and ends with a campus visit for presentation of the results of a personalized science education capstone project. Thirty-semester credits are required for the degree. Students typically will complete the degree in two or three years.

All students seeking the MSSE degree complete core courses (14 credits) in education which includes a three-credit capstone project. For the remaining credits (16), students select interdisciplinary combinations of science content courses (12 credits minimum) from offerings in biology, chemistry, computer science, earth science, engineering, health and human development, land resources and environmental science, microbiology, physics, and plant science. Interdisciplinary efforts and incorporation of both science content and pedagogy have been encouraged during the development of courses. The final four credits in the thirty-credit program are electives selected from education and/or science courses.

For a full list of courses visit the Master of Science in Science Education Webpage (<http://www.montana.edu/msse/>).

## Required Core Courses

MSSE 501	Inquiry Sci Eng Prac	2
MSSE 504	Formative Assess in Sci Ed	3
MSSE 505	Foundations of AR in Sci Ed	3
MSSE 509	Implementing Action Research in Science Education	3
MSSE 575	Capstone Paper and Symposium in Science Education	3