the College of Sciences and Mathematics

**Anthony J. Duben, Dean**

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**Master of Science in the Natural Sciences**

The Master of Science in the natural Sciences (M.S.n.S.) is an interdisciplinary degree in the

sciences and mathematics. It belongs to the College of Sciences and Mathematics as a whole

whereas other M.S. degrees are offered within the units of the college. The degree requires 36

graduate credit hours. It has both thesis and non-thesis options. Since it is interdisciplinary, it

has the flexibility to meet the needs of students whose interests are not met by an M.S. in one

of the disciplines.

Prospective students can include licensed teachers seeking an M.S. degree while pursuing

additional certifications in the sciences or mathematics at the middle school and secondary

level or working towards initial teaching certification in the sciences or mathematics and

students seeking a non-thesis option in disciplines whose M.S. degree requires a thesis. The

M.S.n.S. can be integrated with undergraduate students’ degree plans using the Overlap

Program. Students seeking secondary school science and mathematics certifications can earn

a B.S., the M.S.n.S. degree, and teaching certifications in five or six years.

Science and Mathematics education

**Kimberly M. Childs, Ph.D., Associate Dean**

**College of Sciences and Mathematics**

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The College of Sciences and Mathematics offers graduate courses in science and mathematics education that provide professional development for elementary, middle, and secondary teachers. Courses specific to the needs of secondary science and mathematics inservice teachers may be used to support the Master of Science degree in natural Science offered through the College. These courses provide instruction in graduate level science and mathematics education and are pivotal to the transition to graduate study within discipline. The Master of Science in natural Sciences requires 36 credit hours of graduate study.

Students who are interested in courses in graduate mathematics education (Mte) should refer to the Mathematics and Statistics section of this Bulletin.

Students who are interested in initial certification should refer to the educator certification section of this Bulletin.

**Courses in Science Education (SCE)**

**501. Foundations of Science**. 3 credit hours, The intellectual development of

the foundations of contemporary physical and antural sciences emphasizing

the historical connections between scientific thought and achievements and

the philosophical, cultural, social, and technological contexts in which they

occurred. Prerequisite: graduate standing

**564. Concepts in Life Science**. 4 credit hours, 3 hours lecture, 1 hour lab. A concepts-oriented course intended to strengthen the life science (biology) content background for teachers who have certifications in other science areas, while updating content for those with certifications in life science. Prerequisite: graduate standing.

**565. Topics in Chemistry Education**. 4 credit hours, 3 hours lecture, 1 hour lab.

A concepts-oriented course intended to strengthen the chemistry content

background for teachers who have certifications in other science areas, while

updating content for those with certifications in chemistry. Prerequisite:

graduate standing.

**566. Concepts in Physics**. 4 credit hours, 3 hours lecture, 1 hour lab. A concepts- oriented course intended to strengthen the physical science content background for teachers who have certifications in other science areas, while updating content for those with certifications in physics / physical science. Prerequisite: graduate standing.

**567. Concepts in Earth and Space Science**. 4 credit hours, 3 hours lecture, 1 hour lab. A concepts-oriented course intended to strengthen the earth (geology)

and space science content background for teachers who have certifications in other science areas, while updating content for those with certifications in earth science. Prerequisite: graduate standing.

**571. Special Topics in Science Education**. 3 credit hours. An in-depth study of subject matter in science education that is not part of the established curriculum. Three hours lecture or equivalent per week. May be repeated on different topics. Prerequisite: graduate standing.

**572. Special Topics in Science Education**. 3 credit hours. An in-depth study of subject matter in science education that is not part of the established curriculum. two hours lecture or equivalent and three hours laboratory or equivalent per week. May be repeated on different topics. Prerequisite: graduate standing.

**575. Advanced Graduate Studies in Science Education**. 1 to 3 credit hours.

Individual study of subject matter in science education that is not part of the

established curriculum. Individual conferences and / or field work. Prerequisite:

graduate standing.

**576. Advanced Graduate Studies in Science Education**. 1 to 3 credit hours.

Continuation of 575 in a different area of study. Individual study of subject

matter in science education that is not part of the established curriculum.

Individual conferences and / or field work. Prerequisite: graduate standing.