MAED625
*Mathematical Investigations for Middle Grades Classrooms*
Participants investigate topics in mathematics, including probability, programming, fractals, and chaos theory. Emphasis is placed on participant understanding of these topics and their appropriate use as investigations with middle grades students. The pedagogy of the course models that of effective middle school mathematics teachers.

MAED 630
*Seminar:*______________
Seminar in specific topics relevant to mathematics education. Each seminar examines one topic in detail. Repeatable with different topics. May be graded S/U.

**MATHEMATICS & SCIENCE**

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**Faculty**
Robert E. Kingman, Physics, *Coordinator*
David E. Alonso, Chemistry
Gordon J. Atkins, Biology
Gary W. Burdick, Physics
Bill Chobotar, Biology
H. Thomas Goodwin, Biology
James L. Hayward, Biology
Shandelle M. Henson, Mathematics
Joon Hyuk Kang, Mathematics
Mickey D. Kutzner, Physics
Margarita C. K. Mattingly, Physics
David N. Mbungu, Biology
Getahun Merga, Chemistry
Robert C. Moore, Mathematics
Desmond H. Murray, Chemistry
Marlene N. Murray, Biology
D. David Nowack, Chemistry
Yun Myung Oh, Mathematics
S. Clark Rowland, Physics
David A. Steen, Biology
John F. Stout, Biology
Tiffany Z. Summerscales, Physics
Stephen C. Thorman, Physics, Computer Science
Lynelle M. Weldon, Mathematics
Dennis W. Woodland, Biology
Robert E. Zdor, Biology

**Mission**
Inspire and equip students to celebrate learning, sense the action of God in the universe, extend their analytical skills and knowledge base in mathematics and science, and identify and seek solutions to scientific issues.

**MS: Mathematics and Science**
The Master of Science: Mathematics and Science is designed for students who wish to acquire a breadth of knowledge which cannot be achieved within any one discipline among mathematics, biology, chemistry and physics. Such a degree may be useful for secondary or middle-school teachers who teach mathematics and science subjects, but who do not desire a traditional MAT program; for those who wish to develop skills in areas of overlap in these disciplines; for those who wish to study the interrelationships among the disciplines; and for those who wish further preparation for careers in industry or government.

In addition to the general requirements for admission to and enrollment in graduate degree programs outlined in this bulletin, students must meet departmental requirements.

**Admission Requirements**
- A bachelor's degree with a major in Mathematics, Biology, Chemistry, or Physics, and a minimum GPA of 3.00 (B) in mathematics and science courses.
• Completed the GRE General Exam for admission to regular student status. Completion of the GRE Subject Exam in one of the four areas of Mathematics, Biology, Chemistry or Physics is recommended.
• Earned credit or demonstrated proficiency in the following prerequisites: CPTR125 or CPTR151; MATH191, 192, 240, 286; and two out of three year-long laboratory science courses: BIOL165, 166, CHEM131, 132 and PHYS241, 242, 271, 272. A student may be admitted with deficiencies in the above courses, but this exception requires the student to take additional credits beyond the minimum 32 credits required.

MS Degree Requirements
1. Compliance with all standards as given in the Graduate Degree Academic Information section of the bulletin.
2. Completion of a curriculum consisting of 32–40 credits approved by a supervising committee.
3. Passing a comprehensive examination over two areas from among Mathematics, Biology, Chemistry and Physics.

Core Courses
MATH405 (3), MSCI526 (2–3), MSCI575 (1), MSCI670 (0), MSCI698 (1–4), undergraduate prerequisites* (0–8), and other courses recommended by the student's committee.

Disciplinary Core
For students choosing the Chemistry and/or Physics options:
CHEM431, 432 (6) and CHEM441, 442 (2)
or PHYS411 (2.5) and PHYS430 (2.5) and PHYS481 (3),

*Up to 8 credits selected from among the prerequisites listed in the specific admission requirements are added to the minimum 32 credits for the degree.

Total MS degree credits required—32–40
• The student must include at least 12 credits in each of the two disciplines selected for the degree.
• A student must complete a minimum of 16 credits in courses numbered 500 and above.

Courses (Credits)
See Biology for BIOL course descriptions; Chemistry and Biochemistry for CHEM and BCHM; Mathematics for MATH; Physics for PHYS.

MSCI526
Christian Faith and the Sciences
(2–3)
Discussion of science and epistemology in the context of Christian faith, scientific model building, the church-science interface, and ethical considerations.

MSCI575
Mathematics and Science Seminar
(1)
Current research topics in mathematics and physical sciences. Attendance at 12 hours of research presentations, a paper, and a presentation of a current research topic.

MSCI650
Project Continuation
$ (0)
Student may register for this title while clearing deferred grade (DG) and/or incomplete (I) courses with advisor approval only. Registration for this title indicates full-time status.