investigations. The pedagogy of the course models that of effective middle school mathematics teachers.

MAED521  
Informal Geometry and Measurement for Middle Grades Educators  
This course is the first of two which lead prospective mathematics teachers through a series of explorations to develop competence in geometric reasoning, including conjecture, proving, and disproving. Prospective teachers develop a deeper understanding of the role of proof in geometry. The pedagogy of this course models that of effective middle school mathematics teachers.

MAED522  
Formal Geometry for Middle Grades Educators  
This course is the second of two which lead prospective mathematics teachers through a series of explorations to develop competence in geometric reasoning, including conjecturing, proving, and disproving. Prospective teachers refine their understanding of the role of proof in geometry. The pedagogy of the course models that of effective middle school mathematics teachers.

MAED600  
Discrete Mathematics and Number Theory for Middle Grades Educators  
Students investigate concepts of number theory, discrete mathematics, and logic as they apply to middle grades mathematical education. Each topic includes a study of graphic representation of concepts and applications in technology. The pedagogy of the course models that of effective middle school mathematics teachers.

MAED610  
Mathematical Modeling for Middle Grades Educators  
Investigation of concepts and practices of mathematical modeling with an emphasis on application to middle grades education. The pedagogy of the course models that of effective middle school mathematics teachers.

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.
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 (32–40)**
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.
4. 12 credits in each of two disciplines selected for the degree.
5. A minimum of 16 credits in courses numbered 500 and above.

**Core Courses**
- MATH405, MSCl526, 575, 670, 698, undergraduate prerequisites* and other courses recommended by the student's committee.
- * 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.

**Disciplinary Core**
For students choosing the Chemistry or Physics options:
- CHEM431, 432, 441, 442
- or PHYS411, 430, 481, 577

**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*
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*
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*
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.

MSCI698
*Research Project*
Repeatable to 4 credits.

**Procedures**
1. Upon acceptance, the student consults with the program coordinator and a graduate advisor to develop a plan of study. Any deficiencies, prerequisites, research, language tools, transfer credits, and residency are discussed to establish the status of the student.
2. The student then submits a plan of study to the program coordinator for approval and identifies three faculty members to serve as a supervisory committee. The approved plan of study becomes the curriculum the student will follow to complete the requirements for the degree. Any changes in the plan of study must therefore be approved by the program coordinator and the committee.
3. All projects must be submitted to the supervising committee at least two months prior to graduation. The student will be expected to give an oral presentation and an oral defense of the project. The program coordinator recommends final project approval after the consent of the committee has been obtained.
4. Comprehensive exams in the two areas of concentration must be completed at least one month prior to graduation.
5. When 50% of all course work has been completed, the student initiates advancement to degree candidacy by submitting the required forms to the program coordinator. The program coordinator approves the student for graduation, a recommendation is sent to the Records Office and to the Dean of Graduate Studies.
6. Graduation procedures and degree conferral as described in this bulletin.