

# Middle Grades Math & Science (MGMS)

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**MGMS 5999. Professional Orientation. 0 Hours.**

Required non-credit course that must be successfully completed at entry to advanced programs. Candidates are required to establish an electronic portfolio and provide evidence that all advanced entry requirements have been satisfactorily met.

**MGMS 7000. Professional Development Seminar I. 3 Hours.**

The self-assessment of individual student understanding and application of master teacher outcomes. Provides the basis for an individual program of study based on individual needs.

**MGMS 7100. Research Methodology in Education. 3 Hours.**

This course provides a study of methods used to conduct educational and educationally-related research and includes critical analysis of selected research articles and research design. Emphasized is the ability to use research and research methods to improve practices in educational and educationally-related settings.

**MGMS 7200. Conceptualizing Middle Level Learning and Diversity in Context. 3 Hours.**

Examination of concepts, principles, theories, and research that supports the tenets of the middle school philosophy as well as current trends in middle level education. Focus will be on the unique nature and development of the middle level learner. Candidates will analyze their own practice, investigate the impact of media on young adolescent developmental issues, and generate research-based professional resources.

**MGMS 7240. Instructional Leadership, Curriculum and Assessment. 3 Hours.**

Advanced knowledge and skill in the areas of curriculum, instruction, and assessment. Multiple approaches to assessment will be emphasized as related to programmatic and content issues, learner outcomes, and teaching performance. Focus will be the advancement of best practices utilizing data to help make decisions about curriculum, instruction, and assessment within a content-based classroom.

**MGMS 7300. Collaboration and Professionalism. 3 Hours.**

Collaborative skills among teachers, and between teacher and students, community, parents and support professionals. Application to the graduate students' work-site will be emphasized.

**MGMS 7400. Physical Science for Middle Grades. 3 Hours.**

An integrated math and physics course with the special emphasis on conceptual physics. The assigned work will include the laws of physics, theories and problem solving, including a review of the basic math required to be a successful problem solver.

**MGMS 7401. Chemistry, Earth Science and Astronomy for Middle Grades. 3 Hours.**

An integrated math and science course with special emphasis on an understanding of chemical processes related to earth science, and astronomy, including a study of physical chemistry, earth processes, and the chemical evolution of the universe.

**MGMS 7402. Life Science and Natural History for Middle Grades. 3 Hours.**

A life science course with special emphasis on ecology, biomes, classification, phylogenetic trees, and evolution and natural selection, including a study of the biosphere, biochemistry, genetics, and evolutionary processes.

**MGMS 7650. Teaching Practicum. 3 Hours.**

Teaching Practicum.