

NATURAL SCIENCES (NSM)

NSM-5400 Curriculum Development and Assessment in Mathematics and Science (3 semester hours)

The course will focus on assessment goals and implementation, a mix of theoretical research-based foundations and classroom reform-based perspectives on assessment and evaluation in schools. Recent developments in mathematics and science curriculum, core standards, learning research, and alternate modes of presentation will be discussed. Open to graduate students only.

NSM-5900 Field Experience in STEM (1 semester hours)

Each candidate is expected to take part in a flexible field experience with a mathematics and/or science professional organization. The goal is to give each participant an opportunity to work with a scientist or mathematician on a project during this experience. The participants will be given the flexibility to choose an experience that is most beneficial to them as long as it is approved by the Program Director. It is expected that connections will be developed with professionals in the field of mathematics and science that can be utilized in the classroom. Permission of the instructor required.

NSM-6100 Educational Research in Mathematics and Science I (3 semester hours)

This course has the dual purpose of providing an educational research background in the STEM field as well as the quantitative knowledge necessary to conduct such research. The course investigates recent developments and relevant research in STEM education and initiates a professional conversation about the major issues in teaching mathematics and science. Emphasis will be placed on methods of critically reading and analyzing research reports and the development of a STEM research proposal. Topics include reading and evaluation of original research, issues of validity and reliability in research, assembling research writing components, and an introduction to statistical inference.

Prerequisite(s): NSM-5400.

NSM-6200 Educational Research in Mathematics and Science II (3 semester hours)

This course is a continuation of NSM6100. The teacher will analyze data collected from the implementation of a previously identified STEM research project. Participants will complete their projects, submit a written report of their research, and present their findings to other program participants and at local and/or national conferences.

Prerequisite(s): NSM-6100.