MSSE - Master of Science Education

MSSE 501. Inquiry Sci Eng Prac. 2 Credits. (2 Lec) F,S,Su
PREREQUISITE: Approved education methods course. This course provides a focus on inquiry instruction through the use of Science and Engineering Practices for grade K to 16 teachers in science education. Students will identify the components of inquiry in the context of Science and Engineering Practices as described in the NRC Framework for K-12 Science Education. Course goals include development and implementation of inquiry-based instruction and classroom research; and increased understanding of the role of assessment in an inquiry-based science classroom.

MSSE 502. Emerging Technology and the Science Classroom. 3 Credits. (1 Lec, 1 Ind, 1 Rct) Su
This course introduces skills and techniques to deepen students’ understanding of technology enriched instruction in the science classroom. Students in this course are practicing teachers of science. The focus is on emerging technology trends in the K-12 classroom with an emphasis on blended learning techniques, including flipped classrooms and gamification. Students will also explore how to use scientific data sets with their students. The assignments in this course are intended to be practical and have direct utility in the science classroom.

MSSE 503. Integrating Literature into the Science Classroom. 3 Credits. (1 Lec, 2 Rct) S
PREREQUISITES: Upper division courses and others as determined for each offering. This course is designed for elementary, middle and high school teachers of science. The course provides effective strategies to integrate literature in the science classroom. Students will share cross-level instruction and constructive ideas with each other. The goal of this course is to engage and support the integration of reading and science instruction.

MSSE 506. Crime Scene Investigators: Forensic Science for Teachers. 2 Credits. (1 Lec. 1 Lab)
PREREQUISITES: Teachers with a minimum of three years teaching experience. “Crime Scene Investigators: Forensic Science for Teachers” is an exciting, hands-on course which is applicable to elementary school, middle school and high school teachers. Students will develop science process skills, demonstrate knowledge of the nature of science, in addition to implementing inquiry-based labs in their specific teaching context. Students will share cross-level instructional practices and creative pedagogical ideas. The principle goal of this course is to promote the study of forensics; an applied, cross disciplinary science and its implementation in the K-12 teaching environment. This fourteen week course is intended for teachers enrolled in the MSSE program.

MSSE 507. Capstone Data Analysis. 2 Credits. (2 Lec/Lab) S
PREREQUISITES: Bachelor degree in education, science education, or science field. This course is designed to provide graduate students in science education with a background in basic descriptive and inferential statistics. By the end of the course, students will be able to choose the most appropriate method to both describe their data and display that data in a clear and concise manner. Students will be able to perform hypothesis tests using a variety of parametric and non-parametric methods with an understanding of the assumptions and limitations of each method as applied to the analysis of Capstone data reported students’ Capstone paper, the culminating project for MSSE students.

MSSE 589. Graduate Consultation. 1-3 Credits. (1-3 Ind; 3 cr max)
PREREQUISITE: Master's standing and approval of the Dean of Graduate Studies. This course may be used only by students who have completed all of their coursework (and thesis, if on a thesis plan) but who need additional faculty or staff time or help.

MSSE 591. Special Topics. 1-4 Credits. (1-4 Lec; 12 cr max) On Demand
Max 12 cr. PREREQUISITE: Upper division courses and others as determined for each offering. Courses not required in any curriculum for which there is a particular one time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

MSSE 592. Independent Study. 1-3 Credits. (1-3 Ind; 6 cr max) On Demand
Max 6 cr. PREREQUISITE: Bachelor degree, consent of instructor, and admission to MSSE program. Directed research and study on an individual topic.
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.