Minnesota State University Moorhead

STL 474: Methods in Teaching Elementary Science and Environmental Education

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Methods course for teaching science and environment education in elementary settings. Emphasizes inquiry learning, methods of instruction and assessment, place-based environmental education, integration across the curriculum, safety, and responsiveness to student diversity. Recommended Corequisite: STL 476.

B. COURSE EFFECTIVE DATES: 08/23/2010 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Science process skills
2. National and state science standards
3. 5E inquiry model
4. Developmentally appropriate learning activities in science
5. Integration of children¿s literature in science learning activities
6. Misconceptions in science
7. Inclusive science education
8. Assessment in science
9. Place-based environmental education
10. Nature of science and engineering
11. Engineering and technology design
12. Science, environmental, and technology literacies
13. Relationships among science, technology, society, environment (STSE)
14. Systems thinking
15. Accessing community resources to support science learning
16. Safety in science education

D. LEARNING OUTCOMES (General)

1. An understanding of recent trends in science education policy and goals including state and national standards in science education.
2. An understanding of the nature of science, including an understanding of science as a human endeavor, the nature of scientific knowledge, and a historical perspective of science.
3. An ability to plan science and environmental education lessons that are developmentally appropriate and responsive to the needs of diverse groups of students.
4. An ability to integrate domains of science (including environmental science) with each other and with reading, language arts, mathematics, and social studies.
5. An ability to seek out community resources to safely support the teaching of science and environmental education.
6. An ability to use quality children's literature to support meaningful learning in science and environmental education.
7. An ability to use the 5E inquiry model as well as other instructional strategies to promote safe, developmentally appropriate science learning that addresses common misconceptions.
8. An ability to establish classroom management rules and procedures that ensure the physical safety of children, safely manage supplies and equipment, and are based on an understanding of legal requirements and ethical considerations.
9. An ability to construct assessment instruments that are compatible with teaching goals.
10. An ability to use appropriate educational technology to enhance teaching and learning in science and environmental education.
11. An awareness of connections between science, technology, and society, as well as the critical thinking skills that students will need to develop solutions to various environmental and technological problems confronting society.
12. An understanding of the role of reflection in professional development.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted