Course Title: Assisting with Math & Science

Semester Course Prefix and Number: TAIA 2212
Old Quarter Course Prefix and Number: EDAS 2212

Number of Credits: 3
Number of Lecture Credits: 3
Semester(s) Offered: Spring
Number of Lab Credits: 3
Number of Lab Hours: 3
Class Size: 35

Catalog Description:
This course will provide students with the basic understanding of teaching methods used in the areas of math and science.

Prerequisites and/or recommended entry skills/knowledge:
Course Prerequisite(s): 
Reading Prerequisite: 
Composition Prerequisite: 
Mathematics Prerequisite: 

Career Programs and Transfer Majors Accessing this Course:
Human service professionals, Early Childhood and Elementary Educators, Parent Educators, Paraprofessionals, and Child Care Providers

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:
(Note: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer’s approval are required.)

Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:
Compare the following three methods of teaching mathematics and list the advantages of each: algorithms, inquiry-based, and constructivist approach (guided discovery).
Define the following terms: place value, base-ten number system, whole, ordinal, and cardinal numbers.
Define the meanings and describe the order of operation and how they relate to one another for addition, subtraction, multiplication, and division.
Create three math lessons.
Demonstrate inquiry-oriented science instruction.
Create three inquiry oriented science lessons.

**Student Assessment Methods:**

Examinations
Lesson Plans
Demonstration

**Use of Instructional Technology:** (includes software, interactive video and other instructional technologies):
D2L Instructional Format
Power Point

**Outline or Statement of Major Course Content:**

- Algorithm, Inquiry-Based, and Constructivist approaches to teaching mathematics
- Understanding, representing, and showing relationships among numbers
- What is the meaning of the order of operations?
- Developing fluency: conceptual understanding and computational proficiency of addition, subtraction, multiplication, and division
- Using literature to teach mathematics
- Creating a math lesson plan
- Using Inquiry-oriented science instruction
- Developing and restructuring knowledge schemes
- Using a variety of resource including technology to enrich inquiry-oriented teaching
- Creating a science lesson plan

**Additional Special Information:** (special fees, directives on hazardous materials, etc.)

**Transfer Information:** (Please list colleges/majors that accept this course in transfer.)

**Approvals:**

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**Distribution:** Original – Administrative Office
**Copies:** Curriculum Committee Chair, AASC Chair, Transfer Specialist, Originating Faculty Member, Scheduler, Records
**Revised:** May 2009