MESABI RANGE COMMUNITY & TECHNICAL COLLEGE – VIRGINIA/EVELETH

Course Outline

Course Title: Mathematics for Elementary School Teachers **Submitted By:** G. Suoja
Semester Course Prefix and Number: Math 1415 **Approval Date:**
Old Quarter Course Prefix and Number: None **Revision Date:**

Number of Credits: 4 **Number of Lecture Credits:** 4
Semester(s) Offered: **Number of Lab Credits:** **Number of Lab Hours:**
Class Size: **Number of Studio/Demonstration/Internship Credits:**
Negotiated by AASC on (Date)__

Course Purpose Code:

_____ **0 –** Developmental Courses
_____ **1 –** Non-transferable, General Education
_____ **2 –** Technical course related to career programs
__X__ **3 –** College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
_____ **4 –** Other college course not considered a part of general education (MNTC) e.g. computer science, health, physical education
_____ **5 –** Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements.
_____ **9 –** Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:
This is a course designed to give pre-service elementary teachers the opportunity to develop a clear understanding of the mathematical concepts, procedures, and processes they will be called on to teach. The course will have a balance between what to teach (content and concepts), and how to teach (processes and communication). Each student will be required to present a math lesson to the class. The use of manipulatives will be demonstrated.

Prerequisites and/or recommended entry skills/knowledge:
Course Prerequisite(s): Math 0093 (Beginning Algebra) or appropriate placement test score
Reading Prerequisite:
Composition Prerequisite:
Mathematics Prerequisite:

Career Programs and Transfer Majors Accessing this Course:
This is a course designed just for elementary education majors. It is modeled after UMD's Math 1141 to allow for a two plus two agreement for elementary education majors.

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

0. __X__ None
1. _____ Communications
2. _____ Critical Thinking
3. _____ Natural Sciences
4. _____ Mathematical/Logical Reasoning
5. _____ History and the Social and Behavioral Sciences
6. _____ The Humanities and Fine Arts
7. _____ Human Diversity
8. _____ Global Perspectives
9. _____ Ethical and Civic Responsibility
10. _____ People and the Environment

Learning outcomes, including any relevant competencies listed in the Minnesota Transfer Curriculum:

The student will be able to:

1. Problem solve using several standard strategies
2. Explain sets, whole numbers, and numeration systems
3. Use all four operations and all seven properties for whole number arithmetic, fraction arithmetic, decimal arithmetic, integer arithmetic, and real number arithmetic
4. Use proportional reasoning
5. Demonstrate beginning Geometry ideas
6. Explain approximation techniques and calculator use
7. Calculate probability for events

Student assessment methods:
Students will be assessed through a variety of methods including quizzes, tests, graded homework, and a presentation to the class.

Use of instructional technology (includes software, interactive video and other instructional technologies):
Calculators in the classroom will be studied. Various math soft wares will be demonstrated.

Outline of the major course content:

1. Introduction to problem solving
2. Sets, whole numbers, and numeration
3. Whole numbers, operations and properties
4. Fractions, operations and properties
5. Decimals, operations and properties
6. Integers, operations and properties
7. Proportional reasoning
8. Probability
9. Introduction to Geometry
10. Teaching techniques including manipulatives for these topics.

Additional special information (special fees, directives on hazardous materials, etc.)

Transfer Information: (Please list colleges/majors that accept this course in transfer.)
We hope to have the following schools accept this course since they have very similar ones in their catalogs: UMD, St. Scholastica, Bemidji, Hibbing Community College, and Lake Superior Community College. This course would only be used for elementary education majors.

Approvals:

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Administrative Office
Copies: Curriculum Committee Chair, Learning Center, Library, Originating Faculty Member, Records, Student Services, Scheduler, Transfer Specialist
Revised February 10, 2004