

MATER OF ARTS IN EDUCATION  
WITH AN EMPHASIS AS K-5 MATHEMATICS EDUCATION SPECIALIST

A Proposal Submitted to the  
Coordinating Board for Higher Education

By

Lindenwood University  
February, 2011

**Description of the program:**

The Master of Arts in Education with an emphasis in K – 5 Mathematics Education is designed to train teacher leaders to provide support for elementary classroom teachers. Students will study mathematics concepts, teaching pedagogy, and leadership strategies in a program focused on four major areas: Numbers and Operations; Geometry and Measurement; Algebraic Reasoning; and Data, Statistics, and Probability.

**Rationale in support of the program:**

- **Evidence of Need**

The National Council of Teachers of Mathematics (2010) has voiced strong support for educational leadership programs such as described in this proposal. Other states such as Virginia, have implemented training and certification for K-5 Mathematics Education Specialists through their departments of education (The Virginia Mathematics & Science Coalition). In the event that similar certification offerings should evolve in the state of Missouri, this emphasis area will prepare our graduate students. Lindenwood University has received inquiries from potential students concerning this emphasis area.

- **Academic and other benefits to the students and the University**

Participation in the program will strengthen teacher leadership skills and expertise in the teaching of mathematics and allow students to contribute toward the increase of overall teacher quality in the St. Charles / St. Louis region. Lindenwood University will have the opportunity to be one of Missouri's institutions taking a lead in another step toward strengthening the state's educational workforce.

**Form NP**

**NEW PROGRAM PROPOSAL FORM**

**Sponsoring Institution(s):** Lindenwood University

**Program Title:** Education with an emphasis as  
K – 5 Mathematics Education Specialist

**Degree/Certificate:** Master of Arts Degree

**CIP Classification:** 13.1311

**Implementation Date:** August 2011

**Expected Date of First Graduation:** August 2013

**AUTHORIZATION**

Jann Weitzel/ VP for Academic Affairs

Name/Title of Institutional Officer	Signature	Date
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Jann Weitzel, Ph.D.	636-949-4846	
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Person to Contact for More Information	Telephone	
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### PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name: Lindenwood University

Program Name: Education with an emphasis as

K – 5 Mathematics Education Specialist

Date: February 15, 2011

#### Student Preparation

- The program is open to educators certified in secondary education (6-12) and/or elementary education (K-5). Coursework includes a total of 37 credits with 25 hours in the core specialty area.
- Prerequisites: Teacher certification with a minimum of 10 hours of mathematics from the following: MTH 13400, MTH 13500, MTH 14100, MTH 15100, MTH 15200, MTH 17000, and CSC 10000. (Substitution may be made with advanced mathematics coursework in the same subject area.)
- The Master of Arts in Education with an emphasis as K – 5 Mathematics Education Specialist is designed to train teacher leaders to provide support for elementary classroom teachers. Participation in the program will strengthen teacher leadership skills and expertise in the teaching of mathematics and allow students to contribute toward the increase of overall teacher quality in the St. Charles / St. Louis region.

#### Faculty Characteristics

- Faculty for courses in this program should hold an Ed.S. or beyond. Background should include mathematics content knowledge and / or K – 5 curriculum knowledge combined with leadership training.
- Coursework may be taught by Full Time Faculty, Part Time Faculty, and / or Adjunct Instructors. For this reason, percentage of credit hours taught by Full Time Faculty could range from 0% to 100%, changing from semester to semester.
- Teaching and Learning for the content knowledge portion of the coursework in this program will include the use of manipulatives, as used in the elementary mathematics classroom setting.

#### Enrollment Projections

- A conservative estimate: 50 Full Time Graduate Students enrolled at the end of five years.

#### Student and Program Outcomes

- The projected number of Full Time Graduates per year at the three-year mark is 30; with 50 projected at the five-year mark.
- Students will study mathematics concepts, teaching pedagogy, and leadership strategies in a program focused on four major content strands: Numbers and Operations; Geometry and Measurement; Algebraic Reasoning; and Data, Statistics, and Probability. The program will also provide valuable leadership training for the emphasis in K - 5 Mathematics Education.
- The K-5 Elementary Mathematics Specialist has been proposed to the state of Missouri as a potential, additional certification offering. The preparation in this program is designed to allow 100% of our students to meet the proposed certification requirements.
- Participation in the program could enhance performance on the Praxis II exam in Mathematics (Grades 5 – 9).
- Participation in the program will prepare students to successfully fill positions such as mathematics facilitator, coach, or curriculum director.

#### Program Accreditation

- The Master of Arts in Education has already been in existence at Lindenwood University. The program described in this document is an additional emphasis area choice to be made by the student. Program accreditation is through the Higher Learning Commission.

#### Alumni and Employer Survey

- Upon entrance into the program, students will be asked to complete a survey concerning program expectations.
- Upon completion of coursework, students will be asked to complete a post-survey, concerning how well the program met expectations.
- One year after graduation, a follow-up survey will be sent to graduates asking how well preparation in the program aligned with job responsibilities in positions such as mathematics facilitator, coach, or curriculum director.
- Each spring, area-wide districts who hire education specialists in the area of mathematics will be asked to complete a survey concerning expectations of employees in positions such as mathematics facilitator, coach, or curriculum director.
- Each spring, area-wide districts who have hired Lindenwood University Graduates from the K-5 Mathematics Education Specialist emphasis area will be asked to complete a survey concerning how well the Graduates have fulfilled responsibilities in positions such as mathematics facilitator, coach, or curriculum director.

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**PROGRAM STRUCTURE**

A. Total credits required for graduation: 37

B. Residency requirements, if any: 28 credits

C. General education: Total credits: 0

D. Major requirements: Total credits: 37

**Master – Prerequisite Core Courses**

EDU 50500 Analysis of Teaching/Learning Behavior (3)

EDU 51000 Conceptualization of Education (3)

EDU 57000 Educational Research (3)

EDU 52000 Curriculum Design (3) or EDU 60000 Master of Arts Project (3)

**Core Specialty Courses**

EDM 53800 Numbers and Operations (3)

EDM 54000 Geometry and Measurement (3)

EDM 55000 Algebraic Reasoning (3)

EDM 56000 Data Analysis, Statistics, and Probability (3)

EDM 53900 Seminar with Internship I – Numbers and Operations (1)

EDM 54500 Seminar with Internship II – Geometry and Measurement (1)

EDM 55500 Seminar with Internship III – Algebraic Reasoning (1)

EDM 56500 Seminar with Internship IV – Data Analysis, Statistics, and Probability (1)

EDM 58000 Foundations of Mathematics Education Leadership (3)

EDM 59000 Mathematics Leadership: Influencing and Facilitating Improvement (3)

EDM 59500 Elementary Mathematics Specialists: Influencing and Facilitating Improvement (3)

E. Free elective credits: 0 (Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:

EDM 53900, EDM 54500, EDM 55500, EDM 56500, EDU 52000, EDU 60000

G. Any unique features such as interdepartmental cooperation: \_\_\_\_\_

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### STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	10	20	30	40	50
Part Time					
Total	10	20	30	40	50

### References

Shaughnessy, J.M. (June, 2010). *NCTM's Joint Position on Elementary Math*

*Specialists—It's about time!* NCTM Summing Up. Reston, VA: National Council of Teachers of Mathematics (NCTM). Retrieved from <http://www.nctm.org/about/content.aspx?id=26072>

Virginia Mathematics & Science Coalition. (2010). *Mathematics Specialists*. Retrieved from <http://www.vamsc.org/index2.html>