

Course Syllabus
Southeast Missouri State University

Dept. of Elementary, Early, and Special Ed
Title of Course: Mathematical Leadership for
Elementary Mathematics Specialists: Foundations

Course No. EL 667
New: Fall 2013

I. Catalog Description and Credit Hours of Course: This introductory course provides opportunities for participants to develop knowledge and understanding of leadership principles and the process of continuous improvement as it relates to the roles and responsibilities of elementary mathematics specialists. (2)

II. Prerequisite courses: None

III. Purposes and Objectives of the Course:

The purpose of this introductory course is to assist candidates in developing knowledge and understanding of leadership principles and roles and responsibilities of mathematics education leaders. Course content focuses on leadership styles; roles, and responsibilities of elementary mathematics specialists; major historical events, documents, and policies that have influenced mathematics education; and research related to effective teaching and learning of mathematics.

The learner will:

- A. Identify the characteristics of basic leadership styles and develop a foundational knowledge of research around leadership.
- B. Know major historical events, documents, and policies that have influenced mathematics education.
- C. Understand the roles, responsibilities, and purpose of Elementary Mathematics Specialists and their role in professional development.
- D. Select, use, adapt and determine the suitability of mathematics curricula and teaching materials for particular learning goals
- E. Use professional resources to be informed about issues related to mathematics teaching and learning.

IV. Student Learning Outcomes:

- A. The students will know major historical events, documents, and policies that have influenced mathematics education.
- B. The students will understand the roles, responsibilities, and purpose of Elementary Mathematics Specialists and their role in professional development.

- C. The students will select, use, adapt and determine the suitability of mathematics curricula and teaching materials for particular learning goals

V. Course Content Outline

1) Leadership – Roles and Styles (50%)

A. Elementary Mathematics Specialists

- 1. Nationwide movement
- 2. Need for elementary mathematics specialists
- 3. Roles
- 4. Research regarding effectiveness
- 5. Developing proficiency in teaching mathematics
 - a. What does effective mathematics teaching look like?
 - b. Strands of mathematical proficiency
 - c. Teaching for mathematical proficiency
 - d. Knowledge base for teaching mathematics
 - e. Incorporating effective instructional strategies
 - f. Promoting proficient teaching of mathematics

B. What is leadership?

C. Leadership styles

- 1. Descriptions of styles
- 2. Assessment of self as leader

2) Mathematics Education – A Historical Perspective (50%)

A. History of Mathematics Education

- 1. Sputnik
- 2. A Nation At Risk

B. Standards Movement

- 1. Important documents
 - a. Agenda for Action
 - b. Curriculum and Evaluation Standards
 - c. Professional Standards for School Mathematics
 - d. Principles and Standards for School Mathematics
 - e. Curriculum Focal Points
 - f. Reform Curricula
- 2. Common Core State Standards for Mathematics
 - a. History
 - b. Format
 - c. Content and practice standards
 - d. Implementation in Missouri
 - e. Needs of teachers and schools in implementation

VI. Textbook / Resources:

Balka, D. S., Hull, T. E., & Miles, R. H. (2010). *A Guide to Mathematics Leadership: Sequencing Instructional Change*. Thousands Oaks, CA: Corwin.

Gabriel, John. (2005). *How to Thrive as a Teacher Leader*. Association for Supervision & Curriculum Development: Alexandria, VA.

National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics*. Reston, VA: NCTM.

National Research Council. (2001). *Adding It Up: helping children learn mathematics*. J. Kilpatrick, J. Swafford, and B. Findelle (Eds.) Mathematics Learning Study Committee, Center for Education, Division of Behavioral and Social Sciences and Education. National Academy Press: Washington, DC.

VII. Basis of Student Evaluation:

Assessment of Learner Outcomes:

Leadership Analysis and Reflective Paper **25% of grade**

Complete an analysis of yourself as a leader. Write a reflective paper that summarizes your leadership style, strengths, communication style, personality, and areas you need to further develop. Discuss how this analysis may inform your work as an elementary mathematics specialist. Identify goals and action plans for your professional growth as an elementary mathematics specialist.

School/District Assessment and Analysis **25% of grade**

Complete an assessment of the mathematics education program in your school or district. What are areas that need improvement? What evidence indicates this need for improvement? Write a reflective paper that summarizes your findings. Discuss the needs of your school or district and provide evidence that supports your response. Include recommendations and action steps for improvement in the area of need you identified.

Modifying an Existing Lesson **25% of grade**

Choose a lesson from the textbook you are currently using. Modify the lesson to more fully reflect the qualities of an effective mathematics lesson. Align the lesson with Missouri standards and the Common Core State Standards for Mathematics. Include reference to all Mathematical Practices the lesson is designed to address. Teach the lesson and then indicate additional modification you would make.

Reflections over reading **25% of grade**

A variety of reading assignments will be given throughout the course. Questions for reflection will be posted for Discussion on Blackboard. Students will post a response for each question and reply to 2 posts from

other students for each question.

VIII. Grading Scale

90% - 100% = A

80% - 89% = B

70% - 79% = C

0% - 69% = F

The weight of the evaluation criteria may vary according to each instructor and will be communicated at the beginning of the course.

IX. Academic Policy Statement:

Students will be expected to abide by the University Policy for Academic Honesty regarding plagiarism and academic honesty. Refer to:

<http://www6.semo.edu/judaffairs/code.html>

X. Student with Disabilities Statement:

If a student has a special need addressed by the Americans with Disabilities Act (ADA) and requires materials in an alternative format, please notify the instructor at the beginning of the course. Reasonable efforts will be made to accommodate special needs