Department of Mathematics   **Course No. MA 612**
Title of Course: Internship in Rational Numbers and Proportional Thinking   **New: Fall 2013**

I.   Catalog Description and Credit Hours of Course:

Supervised teaching practicum and online seminars in which candidate acquires experience working with a range of students and adult learners on Rational Number and Proportional Thinking concepts. (1)

II.   Co-requisite:

MA622 Rational Numbers and Proportional Thinking

III. Purposes and Objectives of the Course:

This course is a supervised mathematics teaching practicum in which candidate acquires experience working with a range of student and adult learners including elementary students (e.g., primary, intermediate, struggling, gifted, English language learners) and elementary school teachers, both novice and experienced, in a variety of professional development settings.

The primary objectives of the course are to:
A. Collaborate with individual teachers through co-planning, co-teaching, and/or coaching.
B. Facilitate teachers' use of successful, research-based strategies.
C. Analyze and evaluate student ideas and work, and design appropriate responses.
D. Develop skillful and flexible use of different instructional formats—whole group, small group, partner, and individual—in support of learning goals.
E. Evaluate the alignment of local and state curriculum standards, district textbooks and district and state assessments, and recommend appropriate adjustments to address gaps.
F. Select, use, adapt, and determine the suitability of mathematics curricula and teaching materials (e.g., textbooks, technology, manipulatives) for particular learning goals.
G. Design, select and/or adapt worthwhile mathematics tasks and sequences of examples that support a particular learning goal.
H. Use questions to effectively probe mathematical understanding and make productive use of responses.

IV. Student Learning Outcomes:

A. Student will demonstrate a greater understanding of how to teach and apply the mathematics of rational numbers and proportional thinking in a classroom setting.
B. Student will effectively communicate their mathematics related classroom experiences gained during the internship
C. Student will effectively evaluate the impact of the internship on themselves and their classrooms.

V.   Expectations of Students:

Working with Students:
A. Interview 5 students using the numbers and operations - fractions interview protocol provided. If possible video tape or record the interviews to assist in your analysis. Write a reflective paper about what you learn. Design an instructional sequence based on your observations for each of the five students.

B. Video tape a lesson. As you watch the lesson, pay attention to the types of questions you are asking. Reflect on the nature of the questions, the responses given by students, and the resulting learning that occurred. Use this reflection to modify your questioning techniques. Video another lesson and reflect in the same manner. Compare and contrast the two lessons. More details will be provided in class.

C. Collect fractions related work from 4 students in your class. Two of these should be from students whose work you feel is strong. The other two should be from students whose work is not strong. For each piece of work, write a reflection that describes the strengths and weaknesses noted in the work. Use your observations and analysis to devise an instructional sequence to meet the needs of each student.

D. Choose 3 of the Standards for Mathematical Practice on which to focus this semester. Develop a plan for how you will help students develop these practices. Implement your plan and then reflect on the process and results.

E. Keep a weekly journal of your experiences in teaching rational number concepts to students in your classroom. What are you learning about your students and yourself as a teacher?

Working with Adults:
A. Work with a group of teachers to improve questioning in the classroom. Video tape portions of lessons in a variety of classrooms and analyze the questioning used.

B. Lead a group of teachers in an examination of the mathematics curriculum for your grade level. Use the curriculum analysis protocol you are given.

VI. Course Outline:

Topics	Class Hours
A. Standards for Mathematical Practice	5
B. Teacher Questioning	5
C. Evaluating curriculum and instructional resources	5
	15

VII. Textbook:
None

VIII. Basis of Student Evaluation:

A. Online participation	15 %
B. Improvement Plans	25 %
C. Lesson Studies	60 %

IX. 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.

X. **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

XI. **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.