

FRANCIS MARION UNIVERSITY: DESCRIPTION OF PROPOSED NEW COURSE or MODIFICATION OF AN EXISTING COURSE

Department/School: Mathematics Date: 1/4/22

Course No. or Level. 190 Title: Finding Success in Mathematics for Teachers


Semester hours: 2 Clock hours: 6 Lecture: X

Prerequisites: Seeking admittance to SOE Professional Education Program

Enrollment expectation: 15

This course is not a modification, substitute, or alternative for any course.

Name of person preparing course description: Dr. Kevin LoPresto

Department Chairperson's/Dean's Signature 

Provost's Signature 

Date of Implementation Fall 2022 Date of School/Department approval: 2/10/2022

Catalog description: **Math 190 - Finding Success in Mathematics for Teachers (2)** (Students seeking admission to SOE Professional Education Program). This course is intended to support the development and analysis of math skills essential for professional educators. This is accomplished by looking through the lenses of student efficacy, mathematics anxiety, and problem-solving approaches. The course will focus on reflections of previous experiences in math, the most common areas of difficulty on the Praxis Core Academic Skills for Educators: Mathematics exam, and individualized skill goals identified through course pre-assessments. This course does not satisfy any mathematics or general education requirement. The course is graded S/U.

- Purpose:**
1. The course is intended for students seeking admittance to SOE Professional Education Program who needs to pass the required Praxis Core mathematics exam.
 2. Having successfully completed this course the students will be able to:
 - Use their critical thinking skills to solve problems.
 - Draw on prior knowledge and apply it to previously difficult mathematical concepts.
 - Demonstrate change in their attitudes about mathematics, moving from negative to more positive outlooks.
 - Identify how past experiences play a large role in present attitudes.
 - Develop strategies for successful performance on math assessments.

Teaching method planned: Combination of full class lecture and individualized instruction.

Textbook and/or materials planned (including electronic/multimedia):

- Learning Express Database available via FMU library
- Teacher created problems/assessments distributed through Blackboard and Desmos Activity Builder.
- **No additional resources or faculty is required**

Course Content:

This course is intended to support the development and analysis of math skills essential for professional educators through the lenses of student efficacy, mathematics anxiety, and problem-solving approaches to skill development and test taking. In addition to predictable points of challenges common to the Praxis Core Mathematics exam, course content includes students' reflections on their personal histories in mathematics and pre-assessments to identify areas of challenge for each student. The meaning behind these concepts will be explored so that students attain a deeper understanding of the mathematical concepts. More importantly, students will analyze and discuss how much more they know than they realize, and, in turn, how prior experiences may have hindered their capacity to learn from mistakes and/or fully demonstrate their knowledge and understanding. This will create an important frame of reference for their own philosophies of teaching and the significance of creating a safe, nurturing atmosphere for learning in their future practice.

Prospective teachers will begin by looking at their personal histories in mathematics. Pre-assessments constructed from practice exam items will be administered at the beginning of the course to target specific areas of need for each student. Based on reflection and pre-assessment data, individualized learning and practice plans will require students to revisit mathematical concepts in which they have encountered difficulty. Students will consider how assessment designs in their prior experiences may have impacted their performance. Class discussions will examine the roles stress and anxiety play in the development of math skills, efficacy and confidence, and performance in testing situations. Students will learn strategies for mitigating the impacts of stress and anxiety on their achievement.

Syllabus for Math 190 Finding Success in Mathematics for Teachers

Course Title: Finding Success in Mathematics for Teachers

Instructor: Dr. Kevin LoPresto

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Phone: 661-1592 Email: klopresto@fmarion.edu

Pre-requisite: Seeking admission to the SOE Professional Education Program

Textbooks: none

Catalog Description: (2) (Students seeking admission to SOE Professional Education Program). This course is intended to support the development and analysis of math skills essential for professional educators. This is accomplished by looking through the lenses of student efficacy, mathematics anxiety, and problem-solving approaches. The course will focus on reflections of previous experiences in math, the most common areas of difficulty on the Praxis Core Academic Skills for Educators: Mathematics exam, and individualized skill goals identified through course pre-assessments. This course does not satisfy any mathematics or general education requirement. The course is graded S/U.

Content of the course: Prospective teachers will begin by looking at their personal histories in mathematics. Upon this examination they will revisit mathematical concepts in which they had difficulty. The meaning behind these concepts will be explored with the goal of students is to attain a deeper understanding of the concepts and the realization that they knew more than they thought. They were not provided opportunities along the way to demonstrate their knowledge and understanding. This will create a frame of reference for when they begin to develop their own philosophies of teaching and ideas about creating a safe, nurturing atmosphere for their class.

Expectations: If you are registered for this course, you are doing so to help increase your chances of passing a required exam for your intended program of study. Your participation should be full and engaging. All participants in the course hope to be teachers, meaning you are all joining a special group of individuals who have dedicated their lives to educating others. One of the most important responsibilities of teachers is to help future teachers. Your participation in this course will not only help you but will begin your duty to helping others. This means sharing your thinking, even if you aren't sure if it is correct, asking questions, attempting the practice problems, and reflecting on your own past experiences. Attendance and participation in class are crucial to your success and the success of your future colleagues.

Makeup of the course:

| | | |
|-------------|---|--|
| Weeks 1-7 | Class meets as normal | |
| Weeks 8-9 | Take Praxis Core Math exam | Class will NOT meet during these two weeks |
| Weeks 10-15 | 1 on 1 tutoring for anybody who did not pass the exam | Tutoring will replace full class meetings |

Assessment: **This course is satisfactory/unsatisfactory.** To receive an S (satisfactory) for the course, students must:

- Pass the Praxis Core Math Exam at any time during the semester
OR
- Attempt the Praxis Core Math Exam before end of the course
- Miss no more than 4 required classes and
- Complete at least 90% of required activities

Exceptions to the 2nd set of requirements may be made on a case-by-case basis. Passing the Praxis Core Math exam is NOT a requirement to passing this course, just attempting it.