PROBLEM SOLVING

WITH: JENNY TSANKOVA  DATES/TIMES: TBD
DIRECTOR OF M.Ed. IN CURRICULUM AND TEACHING  LOCATION: TBD

DESCRIPTION

The course focuses on developing and enriching teachers’ toolkit of problem solving strategies through engaging participants in the process of inquiry while solving rich problems and tasks. The course emphasizes the importance of multiple solution methods and of various representations in organizing and displaying information in the areas of number sense and algebraic reasoning. It enhances and deepens participants’ mathematics content and pedagogical content knowledge in fundamental key mathematical ideas such as inverse operations, arithmetic vs. algebraic reasoning, algorithms for whole number computation, operations with integers, solving linear equations, meaning of rational numbers, operations with rational numbers, exponents and laws of exponents.

MASTER’S OF EDUCATION DEGREE IN CURRICULUM AND TEACHING

Problem Solving is the first course in the Master’s of Education in Curriculum and Teaching from Fitchburg State University. If there is sufficient interest from those who take this course in Worcester, Teachers21 and Fitchburg State may offer the complete Master’s degree program in the Worcester area.

GOALS / OBJECTIVES

Knowledge: Become more cognizant of:
- The Standards of Mathematical Practices in the areas of numbers and operations, Grades K through 12.
- The integral connection of the Standards of Mathematical practices and mathematical content.
- The types of problems that engage students to develop dispositions for mathematical practices.
- Strategies to teach students at different readiness levels and address different students’ learning needs.
- Review and extend prior knowledge in the areas of: operations with whole numbers, integers and rational numbers, algebraic reasoning and exponents.

Skill: Be better able to:
- Use a variety of models to represent ideas in numbers and operations.
- Recognize and apply mathematical practices.

Caring: Increase competence to:
- Engage students in problem solving strategies.
- Feel more confident in areas of numbers, operations, linear equations, and exponents.
- Anticipate difficulties when students solve word problems.
- Anticipate students’ misconceptions in using algorithms of whole number operations and operations with rational numbers.

CONNECTIONS WITH INITIATIVES

MA Curriculum Framework in Mathematics and Common Core State Standards
Educator Evaluation Regulations Model Rubric: Standards I & II.
INTENDED AUDIENCE
This course is designed for all current and aspiring math educators and specialists grades K to 12, instructional specialists, and department chairs.

WHAT PEOPLE ARE SAYING
Jenny was a fantastic teacher. I loved the different problem solving methods she presented. The learning climate was relaxed but professional. Everyone felt comfortable asking questions.

I plan on implementing a "Problem of the Week" for ALL of my students next year (Algebra 1 through Calculus) based on the wealth of information that Jenny provided us with.

Jenny was an awesome teacher. She understood that math wasn't my primary background and she made me feel comfortable in the class. She is extremely knowledgeable and created a fun learning environment.

NUMBER OF TOTAL SESSIONS: 8
NUMBER OF TOTAL HOURS: 40
CREDITS/PDPs: 3 graduate credits from Fitchburg State University
COST: $1,000 plus additional $285 for 3 graduate credits
$800 for 2 attendees registered together for course

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