

**Worcester State College**  
**August 2009 – 3 Graduate Credits**

Testimonial to this course's effectiveness by Keith Ventimiglia, Tantasqua Junior High School's Mathematics Instructor who participated in this same course at WSC in the Summer of 2007 (Keith may serve as Dr. Bisk's assistant in this course): "This is the single most powerful tool that a teacher can have to not only increase their own level of proficiency in mathematics but also their students, regardless of grade level and background. This course showed me the 'why' behind a lot of the mathematics that I used to just do." This course is recommended for those teaching Elementary and Middle School students AS WELL AS Instructional Aides at those levels.

**Course:** MT 910 –Understanding K-8 Mathematics - Number and Operations

**Instructor:** Dr Richard Bisk, Mathematics Professor at Worcester State College

**Course Description:** This course will provide careful, mathematically accurate development of arithmetic and help teachers see the subject in a coherent meaningful way. Mathematics has a structure that is logical. Everything has a reason. **Understanding math is the key to being able to teach it well.**

**Course Objectives:**

1. To strengthen and deepen teachers' knowledge and understanding of the number sense and operations strand of elementary and middle school mathematics. This will sometimes involve studying mathematics beyond the elementary or middle school level. Teachers will gain a better perspective of how the topics and concepts they teach fit into the broader mathematical framework.
2. To enjoy learning mathematics. Educators will learn academic content through presentation and discussion, and will learn strategies to present mathematical content to students.

**Learning Outcomes:** Participants will develop a deeper knowledge of the mathematical concepts that underlie elementary and middle school mathematics. This will strengthen their ability as teachers to provide challenging, high quality mathematics instruction.

Many of the participants will experience a change in mindset about math as a result of finally understanding many of the topics that they have been teaching.

**Dates:** August 25<sup>th</sup>, 26<sup>th</sup>, 27<sup>th</sup> and 28<sup>th</sup> 2009. In addition, there will be 14 additional hours of meeting at the Junior High (most likely during Professional Development Days and/or times/days to be determined by the class). These days/times will be completed prior to December 2009 in order to meet the three credit course requirements.

**Location:** Tantasqua Junior High School

**Time:** 8am – 3pm

**Cost:** \$300.00 for in-district staff for 3 credit graduate credits or 45 PDP's through the District.

**Sign up by e-mailing Betsy Krantz no later than Friday, June 12th at [krantz@tantasqua.org](mailto:krantz@tantasqua.org). Payment, made payable to Tantasqua Regional School District, due in full by June 19, 2009.**

**Participating in-district teachers who successfully complete this course may still include this for increments, lane movement, or course reimbursement (of the expense incurred by participants) as per their school's collective bargaining agreement.**