Master of Mathematics for Teaching: 5 new MMT Graduates!
http://math.bu.edu/study/mmt.html

Overview
A basic goal of **Focus on Mathematics** is to transition to a place where most of its professional development activities are designed, organized, and run by expert teachers in collaboration with higher education faculty. These teachers, called Mathematics for Teaching Fellows (MTFs), will drive the professional development and curriculum revision programs in the partnership, and they'll work with higher education faculty to revise teacher preparation programs at the university level. The program will be based on a 6-week immersion experience in mathematics, a research project, and preparation for taking a lead role in professional development.

Mathematics for Teaching
The Master of Mathematics for Teaching (MMT) degree prepares teachers to be experts in mathematics and professional development. Teachers already holding a master's degree may earn a Certificate of Advanced Graduate Study (CAGS) in Mathematics Education with a specialization in Mathematics for Teaching. These programs are jointly offered by the College of Arts and Sciences (CAS) and the School of Education (SED) at Boston University.

Focus of Programs: These Mathematics for Teaching programs are designed for teachers who seek to become leaders in mathematics education. They are based on an immersion experience in mathematics, related coursework, and preparation for assuming leadership roles.

Need for Math Programs: Student achievement in mathematics lags behind achievement in other disciplines. Research in math education has consistently proven that the most important variable in the classroom is the teachers' depth of understanding of the mathematics they teach. Boston University's Mathematics for Teaching programs are designed to support teachers as mathematicians for leadership roles in their schools in order to cultivate and enhance student success in mathematics.

Deepening Teachers' Math Understanding: Increasing achievement for all students requires challenging mathematics programs taught by teachers who are themselves expert in and excited by mathematics.

History
The design of the MMT/CAGS programs is deeply influenced by the experience we have gained through our work in the **PROMYS for Teachers** program (http://www.promys.org/pft/) **PROMYS for Teachers** has evolved over the past decade, and along with this evolution has emerged a set of design principles for mathematics courses and seminars for practicing and prospective secondary (5—12) mathematics teachers. In addition, we have learned the importance of the pedagogy and leadership skills that so many teachers possess in abundance. Faculty in the School of Education

have taken the lead in the development of these teacher skills by designing MMT/CAGS courses to prepare teachers to lead professional development programs in their schools.

Principles
Specifically, the Mathematics for Teaching programs are founded on our belief that mathematical leaders in the schools need to know mathematics as:

- **Scholars**: A solid grounding in classical mathematics includes the study of its major results, its history of ideas, and its connections to pre-college mathematics.

- **Educators**: An understanding of the habits of mind that underlie major branches of mathematics and how they develop in learners is built upon a knowledge of algebra, geometry, and analysis.

- **Mathematicians**: Mathematical research experience provides a foundation in grappling with problems, building abstractions, and developing theories.

- **Teachers**: Expertise in the uses of mathematics that are specific to the profession include the ability "to think deeply about simple things," the creation of classroom activities that uncover central ideas, the craft of task design, the ability to see underlying themes and connections, and the "mining" of student ideas.

These core concepts are most relevant to the mathematical part of the programs. The curriculum development and teacher training aspects of the program also address other specific areas of need, including adult learning, curriculum design for professional development programs, and the mathematical needs of practicing teachers.

Focus on Mathematics: 2006 MMT Graduates
In September 2006, the first cohort of five MTFs will be the first graduating class to receive a Master of Mathematics for Teaching degree. They are teachers from the **Focus on Mathematics** partner districts:

Roseanne Cataldo (Chelsea; Wright School, middle school teacher)
Ellen Murray (Lawrence; Arlington School, middle school teacher)
Sarah Pikcilingis (Chelsea; Browne School, middle school teacher)
Anne Paoletti (Watertown; Watertown Middle School, middle school mathematics teacher)
David Passeggio (Watertown; Watertown High School, mathematics teacher)

As Sarah Pikcilingis so aptly put it: “We will be the only “first” class to receive the MMT. Every other class will be the class of something prime.”

From left to right: David Passeggio, Roseanne Cataldo, Sarah Pikcilingis, and Anne Paoletti. Missing from photo: Ellen Murray.

For more information about the Master of Mathematics for Teaching and CAGS degree programs, visit http://math.bu.edu/study/mmt.html

For more information about **PROMYS for Teachers** and the six-week immersion experience which is at the core of the MMT, visit http://www.promys.org/pft/