Mission / Purpose
The mission of the M.Ed in Mathematics Education program is to prepare educators (i.e., teachers and other professional school personnel) who are: • informed by research, knowledge and reflective practice; • empowered to serve as change agents; • committed to and respectful of all learners; and • engaged with learners, their families, schools, and local and global communities.

The mission of the Master of Education (MED) in Mathematics is aligned with the mission of the GSU Professional Education Faculty (PEF), which represents a joint enterprise within an urban research university between the College of Arts and Sciences and the College of Education, working in collaboration with P-16 faculty from diverse metropolitan schools.

The M.Ed. major in Mathematics Education provides for master's level study in Mathematics Education and Mathematics content and leads to T-5 certification in secondary Mathematics (grades 6-12). The program ensures that candidates gain increased subject matter knowledge and pedagogical knowledge, demonstrate success in bringing middle and high school students from diverse backgrounds to high levels of learning, and use technology skillfully as a tool for teaching and learning content.

The program's underlying framework is constructivism, which suggests that human beings create knowledge through acting on their environment and interacting with other humans. The program encourages and supports planning, teaching, and reflection with colleagues who are committed to excellence in urban Mathematics education.

Goals
G 1: Content Knowledge
The goal of the M.Ed Online Mathematics Education program is to help candidates to be informed educators who have expert knowledge of the content needed to teach Mathematics in Grades 6-12.

G 2: Pedagogical Content Knowledge and Dispositions
Candidates are professional educators with advanced knowledge, skills, and dispositions needed to succeed in teaching Mathematics in grades 6-12.

G 3: Effects on P-12 Student Learning
Candidates are highly effective educators whose teaching practices have a measurable impact on the mathematics learning of student.

Student Learning Outcomes/Objectives
SLO 1: Demonstrates strong content knowledge (G: 1) (M: 1)
Students in M.Ed. in Mathematics Education through GOML (online program) are expected have strong knowledge and understanding of Algebra, geometry, statistics, problem solving and, history and evolution of mathematics.

SLO 2: Demonstrates pedagogical content knowledge (G: 2) (M: 2, 3, 4)
Students in M.Ed. Online Program in Mathematics Education are expected implement successful instructional techniques to promote higher order thinking and effective problem solving skills with using student centered, technology-intensive and differentiated instruction in diverse classroom settings.

SLO 3: Understands and uses effective assessment techniques (G: 3) (M: 2)
Students in the M.Ed. in Mathematics Education Program through GOML (Online) are expected to use a variety of assessment techniques to evaluate students’ academic, social and personal development in all aspects of mathematics.

SLO 4: Demonstrates effective dispositions (G: 2) (M: 3, 5)
Students in the M.Ed. in Mathematics Education Program through GOML (Online) are expected to demonstrate empathy, a positive view of self and others, authenticity of interactions with others, and a long-range and meaningful purpose and vision.

Measures (Key Assessments), Targets, and Findings
M 1: Portfolio section "Content" (O: 1)
Students are expected to complete a portfolio which includes a narrative and supporting artifacts to demonstrate their mastery of the National Mathematics Standards. These sections of portfolio will provide documentation that students have met the standards in the areas of content knowledge.

Source of Evidence: Capstone course assignments measuring mastery

Target for O1: Demonstrates strong content knowledge
Each student is required to pass the portfolio requirement in order to meet the graduation requirement of the program. That is, each student must achieve a rating of at least "2" out of a possible "3" for each standard and the supporting artifacts.
**Findings 2012-2013 - Target: Met**
100% of the students met the expectations of this objective.

**Findings 2011-2012 - Target: Met**
Every student successfully met the requirement for this standard. 86% of the students satisfied the requirement and 13% exceeded the standard.

**Findings 2010-2011 - Target: Met**
100 percent of the students meet the expectations of this objective by getting at least 2 out of 3.

**Findings 2009-2010 - Target: Met**
100 percent of the students meet the expectations of this objective. 50% of the students exceed the expectations by getting 3 out of 3.

**M 2: Portfolio section "Impact on Student Learning" (O: 2, 3)**
Students are expected to complete a portfolio which includes a narrative and supporting artifacts to demonstrate their mastery of the National Mathematics Standards. This section of portfolio will provide documentation that students have met the majority of standards in the areas of impact on student learning and assessment.
Source of Evidence: Project, either individual or group

**Target for O2: Demonstrates pedagogical content knowledge**
Each student is required to pass the portfolio related section requirement in order to meet the requirements of the program. That is, each student must achieve a rating of at least "2" out of a possible "3" for each standard and the supporting artifacts.

**Findings 2012-2013 - Target: Met**
100% of the students met the expectations of this objective.

**Findings 2011-2012 - Target: Met**
100% of the students met the expectations of this objective. 20% of the students exceeded the expectations by achieving 3 out of 3

**Findings 2010-2011 - Target: Met**
100 percent of the students meet the expectations of this objective. 17% of the students exceed the expectations by getting 3 out of 3

**Findings 2009-2010 - Target: Met**
100 percent of the students meet the expectations of this objective. 50% of the students exceed the expectations by getting 3 out of 3.

**M 3: Microteaching Video (O: 2, 4)**
Students are expected to videotape themselves while teaching and write a reflection about their teaching practice.
Source of Evidence: Video or audio tape (music, counseling, art)

**Target for O2: Demonstrates pedagogical content knowledge**
Students are expected to get at least 7 out of 10 to achieve this goal.

**Findings 2012-2013 - Target: Met**
100% of the students met the expectations of this objective.

**Findings 2011-2012 - Target: Met**
100% of the students meet the expectations of this objective by achieving 3 or 4 points out of 4 for each section of the rubric.

**Findings 2010-2011 - Target: Met**
100 percent of the students meet the expectations of this objective.

**M 4: Portfolio Section "Teacher Preparation and Connections" (O: 2)**
Students are expected to complete a portfolio which includes a narrative and supporting artifacts to demonstrate their mastery of the National Mathematics Standards. These sections of portfolio will provide documentation that students have met the majority of standards in the areas of pedagogical knowledge which will include planning, instructional skills, and content knowledge.
Source of Evidence: Portfolio, showing skill development or best work

**Target for O2: Demonstrates pedagogical content knowledge**
Each student is required to pass the portfolio requirement in order to meet the requirements of the program. That is, each student must achieve a rating of at least "2" out of a possible "3" for each standard and supporting artifacts.

**Findings 2012-2013 - Target: Met**
100% of the students met the expectations of this objective.

**Findings 2011-2012 - Target: Met**
100% of the students met the expectations of this objective. 20% of the students exceed the expectations by getting 3 out of
3.

**Findings 2010-2011 - Target: Met**

100 percent of the students meet the expectations of this objective. 50% of the students exceed the expectations by getting 3 out of 3.

**M 5: Unit-wide Dispositions Rubric (O: 4)**

Unit-wide Dispositions Rubric.

Source of Evidence: Academic direct measure of learning - other

**Target for O4: Demonstrates effective dispositions**

Students are expected to get at least 7 out of 10 in the rubric.

**Findings 2012-2013 - Target: Met**

100% of the students met the expectations of this objective.

**Findings 2011-2012 - Target: Met**

100 percent of the students meet the expectations of this objective.

**Findings 2010-2011 - Target: Met**

100 percent of the students meet the expectations of this objective.

**Details of Action Plans for This Cycle (by Established cycle, then alpha)**

**Action Plan: Clinical Practice**

Data show that all students met the expectation after one or more resubmissions of the assignment. Students will be provided a sample video along with the reflection paper to make sure that they have a clear understanding of the expectations.

- **Established in Cycle:** 2010-2011
- **Implementation Status:** In-Progress
- **Priority:** High
- **Implementation Description:** Plan should be fully implemented by the end of the fall semester in 2013.
- **Projected Completion Date:** 12/2013
- **Responsible Person/Group:** All faculty teaching in the MEd. Online Program in Mathematics Education.
- **Additional Resources:** None
- **Budget Amount Requested:** $0.00 (no request)

**Action Plan: Dispositions**

All students met this requirements. We will continue working closely with students to make sure they understand the standard well and work accordingly.

- **Established in Cycle:** 2010-2011
- **Implementation Status:** Planned
- **Priority:** High
- **Relationships (Measure (Key Assessment) | Outcome/Objective):**
  - **Measure (Key Assessment):** Unit-wide Dispositions Rubric | **Outcome/Objective:** Demonstrates effective dispositions
- **Implementation Description:** During regular advisement sessions, students will be informed about the requirement and encouraged to work accordingly.
- **Projected Completion Date:** 12/2012

**Action Plan: Effects on P-12 Learning**

Data show that 80% of the students met the expectation and 20% of the students exceed the expectations after one or more resubmissions of the portfolio. Although the portfolio standards were assigned as a part of the course EDMT 7560-Theory and Pedagogy of Mathematics Instruction students had to resubmit their work for the portfolio more than twice to receive an acceptable rating. In order to make sure that students have a clear understanding of the standards, more emphasis will be given to the portfolio standards during the advisement sessions that we hold once every semester.

- **Established in Cycle:** 2010-2011
- **Implementation Status:** In-Progress
- **Priority:** High
- **Implementation Description:** Plan should be fully implemented by the end of the spring semester in 2014.
- **Projected Completion Date:** 03/2014
- **Responsible Person/Group:** All faculty teaching for MEd. in Mathematics Education (Online)
- **Additional Resources:** None
- **Budget Amount Requested:** $0.00 (no request)

**Action Plan: Impact on Student Learning**

Data show that 80% of the students met the expectation and 20% of the students exceeded the expectations after one or more resubmissions of the portfolio. The portfolio standards were not assigned as a part of any course assignments; therefore, the students received feedback for their portfolios after completing the coursework. Students had to resubmit their work for the portfolio more than twice to receive an acceptable rating. Portfolio standards will be embedded in the course content of EDMT 7560-Theory and Pedagogy of Mathematics Instruction and EDMT 7360-Integration of Technology in Mathematics Instruction.

- **Established in Cycle:** 2010-2011
- **Implementation Status:** Planned
- **Priority:** High
Action Plan: Mathematical Preparation
All students met this requirement but expressed difficulty in the process due to the connection to their practice. To address these difficulties, one of the mathematics educators in the program has started to co-teach some of the courses. We will continue

Established in Cycle: 2010-2011
Implementation Status: Planned
Priority: High

Projected Completion Date: 12/2012

Action Plan: Microteaching Video
All students met this requirement. Clear instructions were helpful for students to meet this expectation. However, sample teaching video will be provided to help students to have a better understanding of the expectation.

Established in Cycle: 2010-2011
Implementation Status: Planned
Priority: High

Projected Completion Date: 12/2012

Action Plan: Planning (Pedagogical Knowledge and Skills)
Data show that 50% of the students met the expectation and 50% of the students exceed the expectations after one or more resubmissions of the portfolio. The portfolio standards were not assigned as a part of any course requirement; therefore, the students received feedback for their portfolios after completing the coursework. Students had to resubmit their work for the portfolio more than twice to receive an acceptable rating. More emphasis will be given to the portfolio standards during the advisement sessions that we hold each semester to make sure that students have a clear understanding of them.

Established in Cycle: 2010-2011
Implementation Status: In-Progress
Priority: High
Implementation Description: Plan should be fully implemented by the end of the fall semester 2011.
Projected Completion Date: 12/2011
Responsible Person/Group: All faculty teaching for M.Ed in Mathematics Education (Online)
Additional Resources: None

Action Plan: Teaching Preparation and Connections
Data show that all of the students met the expectation after one or more resubmissions of the portfolio. The portfolio standards were not assigned as a part of any course requirement; therefore, the students received feedback for their portfolios after completing the coursework. Students had to resubmit their work for the portfolio more than twice to receive an acceptable rating. Portfolio standards will be embedded in the course content of EDMT 7560-Theory and Pedagogy of Mathematics Instruction.

Established in Cycle: 2010-2011
Implementation Status: Planned
Priority: High

Projected Completion Date: 12/2013

Analysis Questions and Analysis Answers
CTW Reflection 1: Achievements - What were the major CTW accomplishments in your program for this academic year? How do these relate to the Action Plans that you specified last year?
NA

CTW Reflection 2: Assessment - What, if any, improvement in critical thinking among students have you been able to discern in a given class and/or over time from the entry level to the exit class?
NA

CTW Reflection 3: Needs - What areas of CTW in your program still need development? What aspects of the implementation of CTW have been problematic? What assistance might you need to address those areas?
NA

CTW Reflection 4: Overall Reflection - What have been the primary changes or impact of CTW on your academic program, and on the students and faculty involved in this initiative? What changes has your department made to the CTW initiative since last year’s CTW Assessment Report?
NA

ACADEMIC PROGRAM QUESTION 1:  


| ACADEMIC PROGRAM QUESTION 2: | What is the impact of the data obtained from assessment findings on your educational degree program? What changes and improvements to your educational program will be made based on this year's assessment data? (e.g., revised curriculum, courses, sequence, etc.) If changes to curriculum or courses are made for other reasons, please explain. | Based on the data, we will do a curriculum change to provide more opportunities to extend their knowledge on curriculum and assessment techniques in mathematics education. The curriculum change will require developing a new mathematics education methods course to address those issues. |