

Greater Birmingham Mathematics Partnership

Annual Report Excerpts Project Year 4 Sept. 2007 – Aug. 2008

Sections 1, 2, and 5

Table of Contents

Section 1. Activities and Findings

Exhibit #1 Implementation Matrix	pg. 3
Exhibit #2 Goals Matrix	pg. 25
Narrative	pg. 37
Annual Highlights	pg. 52

Section 2. Management Report **pg. 54**

Section 5. Annual Implementation Plan for 2008-2009 **pg. 55**

Section 1: Activities and Findings

Exhibit #1: Implementation Matrix

Goal I: To increase the effectiveness of middle school mathematics teachers within GBMP school systems

1. (a) MEC Summer Courses (MSP Key Feature: T, P, C)		Completed	
Fall Tasks	Responsible Party	Yes	No
Consolidate feedback from past Summer courses and begin planning of next Summer courses.	Parker	X	
Begin recruitment efforts for Summer courses.	District Liaisons,	X	
Create and distribute materials to advertise and promote Summer courses.	Dominick, Moore		
Begin processing enrollment information for Summer courses.	Liaisons, Dominick	X	
Begin notifying teachers of course date assignments.	Liaisons, Dominick	X	
Seek opportunities to give “update” talks to stakeholders in districts.	Liaisons, Dominick	X	
Collaborate with UAB mathematics faculty members to develop new MEC course, <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability and Statistics</i> .	Millie Johnson		R
Plan for integrating engineering tasks into Summer courses	Parker, Lofgren	X	
Spring Tasks	Responsible Party	Yes	No
Finalize planning of Summer courses.	Parker	X	
Invite 1-2 local leaders to begin the internship process to become MEC instructors.	Parker, Dominick	X	
Continue recruitment and publicity efforts for Summer courses.	District Liaisons,	X	
	Dominick, Moore		
Continue processing enrollment information for Summer courses.	Liaisons, Dominick	X	
Continue notifying teachers of course date assignments.	Liaisons, Dominick	X	
Communicate information to teachers about UAB credit for GBMP courses.	Liaisons, Dominick	X	
Select sites for Summer 2008 courses.	Liaisons, Dominick	X	
Select dates for Summer 2009 courses.	Liaisons, Dominick	X	
Send information letter to participants about Summer courses and orientation sessions.	Liaisons, Dominick	X	
Send letter to IHE faculty members prior to Summer courses.	Parker	A	

1. (a) MEC Summer Courses (continued)	Completed		
	Responsible Party	Yes	No
Spring Tasks (continued)			
Research items (manipulatives, supplies, etc.) to go into teacher kits.	Moore, Dominick	X	
Research items (books, videos, etc.) to distribute to teachers.	Moore, Dominick	X	
Order teacher kit for new course <i>Integrating Mathematics Ideas</i> .	Moose		R
Order professional development books (Connected Math Project, etc.) to distribute to teachers.	Moose	X	
Continue collaborating with UAB mathematics faculty members to develop new MEC course.	Millie Johnson	A	
Pilot new MEC course to gain input from IHE faculty.	Millie Johnson	A	
Arrange enrollment for Summer course to include both middle school teachers and IHE faculty	Dominick	X	
Summer Tasks	Responsible Party	Yes	No
Continue recruitment and publicity efforts for GBMP.	District Liaisons, Dominick, Moore	A	
Attempt to accommodate teachers still requesting to attend Summer courses.	Liaisons, Dominick	A	
Prepare for orientation sessions to be held on the day before the start of each section of <i>Patterns, Functions, and Algebraic Reasoning</i> .	Dominick	A	
Send materials for GBMP courses.	Parker	A	
Set-up for GBMP courses.	Dominick	A	
Host GBMP courses.	Districts	A	
Offer orientation sessions prior to each section of <i>Patterns, Functions, and Algebraic Reasoning</i> .	Dominick	A	
Offer GBMP courses.	Parker	A	
Participate in GBMP courses.	District Teachers	A	
Discuss definition of challenging courses and curricula.	MEC faculty	X	
IHE faculty members participate in MEC Summer courses.	IHE faculty	A	
IHE and MEC faculty members hold discussions following GBMP courses.	IHE, MEC faculty	A	
Complete collaboration with UAB mathematics faculty members to develop 2 nd new MEC course.	Millie Johnson	A	
Participate as interns with MEC instructors in Summer courses.	Interns	A	

1. (b) Academic Year Follow-up: Grade-Level Sessions (MSP Key Feature: T, P, C)	Completed		
	Responsible Party	Yes	No
Fall Tasks			
Remind teachers and administrators about dates and locations of Fall grade-level sessions.	Liaisons, Dominick	X	
Invite IHE faculty to attend the Grade Level Sessions.	Dominick	X	
Register teachers for grade-level sessions.	Liaisons, Dominick	X	
Host grade-level sessions.	Districts	X	
Support Local leads as they deliver grade-level sessions on Number Talks.	Lofgren, Local Leaders	X	
Local leaders co-facilitate Grade-Level Sessions.	District Leader	X	
Arrange for and fund substitute teachers.	Districts	X	
Participate in grade-level sessions.	District Teachers	X	
Spring Tasks	Responsible Party	Yes	No
Remind teachers and administrators about dates and locations of Spring Grade-Level Sessions.	Liaisons, Dominick	X	
Invite IHE faculty to attend the Grade Level Sessions.	Dominick	X	
Register teachers for grade-level sessions.	Liaisons, Dominick	X	
Host grade-level sessions.	Districts	X	
Support Local leads as they deliver grade-level sessions on Number Talks.	Lofgren, Local Leader	X	
Local leaders co-facilitate Grade-Level Sessions.	District Leader	X	
Arrange for and fund substitute teachers.	Districts	X	
Participate in grade-level sessions.	District Teachers	X	
Select sites for 2008-2009 grade-level sessions.	Liaisons, Dominick	X	
Select dates for 2008-2009 grade-level sessions.	Liaisons, Dominick	X	

2. IHE Course Redesign and Development (MSP Key Feature: I, P, T, C)	Completed		
	Responsible Party	Yes	No
Fall Tasks			
Add new middle school major track to UAB catalog.	Mayer	X	
Reflect on key aspects of challenging courses and curricula in preparation for developing and revising courses.	IHE faculty	X	
Design UAB course rotation to support Middle School Mathematics Certification in conjunction with School of Education.	Mayer, Smith	A	
Implement engineering projects in new and redesigned courses.	Mayer, Feldman, McClain		D
Offer MA 313 and MA 314 at UAB in regular course rotation.	Smith	X	
Offer new calculus courses MA 123 and MA 124 at UAB in regular course rotation	Ward	X	
Offer MA 372 <i>Geometry I</i> and MA 311 <i>History of Mathematics</i> at UAB in regular course rotation.	Mayer	X	
Recommend workshop activities for MA 110 <i>Finite Mathematics</i> based on GBMP courses.	IHE Faculty	A	
Continue design of MA 411 <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability, and Statistics</i>	Mayer, Ward, Ware		R
Begin design of MA 412 <i>Connecting Mathematics Content to Science and Technology</i>	Mayer, Ward, Ware		R
Recommend workshop activities for MA 105 <i>Pre-Calculus Algebra</i>	Mayer, Ware	A	
Complete redesign of UAB course MA 105 <i>Pre-Calculus Algebra</i> to include parallel activities from MEC course, <i>Extending Algebraic Reasoning</i> , and to follow UAB Quality Enhancement Plan.	Kravchuk, Mayer, Ward, Johnson, Ware, Smith, Feldman, McClain	A	
Continue conversations with Millie Johnson regarding course development.	Mayer	A	
Attend some MST and/or Grade Level sessions.	IHE Faculty	X	
Spring Tasks			
Reflect on key aspects of challenging courses and curricula in preparation for developing and revising courses.	IHE faculty	X	
Design UAB course rotation to support Middle School Mathematics Certification with School of Education	Mayer, Smith	A	

2. IHE Course Redesign and Development (continued)		Completed	
Spring Tasks (continued)	Responsible Party	Yes	No
Implement engineering projects in new and redesigned courses.	Mayer, Feldman, McClain		D
Offer MA 313 and MA 314 at UAB in regular course rotation.	Smith	X	
Offer new calculus courses MA 123 and MA 124 at UAB in regular course rotation	Ward	X	
Pilot redesigned MA 105 following UAB Quality Enhancement Plan.	Kravchuk, Johnson	X	
Offer redesigned MA 110 <i>Finite Mathematics</i> following UAB Quality Enhancement Plan.	Mayer, W. Johnson	X	
Continue design of MA 411 and 412	Mayer, Ward, Ware		R
Attend some MST and/or Grade Level sessions.	IHE Faculty	X	
Summer Tasks	Responsible Party	Yes	No
Observe GBMP courses.	Mayer, Ward, Ware, Kravchuk, Johnson, Meadows, Smith, Feldman, McClain, Mullins, Moore	A	
Reflect on key aspects of challenging courses and curricula in preparation for developing and revising courses.	IHE Faculty	A	
Implement engineering projects in new and redesigned courses.	Mayer, Feldman, McClain		D
2. IHE Course Redesign and Development (continued)		Completed	
Summer Tasks (continued)	Responsible Party	Yes	No
Complete design of MA 411 <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability, and Statistics</i>	Mayer, Ward, Ware		R
Continue designing MA 412 <i>Connecting Mathematics Content to Science and Technology</i>	Mayer, Ward, Ware		R
Design MA 473 <i>Geometry II</i> .	Ward, Mayer	A	
Offer MA 313 and MA 314 on regular basis.	Smith	X	
Offer MA 123 and MA 124 on a regular basis.	Ward	X	
Offer MA 315, 316, and 317 in conjunction with Summer GBMP courses	Mayer	A	

3. Middle School Certification (MSP Key Feature: T, I)	Completed		
Fall and Spring Tasks	Responsible Party	Yes	No
Continue development of Mathematic Reasoning track within the Mathematics Major: <ul style="list-style-type: none"> - Publicize the major and get it into course catalogs - Schedule courses 	Mayer, Ware, Ward, Froning, Meadows, Smith, Feldman	A	
Recruit pre-service teachers for Summer GBMP courses.	Calhoun, Froning, Smith	X	
Recruit students for new major track and middle school certification <ul style="list-style-type: none"> - Recruit minority pre-service teachers 	Calhoun, Froning, Smith	A	
Arrange for pre-service teachers to participate in field experiences with MEC-trained teachers	Smith	X	
Design UAB courses parallel to new GBMP courses: <ul style="list-style-type: none"> - <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability, and Statistics</i> - <i>Connecting Mathematics Content to Science and Technology.</i> 	Mayer, Ward, Smith, Froning		R
Finish developing alternative Fifth-year program for middle grades mathematics. <ul style="list-style-type: none"> - Align standards - Prepare checklists - Submit proposal to Alabama Board of Education for approval 	Smith, Froning		D
Refine UAB Education course rotation to provide continuous support of MS certification	Smith, Sims	X	
Coordinate proposed checklist with new major track in the mathematics department.	Smith, Mayer	X	
Follow up on Middle School Certification proposal submitted to Alabama State Board of Education.	Froning	X	

4. Engineering Projects (MSP Key Feature: P, C)		Completed	
Fall Tasks	Responsible Party	Yes	No
Continue accumulating background information related to each application task (engineering project--EP) under development: (1) Connected Math (2) Existing hands-on mathematics and science application activities	Feldman, Lalor, McClain	X	
Cataloguing information related to each EP under development and mapping to the Alabama Course of Study (ACS) (1) Existing hands-on mathematics and science application activities (2) MEC course tasks (3) Fall MST session	Feldman, Lalor, McClain	X	
Application task (engineering project--EP) development (1) Review feedback of the EPs from field tests in the GBMP summer courses and website (2) Continue development of EP for <i>Extending Algebraic Reasoning</i> (3) Begin development of EP for <i>Integrating Mathematical Ideas</i> (4) Refine <i>Patterns</i> EP (5) Refine <i>Geometry</i> EP (6) Refine <i>Probability and Data Analysis</i> EP (7) Refine <i>Numerical Reasoning</i> EP	Feldman, Lalor, Meadows, McClain, Lucas	X	
Application task (EP) dissemination (1) Update website to include refinements and new EP for <i>Extending Algebraic Reasoning</i> (2) Present and process <i>Wound Healing</i> task in MA 313 (3) Have separate “Just for Kids” website operational	Meadows, McClain, Feldman		D
Engineering applications in the new calculus courses (1) Field test an EP in UAB’s new <i>Calculus and Function with Applications I</i> (MA 123) course (2) Develop an EP for UAB’s new <i>Calculus and Function with Applications II</i> (MA 124) course	Feldman, Lalor, McClain		D

4. Engineering Projects (continued)	Completed		
	Responsible Party	Yes	No
Spring Tasks Continue accumulating background information related to each EP under development: (1) Connected Math (2) Existing hands-on mathematics and science application activities	Feldman, Lalor, McClain	X	
Cataloguing information related to each EP under development and mapping to the Alabama Course of Study (ACS) (1) Existing hands-on mathematics and science application activities (2) MEC course tasks (3) Winter MST session	Feldman, Lalor, McClain	X	
Application task (EP) development (1) Review feedback of the EPs from the MST session, IHE pilots, and from the website (2) Complete development of EP for <i>Extending Algebraic Reasoning</i> (3) Continue development of EP for <i>Integrating Mathematical Ideas</i> (4) Refine <i>Patterns EP</i> (5) Refine <i>Geometry EP</i> (6) Refine <i>Probability and Data Analysis EP</i> (7) Refine <i>Numerical Reasoning EP</i>	Feldman, Lalor, Meadows, McClain, Lucas	X	
Application task dissemination (1) Update website to include refinements for <i>Extending Algebraic Reasoning EP</i> (2) Provide new <i>Extending Algebraic Reasoning EP</i> to be processed at Winter MST session (3) Update website to include new EP for <i>Integrating Mathematical Ideas</i> (4) Present and process extensions of the <i>Wound Healing</i> task in MA 314	Meadows, McClain, Feldman	X	
Engineering applications in new calculus courses (1) Refine the EP in UAB's <i>Calculus and Function with Applications I</i> (MA 123) course (2) Pilot the calculus EPs with BSC mathematics faculty (3) Field test an EP for UAB's <i>Calculus and Function with Applications II</i> (MA 124) course	Feldman, Lalor, McClain		D

4. Engineering Projects (continued)		Completed	
Summer Tasks	Responsible Party	Yes	No
Continue accumulating background information related to each EP under development: (1) Connected Math (2) Existing hands-on mathematics and science application activities	Feldman, Lalor, McClain	A	
Cataloguing information related to each EP under development and mapping to the Alabama Course of Study (ACS) (1) Existing hands-on mathematics and science application activities (2) MEC course tasks	Feldman, Lalor, McClain	A	
Application task (EP) development (1) Review feedback of the EPs from MST session, IHE pilots, and from the website (2) Refine <i>Patterns</i> EP (3) Refine <i>Data Analysis and Probability</i> EP (4) Refine <i>Numerical Reasoning</i> EP (5) Refine <i>Geometry</i> EP (6) Refine <i>Extending Algebraic Reasoning</i> EP (7) Refine <i>Integrating Mathematical Ideas</i> EP	Feldman, Lalor, Meadows, McClain, Lucas	A	
Application task dissemination (1) Update website to include refinements (2) Pilot and process new EPs in summer classes <i>Integrating Mathematical Ideas</i> EP <i>Extending Algebraic Reasoning</i> EP (3) Continue to use and process EPs piloted the previous summer <i>Patterns</i> EP <i>Geometry</i> EP <i>Probability and Data Analysis</i> EP <i>Numerical Reasoning</i> EP (4) Use of <i>Wound Healing</i> task in MA 313	Meadows, McClain, Feldman	A	
Engineering applications in new calculus courses (1) Refine the EP in UAB's <i>Calculus and Function with Applications II</i> (MA 124) course	Feldman, Lalor, McClain	A	

5. Recruitment of Pre-service Teachers (T, I)		Completed	
Fall Tasks	Responsible Party	Yes	No
Meet with UAB student services staff and recruiting staff to enlist support in student recruiting.	Smith, Meadows, Froning	X	
Meet with staff of urban personnel prep grant to establish liaison and recruit from its cadre of new teacher recruits for Birmingham City Schools (mostly minority candidates).	Froning	X	
Announce GBMP opportunities for pre-service teachers in appropriate classes.	Froning, Moore	X	
Recruit pre-service teachers for Summer courses.	Froning, Moore	X	
Recruit minority pre-service teachers for Summer courses.	Froning , Moore	X	
Remind pre-service teachers about Fall grade-level sessions.	Froning , Moore	X	
Participate in grade-level sessions.	District Teachers	X	
Spring Tasks	Responsible Party	Yes	No
Announce GBMP opportunities for pre-service teachers in appropriate classes.	Froning, Moore	X	
UAB Recruiting staff visits relevant classes.	Froning, Delmas	X	
Recruit pre-service teachers for Summer courses.	Froning, Moore	A	
Recruit minority pre-service teachers for Summer courses.	Froning, Moore	A	
Remind pre-service teachers about Spring grade-level sessions.	Froning , Moore	A	
Award pre-service teacher scholarships for Summer courses.	Froning, Moore	A	
Summer Tasks	Responsible Party	Yes	No
Pre-service teachers participate in Summer classes.	Pre-service teachers	A	

Goal II: To increase the leadership capacity of middle school mathematics teachers within GBMP school systems

1. Mathematics Support Teams (MSP Key Feature: I, P, T)	Completed		
Fall Tasks	Responsible Party	Yes	No
Prepare for September MST sessions.	Parker, Lofgren	X	
Order supplies for MST sessions.	Moose	X	
Notify teachers of dates and sites for MST sessions.	Liaisons, Dominick	X	
Invite IHE faculty to attend the MST Sessions.	Dominick	X	
Host MST sessions.	Districts	X	
Deliver MST sessions.	Parker, Lofgren	X	
Arrange for and fund substitute teachers.	Districts	X	
Participate in MST Sessions.	District MSTs	X	
Incorporate challenging courses and curricula into MST sessions.	Parker, Lofgren	X	
Send follow-up communication to districts and MST's.	Dominick, Lofgren	X	
Winter Tasks	Responsible Party	Yes	No
Prepare for January MST sessions.	Parker, Lofgren	X	
Send reminder about MST sessions.	Liaisons, Dominick	X	
Host MST sessions.	Districts	X	
Deliver MST sessions.	Parker, Lofgren	X	
Arrange for and fund substitute teachers.	Districts	X	
Participate in MST Sessions.	District MSTs	X	
Incorporate challenging courses and curricula into MST sessions.	Parker, Lofgren	X	
Field-test engineering application task and provide feedback.	District MSTs	X	
Send follow-up communication to districts and MST's.	Dominick, Lofgren	X	
Spring Tasks	Responsible Party	Yes	No
Prepare for Spring MST sessions.	Parker, Lofgren	X	

1. Mathematics Support Teams (continued)		Completed	
Spring Tasks (continued)	Responsible Party	Yes	No
Send reminder about MST sessions.	Liaisons, Dominick	X	
Invite IHE faculty to attend the MST Sessions.	Dominick	X	
Host MST sessions.	Districts	X	
Deliver MST sessions.	Parker, Lofgren	X	
Arrange for and fund substitute teachers.	Districts	X	
Participate in MST Sessions.	District MSTs	X	
Incorporate challenging courses and curricula into MST sessions.	Parker, Lofgren	X	
Field-test engineering application task and provide feedback.	District MSTs		X
Send follow-up communication to districts and MST's.	Dominick, Lofgren	X	
Begin to plan for 2008-2009 MST Sessions.	Lofgren	X	
Select sites and dates for 2008-2009 MST Sessions.	Liaisons, Dominick	X	

Goal III: To unite the GBMP stakeholders in support of mathematics education programs that are high quality and effective

1. Sessions for Administrators (MSP Key Feature: P, I)	Completed		
Fall Tasks	Responsible Party	Yes	No
Prepare for September administrator session sessions for cohort 1 and cohort 2.	Parker, Lofgren	X	
Notify administrators of dates and sites for administrator sessions.	Liaisons, Dominick	X	
Send reminder about administrator session.	Liaisons, Dominick	X	
Deliver administrator session for cohort 1 and cohort 2.	Parker, Lofgren	X	
Local leader co-facilitates <i>Lenses on Learning</i> with cohort 1.	Brown	X	
Incorporate challenging course and curricula	Parker, Lofgren	X	
Participate in administrator sessions.	Administrators	X	
Winter Tasks	Responsible Party	Yes	No
Prepare for January administrator sessions for cohort 1 and cohort 2.	Parker, Lofgren	X	
Send reminder about administrator session.	Liaisons, Dominick	X	
Deliver administrator sessions for cohort 1 and cohort 2.	Parker, Lofgren	X	
Local leader co-facilitates <i>Lenses on Learning</i> with cohort 1.	Brown	X	
Incorporate challenging course and curricula	Parker, Lofgren	X	
Participate in administrator sessions.	Administrators	X	
Spring Tasks	Responsible Party	Yes	No
Prepare for Spring administrator sessions for cohort 1 and cohort 2.	Parker, Lofgren	X	
Send reminder about administrator session.	Liaisons, Dominick	X	
Deliver administrator sessions for cohort 1 and cohort 2.	Parker, Lofgren	X	
Local leader co-facilitates <i>Lenses on Learning</i> with cohort 1.	Brown	X	
Incorporate challenging course and curricula	Parker, Lofgren	X	
Participate in administrator sessions.	Administrators	X	
Send follow-up communication to administrators.	Dominick	X	
Inform administrators that they are welcome to participate in MEC Summer courses.	Liaisons, Dominick	X	
Select sites for 2008-2009 administrator sessions.	Liaisons, Dominick	X	
Select dates for 2008-2009 administrator sessions.	Liaisons, Dominick	X	

2. Outreach Activities to Parents and the Community (MSP Key Feature: P)	Completed		
Fall Tasks	Responsible Party	Yes	No
Send update letter to individuals and businesses that supported or were asked to support GBMP.	Clark	X	
Prepare for Fall community mathematics nights.	Parker	X	
Select/confirm sites for Fall and Spring community mathematics nights.	Liaisons, Clark	X	
Arrange logistics for Fall community mathematics nights.	Liaisons, Clark	X	
Identify new ways to encourage new participants and reluctant parents to attend.	Liaisons, Clark	X	
Distribute flyers to promote Fall community mathematics nights.	Liaisons, Clark	X	
Publicize Fall community mathematics nights and seek media coverage.	Liaisons, Clark	X	
Host Fall community mathematics nights.	District Liaisons	X	
Maintain sign-in sheets to identify parents who attend. Also collect data on diversity of attendees and their willingness to participate in research.	Clark	X	
Deliver Fall community mathematics nights at six locations.	Parker	X	
Insure community mathematics nights incorporate four key aspects of challenging courses and curricula.	Parker	X	
Attend community mathematics nights.	Parents, Teachers, Administrators, Design Team	X	
Inform parents that some MEC scholarships are available for parents to participate in courses.	Liaisons, Clark	X	
Send thank you letters to school and community members who assisted with community mathematics nights.	Clark	X	
Continue conversations with AMSTI and MMI.	Dominick	X	
Continue conversations with AMSTEC.	Clark		D
Confirm that Ann McMillan is willing to serve another term as CBAC chairperson.	Clark	X	
Select/confirm dates for Fall and Spring CBAC meetings.	Liaisons, Clark		R
Select/confirm sites for Fall and Spring CBAC meetings.	Liaisons, Clark		R
Arrange logistics for Fall CBAC meeting.	Clark		R
Set agenda with CBAC Chair for Fall CBAC meeting.	CBAC Chair, Clark		R
Send reminder to CBAC members about Fall community mathematics nights and CBAC meeting.	Clark		R
Hold Fall CBAC meeting.	Clark, Parker		R
Keep CBAC meeting minutes.	Clark		R
Send follow-up letter to CBAC members.	Clark		R

2. Outreach Activities to Parents and the Community (continued)	Completed		
Fall Tasks (continued)	Responsible Party	Yes	No
Update GBMP website.	Moose	X	
Update MSPnet.	Moose	X	
Spring Tasks	Responsible Party	Yes	No
Prepare for Spring community mathematics nights.	Parker	X	
Arrange logistics for Spring community mathematics nights.	Liaisons, Clark	X	
Distribute flyers to promote Spring community mathematics nights.	Liaisons, Clark	X	
Publicize Spring community mathematics nights and seek media coverage.	Liaisons, Clark	X	
Host Spring community mathematics nights.	District Liaisons	X	
Deliver Spring community mathematics nights at six locations.	Parker	X	
Maintain sign-in sheets to identify parents who attend. Also collect data on diversity of attendees and their willingness to participate in research.	Clark	X	
Inform parents that some MEC scholarships are available for parents to participate in courses.	Liaisons, Clark	X	
Insure that community mathematics nights incorporate four key aspects of challenging courses and curricula.	Parker	X	
Attend community mathematics nights.	Parents, Teachers, Administrators, Design Team	X	
Send thank you letters to school and community members who assisted with community mathematics nights.	Clark	X	
Continue conversations with AMSTI and MMI.	Dominick	X	
Continue conversations with AMSTEC.	Clark		D
Arrange logistics for Spring CBAC meeting.	Clark		D
Set agenda with CBAC Chair for Spring CBAC meeting.	CBAC Chair, Clark		D
Send reminder to CBAC members about Spring community mathematics nights and CBAC meeting.	Clark		D
Hold Spring CBAC meeting.	Clark, Parker		D
Keep CBAC meeting minutes.	Clark		D
Send follow-up letter to CBAC members.	Clark		D

2. Outreach Activities to Parents and the Community (continued)	Completed		
Spring Tasks (continued)	Responsible Party	Yes	No
Update GBMP website.	Moose	X	
Update MSPnet.	Moose	X	
Summer Tasks	Responsible Party	Yes	No
Continue conversations with AMSTI and MMI.	Dominick	X	
Continue conversations with AMSTEC.	Clark		D
Send update to CBAC members.	Clark		D
Update GBMP website.	Moose	A	
Update MSPnet.	Moose	A	

3. Partnership-Driven Project Management (MSP Key Feature: P)		Completed	
Ongoing Tasks	Responsible Party	Yes	No
Participate in Project Management Team meetings via email, phone, and in person, as needed.	Management Team	X	
Oversee the efforts of the Project Co-directors and Project Management Team.	Mayer	X	
Serve as primary contact person for UAB administration and NSF.	Mayer	X	
Serve as primary project director for the following project activities: MEC Summer courses, mathematics support teams, administrators sessions, and recruitment of pre-service teachers.	Dominick	X	
Serve as primary contact for articulation with the Mobile Mathematics Initiative (MMI) and the Alabama Mathematics, Science, and Technology Initiative (AMSTI).	Dominick	X	
Handle public relations with the school systems.	Dominick	X	
Serve as primary project director for the following project activities: outreach activities to parents and the community (including GBMP website and MSPnet), IHE course redesign and development, middle school mathematics certification, and engineering projects.	Clark	X	
Serve as primary project director for the Management Team, Design Team, National Advisory Board, and Community and Business Advisory Council.	Clark	X	
Serve as primary contact for articulation with the Alabama Mathematics, Science, and Technology Education Coalition (AMSTEC).	Clark	X	
Handle public relations with the community.	Clark	X	
Seek appropriate media opportunities for GBMP.	Liaisons, Clark	X	
Hold monthly meetings between Evaluation Team and PI/PDs to discuss all aspects of the research and evaluation plan.	Mayer, Clark, Dominick	X	
Discuss a yearly overview for the Design Team meetings, keeping in mind a focus on research and evaluation and the importance of operationalizing the definition of CCC	Mayer, Clark, Dominick	X	
Keep PDs and PI and Evaluation Team informed about school system concerns and input.	Liaisons	X	
Keep PDs and PI and Evaluation Team informed about GBMP courses and grade-level sessions.	Liaisons, Parker	X	
Keep PDs and PI and Evaluation Team informed about MST's.	Liaisons, Parker	X	
Keep PDs and PI and Evaluation Team informed about sessions for administrators.	Liaisons, Parker	X	
Keep PDs and PI and Evaluation Team informed about outreach activities.	Liaisons, Parker	X	
Keep PDs and PI and Evaluation Team informed about IHE course redesign and development.	Mayer	X	
Keep PDs and PI and Evaluation Team informed about middle school mathematics certification.	Froning	X	
Keep PDs and PI and Evaluation Team informed about engineering projects.	Feldman	X	

3. Partnership-Driven Project Management (continued)		Completed	
Ongoing Tasks (continued)	Responsible Party	Yes	No
Keep PDs and PI and Evaluation Team informed about recruitment of pre-service teachers.	Froning, Moore	X	
Deliver formative evaluation information as warranted.	Snyder	X	
Respond to formative evaluation information when received.	Management Team	X	
Submit invoices and documentation and any needed reports to Grants Administrator.	MEC, BSC, Hoover City Schools	X	
Process submitted invoices and documentation and reports; verify that expenses and deliverables are in accord with the budget and the Annual Implementation Plan.	Moose	X	
Review invoices and reports forwarded by Grants Administrator.	Mayer	X	
Verify invoices for allowability of expenses and availability of funds.	Thomas	X	
Fall Tasks	Responsible Party	Yes	No
Hold meetings with District Liaisons and all Superintendents to discuss challenging courses and curricula and the full scope of the partnership.	Dominick	X	
Remind Design Team about forthcoming NSF Management Information System online surveys.	Moose	X	
Complete NSF Management Information System online surveys.	Design Team	X	
Call and set agenda for Management Team and Design Team meetings.	Mayer	X	
Participate in Management Team and Design Team meeting.	Design Team	X	
Participate in monthly meetings with Center for Educational Accountability (CEA)	Mayer, Cochran	X	
Participate in monthly meetings with Grants Administrator and Finance Director	Mayer, Moose, Thomas	X	
Participate in quarterly meetings with engineering team	Lucas, Mayer	X	
Report to Design Team and Evaluation Team about areas of responsibility (see Ongoing Tasks).	Management Team	X	
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team	X	
Recruit potential interns for MEC Summer courses.	Management Team	X	
Keep Management Team and Design Team meeting minutes.	Clark	X	
Send quarterly report to Evaluation Team.	Clark, Dominick		E
Remind IHE faculty to attend MST and/or Grade Level Sessions.	Clark	X	

3. Partnership-Driven Project Management (continued)		Completed	
Winter Tasks	Responsible Party	Yes	No
Attend NSF MSP Learning Network Conference.	Design Team reps	X	
Begin preparations for annual National Advisory Board meeting.	Clark	X	
Call and set agenda for Management Team and Design Team meeting.	Mayer	X	
Encourage IHE to participate in at least two MST and Grade Level Sessions.	Clark	X	
Participate in Management Team and Design Team meeting.	Design Team	X	
Participate in monthly meetings with Center for Educational Accountability (CEA)	Mayer, Cochran	X	
Participate in monthly meetings with Grants Administrator and Finance Director	Mayer, Moose, Thomas	X	
Participate in quarterly meetings with engineering team	Lucas, Mayer	X	
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team	X	
Keep Management Team and Design Team meeting minutes.	Clark	X	
Send quarterly report to Evaluation Team.	Clark, Dominick		E
Spring Tasks	Responsible Party	Yes	No
Set agenda for National Advisory Board meeting.	Clark, Parker	X	
Send details about annual meeting, agenda, travel reimbursement to National Advisory Board.	Clark	X	
Hold annual National Advisory Board meeting.	Clark, Parker	X	
Call and set agenda for Management Team and Design Team meeting.	Mayer	X	
Participate in Management Team and Design Team meeting.	Design Team	X	
Participate in monthly meetings with Center for Educational Accountability (CEA)	Mayer, Cochran	X	
Participate in monthly meetings with Grants Administrator and Finance Director	Mayer, Moose, Thomas	X	
Participate in quarterly meetings with engineering team	Lucas, Mayer	X	
Report to Design Team and Evaluation Team about areas of responsibility (see Ongoing Tasks).	Management Team	X	
Report to Design Team and Evaluation Team about MSP Learning Network Conference.	Attendees	X	
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team	X	

3. Partnership-Driven Project Management (continued)	Completed		
Spring Tasks (continued)	Responsible Party	Yes	No
Discuss the year-to-date efforts regarding public relations with the schools and the community, the efforts of the CBAC and NAB, and communication with AMSTEC, AMSTI, and MMI.	Design Team Steering Committee	A	
Discuss any needed revision to plans for next year based on what has been learned this year.	Design Team	X	
Keep Management Team and Design Team meeting minutes.	Clark	X	
Send quarterly report to Evaluation Team.	Clark, Dominick		E
Evaluation Team requests any information needed for evaluation report by March 1.	Evaluation Team	X	
Grants Administrator sends reminder about information needed for annual report by March 1.	Moose	X	
Management Team sends information for the annual report to the Grants Administrator and Evaluation Team by April 1 including information for the (1) activities and findings report, (2) management report, (3) information requested by Evaluation Team, and (4) annual implementation plan for the upcoming year.	Management Team	X	
Draft of activities and findings report, management report, and annual implementation plan for upcoming year sent to Management Team and Evaluation Team by April 15.	Mayer	X	
Management Team responds to draft report (activities, management, implementation) by May 1.	Management Team	X	
Final draft (activities, management, implementation) sent to Management Team by May 15.	Mayer	A	
Evaluation Team completes evaluation report by May 1.	Evaluation Team	X	
Project co-directors and co-investigators discuss the evaluation report, consider any needed actions, and write a response to evaluation report by May 15.	Clark	X	
Annual report submitted to NSF by June 1.	Moose	X	
Remind IHE faculty to attend MST and/or Grade Level Sessions.	Clark	X	
Select interns for MEC Summer courses.	Parker	X	
Summer Tasks	Responsible Party	Yes	No
Send follow-up communication to National Advisory Board members.	Clark	A	
Call and set agenda for Management Team and Design Team meeting.	Mayer	A	
Participate in Management Team and Design Team meeting.	Design Team	A	
Participate in monthly meetings with Center for Educational Accountability (CEA)	Mayer, Cochran	A	
Participate in monthly meetings with Grants Administrator and Finance Director	Mayer, Moose, Thomas	A	

3. Partnership-Driven Project Management (continued)	Completed		
Summer Tasks (continued)	Responsible Party	Yes	No
Participate in quarterly meetings with engineering team	Lucas, Mayer	A	
Report to Design Team and Evaluation Team about areas of responsibility (see Ongoing Tasks).	Management Team	A	
Report to Design Team and Evaluation Team about National Advisory Board Meeting.	Clark	A	
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team	A	
Keep Management Team and Design Team meeting minutes.	Clark	A	
Send quarterly report to Evaluation Team.	Clark, Dominick		E
Remind IHE faculty to attend MST and/or Grade Level Sessions.	Clark	X	

Goal IV: To increase the mathematics achievement of all middle school students in GBMP schools and reduce discrepancies in disaggregated mathematics achievement data within these schools

All of the above activities found under Goals I-III also contribute to Goal IV.

Key to 5 Key Features:

C = Challenging Courses and Curricula

E = Evidence-Based Design and Outcomes

I = Institutional Change and Sustainability

P = Partnership-Driven

T= Teacher Quality, Quantity and Diversity

Note Regarding Assignment of MSP Five Key Features in Matrix:

Since more than one of the MSP Key Features describe most of the project's activities, the letter representing the key feature deemed most descriptive is listed first followed by the others that are applicable.

Note Regarding Completed Column:

At the beginning of the year, the above matrix serves as the Annual Implementation Plan. At the end of the year, the above matrix serves as the Implementation Matrix that will be attached as Exhibit 1 to the Activities and Findings section of the annual report. At the end of the year, for each task, the “Completed” column on the far right side of the matrix will be filled in with a letter according to the legend below.

In the “YES” Column:

“X” indicates task has been completed.

“A” indicates task is on schedule and will be completed by August 31.

In the “NO” column:

“D” indicates the task has been delayed

“R” indicates the task has been revised

“E” indicates the task has been eliminated

“N” indicates a new task has been substituted

An explanation will be given in the narrative for any action that is not carried out as planned.

Exhibit #2: Goals Matrix

Goal I: To increase the effectiveness of middle school mathematics teachers within GBMP school systems.										
Outcome	M e a s u r e	Benchmark	F e a t u r e	Level of Attainment (check one)						Brief explanation if a goal has not been met
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Increase teachers’ knowledge and understanding of mathematics (Outcome I-A)	M E C c o u r s e c o m p l e t i o n	By the end of Year 1, 90 grade 6-8 teachers will have completed one course	T C		X					
		By the end of Year 2, 180 grade 6-8 teachers will have completed one course			X					
		By the end of Year 2, 66 grade 6-8 teachers will have completed two courses			X					
		By the end of Year 3, 225 grade 6-8 teachers will have completed one course				X				218 Grade 6-8 teachers completed one course
		By the end of Year 3, 132 grade 6-8 teachers will have completed two courses			X					144 Grade 6-8 teachers completed 2 or more courses
		By the end of Year 4, 274* grade 6-8 teachers will have completed one course (*unless population declines)		X						20 short at this time, but recruitment continues
		By the end of Year 4, 198 grade 6-8 teachers will have completed two courses		X						
		By the end of Year 5, 274* grade 6-8 teachers will have completed two courses (*unless population declines)								NA
		By the end of Year 5, slots will have been provided for an average of three courses per grade 6-8 teacher								NA
		By the end of Year 5, 100 grade 5 teachers will have completed at least one course		X						
		By the end of Year 5, at least 20 grade 9-12 teachers will have completed at least one course		X						
		By the end of Year 5, at least 50 pre-service teachers will have completed at least one course		X						

Outcome	Measure	Benchmark	Feasibility	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Increase teachers' knowledge and understanding of mathematics (continued)	CKTM	80% of participating teachers master 75% or more of the material presented at posttest in each course			X	X				Benchmark met for CKTM-Geometry, not for Patterns where there was a 3-point improvement from pre to post administration, yielding medium effect size of .5.
		90% of participating teachers will demonstrate gains of one level or more on one or more of the rubric dimensions during their first MEC course			X					
	Rubric	80% of participating teachers will score at Level 4 (proficient) or higher on all dimensions at posttest				X				There was statistically significant growth from pre-to post; however, at post, approximately 70% of participants scored at Level 4 or higher on all dimensions except accuracy (93% scored at Level 4 or 5).
		For all courses after the first, at least 33% of teachers will score above Level 4 on at least one dimension			X					
	Portfolio	After one course, 75% of teachers present evidence of high-quality classroom practice.			X					
		After two or more courses, 90% of teachers present such evidence			X					

Outcome	Measure	Benchmark	Feature	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Improve classroom instructional practices (Outcome I-B)	S E C	Among GBMP participants, a 10% improvement in curriculum and pedagogical ratings in the year after initial training	T C	X						Sample sizes of repeated measures still too small to divide by number of courses taken
		An additional 5% improvement for each year that the teacher takes a subsequent course		X						Sample sizes of repeated measures still too small to divide by number of courses taken
		GBMP participants will show greater improvement than the comparison group							X	No comparison group.
	R T O P	Among GBMP participants, mean ratings of key areas will increase by 10% in the year after initial training			X					Small sample of repeated measurement of participants who were observed at baseline.
		An additional 5% improvement for each year that the teacher takes a subsequent course			X					Small sample size of repeated measurements.
		GBMP participants will show greater gains than the comparison group							X	No comparison group.
	S u r v e y	Evidence of both initial satisfaction with training and improved self-reports of understanding and practice			X					

Outcome	Measure	Benchmark	Feature	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Recruit and retain a diverse pool of candidates to middle school mathematics education (Outcome I-C)	Data	During Year 1, at least 10 scholarships will be awarded to pre-service teachers to attend MEC courses	TC		X					
		During Year 2, at least 10 scholarships will be awarded to pre-service teachers to attend MEC courses			X					
		During Year 3, at least 10 scholarships will be awarded to pre-service teachers to attend MEC courses			X					
		During Year 4, at least 10 scholarships will be awarded to pre-service teachers to attend MEC courses		X						
		By the end of Year 5, a total of 50 scholarships will have been awarded to pre-service teachers								NA
	Data	By the end of Year 2, at least 8 minority pre-service teachers will have completed at least one GBMP course			X					
		By the end of Year 4, at least 12 additional (total of 20) minority pre-service teachers have completed at least one GBMP course		X						
		By the end of Year 5, at least 10 additional (total of 30) minority pre-service teachers have completed at least one GBMP course								NA
		By the end of Year 5, at least 30 minority pre-service teachers will have graduated (under the current certification) having completed at least one GBMP course								NA
	Data	In Year 3, 5 students will be admitted to the new UAB middle school mathematics certification program				X				Delayed approval of certificate delayed admittance of students
		In Year 4 and Year 5, 5-10 students will be admitted to the program			X					NA
		30% of applications will be from minority groups			X					
		3 or more of the admitted students will be minority students				X				2 students who recently graduated from program are minority students
		90% retention of students admitted to the teacher education program for the new middle school mathematics certification		X						Retention data not yet available

Outcome	Measure	Benchmark	Feature	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Pre-service teachers will demonstrate content knowledge and pedagogical skills consistent with standards and best practices (Outcome I-D)	Portfolio	90% of middle school certification candidates will yield rubric-based scoring at the “emerging proficient” level prior to student teaching on all domains	T	X						Data not yet available due to approval delays
		90% of middle school certification candidates will yield rubric-based scoring at the “initial proficient” level at the end of student teaching on all domains		X						Data not yet available due to approval delays
Revise IHE courses and mentoring systems (Outcome I-E)	Evidence	Evidence of inclusion of MEC content and best teaching and assessment practices and include engineering activities developed (evidence gathered via syllabi, focus groups, RTOP)	IPT			X				Evidence of inclusion by some instructors, but not all.
		All necessary courses are designed (syllabi are developed) according to timeline			X					
		Mathematics and mathematics education curricula are approved by UAB and state according to timelines			X					Some delays on the approval side, but not on the development side
Place new teacher interns in best-practice settings (Outcome I-F)	Placement	The percentage of middle school certification students placed in grade 6-8 best-practice settings will increase by at least 10% each year in each IHE	T		X					
		The percentage of middle school certification students placed in grade 6-8 best-practice settings will be 100% in each IHE by Year 5		X						

Goal II: To increase the leadership capacity of middle school mathematics teachers within GBMP school systems.

Outcome	Measure	Benchmark	Frequency	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
MST's provide technical support to colleagues, provide model demonstration classrooms, mentor new teachers, and work with IHE faculty to improve teacher education (Outcome II-A)	Data	By the end of Year 1, at least 18-30 grade 5-8 teachers will have been identified as MST1's (first cohort)	IPT		X					
		By the end of Year 3, at least 20-30 grade 5-8 teachers will have been identified as MST2's (second cohort)			X					
	Log	By the end of Year 2, all eligible MST1's will have completed their first year of follow-up			X					
		By the end of Year 3, all eligible MST1's will have completed their second year of follow-up			X					
		By the end of Year 3, 75% of eligible MST1's will offer to serve as host teachers for pre-service teachers			X					
		By the end of Year 3, engineering projects will be included as follow-ups for MST1's who pilot projects			X					
		By the end of Year 4, all eligible MST1's will have completed their third year of follow-up				X				Cohort 1 MSTs did not have strong attendance at MST sessions in Year 4
		By the end of Year 4, at least 75% of MST1's will provide support and technical assistance to colleagues		X						Still gathering data, on target based on samples
		By the end of Year 4, all eligible MST2's will have completed their first year of follow-up			X					
		By the end of Year 5, 50% of MST1's will facilitate sessions with parents								NA
		By the end of Year 5, all eligible MST1's will have completed their fourth year of follow-up								NA
		By the end of Year 5, 75% of MST2's will offer to serve as host teachers for pre-service teachers								NA
		By the end of Year 5, all eligible MST2's will have completed their second year of follow-up								NA

Outcome	Measure	Benchmark	Feature	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Improved content and pedagogical knowledge by non-MST teachers attributable to mentoring or technical assistance by the MST's (Outcome II-B)	Survey	Colleagues and teacher candidates report specific content and pedagogical improvements attributable to interactions with the MST	T		X					Based on small sample of teachers interviewed
		Colleagues will report changes in the nature of curriculum and teaching practices in a manner consistent with program expectation			X					
		Specific beneficial MST behaviors are identified			X					

Goal III: To unite the GBMP stakeholders (teachers, administrators, parents, IHE's and the public) in support of mathematics education programs that are high quality and effective.

Outcome	Measure	Benchmark	Feasibility	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Increase the stakeholders' knowledge of mathematics education reform (Outcome III-A)	Focus / Long	Evidence of knowledge of the need for mathematics education reform, project efforts to improve mathematics teaching and learning, and evidence of support to schools who are making such reform efforts	P		X					
	Data	By the end of year five, the total attendance at public sessions will have been at least 1000	I		X					Attendance goal has accordingly been revised upward.
		Evidence of attendance at 3 or more sessions			X					By some parents
		Over 85% of survey respondents will have rated the sessions as 'informative' or 'extremely informative'			X					
Expand administrators' knowledge of and ability to support effective mathematics instruction (Outcome III-B)	Data	By the end of Year 2, school administrators from 30% of participating grade 6-8 schools will have participated in the public sessions and administrator sessions	IP		X					
		By the end of Year 5, school administrators from 90% of participating grade 6-8 schools will have participated in the public sessions and administrator sessions								NA
	Interview / Survey	Evidence of administrator leadership in promoting mathematics understanding and mathematics education as a school/community priority				X				Evidence of some support, but not much active leadership in promoting GBMP

Outcome	Measure	Benchmark	Feasibility	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Improve communication between K-12 school systems and IHE's (Outcome III-C)	Focus / Survey	Evidence that obstacles to successful communication are identified and solutions are jointly identified and implemented	IPT		X					
Support parents in their abilities to both understand and help their children as learners of mathematics (Outcome III-D)	Survey	Evidence of increased understanding of math, evidence of increased parent involvement in math education of children	I		X					
Form and nurture strong business and education partnerships in support of mathematics education (Outcome III-E)	Records	Evidence of expansion of number and nature of business involvements in GBMP efforts to publicize mathematics education reform and support reform efforts within the schools/IHE's	IP		X					

Goal IV: To increase the mathematics achievement of all middle school students in GBMP schools and reduce discrepancies in disaggregated mathematics achievement data within these schools.

Outcome	Measure	Benchmark	Feasibility	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Increase standardized mathematics achievement performance of middle school students in participating schools (Outcome IV-A)	A R M T	The percentage of students in each disaggregated subgroup performing at proficient levels will increase within each school (that meets the inclusion criteria) by at least 5% per year during Year 2 in grade 6 math	E C			X				Growth of 5% or more in some schools at some grades
		The percentage of students in each disaggregated subgroup performing at proficient levels will increase within each school (that meets the inclusion criteria) by at least 5% per year during Year 3 in grade 5-8 math				X				Growth of 5% or more in some schools at some grades
		The percentage of students in each disaggregated subgroup performing at proficient levels will increase within each school (that meets the inclusion criteria) by at least 5% per year during Year 4 in grade 5-8 math								Data not available yet
		The percentage of students in each disaggregated subgroup performing at proficient levels will increase within each school (that meets the inclusion criteria) by at least 5% per year during Year 5 in grade 5-8 math								NA
		By the end of year five, we anticipate that the achievement gap between the underrepresented African American, American Indian and Hispanic students and the high achieving students at all participating schools will be cut by one third								NA
		Students in comparison schools will yield significantly lower gains within subgroups				X				Significant differences found for some schools.
	S A T	Improvements in average normal curve equivalent scores on math subscales				X				NCE improvements in some schools

Outcome	Measure	Benchmark	Feature	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Increase middle school students' abilities to solve mathematical problems and communicate their solutions in multiple ways (Outcome IV-B)	B a l a n c e d A s s e s s m e n t P r o g r a m	Rubric-based scores improve across time.	E C		X					Evidence of change, but very small sample size
		At least 75% of students within each classroom perform at criterion-levels by the end of each year				X				There have been problems collecting pre-post evidence; sample sizes are too small to make judgments; tasks are reported by teachers to be too difficult for students

Outcome	Measure	Benchmark	Feature	Level of Attainment (check one)						Brief explanation
				On target to reach benchmark later as scheduled	Benchmark met	Benchmark not met	Target year has been revised	Benchmark has been revised	No longer a project benchmark	
Increase middle school students' access to and participation in challenging courses and curricula (Outcome IV-C)	Academic	Within one year of completing the first MEC course, at least 85% of participants will meet some of the criteria for challenging courses and curricula (CCC) in their teaching practice and at least 10% of participants will meet most of the criteria for CCC in their teaching practice	C		X					
		Within one year of completing a second course, at least 90% of participants will meet some CCC criteria for and at least 50% of participants will meet most CCC criteria			X					
		Within one year of completing a third course, at least 95% of participants will meet some CCC criteria and at least 75% of participants will meet most CCC criteria			X					Small sample size
		For each additional course completed beyond three, an additional 5% of participants will meet most of the CCC criteria								NA (yet)
	Participatory	By the end of year 2, 25% of grade 6-8 students will be participating in courses that meet some of the criteria for CCC and 5% of grade 6-8 students will be participating in courses that meet most of the criteria for CCC			X					
		By the end of year 3, 50% of grade 6-8 students will be participating in courses that meet some criteria and 15% will be participating in courses that meet most criteria			X					
		By the end of year 4, 75% of grade 6-8 students will be participating in courses that meet some criteria and 30% will be participating in courses that meet most criteria			X					
		By the end of year 5, 90% of grade 6-8 students will be participating in courses that meet some criteria and 50% will be participating in courses that meet most criteria								NA

Narrative

Goal I: To increase the effectiveness of middle school mathematics teachers within GBMP school systems.

Activity 1. MEC Summer Courses and Academic Year Follow-Up (Grade-Level Sessions)

The summer courses have been one of the most successful components of the partnership. Participant response to the courses continues to be highly positive. The total number of Year 3 participants in each course is summarized below. Details about participation by grade level are given in the goals matrix.

Patterns:	116
Numerical Reasoning:	66
Geometry:	52
Probability:	16
Extending Algebraic Reasoning 1	24

An important adjustment regarding the summer courses was to increase the daily teacher stipend from \$80 to \$100, effective summer 2008. This was necessary in order to be competitive with the \$100 stipend per day that is offered by AMSTI. We have also responded to increased demand by 5th grade teachers by allowing additional 5th grade teachers to participate with the approval of the Program Officer. Another important aspect this year was the decision to invite area community college faculty members to participate in *Patterns: The Foundations for Algebraic Reasoning*. This was a suggestion made by several National Advisory Board members. The Project Co-Directors met with the Chancellor of the Two Year College System who expressed his support for the work of GBMP in light of the fact that approximately half of the teachers in Alabama began their college study at the community college level.

In the Summer of 2007 (Project Year 3), the Mathematics Education Collaborative (MEC) offered five sections of the first nine-day content course, *Patterns: The Foundations for Algebraic Reasoning*, two sections of *Numerical Reasoning*, two sections of *Geometry and Proportional Reasoning*, one section of *Probability and Data Analysis*, and one section of a new course, *Extending Algebraic Reasoning 1*. Courses were attended by pre-service teachers, grade 5-12 teachers, mathematics and education faculty members from BSC and UAB, and engineering faculty members from UAB. Kindergarten through 4th grade teachers also attended courses supported by local funds. MEC instructors solicited feedback from all teachers and IHE faculty who attended the course. In June and July 2008 (Project Year 4), MEC will offer four sections of the *Patterns: The Foundations for Algebraic Reasoning* course, three sections of *Numerical Reasoning*, one section of *Probability and Data Analysis*, two sections of *Geometry and Proportional Reasoning*, and one section of *Extending Algebraic Reasoning 1*.

Millie Johnson, MEC Associate, is responsible for developing the three new courses, *Extending Algebraic Reasoning 1, 2, and 3*. The first new course was offered for the first time (taught by Johnson) in Year 3. In Year 4, Johnson further developed *Extending Algebraic Reasoning 1* and will teach it in revised form in Summer 2008. The second course, *Extending Algebraic*

Reasoning 2, has already been piloted with MEC instructors and IHE faculty. It is being revised and will be piloted in revised form in Year 5. The third new course, *Extending Algebraic Reasoning 3* is currently under development, a process that will be complete by the end of Year 5. The third course will be taught after the funding period. This timeline is a necessary revision of the original Five Year Strategic Plan in order to allow us to modify the new course based on what we learned from teaching it the first time. (Note that *Extending Algebraic Reasoning 2* was previously titled *Integrating Mathematical Ideas: Algebra, Geometry, Probability and Statistics I* and *Extending Algebraic Reasoning 3* was previously titled *Connecting Mathematics Content to Science and Technology*). The renaming applies only to the Summer GBMP courses, not to the parallel UAB courses.

This year, Patty Lofgren (MEC) provided support for local teachers who delivered the grade level sessions. For a session in the fall which was oversubscribed, Patty Lofgren taught one of the sections. These follow-up sessions focused on developing numerical reasoning with whole numbers, fractions, decimals and percent, and on the arithmetic properties underlying diverse computational procedures and algorithms. The Grade-Level Sessions continue to be offered at the request of the school districts and also serve as an effective recruiting tool for teachers who have not yet come to a GBMP summer course. All sessions were full and teachers' responses to the sessions were overwhelmingly positive again this year.

The issues of competing initiatives in the state are complex and political and are affecting GBMP's ability to reach the goal of having all middle school math teachers take at least two GBMP summer courses. Initially the district liaisons from the partnership schools thought that only three of our targeted schools would be affected by the Alabama Math, Science Technology Initiative (AMSTI). Currently, 37 of our targeted schools will be participating in AMSTI in summer 2008. Another competing initiative supported by the Alabama State Department of Education is Making Middle Grades Work (MMGW). This initiative which also provides professional development for faculty during the summer has involved 13 of our targeted middle schools.

In addition to AMSTI, Alabama has a new initiative, A+ College Ready. A+ College Ready received more than \$13 million from the National Math Science Initiative to promote Advance Placement courses in Math, English, and Science. Currently this affects only one of our partnership districts, but it is the largest district in our partnership. We have been communicating with the president of A+ College Ready, and she has agreed to be on our National Advisory Board. She sees the benefit of AP teachers and pre-AP teachers taking GBMP summer courses. However, the district liaison is concerned about potential conflicting messages inherent in the professional development offered by GBMP and A+ College Ready. While GBMP is providing content knowledge and pedagogy that supports teachers in being able to take students to a deeper level of understanding of mathematics, the focus of A+ College Ready is to prepare students to pass the AP exams. The district liaison is reluctant to recommend teachers to take both at the same time lest they be confused about what they are being asked to implement. GBMP is cooperating with A+ College Ready, however, to give teachers as much content knowledge as they can get, and to make the best use of the money given to the state for this purpose and to promote the successful achievement of GBMP goals.

Activity 2. IHE Course Redesign and Development

In the time between Summer 2007 and Spring 2008, both MA 313 and 314 have been refined based on instructor reflections and student feedback. Tommy Smith and Donna Ware continue to offer the redesigned and renumbered course MA 313 *Functional and Algebraic Reasoning*, which replaced the UAB course MA 113 *Mathematics for Elementary Teachers I* and closely parallels the MEC course *Patterns: The Foundations for Algebraic Reasoning*. They also offer the redesigned and renumbered course MA 314 *Geometric and Proportional Reasoning*, which closely parallels the MEC course *Geometry and Proportional Reasoning*. The frequency with which MA 313 and 314 are offered has increased based upon student demand. The goal is to offer 313 Fall, Spring, and Summer semesters and offer 314 Fall and Spring semesters.

Donna Ware and Tommy Smith have collaborated on the most recent revisions to MA 313 and Ware has taught MA 313 at UAB during the Spring of 2008. Smith and Ware have been assisted by graduate student Fred Major during the Spring term implementation of 313 and 314. In both of these courses, the GBMP definition of Challenging Courses and Curricula (CCC), the aspects of big mathematical ideas, productive disposition, inquiry and reflection, and communication, have been guiding forces in all course revisions and implementation. The courses focus on a limited number of mathematical concepts yet require students to look deeply at the mathematics involved. They seek to develop productive dispositions among pre-service teachers and to promote learning by inquiry. Students are required to communicate mathematics in writing and through oral presentations.

In order to continue to provide opportunities for in-service teachers to participate in well-designed courses, to help them toward becoming highly qualified under the state's "No Child Left Behind" regulations, to promote the goals of GBMP, and to provide more variety for electives in the Mathematical Reasoning track, the UAB Mathematics Department will again offer close parallel courses to the MEC courses *Probability and Data Analysis*, *Numerical Reasoning*, and *Extending Algebraic Reasoning I*. This summer, university credit will be given in the parallel courses MA 315 *Probabilistic and Statistical Reasoning*, MA 316 *Numerical Reasoning*, and MA 317 *Extending Algebraic Reasoning* to those GBMP course participants who wish to earn such credit. This includes pre-service teachers in the UAB and BSC mathematics majors. Subsequently, UAB will offer these courses to mathematics majors (including, but not limited to pre-service teachers) and to in-service teachers on a rotating basis, in support of the Mathematical Reasoning track in the major.

All these courses (MA 313-317) have graduate level versions that are offered to qualified in-service teachers. While teachers registered for graduate-level academic credit (513-517) participate along with other pre- and in-service teachers, and IHE faculty, they are evaluated based upon more advanced work in their portfolios and performance assessments.

The plan for development of MA 411 and 412 has been revised. After MA 317, *Extending Algebraic Reasoning*, was offered for the first time in Summer 2007, it was deemed in need of further development. This decision was based upon feedback from participating teachers and from observing IHE faculty. Therefore, continued development of MA 317 displaced development of the subsequent two courses, MA 411 and MA 412. Moreover, further study is

required to determine whether the same course material will best serve the needs of both MEC teacher/students and the Mathematical Reasoning major track at UAB. This topic will be a focus of the IHE observation of the second offering of *Extending Algebraic Reasoning 1* in Summer 2008.

By the end of the summer of 2008, Tommy Smith will have taken 3 MEC/GBMP summer courses, *Patterns: The Foundations for Algebraic Reasoning*, *Geometry and Proportional Reasoning*, and *Numerical Reasoning*, and will have interned the *Patterns* and *Geometry* courses under MEC instructors. John Mayer will be interning in *Patterns: The Foundations for Algebraic Reasoning* during Summer 2008, with Ruth Parker (MEC) as instructor. Walter Johnson will take *Probability and Data Analysis* in Summer 2008. Laura Stansell, will take *Extending Algebraic Reasoning 1*. Heather Land and Scott Dixon, both UAB regular instructor-level faculty, will take *Patterns: The Foundations for Algebraic Reasoning*. Stansell and Land are participating in the continuing revision of MA 110 toward GBMP goals. Jim Ward will take *Extending Algebraic Reasoning 1* and observe the course. He will also continue to refine the calculus sequence MA 123-124, which he will offer again in Fall 2008 and Spring 2009.

Activity 3. Middle School Mathematics Certification

During the Fall of 2007, the Alabama State Department of Education officially approved the undergraduate Middle Grades Certification in Mathematics (MGCM) and it has now become fully integrated into the UAB School of Education as one of its normal offerings to students. This makes UAB the only higher education institution in the state of Alabama with a middle school mathematics certification program. As with each of the secondary programs within the School of Education, the certification requires a double major (in this case, education and mathematics). The parallel major in the mathematics department is the Mathematical Reasoning Track, which has also been fully approved at all levels. These two accomplishments mean that when the award period is over, UAB will have the MGCM as a standard offering within the university and that it will function without outside funding provided sufficient numbers of students are enrolled.

The checklist of courses includes the mathematics courses contained within the Mathematical Reasoning Track as well as coursework in middle grades education, mathematics education, measurement and evaluation, classroom management, and special education. These education courses are in addition to the general introduction to teaching courses taken by all education majors. The certification program contains two middle grades education courses which deal with child development, methods, and materials. These courses are offered as a sequence during fall and spring semesters. Additionally, the curriculum requires a specific course in teaching middle grades mathematics. This course is offered each fall term.

As previously mentioned, the Mathematical Reasoning Track is also fully institutionalized and is open to all qualified students. There were 3 graduates from this new track in December 2007. Two of these students also completed the new undergraduate certification in middle grades mathematics at the same time. One is now a full time teacher in an urban setting with the Birmingham City School System, while the other is taking graduate coursework during the

Spring of 2008 with anticipation of beginning full time teaching in the Fall of 2008. The third graduate from the new track is seeking entrance into the alternative masters program in secondary mathematics.

Students enrolled in middle grades and secondary mathematics methods during the Fall of 2007 were required to do a 40 hour practicum in local schools. Some of these students were already full time teachers and completed practicum requirements within their schools. Five other students were assigned to mentor teachers in area schools. Four of the 5 students were assigned to area teachers who had taken at least one GBMP course. Pre-service teachers were also invited to attend GBMP Community Math Nights to become more familiar with GBMP goals.

The recruitment of minority pre-service teachers for the new certification and major track remains a high priority and UAB continues to emphasize the recruiting of minority students in general. Lawson State College, an HBCU junior college, is within the UAB service area, and we will target their students to transfer to UAB as part of the overall UAB recruiting plan.

However, the main issue with recruiting is finding any students who want to teach math and who have the academic background to do so. Recently, two additional students have been recruited from the Elementary Education program after successful experiences in the reformed courses.

The certification program will be more valuable when it can also be offered as part of a 5th Year Alternative Master's degree because the certification could then be offered to career changers, a growing market in teacher education. The prerequisite for developing that program is to have an approved undergraduate certification. UAB has now completed that prerequisite.

The aim of an alternative, 5th year, master's program would be to take people who are not certified in mathematics but who have degrees in mathematics, engineering, or certain other fields, and help them obtain a masters degree and teacher certification. Work has been done on preparing a sequence of courses for such a program. The education courses would be similar to those for the undergraduate middle school certification. However, a master's degree at UAB must have at least 30 hours of graduate level coursework. Thus, appropriate modifications must be made to courses to bring them up to graduate level. Some of this is already in place in the Mathematics program, as mentioned above. Some of the education courses may have to be considered as pre-requisites for entering the graduate program. This creates an obstacle for recruiting some people considering such a program. With all of this being said, the education coursework considered could meet all state standards for teacher certification.

A larger obstacle still remains which delays accomplishment of this activity at this time. The state of Alabama chose a definition of a 'highly-qualified' mathematics teacher to include at least 32 hours of mathematics with 19 hours at the upper division level. Our undergraduate certification meets this requirement since it requires 33 hours of appropriate level mathematics. However, in order to enter a 5th year, alternative master's program, the state requires a candidate to meet the 32/19 rule before admission to the alternative master's program. This is not a problem if a candidate has a major in mathematics, but if he doesn't, then he would be required to complete the 32/19 requirement before admissions. Once admitted, the present master's certification requirements enforced by Alabama require an additional 12 hours of graduate level

mathematics as a part of any mathematics certification program. Thus, a candidate would have to complete at least 32 hours of mathematics plus an additional 12 hours of graduate level mathematics. This creates a real problem in recruiting potential students for this program. Our initial thoughts for a candidate pool consisted of elementary teachers with an aptitude for mathematics who would like to teach at the middle grades. Or perhaps it might include undergraduate majors in business, finance, accounting, or engineering. Few if any of these potential candidates would meet the 32/19 rule. Thus, they would be taking several mathematics courses as prerequisites. These prerequisites must then prepare them for the 12 hours of graduate level mathematics. This does not appear to be a viable, attractive option for many candidates.

While holding firm to guidelines for the alternative master's certification requirements, the Alabama State Department of Education has allowed another option for teachers with a teacher certification to become certified in another teaching area. For example, a person who has a certification in secondary biology could be certified through this option to teach mathematics. Or a person with a certification in elementary education could be certified to teach middle school mathematics. The requirements for the additional certification at present are essentially to pass the Praxis II subject area test in the desired field and to complete 2 years of teaching at the level of certification sought. This option would seem to discourage potential alternative master's in middle school mathematics candidates from the pool of elementary teachers because the requirements are much lower. At a glance, it does not appear that a person would need the 32 hours plus 12 more required in the alternative master's in order to pass the Praxis II in Middle Grades Mathematics.

Thus, we need to delay implementation of the alternative master's in middle grades mathematics until such a time as we can negotiate a more reasonable approach with the Alabama State Department of Education. A balance must be found between the requirements for a graduate degree, the ASDE teacher certification requirements, and the total number of university credit hours required for a person to achieve an alternative master's degree and certification. We will continue to work on this during Summer and Fall 2008, but implementation will be delayed until a later date.

Activity 4. Engineering Projects

Virtually all of the tasks on the implementation plan for the Engineering Projects (EPs) for the first four years have been carried out or are on target to be carried out later in the project. The development of the EP's has progressed despite the fact that 2 Engineering Team members left the project at the end of Year 3 and their duties had to be reassigned among the remaining project faculty.

The ultimate goal is to have a high percentage of partnership middle school teachers using the engineering project (EP) application tasks in their classrooms. This is broken into 4 specific objectives:

1. Accumulating information related to each Application Task
2. Cataloguing and mapping these activities to the Alabama Course of Study (ACS),

3. Developing engineering projects (EPs) for GBMP summer courses and the equivalent pre-service courses, and
4. Efficiently and effectively disseminating these projects to in-service and pre-service middle school teachers.

During the course of this past year, the protocols developed last year have been implemented to accomplish each of these objectives more efficiently. Specifically the focus for the first two objectives have been related to tasks in new summer courses taken by the Engineering team (*Geometry and Proportional Reasoning* and *Extending Algebraic Reasoning 1*) and MST sessions during the past year. The focus for the last two objectives has been to continue to optimize the development and dissemination strategies to better reach middle school teachers and provide what is necessary for the teachers to use the EPs in their classroom.

2007-2008 Tasks

- One task related to processing in an MST session was eliminated. Tasks related to updating the website were modified or delayed and the ones related to the Calculus EPs were delayed. Development and piloting of the EPs for the new calculus classes has been pushed back because the tasks are still under review by the Design Team. So far, two tasks (with multiple extensions) for Calculus I have been developed and discussed at design team meetings. The tasks are currently under review for use next year. Two tasks for Calculus II are currently under development.
- The strategy for development and dissemination has still been evolving. The review process has switched to Design Team meetings and specific members of the Design Team versus MST sessions. Upon approval, teachers then see the new tasks in the summer courses.
- The new tasks to develop this year were for *Geometry and Proportional Reasoning*, *Extending Algebraic Reasoning 1*, and *Extending Algebraic Reasoning 2*. *Geometry and Proportional Reasoning* was developed ahead of schedule and was piloted and processed last summer in addition to an additional menu task to help with the task (Jill's Growing Garden). This made the task to process the *Geometry and Proportional Reasoning* task at an MST session unnecessary. The first *Extending Algebraic Reasoning 1* task was developed over the summer, but has since undergone multiple revisions. It has not been finalized yet so has not been put on the website yet. The website, however, has been modified and updated based on feedback.
- Due to a reduction in personnel on the project, the student's website was delayed until the Spring. The two tasks for Calculus II will be presented at an upcoming Design Team meeting.

Planned Activities for Summer 2008

- EPs will be incorporated into GBMP summer courses as shown in Table 4.1 below.
- Feedback will be obtained for processing the EPs in the summer courses.

Planned Activities for next year

- Continue gathering information related to the GBMP courses and EPs and cataloguing
- Development and piloting of the EP for the *Extending Algebraic Reasoning 2* and corresponding IHE course.

- Piloting and refining the EPs for Calculus I and Calculus II at both UAB and BSC
- Refining and updating the websites

EP Development

By the end of Year 4, EPs will be completed for the following classes: *Patterns: The Foundations for Algebraic Reasoning, Probability and Data Analysis, Numerical Reasoning, Geometry and Proportional Reasoning, and Extending Algebraic Reasoning 1 and 2*. Currently there are 5 tasks approved for these 4 courses with 17 additional extensions, as well as an additional menu task with an additional extension (Table 4.1). By the end of the 4th year, an additional 3 EPs will be approved, piloted, and processed. This will make a total of 9 EPs for 6 courses with over 24 extensions. For each task, there is a “Why is this important?” page as well as how it maps to the Alabama Course of Study. For each task and extension there are teacher notes and a math solution. Additionally, by the end of the summer, at least 2 Calculus tasks will be approved.

Table 4.1. EP Development through Spring Year 4.

GBMP/IHE Course	EPs	Extensions	Why’s imp	math	website
Patterns: The Foundations for Algebraic Reasoning	“Will it Heal?”	3 Extensions	X	X	X
	“Speed and Accident”	2 Extensions	X	X	
Data Analysis and Probability	“The Paper Clip Task”	3 Extensions	X	X	X
Numerical Reasoning	“The Shower Problem”	1 Challenge 4 Extensions	X	X	X
	“The Traffic Problem”	3 Extensions 2 local examples	X	X	X
Geometry and Proportional Reasoning	“Wound Healing”	4 Extensions 1 additional task with challenge	X	X	X
Extending Algebraic Reasoning 1	Alcohol	2 extension	X	X	
	Skate board	1 challenge	X	X	
Calculus I	Diving	3 extensions	X	X	
	Water tower	9 extensions	X	X	
Calculus II	Drug Delivery				

EP Website

The website development has also been a critical part of the dissemination of the EPs. Now virtually all the middle school MSTs and over 140 middle school teachers have been exposed to the website (Table 4.2). The website has also provided the opportunity to include things the teachers wanted and to improve accessibility, so it is constantly being revised and updated. Materials provided on the website include all tasks and extensions for each approved EP, ready to print handouts, teacher notes, mathematical solutions, “Why is this important?”, mapping to the ACS, color pictures, other support material for each task, and the opportunity to give us direct feedback. This website material is also designed to provide enough information for those not previously exposed to the task to be able to use it. The website design is evolutionary with the addition of new materials and continued modification to old EPs based on feedback. Based on feedback, a website for the students is currently under development and will be online in

order to be shown for the summer classes. The response to the website from the teachers at the MST sessions has been very positive.

Table 4.2 Dissemination of EP Materials to Teachers through GBMP Activities to Date

EP Materials	No. MSTs			No. Other Middle School Teachers		K-6 pre service	Other pre-service	Summer course students
	6-8th	5 th grade	Other	6-8th	5th			
Will it Heal? Processed	17			67	34	37	4	158
Paper Clip Task Discussed	23							
Paper Clip Task Processed	3	1	2	8	5	2		23
Shower Problem Introduced	23							
Traffic Problem Introduced	23							
Traffic Problem processed	8	2	6	35	20	4		79
Wound Healing processed	13	2	6	31	15			62
Website Introduced	37	5	14	141	74	19		338

Delivery and Processing of EPs

Efforts to optimize the development and dissemination strategies to better reach middle school teachers have taken many forms (Table 4.3). Different strategies have been used for each of the 5 approved EPs and the 5 EPs under review.

Table 4.3 EP Delivery through Spring 2008

Setting	Presenter(s)	Website Shown	EP	Introduced	Processed	Feedback Collected	Observed*
MST Session	MEC Instructors	✓ ✓	Will it Heal?		partially		
			Paper Clip Task	✓	partially	✓	
			Shower Problem	✓		✓	
			Traffic Problem	✓		✓	
UAB MA 313	Dr. Smith	✓	Will it Heal?	2x	2x		✓
BSC ED 320	Dr. Moore		Will it Heal?	2x	2x		✓
EGR 100	A. McClain		Will it Heal?		2x		
Homewood Prof. Develop	Engineering Team	✓	Will it Heal?	✓	partially		
			Paper Clip Task	✓			
Advisory Board	MEC Instructors and engineering team	✓	Paper Clip Task	✓	partially	✓	✓
Summer 07	MEC Instructors	✓	Will it Heal?	✓	4x	✓	✓
			Paper clip	✓	✓	✓	✓
			Wound Healing	✓	2x	✓	✓
			Traffic	✓	2x	✓	✓
	Eng. team	✓	Speed	✓			
Homewood	Math team		Traffic with local example	✓	✓	✓	taped
Gardendale HS	Sophomore “pre-engineering” students	✓	Will it Heal?	✓	✓	✓	
		✓	Speed	✓	✓	✓	

*Observed by member of Evaluation Team

These previous experiences helped to illustrate the importance of processing the EPs like other menu tasks, as it influences a teacher’s decision to use the activity with students in the classroom. Thus we agreed that the EPs needed to be better integrated into the pedagogy, and be used and processed during the summer courses led by MEC and GBMP teachers. Good feedback was obtained from the summer sessions. This helped to refine the tasks, but also get increased interest in teachers using the tasks. Over 40 teachers said they would use the tasks and at least one put the EP as their “most important task for their portfolio”.

To date, it has been difficult to determine the impact on students, since not all of the middle school teachers exposed to the EPs have been surveyed (Table 4.4). The first task, as expected, has had the most feedback. More of this data will be collected this summer. The tasks have also been used in high school and college settings (Table 4.5)

Table 4.4 Dissemination of EP Materials to Middle School Students to Date

EP Materials	No. of Middle School MSTs	No. Middle School Students	No. Middle school Classrooms	Student work collected	Teacher work collected	Student feedback collected	Teacher feedback collected	Teachers who said would use it in 07-08
Will it Heal?	3 +	125+	7+	125+		108		15
Paper clip					4 groups		20	5
Traffic	1+	40	2		8 groups		40	10
Shower			1					
Wound Healing					12 groups			5
Speed				4 groups				

Table 4.5 Dissemination to High School and College Students

EP Materials	College	High School Students
Will it Heal? Piloted and Processed	190	20
Speed processed		20

Next Year

The emphasis will be on completing the remaining EP for the *Extending Algebraic Reasoning 2* course and using it in the summer course. We will work to ensure that the websites are operational and easily maintained for sustainability after the grant is complete

Activity 5. Recruitment of Pre-Service Teachers

Discussions were held among UAB Education and Mathematics faculty and administrators during the Fall of 2007 and Spring of 2008 focused on recruiting more students into the Mathematical Reasoning major track and into the Middle Grades Certification in Mathematics (MGCM) program. Since the GBMP courses are now regular opportunities for pre-service teachers, undergraduate advisors and recruiters have been made aware of the programs and efforts are continuing to counsel and recruit students. The School of Education has a full-time recruiter who is fully informed about the MGCM program. Dean Froning speaks about the program at his introductory lectures to all new education majors every semester. Brochures to communicate with pre-service teachers and to regional community colleges are expected to be distributed during the Fall of 2008. The mathematics department recommends the major and its

courses to students who show interest in mathematics courses they offer, for example, Calculus for the Life Sciences I and II which are core courses in the Mathematics Reasoning Track. Announcements about the new certification program have also been made in MA 313, MA 314, and in an elementary mathematics methods class. We hope to attract such students who have an interest in and aptitude for studying more mathematics into the program. Assuming viable numbers, the courses and programs developed under this grant will be able to continue into the future without further external funding. In fact, state and federal teaching incentive programs may be excellent sources of scholarships to allow even greater enrollments.

As mentioned in the narrative for Objective 3, recruitment of minority candidates remains a priority of the university and of the School of Education in particular. The UAB Center for Urban Education was recently approved by the university system Board of Trustees. It houses an Urban Teacher Enhancement Program (UTEP) that is beginning to produce graduates. MGCM students are beginning to be part of that recruitment pool. The university has a Bridge to Teaching grant that focuses on mathematics and science, and while these candidates are all graduate students, they are eligible to take some of the GBMP courses en route to certification. In addition, we are beginning to see some interest on the part of elementary education majors to change their programs to the MGCM program as they have experience with the GBMP courses.

During the Fall of 2007 and the Spring of 2008, several UAB students have been recruited for the GBMP summer courses. A number of pre-service teachers have registered to attend one or more GBMP summer courses. Additionally, some in-service teachers in the masters program at UAB who are in partner school districts have been recruited to attend summer courses. Both pre-service and in-service teachers have the option of receiving mathematics credits for their participation.

Eleven pre-service teachers from Birmingham-Southern College will also be participating in GBMP courses this summer. Two of those students are taking their second course. It was these two who were the best recruiters for the rest of the group. What is different this year is the inclusion of so many secondary mathematics education majors. BSC currently has five of these majors at the junior level. Our recent numbers have been one or two. Eileen Moore made it a point to talk to each of them at the beginning of the year about the GBMP opportunities and four of the secondary students are involved this summer. The fifth one has a summer project that prohibits attendance. BSC numbers in the collaborative (through grade six) major are lower for now. All five students that have been in the mathematics methods course will be attending courses this summer. One of those students is a sophomore. There are no minorities involved this summer since there are no minorities at the current time in the junior class in education. The pool of minorities will change starting next year and we should be able to include them next summer. The GBMP website has also facilitated recruitment. Students find most of the information they need online including course descriptions, schedules and registration forms.

When students contact Program Assistant Jennifer Stoves for further information and to register, she quickly responds, and students report that this makes it much easier for them to take the courses.

Goal II: To increase the leadership capacity of middle school mathematics teachers within the GBMP school systems.

Activity 1. Mathematics Support Teams

MEC staff developed and delivered three additional two-day leadership sessions for project Mathematics Support Team teachers (MSTs). The purposes of the sessions this year, as last, were to:

- Continue to deepen the mathematics content knowledge of participants (with attention to content knowledge specific to teaching).
- Provide a more focused opportunity for MSTs, within the context of a developing intellectual community, to examine and refine their classroom practice.
- Begin the process of preparing MSTs to lead from a place of confidence in their own understanding of mathematics and best classroom practice.

Acknowledging the importance of the topic at the middle school level, the content focus for cohort one MSTs for the entire year was “Ratio and Proportional Reasoning”. The second cohort of MSTs were formed this year and began the MST program.

Big Ideas in these sessions:

- Ratio and proportion,
- Part-to-Part Ratios, Part-to-Whole Ratios and Rates,
- Unit Rates, Factor of Change, Ratio Tables, Graphical Representations of Ratios,
- Scale and Scale Factor
- Relationship between a ratio and its reciprocal

Goals of these sessions:

- To provide ratio and proportion tasks in a wide range of contexts, including situations involving measurements, prices, geometric and other visual contexts, and rates such as miles per hour, pizza slices per person, or inches per foot.
- To encourage discussion and experimentation in predicting and comparing ratios. To help participants distinguish between proportional and non-proportional comparisons by providing examples of each and discussing the differences.
- To help participants relate proportional reasoning to existing processes, such as relating the concept of unit fractions to unit rates.
- To help participants recognize that symbolic or mechanical methods, such as the cross-product algorithm, for solving proportions do not develop proportional reasoning and should not be introduced until students have had many experiences with intuitive and conceptual methods.

In addition to the mathematics done during each session, participants had homework assignments each evening consisting of professional readings around important issues in mathematics education. Time was devoted daily to discussion of these readings to allow participants to consider and more deeply understand issues in preparation for their ongoing roles as leaders.

Additionally, at the winter and spring MST sessions, MEC staff presented four sessions from the DMI module “Building A System of Tens” and four sessions from the “Learning & Teaching Linear Functions” module. These sessions continue the project’s work to introduce MST’s to the various leaders opportunities on their “menu of leadership choices”.

At the suggestion of teachers, a district liaison, and National Advisory Board members, GBMP will implement Professional Learning Communities (PLCs) in schools in Year 5. Each PLC will be facilitated by an MST and include other teachers at their school. The facilitators will be using materials that they were introduced to during MST sessions. GBMP expects PLCs to contribute to sustainability in a positive way.

Goal III: To unite the GBMP stakeholders in support of mathematics education programs that are high quality and effective.

Activity 1. Sessions for Administrators

Cohort #1

MEC Associate, Patty Lofgren, working in concert with local administrative leader, Charlotte Brown, delivered the third session of EDC’s *Lenses on Learning* administrator professional development module *Observing Today’s Mathematics Classrooms* to those administrators who had begun sessions the previous year. Due to scheduling conflicts, Brown presented the final session of this module. The sessions were well received. Administrators found value in the opportunity to examine and refine their professional practice.

Cohort #2

Year two administrator sessions for Cohort Two administrators were completed as scheduled. Revisions were made to the sessions based on feedback that we might be losing some administrator participation because of high levels of math anxiety. The fractions session, originally designed to help administrators understand the fragility of their own understanding of fractions and what it means to teach for understanding, was significantly redesigned to provide administrators with easier access to the mathematical ideas. While many administrators from Cohort One rated the original session very positively, we were concerned about those few who were thrown by their own fear of mathematics. Rather than use this fractions session early in our work with administrators, the session was moved to session #4.

A new session was developed that had administrators do a significant small group mathematics task, then examine teacher decision making around the task through the following lenses: What made this task appropriate or not appropriate for small groups? Is there significant mathematics in the task, and if so what is the mathematics? An important issue examined in the course of the session is the notion of ‘expandable’ tasks – tasks that allow access for all learners and yet challenge all participants. Administrators, in their written reflections, commented that, as a result of the session, not only do they have a deeper understanding of the need for small group collaborative learning, but also when small group work is and is not appropriate. For the final session of the year, Cohort Two administrators observed a math lesson taught by a Math Support Team teacher, and then processed the lesson based on the two questions above.

During Year Five, plans are under way to continue *Lenses on Learning* with this cohort and the new cohort of administrators. Charlotte Brown will facilitate the delivery of the *Lenses* module *Supervision: Focusing on Mathematical Thinking*.

Activity 2. Outreach Activities to Parents and the Community

Ruth Parker offered a total of thirteen Community Mathematics Nights (CMN) during Year 4 of the project – two sessions in each of six geographic regions plus one additional CMN done at the request of a school principal. Community Mathematics Nights actively engage participants in doing mathematics while developing their understanding of important ideas in mathematics education. All five sessions, *Mathematics and Your Child's Future*; *Multiplication: Helping Children Know the Basic Facts*; *How to Help Your Child with Mathematics at Home*; *More Ideas for Helping Your Child with Mathematics at Home*; and *Algebra and Your Child's Future* were offered this year in different locations.

Year 4 attendance at these sessions totaled 1,141, bringing the cumulative attendance at the Community Mathematics Nights (since project inception) to 3,848, dwarfing our five-year project goal of 1,000. Participants also continue to give these Community Mathematics Nights high marks. Eighty-nine percent of those surveyed (89%) rate the sessions as “informative” or “extremely informative” with the modal response always at “extremely informative.” The ratings have been positive across diverse populations that range from high minority and high poverty communities to highly affluent communities.

MEC has developed Presenter's Guides for several parent sessions that have been published by Heinemann Press (2006). After only an initial introduction, five MSTs have already begun using these resources successfully in Year 4 to conduct parent sessions of their own at their individual schools.

During UAB's Quantitative Literacy Awareness Week in September 2007, a GBMP participating teacher brought her class to UAB for a demonstration lesson. This was followed by a question and answer session by the teacher. The response of UAB faculty and students was positive and enthusiastic. GBMP also co-sponsored a public lecture by Dr. John Paulos of Temple University titled “A Mathematician Reads the Newspaper”.

When the Community and Business Advisory Council (CBAC) last met, the members recommended that a video be made that captured what they observed in GBMP classrooms. Through one of the partner administrators, GBMP was introduced to the president of a video company who is interested in making a contribution to mathematics education. We are currently working on a video to be made available to Boards of Education, parents, and civic groups. The CBAC will meet again when the video is ready.

In the meantime, the chairperson of CBAC has been in close contact with GBMP throughout the year, advising GBMP on opportunities for community outreach. For example, Co-PI, Bernie Mullins, was nominated and selected to participate in the Alabama Leadership Initiative. The CBAC Chairperson has also advised us and made contacts on our behalf regarding plans for

sustainability of GBMP after funding. One contact was the leadership of the McWane Science Center. As a result of our meeting, the director of education came to a Community Math Night, attended two of the grade level sessions, and has used what she has learned from GBMP in mathematics camps offered at the McWane Center. We are exploring the possibilities for further collaboration.

Activity 3. Partnership-Driven Project Management

The GBMP Design Team and Management Team continue to work effectively. Meetings are characterized by lively discussion and collaborative planning and decision-making. In addition to discussion focused on years four and five, all nine districts supported the GBMP Sustainability Plan for years six and beyond. The annual National Advisory Board meeting was very successful with much valuable input from the Board regarding sustainability. This year, the chairperson of the Community Business Advisory Council, teachers, MSTs and a principal were also invited to serve on a panel discussion at the National Advisory Board Meeting. In addition, communication with the Evaluation Team continues to be frequent and highly productive.

Dissemination of Project Work

In January 2008, Rachel Cochran made two presentations at the MSP Learning Network Conference—one focused on work with in-service teachers and the other on courses for pre-service teachers. Also in January, John Mayer made a presentation about the new middle school mathematics teaching certification and revised IHE courses to the Alabama Association of College Teachers of Mathematics.

In February, Tommy Smith made a presentation at the MAA Conference on Research in Undergraduate Mathematics Education in San Diego, CA focused on IHE course reform and work with pre-service teachers. The paper has been submitted for possible publication in the conference proceedings.

Goal IV: To increase the mathematics achievement of all middle school students.

All of the above activities contribute to Goal IV.

Annual Highlights

Challenges and Successes

The Community Mathematics Nights continue to be a highlight of the work of GBMP. Total attendance is nearly four times our original goal of 1000 and evaluations remain extremely positive. District liaisons and principals are active in contributing to this success by advertising and organizing in ways that are effective in their districts. For example, one district arranged for the school band to play prior to the Community Mathematics Night and another involved the parent-teacher organization in serving refreshments. Recognizing that the districts are all

different and responding in ways that are designed for each district has contributed to the overall success.

The involvement of IHE faculty in GBMP continues to be another strength of GBMP. IHE faculty taught revised courses in the new track of the UAB mathematics major, participated in summer courses and Math Support Team sessions, and interned in MEC courses to prepare to teach courses in Year 4 and beyond.

The excitement of the Mathematics Support Teams is also a highlight. A new cohort of MSTs was selected this year so that the total number of MSTs exceeds the project goal. The new group exhibits the eagerness that was also demonstrated by the initial cohort. Last year, the first cohort was introduced to the MEC parent session guides and this year several MSTs conducted their own parent sessions. One challenge is that some of the first cohort MSTs have not been able to attend all sessions due to competing demands in their schools. For example, districts have changed to job-embedded professional development which has the effect of pulling teachers out of their classrooms for committee meetings and professional development in the schools. Some administrators are therefore reticent to approve six additional professional development days for MSTs. MSTs understandably share the concern of spending too many days away from their classrooms. Although conflicting demands have prevented some MSTs from being able to attend sessions, they have expressed that they would like to attend all MST session because they find them valuable.

Another challenge this year has been that attendance at Administrator Sessions has been disappointing. A lesson learned has been to establish buy-in from the building-level administrators (in addition to district-level buy-in) at the onset of the project. A second lesson learned is that many administrators have fragile mathematical understandings themselves. Being asked to investigate certain math problems during a session caused apprehension for many administrators. As a result, MEC has revised the administrator sessions to be sensitive to this concern. We have given this issue serious consideration during our discussions around sustainability so that future administrator sessions (beyond this grant period) will be more successful. Administrators who have attended the sessions each year have given excellent feedback. In fact, after the first cohort of administrators completed their scheduled sessions this year, a core group of them asked that additional sessions be offered next year. GBMP has agreed to provide extra sessions for this group in response to this request.

A rewarding aspect of the GBMP work is that teachers who participate in summer courses respond enthusiastically and often return to take additional courses and encourage colleagues to participate. However, recruitment of teachers to participate in summer courses remains a challenge. The most significant factor is competition from the Alabama Math, Science, and Technology Initiative. Additional competing initiatives are Making Middle School Grades Work and A+ College Ready. We also recognize that some teachers simply do not want to participate in summer opportunities due to family obligations or summer employment such as required summer school teaching or coaching. The most effective ways of addressing these challenges have been personal contact from MSTs, colleagues, principals, and district liaisons.

We are also gratified by the strong financial support we have received from districts and the community that has allowed kindergarten through 4th grade teachers to participate in the summer courses. Community awareness efforts started early in the project. Local funders responded to early requests for support and continued their support as they have seen the project's positive results.

A significant highlight is that every partner district approved the draft GBMP sustainability plan. This plan outlines the continuation of GBMP beyond the funding period on a fee for service basis with the support required from each district being proportional to its size. At a minimum, this will allow at least three summer courses to be offered each summer on a rotating basis. In addition, GBMP is actively pursuing additional funding opportunities including but not limited to a new application to the MSP program. The impetus for new funding applications is the exciting opportunity for research regarding GBMP efforts in algebra. GBMP recognizes the need to support algebraic thinking from the foundation of algebra in early grades through high school.

Section 2: Management Report

The organizational structure of the Greater Birmingham Mathematics Partnership remains the same as it was at the time of the Year 3 Annual Report last year. Likewise, although there have been a few minor changes in the personnel of the project, there have been no major changes involving key personnel such as the co-project directors, principal investigator, or co-principal investigators.

Section 5: Annual Implementation Plan 2008-2009

Goal I: To increase the effectiveness of middle school mathematics teachers within GBMP school systems

1. (a) MEC Summer Courses (MSP Key Feature: T, P, C)	Completed		
	Responsible Party	Yes	No
Fall Tasks			
Consolidate feedback from past Summer courses and begin planning of next Summer courses.	Parker		
Begin recruitment efforts for Summer courses.	District Liaisons,		
Create and distribute materials to advertise and promote Summer courses.	Dominick, Moore		
Begin processing enrollment information for Summer courses.	Liaisons, Dominick		
Begin notifying teachers of course date assignments.	Liaisons, Dominick		
Seek opportunities to give “update” talks to stakeholders in districts.	Liaisons, Dominick		
Collaborate with UAB mathematics faculty members to develop new MEC course, <i>Extending Algebraic Reasoning 3</i>	Millie Johnson		
Plan for integrating engineering tasks into Summer courses	Parker, Lofgren		
Spring Tasks			
Finalize planning of Summer courses.	Parker		
Continue recruitment and publicity efforts for Summer courses.	District Liaisons,		
	Dominick, Moore		
Continue processing enrollment information for Summer courses.	Liaisons, Dominick		
Continue notifying teachers of course date assignments.	Liaisons, Dominick		
Communicate information to teachers about UAB credit for GBMP courses.	Liaisons, Dominick		
Select sites for Summer 2008 courses.	Liaisons, Dominick		
Select dates for Summer 2009 courses.	Liaisons, Dominick		
Send information letter to participants about Summer courses and orientation sessions.	Liaisons, Dominick		
Send letter to IHE faculty members prior to Summer courses.	Parker		

1. (a) MEC Summer Courses (continued)	Completed		
Spring Tasks (continued)	Responsible Party	Yes	No
Research items (manipulatives, supplies, etc.) to go into teacher kits.	Moore, Dominick		
Research items (books, videos, etc.) to distribute to teachers.	Moore, Dominick		
Order teacher kit for new course <i>Extending Algebraic Reasoning 3</i> .	Moose		
Order professional development books (Connected Math Project, etc.) to distribute to teachers.	Moose		
Continue collaborating with UAB mathematics faculty members to develop new MEC course.	Millie Johnson		
Arrange enrollment for Summer course to include both middles school teachers and IHE faculty	Dominick		
Summer Tasks	Responsible Party	Yes	No
Continue recruitment and publicity efforts for GBMP.	District Liaisons, Dominick, Moore		
Attempt to accommodate teachers still requesting to attend Summer courses.	Liaisons, Dominick		
Prepare for orientation sessions to be held on the day before the start of each section of <i>Patterns</i> .	Dominick		
Send materials for GBMP courses.	Parker		
Set-up for GBMP courses.	Dominick		
Host GBMP courses.	Districts		
Offer orientation sessions prior to each section of <i>Patterns</i> .	Dominick		
Offer GBMP courses.	Parker		
Participate in GBMP courses.	District Teachers		
Discuss definition of challenging courses and curricula.	MEC faculty		
IHE faculty members participate in MEC Summer courses.	IHE faculty		
IHE and MEC faculty members hold discussions following GBMP courses.	IHE, MEC faculty		
Complete collaboration with UAB mathematics faculty members to develop 3 rd new MEC course.	Millie Johnson		
Participate as interns with MEC instructors in Summer courses.	Interns		
Select sites for next year's Summer Courses.	Liaisons, Dominick		
Select dates for next year's Summer Courses.	Liaisons, Dominick		

1. (b) Academic Year Follow-up: Grade-Level Sessions (MSP Key Feature: T, P, C)		Completed	
Fall Tasks	Responsible Party	Yes	No
Remind teachers and administrators about dates and locations of Fall grade-level sessions.	Liaisons, Dominick		
Invite IHE faculty to attend the Grade Level Sessions.	Dominick		
Register teachers for grade-level sessions.	Liaisons, Dominick		
Host grade-level sessions.	Districts		
Local leaders and MEC instructors deliver Grade-Level Sessions.	District Leader		
Arrange for and fund substitute teachers.	Districts		
Participate in grade-level sessions.	District Teachers		
Spring Tasks	Responsible Party	Yes	No
Remind teachers and administrators about dates and locations of Spring Grade-Level Sessions.	Liaisons, Dominick		
Invite IHE faculty to attend the Grade Level Sessions.	Dominick		
Register teachers for grade-level sessions.	Liaisons, Dominick		
Host grade-level sessions.	Districts		
Local leaders and MEC instructors deliver Grade-Level Sessions.	District Leader		
Arrange for and fund substitute teachers.	Districts		
Participate in grade-level sessions.	District Teachers		

2. IHE Course Redesign and Development (MSP Key Feature: I, P, T, C)	Completed		
	Responsible Party	Yes	No
Fall Tasks			
Implement comparison test of three plans for MA 110 in-class student activities	Mayer, Stansell, Land		
Reflect on key aspects of challenging courses and curricula (CCC) in preparation for continuing development and revision of courses	IHE faculty		
Design UAB course rotation to support Middle School Mathematics Certification in conjunction with School of Education	Mayer, Smith		
Implement engineering projects in new and redesigned courses	Mayer, Feldman		
Offer MA 313 and MA 314 at UAB in regular course rotation	Smith, Ware		
Offer new calculus courses MA 123 and MA 124 at UAB in regular course rotation	Ward		
Offer MA 372 <i>Geometry I</i> and MA 311 <i>History of Mathematics</i> at UAB in regular course rotation	Mayer		
Recommend workshop activities for MA 110 <i>Finite Mathematics</i> based on GBMP courses.	IHE Faculty		
Continue design of MA 411 <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability, and Statistics</i>	Mayer, Ward		
Begin design of MA 412 <i>Connecting Mathematics Content to Science and Technology</i>	Mayer, Ward		
Recommend workshop activities for MA 105 <i>Pre-Calculus Algebra</i>	Mayer, Stansell, Land		
Continue redesign of UAB course MA 105 <i>Pre-Calculus Algebra</i> to include parallel activities from MEC course, <i>Extending Algebraic Reasoning</i> , and to follow UAB Quality Enhancement Plan	Mayer, Ward, Johnson, Ware, Smith, Feldman		
Continue conversations with Millie Johnson regarding course development	Mayer		
Attend some MST and/or Grade Level sessions	IHE Faculty		
Continue development of 5 th year MS program for prospective middle school teachers	Mayer, Froning, Smith		
Prepare proposal to Elementary Education faculty for revision of mathematics requirements to be more in alignment with GBMP goals and CCC	Calhoun, Smith, Mayer		

2. IHE Course Redesign and Development (continued)	Completed		
Spring Tasks	Responsible Party	Yes	No
Reflect on key aspects of challenging courses and curricula in preparation for continuing development and revision of courses	IHE faculty		
Design UAB course rotation to support Middle School Mathematics Certification with School of Education	Mayer, Smith		
Implement engineering projects in new and redesigned courses	Mayer, Feldman		
Offer MA 313 and MA 314 at UAB in regular course rotation	Smith, Ware		
Offer new calculus courses MA 123 and MA 124 at UAB in regular course rotation	Ward		
Pilot redesigned MA 105 following UAB Quality Enhancement Plan	Kravchuk, W. Johnson, Stansell		
Offer redesigned MA 110 <i>Finite Mathematics</i> following UAB Quality Enhancement Plan, and results of Fall test of three plans for in-class activities	Mayer, Stansell, Land		
Continue conversations with Millie Johnson regarding course development	Mayer		
Continue design of MA 411 and 412	Mayer, Ward		
Attend some MST and/or Grade Level sessions	IHE Faculty		
Continue development of 5 th year MS program for prospective middle school teachers	Mayer, Froning, Smith		
Submit proposal to Elementary Education faculty for revision of mathematics requirements to be more in alignment with GBMP goals and CCC	Calhoun, Smith, Mayer		
Summer Tasks	Responsible Party	Yes	No
Observe GBMP courses.	Mayer, Ward, W. Johnson, Ware, Smith, Feldman, Mullins, Stansell, Land, Dixon		
Reflect on key aspects of challenging courses and curricula in preparation for continuing development and revision of courses	IHE Faculty		
Implement engineering projects in new and redesigned courses.	Mayer, Feldman		

2. IHE Course Redesign and Development (continued)	Completed		
Summer Tasks (continued)	Responsible Party	Yes	No
Complete design of MA 411 <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability, and Statistics</i>	Mayer, Ward		
Continue designing MA 412 <i>Connecting Mathematics Content to Science and Technology</i>	Mayer, Ward		
Design MA 473 <i>Geometry II</i> .	Ward, Mayer		
Offer MA 313 and MA 314 on regular basis.	Smith, Ware		
Offer MA 123 and MA 124 on a regular basis.	Ward		
Offer MA 315, 316, and 317 in conjunction with Summer GBMP courses	Mayer		

3. Middle School Certification (MSP Key Feature: T, I)	Completed		
Fall and Spring Tasks	Responsible Party	Yes	No
Continue implementation of Mathematic Reasoning track within the Mathematics Major: - Publicize the major and get it into course catalogs - Schedule courses	Mayer, Ware, Ward, Froning, Smith, Feldman		
Recruit pre-service teachers for Summer GBMP courses.	Calhoun, Froning, Smith		
Recruit students for new major track and middle school certification – Recruit minority pre-service teachers	Calhoun, Froning, Smith		
Arrange for pre-service teachers to participate in field experiences with MEC-trained teachers	Smith		
Design UAB courses parallel to new GBMP courses: – <i>Integrating Mathematics Ideas: Algebra, Geometry, Probability, and Statistics</i> = EAR2 – <i>Connecting Mathematics Content to Science and Technology</i> = EAR3	Mayer, Ward, Smith, Froning		
Continue to explore feasibility of alternative Fifth-year program for middle grades mathematics - Align standards - Prepare checklists Submit proposal to Alabama Board of Education for approval	Smith, Froning		
Refine UAB Education course rotation to provide continuous support of MS certification	Smith, Sims		
Coordinate proposed checklist with new major track in the mathematics department.	Smith, Mayer		

4. Engineering Projects (MSP Key Feature: P, C)	Completed		
Fall Tasks	Responsible Party	Yes	No
Continue accumulating background information related to each application task (engineering project--EP) under development: (1) Connected Math	Feldman		
(2) Existing hands-on mathematics and science application activities			
Cataloguing information related to each EP under development and mapping to the Alabama Course of Study (ACS) (1) Existing hands-on mathematics and science application activities	Feldman		
(2) GBMP class tasks			
(3) Fall MST session			
Application task (engineering project--EP) development (1) Review feedback of the EPs from field tests in the GBMP summer courses and from the website	Feldman, Lalor, Lucas		
(2) Continue development of EP for <i>Integrating Math</i> and corresponding IHE course			
(3) Refine <i>Patterns</i> EPs			
(4) Refine <i>Data Analysis and Probability</i> EPs			
(5) Refine <i>Geometry</i> EP			
(6) Refine <i>Numerical Reasoning</i> EPs			
(7) Refine <i>Extending Algebraic Reasoning I</i> EP			
(8) Refine <i>Extending Algebraic Reasoning II</i> EP			
Application task (EP) dissemination (1) Update website to include refinements and new EP for <i>Extending Algebraic Reasoning II</i>	Feldman, Grad student, IHE instructors		
(2) Update kids website to include refinements and new EP for <i>Extending Algebraic Reasoning II</i>			
(3) Use EPs in IHE classes			
Engineering applications in the new calculus courses (1) Field test an EP in UAB's <i>Calculus and Function with Applications I</i> (MA 123) course	Feldman, Ward		
(2) Refine the EP for UAB's new <i>Calculus and Function with Applications II</i> (MA 124) course			

4. Engineering Projects (continued)	Completed		
Spring Tasks	Responsible Party	Yes	No
Continue accumulating background information related to each EP under development:	Feldman		
(1) Connected Math			
(2) Existing hands-on mathematics and science application activities			
Cataloguing information related to each EP under development and mapping to the Alabama Course of Study (ACS)	Feldman		
(1) Existing hands-on mathematics and science application activities			
(2) GBMP class tasks			
(3) Winter MST session			
Application task (EP) development	Feldman, Lalor, Lucas		
(1) Review feedback of the EPs from the MST session, IHE pilots, and from the website			
(2) Complete development of EP for <i>Integrating Math</i> and corresponding IHE course			
(3) Refine <i>Patterns</i> EPs			
(4) Refine <i>Data Analysis and Probability</i> EPs			
(5) Refine <i>Geometry</i> EP			
(6) Refine <i>Numerical Reasoning</i> EPs			
(7) Refine <i>Extending Algebraic Reasoning I EP</i>			
(8) Refine <i>Extending Algebraic Reasoning II EP</i>			
Application task dissemination	Feldman, Grad student, IHE instructors		
(1) Update website to include refinements			
(2) Update kids website to include refinements			
(3) Use EPs in IHE classes			
Engineering applications in new calculus courses	Feldman, Ward		
(1) Refine the EP in UAB's <i>Calculus and Function with Applications I</i> (MA 123) course			
(2) Field test an EP for UAB's <i>Calculus and Function with Applications II</i> (MA 124) course			

4. Engineering Projects (continued)	Completed		
Summer Tasks	Responsible Party	Yes	No
Continue accumulating background information related to each EP under development: (1) Connected Math	Feldman		
(2) Existing hands-on mathematics and science application activities			
Cataloguing information related to each EP under development and mapping to the Alabama Course of Study (ACS) (1) Existing hands-on mathematics and science application activities	Feldman		
(2) GBMP class tasks			
Application task (EP) development (1) Review feedback of the EPs from the MST session, IHE pilots, and from the website	Feldman, Lalor, Lucas		
(2) Refine <i>Patterns</i> EPs			
(3) Refine <i>Data Analysis and Probability</i> EPs			
(4) Refine <i>Geometry</i> EP			
(5) Refine <i>Numerical Reasoning</i> EPs			
(6) Refine <i>Extending Algebraic Reasoning I EP</i>			
(7) Refine <i>Extending Algebraic Reasoning II EP</i>			
Application task dissemination (1) Update website to include refinements	Feldman, Grad student, IHE instructors		
(2) Update kids website to include refinements			
(3) Pilot and process new EP in summer classes <i>Integrating Math EP</i>			
(4) Continue to use and process EPs piloted the previous summer <i>Patterns</i> EP, <i>Data analysis and Probability</i> EP <i>Geometry</i> EP, <i>Numerical Reasoning</i> EP <i>Algebraic Reasoning I EP</i> , <i>Algebraic Reasoning II EP</i>			
(5) Use of <i>EPs in IHE courses</i>			
Engineering applications in new calculus courses (1) Refine the EPs in UAB's <i>Calculus and Function with Applications I and II</i> course	Feldman, Ward		

5. Recruitment of Pre-service Teachers (T, I)		Completed	
Fall Tasks	Responsible Party	Yes	No
Meet with UAB student services staff and recruiting staff to enlist support in student recruiting.	Smith, Froning		
Meet with staff of urban personnel prep grant to establish liaison and recruit from its cadre of new teacher recruits for Birmingham City Schools (mostly minority candidates).	Froning		
Announce GBMP opportunities for pre-service teachers in appropriate classes.	Froning, Moore		
Recruit pre-service teachers for Summer courses.	Froning, Moore		
Recruit minority pre-service teachers for Summer courses.	Froning , Moore		
Remind pre-service teachers about Fall grade-level sessions.	Froning , Moore		
Participate in grade-level sessions.	District Teachers		
Spring Tasks	Responsible Party	Yes	No
Announce GBMP opportunities for pre-service teachers in appropriate classes.	Froning, Moore		
UAB Recruiting staff visits relevant classes.	Froning, Delmas		
Recruit pre-service teachers for Summer courses.	Froning, Moore		
Recruit minority pre-service teachers for Summer courses.	Froning, Moore		
Remind pre-service teachers about Spring grade-level sessions.	Froning , Moore		
Award pre-service teacher scholarships for Summer courses.	Froning, Moore		
Summer Tasks	Responsible Party	Yes	No
Pre-service teachers participate in Summer classes.	Pre-service teachers		

Goal II: To increase the leadership capacity of middle school mathematics teachers within GBMP school systems

1. Mathematics Support Teams (MSP Key Feature: I, P, T)		Completed	
Fall Tasks	Responsible Party	Yes	No
Prepare for Fall MST sessions.	Parker, Lofgren		
Order supplies for MST sessions.	Moose		
Notify teachers of dates and sites for MST sessions.	Liaisons, Dominick		
Invite IHE faculty to attend the MST Sessions.	Dominick		
Host MST sessions.	Districts		
Deliver MST sessions.	Parker, Lofgren		
Arrange for and fund substitute teachers.	Districts		
Participate in MST Sessions.	District MSTs		
Incorporate challenging courses and curricula into MST sessions.	Parker, Lofgren		
Send follow-up communication to districts and MST's.	Dominick, Lofgren		
MSTs take on leadership roles in schools and/or districts.	MSTs		
Winter Tasks	Responsible Party	Yes	No
Prepare for Winter MST sessions.	Parker, Lofgren		
Send reminder about MST sessions.	Liaisons, Dominick		
Host MST sessions.	Districts		
Deliver MST sessions.	Parker, Lofgren		
Arrange for and fund substitute teachers.	Districts		
Participate in MST Sessions.	District MSTs		
Incorporate challenging courses and curricula into MST sessions.	Parker, Lofgren		
Field-test engineering application task and provide feedback.	District MSTs		
Send follow-up communication to districts and MST's.	Dominick, Lofgren		
MSTs take on leadership roles in schools and/or districts.	MSTs		

1. Mathematics Support Teams (continued)	Completed		
Spring Tasks	Responsible Party	Yes	No
Prepare for Spring MST sessions.	Parker, Lofgren		
Send reminder about MST sessions.	Liaisons, Dominick		
Invite IHE faculty to attend the MST Sessions.	Dominick		
Host MST sessions.	Districts		
Deliver MST sessions.	Parker, Lofgren		
Arrange for and fund substitute teachers.	Districts		
Participate in MST Sessions.	District MSTs		
Incorporate challenging courses and curricula into MST sessions.	Parker, Lofgren		
Field-test engineering application task and provide feedback.	District MSTs		
Send follow-up communication to districts and MST's.	Dominick, Lofgren		
MSTs take on leadership roles in schools and/or districts.	MSTs		

Goal III: To unite the GBMP stakeholders in support of mathematics education programs that are high quality and effective

1. Sessions for Administrators (MSP Key Feature: P, I)	Completed		
Fall Tasks	Responsible Party	Yes	No
Prepare for Fall administrator session sessions.	Parker, Lofgren		
Notify administrators of dates and sites for administrator sessions.	Liaisons, Dominick		
Send reminder about administrator session.	Liaisons, Dominick		
Deliver administrator session.	Parker, Lofgren		
Local leader co-facilitates <i>Lenses on Learning</i> .	Brown		
Incorporate challenging course and curricula.	Parker, Lofgren		
Participate in administrator sessions.	Administrators		
Winter Tasks	Responsible Party	Yes	No
Prepare for Winter administrator sessions.	Parker, Lofgren		
Send reminder about administrator session.	Liaisons, Dominick		
Deliver administrator sessions.	Parker, Lofgren		
Local leader co-facilitates <i>Lenses on Learning</i> .	Brown		
Incorporate challenging course and curricula	Parker, Lofgren		
Participate in administrator sessions.	Administrators		
Spring Tasks	Responsible Party	Yes	No
Prepare for Spring administrator sessions.	Parker, Lofgren		
Send reminder about administrator session.	Liaisons, Dominick		
Deliver administrator sessions.	Parker, Lofgren		
Local leader co-facilitates <i>Lenses on Learning</i> .	Brown		
Incorporate challenging course and curricula	Parker, Lofgren		
Participate in administrator sessions.	Administrators		
Send follow-up communication to administrators.	Dominick		
Inform administrators that they are welcome to participate in MEC Summer courses.	Liaisons, Dominick		

2. Outreach Activities to Parents and the Community (MSP Key Feature: P)	Completed		
Fall Tasks	Responsible Party	Yes	No
Send update letter to individuals and businesses that supported or were asked to support GBMP.	Clark		
Prepare for Fall community mathematics nights.	Parker		
Select/confirm sites for Fall and Spring community mathematics nights.	Liaisons, Clark		
Arrange logistics for Fall community mathematics nights.	Liaisons, Clark		
Identify new ways to encourage new participants and reluctant parents to attend.	Liaisons, Clark		
Distribute flyers to promote Fall community mathematics nights.	Liaisons, Clark		
Publicize Fall community mathematics nights and seek media coverage.	Liaisons, Clark		
Host Fall community mathematics nights.	District Liaisons		
Maintain sign-in sheets to identify parents who attend. Also collect data on diversity of attendees and their willingness to participate in research.	Clark		
Deliver Fall community mathematics nights at six locations.	Parker		
Insure community mathematics nights incorporate four key aspects of challenging courses and curricula.	Parker		
Attend community mathematics nights.	Parents, Teachers, Administrators, Design Team		
Inform parents that some MEC scholarships are available for parents to participate in courses.	Liaisons, Clark		
Send thank you letters to school and community members who assisted with community mathematics nights.	Clark		
Continue conversations with AMSTI and MMI.	Dominick		
Continue conversations with AMSTEC and A+ College Ready Program	Clark		
Confirm that Ann McMillan is willing to serve another term as CBAC chairperson.	Clark		
Select/confirm dates for Fall and Spring CBAC meetings.	Liaisons, Clark		
Select/confirm sites for Fall and Spring CBAC meetings.	Liaisons, Clark		
Arrange logistics for Fall CBAC meeting.	Clark		
Set agenda with CBAC Chair for Fall CBAC meeting.	CBAC Chair, Clark		
Send reminder to CBAC members about Fall community mathematics nights and CBAC meeting.	Clark		
Hold Fall CBAC meeting.	Clark, Parker		
Keep CBAC meeting minutes.	Clark		
Send follow-up letter to CBAC members.	Clark		

2. Outreach Activities to Parents and the Community (continued)	Completed		
Fall Tasks (continued)	Responsible Party	Yes	No
Update GBMP website.	Moose		
Update MSPnet.	Moose		
Spring Tasks	Responsible Party	Yes	No
Prepare for Spring community mathematics nights.	Parker		
Arrange logistics for Spring community mathematics nights.	Liaisons, Clark		
Distribute flyers to promote Spring community mathematics nights.	Liaisons, Clark		
Publicize Spring community mathematics nights and seek media coverage.	Liaisons, Clark		
Host Spring community mathematics nights.	District Liaisons		
Deliver Spring community mathematics nights at six locations.	Parker		
Maintain sign-in sheets to identify parents who attend. Also collect data on diversity of attendees and their willingness to participate in research.	Clark		
Inform parents that some MEC scholarships are available for parents to participate in courses.	Liaisons, Clark		
Insure that community mathematics nights incorporate four key aspects of challenging courses and curricula.	Parker		
Attend community mathematics nights.	Parents, Teachers, Administrators, Design Team		
Send thank you letters to school and community members who assisted with community mathematics nights.	Clark		
Continue conversations with AMSTI and MMI.	Dominick		
Continue conversations with AMSTEC and A+ College Ready Program.	Clark		
Arrange logistics for Spring CBAC meeting.	Clark		
Set agenda with CBAC Chair for Spring CBAC meeting.	CBAC Chair, Clark		
Send reminder to CBAC members about Spring community mathematics nights and CBAC meeting.	Clark		
Hold Spring CBAC meeting.	Clark, Parker		
Keep CBAC meeting minutes.	Clark		
Send follow-up letter to CBAC members.	Clark		

2. Outreach Activities to Parents and the Community (continued)		Completed		
Spring Tasks (continued)	Responsible Party	Yes	No	
Update GBMP website.	Moose			
Update MSPnet.	Moose			
Summer Tasks	Responsible Party	Yes	No	
Continue conversations with AMSTI and MMI.	Dominick			
Continue conversations with AMSTEC and A+ College Ready Program.	Clark			
Send update to CBAC members.	Clark			
Update GBMP website.	Moose			
Update MSPnet.	Moose			

3. Partnership-Driven Project Management (MSP Key Feature: P)		Completed	
Ongoing Tasks	Responsible Party	Yes	No
Participate in Project Management Team meetings via email, phone, and in person, as needed.	Management Team		
Oversee the efforts of the Project Co-directors and Project Management Team.	Mayer		
Serve as primary contact person for UAB administration and NSF.	Mayer		
Serve as primary project director for the following project activities: MEC Summer courses, mathematics support teams, professional learning communities, administrator sessions, and recruitment of pre-service teachers.	Dominick		
Serve as primary contact for articulation with the Mobile Mathematics Initiative (MMI) and the Alabama Mathematics, Science, and Technology Initiative (AMSTI).	Dominick		
Handle public relations with the school systems.	Dominick		
Serve as primary project director for the following project activities: outreach activities to parents and the community (including GBMP website and MSPnet), IHE course redesign and development, middle school mathematics certification, and engineering projects.	Clark		
Serve as primary project director for the Management Team, Design Team, National Advisory Board, and Community and Business Advisory Council.	Clark		
Serve as primary contact for articulation with the Alabama Mathematics, Science, and Technology Education Coalition (AMSTEC) and the A+ College Ready Program.	Clark		
Handle public relations with the community.	Clark		
Seek appropriate media opportunities for GBMP.	Liaisons, Clark		
Hold monthly meetings between Evaluation Team and PI/PDs to discuss all aspects of the research and evaluation plan.	Mayer, Clark, Dominick		
Discuss a yearly overview for the Design Team meetings, keeping in mind a focus on research and evaluation and the importance of operationalizing the definition of CCC.	Mayer, Clark, Dominick		
Keep PDs and PI and Evaluation Team informed about school system concerns and input.	Liaisons		
Keep PDs and PI and Evaluation Team informed about GBMP courses and grade-level sessions.	Liaisons, Parker		
Keep PDs and PI and Evaluation Team informed about MST's.	Liaisons, Parker		
Keep PDs and PI and Evaluation Team informed about sessions for administrators.	Liaisons, Parker		
Keep PDs and PI and Evaluation Team informed about outreach activities.	Liaisons, Parker		
Keep PDs and PI and Evaluation Team informed about IHE course redesign and development.	Mayer		
Keep PDs and PI and Evaluation Team informed about middle school mathematics certification.	Froning		
Keep PDs and PI and Evaluation Team informed about engineering projects.	Feldman		

3. Partnership-Driven Project Management (continued)		Completed	
Ongoing Tasks (continued)	Responsible Party	Yes	No
Keep PDs and PI and Evaluation Team informed about recruitment of pre-service teachers.	Froning, Moore		
Deliver formative evaluation information as warranted.	Cochran, Snyder		
Respond to formative evaluation information when received.	Management Team		
Report on research findings at local, regional, and national conferences.	Design, Eval Teams		
Submit papers on research findings to journals for possible publication.	Design, Eval Teams		
Submit invoices and documentation and any needed reports to Grants Administrator.	MEC, BSC, Hoover City Schools		
Process submitted invoices and documentation and reports; verify that expenses and deliverables are in accord with the budget and the Annual Implementation Plan.	Moose		
Review invoices and reports forwarded by Grants Administrator.	Mayer		
Verify invoices for allowability of expenses and availability of funds.	White		
Fall Tasks	Responsible Party	Yes	No
Hold meetings with District Liaisons and all Superintendents to discuss challenging courses and curricula and the full scope of the partnership.	Dominick		
Remind Design Team about forthcoming NSF Management Information System online surveys.	Moose		
Complete NSF Management Information System online surveys.	Design Team		
Call and set agenda for Management Team and Design Team meetings.	Mayer		
Participate in Management Team and Design Team meeting.	Design Team		
Participate in monthly meetings with Center for Educational Accountability (CEA).	Mayer, Cochran		
Participate in monthly meetings with Grants Administrator and Finance Director.	Mayer, Moose, White		
Participate in quarterly meetings with engineering team.	Lucas, Mayer		
Report to Design Team and Evaluation Team about areas of responsibility (see Ongoing Tasks).	Management Team		
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team		
Keep Management Team and Design Team meeting minutes.	Clark		
Send quarterly report to Evaluation Team.	Clark, Dominick		

3. Partnership-Driven Project Management (continued)		Completed	
Winter Tasks	Responsible Party	Yes	No
Attend NSF MSP Learning Network Conference.	Design Team reps		
Begin preparations for annual National Advisory Board meeting.	Clark		
Call and set agenda for Management Team and Design Team meeting.	Mayer		
Participate in Management Team and Design Team meeting.	Design Team		
Participate in monthly meetings with Center for Educational Accountability (CEA).	Mayer, Cochran		
Participate in monthly meetings with Grants Administrator and Finance Director.	Mayer, Moose, White		
Participate in quarterly meetings with engineering team.	Lucas, Mayer		
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team		
Keep Management Team and Design Team meeting minutes.	Clark		
Spring Tasks	Responsible Party	Yes	No
Set agenda for National Advisory Board meeting.	Clark, Parker		
Send details about annual meeting, agenda, travel reimbursement to National Advisory Board.	Clark		
Hold annual National Advisory Board meeting.	Clark, Parker		
Call and set agenda for Management Team and Design Team meeting.	Mayer		
Participate in Management Team and Design Team meeting.	Design Team		
Participate in monthly meetings with Center for Educational Accountability (CEA)	Mayer, Cochran		
Participate in monthly meetings with Grants Administrator and Finance Director	Mayer, Moose, White		
Participate in quarterly meetings with engineering team	Lucas, Mayer		
Report to Design Team and Evaluation Team about areas of responsibility (see Ongoing Tasks).	Management Team		
Report to Design Team and Evaluation Team about MSP Learning Network Conference.	Attendees		
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team		

3. Partnership-Driven Project Management (continued)		Completed	
Spring Tasks (continued)	Responsible Party	Yes	No
Discuss the year-to-date efforts regarding public relations with the schools and the community, the efforts of the CBAC and NAB, and communication with AMSTEC, AMSTI, and MMI.	Design Team		
Discuss any needed revision to plans for next year based on what has been learned this year.	Design Team		
Keep Management Team and Design Team meeting minutes.	Clark		
Evaluation Team requests any information needed for evaluation report by March 1.	Evaluation Team		
Grants Administrator sends reminder about information needed for annual report by March 1.	Moose		
Management Team sends information for the annual report to the Grants Administrator and Evaluation Team by April 1 including information for the (1) activities and findings report, (2) management report, (3) information requested by Evaluation Team.	Management Team		
Draft of activities and findings report and management report sent to Management Team and Evaluation Team by April 15.	Mayer		
Management Team responds to draft report by May 1.	Management Team		
Final draft sent to Management Team by May 15.	Mayer		
Evaluation Team completes evaluation report by May 1.	Evaluation Team		
Project co-directors and co-investigators discuss the evaluation report, consider any needed actions, and write a response to evaluation report by May 15.	Clark		
Annual report submitted to NSF by June 1.	Moose		
Summer Tasks	Responsible Party	Yes	No
Send follow-up communication to National Advisory Board members.	Clark		
Call and set agenda for Management Team and Design Team meeting.	Mayer		
Participate in Management Team and Design Team meeting.	Design Team		
Participate in monthly meetings with Center for Educational Accountability (CEA).	Mayer, Cochran		
Participate in monthly meetings with Grants Administrator and Finance Director.	Mayer, Moose, White		
Participate in quarterly meetings with engineering team.	Lucas, Mayer		
Report to Design Team and Evaluation Team about areas of responsibility (see Ongoing Tasks).	Management Team		
Report to Design Team and Evaluation Team about National Advisory Board Meeting.	Clark		
Discuss GBMP courses and course development, engineering tasks, grade-level sessions, MST sessions, administrator sessions, outreach to parents and the community, IHE course development, middle school certification, recruitment of pre-service teachers, project management and any district concerns.	Design Team		
Keep Management Team and Design Team meeting minutes.	Clark		

Goal IV: To increase the mathematics achievement of all middle school students in GBMP schools and reduce discrepancies in disaggregated mathematics achievement data within these schools

All of the above activities found under Goals I-III also contribute to Goal IV.

Key to 5 Key Features:

C = Challenging Courses and Curricula

E = Evidence-Based Design and Outcomes

I = Institutional Change and Sustainability

P = Partnership-Driven

T= Teacher Quality, Quantity and Diversity

Note Regarding Assignment of MSP Five Key Features in Matrix:

Since more than one of the MSP Key Features describe most of the project’s activities, the letter representing the key feature deemed most descriptive is listed first followed by the others that are applicable.

Note Regarding Completed Column:

At the beginning of the year, the above matrix serves as the Annual Implementation Plan. At the end of the year, the above matrix serves as the Implementation Matrix that will be attached as Exhibit 1 to the Activities and Findings section of the annual report. At the end of the year, for each task, the “Completed” column on the far right side of the matrix will be filled in with a letter according to the legend below.

In the “YES” Column:

“X” indicates task has been completed.

“A” indicates task is on schedule and will be completed by August 31.

In the “NO” column:

“D” indicates the task has been delayed

“R” indicates the task has been revised

“E” indicates the task has been eliminated

“N” indicates a new task has been substituted