

MICHIGAN DEPARTMENT OF EDUCATION

APPLICATION INSTRUCTIONS FOR THE 2009-2010 MATHEMATICS AND SCIENCE PARTNERSHIPS COMPETITIVE GRANT

I. INTRODUCTION/BACKGROUND

In January of 2002, the No Child Left Behind Act of 2001 (NCLB)¹ became law. The Improving Teacher Quality Grant Programs (Title II) are a major component of the *No Child Left Behind* legislation. These programs encourage scientifically based professional development as a means for improving student academic performance. As schools are responsible for improving student learning, it is essential to have highly qualified teachers leading the way.

Title II, Part B of NCLB authorizes a Mathematics and Science Partnerships (MSP) program ([Part B - Mathematics and Science Partnerships](#)). MSP is intended to increase the academic achievement of students in mathematics and science by enhancing the content knowledge and teaching skills of classroom teachers.

Partnerships between high-need school districts and the science, technology, engineering, and mathematics (STEM) faculty in institutions of higher education are at the core of these improvement efforts. In Michigan, it is preferred that the proposal have a plan for utilizing Michigan's Mathematics/Science Centers as per Section 99 of the School Aid Act (see [Appendix A](#)). Other partners may include public charter schools or other public schools, colleges of teacher education, community colleges, businesses, and nonprofit or for-profit organizations concerned with mathematics and science education.

The Michigan Department of Education (MDE) is responsible for the administration of this program. **Michigan has been allotted approximately \$5,200,000** for the MSP competitive grant program for 2009-10. The Michigan *Mathematics and Science Partnerships* program this year will consider new proposals under the following authorized activity of the Title II, Part B, Mathematics and Science Partnership, Section 2202 (c)(2): *Promoting strong teaching skills for mathematics and science teachers and teacher educators, including integrating reliable scientifically based research teaching methods and technology-based teaching methods into the curriculum.* Specifically, project proposals must address the need in Michigan for more teachers able to prepare all students for success with the Michigan Merit Curriculum by:

- Providing support to the Math/Science Centers for the Algebra for All initiative or similar programs; or
- Providing support to the Math/Science Centers for the Michigan Mathematics and Science Teacher Leader Specialists program.

¹ A complete list of abbreviations used throughout this document can be found in the Glossary of Terms at the end.

II. PROGRAM DESCRIPTION

A. Eligible Applicants

Eligible applicants are Mathematics/Science Centers, Intermediate School Districts (ISD) or Regional Educational Service Agencies (RESA), Institutions of Higher Learning (IHE), or a local education agency (LEA) (see [Appendix A](#) for definition of a high-needs LEA for the purpose of this grant).

B. Essential/Eligible partners

Applications must have at a minimum, a high-needs local education agency (LEA), a science, mathematics, or engineering department within institutions of higher education (IHE) and a Mathematics/Science Center² as per Section 99 of the School Aid Act (see [Appendix B](#)). Other partners may include another engineering, mathematics, science, or teacher training department of an institution of higher education; additional Mathematics/Science Centers; additional local educational agencies, public charter schools, public or private³ elementary schools or secondary schools, or a consortium of such schools; a business; or a nonprofit or for-profit organization of demonstrated effectiveness in improving the quality of mathematics and science teachers.

C. Targeted Activities

The MSP program seeks ways to sustain intensive, high-quality professional development activities that focus on deepening teachers' content knowledge and promote strong teaching skills. Project activities must be aligned with the [Michigan Professional Development Vision and Standards](#). Proposals must address the need in Michigan for more teachers able to prepare all students for success with the Michigan Merit Curriculum by:

- Providing support to the Math/Science Centers for the Algebra for All initiative or programs that meet the following guidelines:
 - Teachers learn how to approach the teaching of algebra from the functions perspective outlined by the mathematics high school content standards and expectations (HSCE).
 - Teachers expand their repertoire of instructional strategies, including the effective use of graphing calculators and other technology.
 - Teachers are part of a professional learning community that provides support as they initiate changes in their classroom that will support the learning of a more diverse population of students.

Or by

- Proposals for funding should build on and/or support the work started with the initial Michigan Mathematics and Science Teacher Leader Collaborative (MMSTLC) by focusing on professional development implementation, program resources, and sustainability and growth of the local and statewide efforts of the MMSTLC. More information about this program can be found at www.mmstlc.net. (see [Appendix C](#)).

² For a list of Mathematics/Science Centers visit www.mimathandscience.org.

³ While private school teachers may participate in the PD, they are not eligible for stipends, materials, etc. or other resources provided to public school teachers.

D. Projects must also meet the following criteria (per [2008 SBE approved grant criteria](#)):

- An active and well-defined **partnership with STEM** staff in all aspects of the grant including planning and delivery of professional development
- Designed to improve **student achievement** to the [Mathematics](#) and [Science](#) content standards/expectations
- Aligned with the [Michigan Professional Development Vision and Standards](#)
- An **evaluation and accountability plan** that includes rigorous objectives that measure the impact of the activities of the project

III. APPLICATION PROCEDURES

A. Institutions/organizations interested in applying for a 2009-2010 Mathematics and Science Partnership Competitive Grant must submit a completed application on MEGS by the deadline of August 24, 2009, by 11:59 p.m. MEGS will not allow applications to be submitted that have incomplete sections! There is a checklist in [Appendix D](#) that might be helpful as you proceed through the application process. MEGS applications should be available by July 1, 2009. The following is a *tentative* timeline:

<u>Event</u>	<u>Proposed Date</u>
Letters of Intent	July 10, 2009
Deadline for application	August 24, 2009
Peer review – Lansing	September 18, 2009
Review results available to grantees	October, 2009

B. Letters of Intent

A letter stating intent to submit an application for a MSP grant must be sent electronically by July 10, 2009, to Ruth Anne Hodges, MSP Team Leader, hodgesr3@michigan.gov. This letter should also provide a brief description of the proposal, a list of anticipated partners, and an estimate of the amount that will be requested. This information will help us plan the peer review.

C. Project Information

1. Partner Information

- a. **Essential Partners** - Proposals must include at a minimum a STEM department from an IHE, a Math/Science Center, and at least one high-needs LEA (see [Appendix A](#) for description of high-needs LEA). Data are needed to support high-needs status of schools.

- b. **Teacher quality and professional development (PD) needs information** - The United States Education Department (USED) requires a comprehensive assessment of the teacher quality and professional development needs of any schools and local educational agencies (LEA) that comprise the eligible⁴ partnership with respect to the teaching and learning of mathematics and science. Descriptions of teacher quality and professional development needs of each eligible building that is supported with qualitative and/or quantitative data, including information from the [Survey of Enacted Curriculum](#) (SEC) are required with the proposal. However, successful applicants will be allowed to administer the SEC at the start of the project and to adjust PD plans if indicated by the results of the SEC. This option must be evident in the proposed management plan and budget. The SEC results may also be used in the project evaluation.
 - c. **Partner's Primary Role** – Check all roles that apply for each partner entered into MEGS.
- 2. **Participation of Private Nonprofit Schools** – Federal regulations require this information for any private school that is within the boundaries of any of the partnering LEAs in this MSP project. Include documentation that **private schools** were invited to be a part of the project (see MEGS for more information on required forms).
- 3. **Budget Detail**
 - a. Projects will be asked to submit budgets for year 1 and year 2 in MEGS. Upon approval, successful applicants will receive funding for the year 1 budget. Projects will be required to update budgets at the end of year 1 in MEGS before year 2 funding will be released.
 - b. Allowable expenditures are anything that goes to supporting the professional development activities. Budget descriptions should be specific so items can be linked to the management plan.
- 4. **Professional Development Abstract** – The purpose of this section is to give an overall summary of the proposed project. The name of the project, targeted activity, anticipated number of teachers and students served, and amount requested are entered on this page. Also required is a brief summary that provides sufficient information for an initial overview of the grant's project proposed activities including the goals and objectives; the participants (students, teachers, schools, partners); and professional development interventions or models implemented (summer institutes, online, distance learning, university courses, follow-up activities, and others). This project abstract will be used to describe the project in publications and on the MDE-MSP website. Please note that this is a summary (maximum 500 words) and a more detailed description of the project should be provided by the narrative.

⁴ An eligible LEA is one that meets the high-needs criteria outlined in Appendix A. Data on LEA not considered high-needs are not required; this includes the SEC.

5. **Program Alignment**
 - a. A description of how the activities will be aligned with the state content expectations in mathematics and science and with other educational reform activities that promote student academic achievement in mathematics and science. This should include a description of how this project fits into the **school improvement plan** of the eligible schools.
 - b. A description of how the proposed professional development interventions or models (summer institutes, online, distance learning, university courses, follow-up activities, and others) will be aligned to the [Michigan Professional Development Vision and Standards](#).
6. **Sustainability** - Describe how the partnership will continue the activities funded under this part after the original grant period has expired.
7. **Evaluation Design Abstract** – Federal guidelines require that a program evaluation component be part of each proposal. Each project is required to have an external evaluator and a plan to evaluate the impact of the program on students, teachers, classrooms, and partners, including STEM. All projects are encouraged to have as rigorous an evaluation method as possible. The purpose of this section is to give an overall summary of the proposed evaluation and accountability plan. This should include a brief description of the evaluation design (more detail can be provided in the narrative) including target for intervention, evaluation method, and intended measures.
8. **Management Plan**
 - a. An organizational/process chart that outlines responsibilities of all partners must be completed. For each activity MEGS will ask for a description, a timeline, who will do the work, and the budget line items associated with the activity.
 - b. Resumes or vita (limited to 2 pages) of key people in the partnership should be submitted in the appendix.
9. **Program Narrative** – All of the technical and compliance information is entered into MEGS in the various sections. Therefore the narrative should speak directly to the reviewers and convince them that the proposed plan is necessary and will be effective in improving the teaching and learning of mathematics and/or science. There are no formatting guidelines other than it should be uploaded into MEGS as a Word⁵ or PDF document, 20 pages maximum (double-spaced), and contain the following:
 - a. A description of a plan that **convincingly** demonstrates how the proposed professional development activities will address the targeted activities (see [Section C](#)).
 - b. A description of how the proposed activities are **based on a review of scientifically based research**, and an explanation of how the activities are expected to improve student academic

⁵ Reviewers will access your application, including your narrative, directly from MEGS. Since many people do not have the latest version of Word, and some computers have difficulty converting “docx” to “doc” it is suggested that the document be in a document type other than “docx”.

achievement and strengthen the quality of mathematics and science instruction. The current state of knowledge relevant to the project must be presented and cited (bibliography can be part of the 20 pages or uploaded as a separate document into the appendix). This brief literature review must clearly indicate why the proposed activities were selected or designed. If the proposal builds on prior work, the narrative must indicate what was learned from this work and how the lessons learned are incorporated in the project.

- c. A description of the submitting team's expertise in the content area and **the capacity to manage the project**, organize the work, and meet deadlines (resumes/vitas should be uploaded into the appendix).

10. **Appendix**

- a. The appendix **must** include:
 - i. Resumes/vitas of key faculty and staff (maximum of two pages per person).
 - ii. Letters of interest from STEM departments proposed as partners in the project.
- b. The appendix can also include additional documents such as:
 - iii. Evidence of impact from prior professional development efforts.
 - iv. Elaboration of research or evidence base used to design this program.

IV. **PRODUCTS**

A. Projects will compile and deliver a professional development packet to the Michigan Department of Education at the conclusion of the project.

- a. This packet will include the professional development materials (e.g., syllabus, text, teacher resources, and classroom vignettes) and any other necessary components that would enable the professional development replication.
- b. *Any products developed with Title II B monies do not have proprietary rights.*

V. **AWARDING OF FUNDS**

A. Rejection of Proposals

The Department of Education reserves the right to reject any and all proposals received as a result of this announcement, and will do so if the proposal does not adhere to funding specifications or application preparation instructions.

B. Review Process

Proposals will be reviewed by staff for completeness and compliance with the requirements set forth in Title II, Part B of MSP to determine applicant eligibility. MEGS will not allow applications to be submitted that have incomplete sections. Any questions about significant omissions from a

proposal or about applicant eligibility will be referred to the proposing organization. If, in the judgment of the Department, a proposal is missing significant information, or an applicant cannot establish its eligibility or the eligibility of the required partners, the proposal will be omitted from the competition. The decision of the Department is final. Applicants submitting proposals that are withdrawn due to incompleteness or ineligibility will be notified through MEGS.

Grants will be awarded through a competitive review process. The review and scoring of each application will be based on criteria that support sustained and intensive high-quality professional development, based on the most current research. Using a numerical scoring system, this process is intended to identify the applications that meet the needs of Michigan's eligible schools. Projects considered eligible for funding by the reviewers will be assigned funding based on scores, beginning with the highest and going in order until funding is depleted.

An expert review panel will be assembled that reflects the demographics of the applications (i.e. math or science; middle school or high school; urban or rural). Each panel will review 2-5 eligible applications according to the required application components and the established criteria reflected in the scoring rubric. Each panel will make recommendations to the Department for funding and possible modifications as a requirement of funding. Following the review, the Department staff will contact selected project directors to discuss any modifications of the project plan that may be required. In order to maximize the effects of limited funds, applicants may be asked to revise the project budget and/or scope of work.

C. Review Criteria

Applications must provide the information outlined in [Section III\(C\)](#). Supporting documents and data can be put into the appendix. Reviewers will be directed to review each application using the scoring rubric found on the [Michigan Math/Science Partnerships](#) webpage and on MEGS.

Additional Review Factors

In addition to the criteria listed above, the Superintendent of Public Instruction may apply other factors or emphasize specific factors in making decisions to fund proposals, such as evidence that the project will serve specific geographic areas and will facilitate the state in meeting the overall professional development, curriculum improvement, and teacher education goals.

D. Award Administration

Notification of the Award: Once the review process is completed, the Superintendent/CEO/President and Project Director will be notified of the status of the proposal.

Award Conditions: For the 2009-2010 competition, approximately \$5,200,000 is available for Mathematics and Science Partnership awards. Projects will be required to update budgets at the end of year 1 in MEGS before year 2 funding will be released. Continuation of awards is

contingent upon funded programs receiving satisfactory program and fiscal evaluations.

Reporting Requirements: Each eligible partnership receiving a grant must report annually to the Michigan Department of Education and to the U.S. Secretary of Education regarding the eligible partnership's progress in meeting the objectives and annual targets described in the partnership's plan. Further information regarding reporting requirements and forms will be made available on the Michigan MSP website ([Mathematics/Science Partnerships](#)) when available.

Appendix A

DEFINITION OF HIGH-NEEDS LEA

To be eligible for a Mathematics and Science Partnership Grant, the application must include at least one high-needs local education agency (LEA). For this purpose a building or district is considered high-needs if it meets **at least one** of the criteria listed below. Applicants must provide the data for each district labeled in the application as a high-needs LEA. Data are needed to support high-needs status of schools.

- High school mathematics and/or science scores on the MME <60%; or middle schools connected to high schools with mathematics and/or science scores on the MME <60%; or middle schools with mathematics and/or science scores on the MEAP <60%; **or**
- Buildings employing teachers displaying limited mathematics and/or science content and/or instructional knowledge.

Appendix B

STATE SCHOOL AID ACT (PA155) SEC 99

Section 99 (1) From the state school aid fund money appropriated in Section 11, there is allocated an amount not to exceed \$3,390,000.00 for 2008-2009 and from the general fund appropriation in Section 11, there is allocated an amount not to exceed \$110,000.00 for 2008-2009 for implementing the comprehensive master plan for mathematics and science centers developed by the department and approved by the state board, and for other purposes as described in this section. *In addition, from the federal funds appropriated in Section 11, there is allocated for 2008-2009 an amount estimated at \$5,249,300.00 from DED-OESE, Title II, Mathematics and Science Partnership grants.*

Appendix C

Michigan Mathematics and Science Teacher Leader Specialists Program

The Michigan Mathematics and Science Teacher Leadership Specialist Program was developed by a collaborative of four universities in partnership with Math/Science Centers across the state. Its goals are to support science and mathematics education in Michigan by:

1. Developing a cadre of teacher leaders with knowledge and skills necessary to help improve teaching and learning of mathematics and/or science in targeted high-needs schools.
2. Establish collaborative working relationships among teacher leaders and building and district administrators with support from Michigan's Mathematics and Science Centers and science and mathematics faculty from higher education institutions.
3. Improve mathematics and science learning of students in targeted high-needs schools.
4. Increase capacities of the Mathematics and Science Centers and Institutions of Higher Education to sustain support for teacher leaders and high-needs schools around research-based practices and educational content standards.

Proposals for funding should build on and/or support the work started with the initial Michigan Mathematics and Science Teacher Leader Collaborative (MMSTLC) by focusing on professional development implementation, program resources, and sustainability and growth of the local and statewide efforts of the MMSTLC. More information about this program can be found at www.mmstlc.net.

Appendix D

Project Checklist

Use this checklist to help ensure that each section is completed in MEGS. MEGS will not allow the application to be submitted if any section is not completed correctly.

Section	Required information
Partner information	a. Proposals include a STEM department from an IHE, a Math/Science Center and at least one high-needs LEA. Data are provided to support high-needs status of each partnering LEA.
	b. Descriptions of teacher quality and professional development needs of each eligible building supported with qualitative and/or quantitative data, includes SEC data or plans to administer SEC.
	c. All the primary roles a partner will play in the project are selected.
Participation of Private Nonprofit schools	a. Information required is entered directly into MEGS.
	b. "Intent to Participate" forms for each private school within the boundaries of any partnering LEA are uploaded into the appendix.
Budget Pages	Budgets for each year of the proposed project are completed with as much detail as possible provided so that it links to the management plan.
Abstract	a. The amount requested matches the budget total.
	b. The description of the project gives an overall summary of the project that will be useful to MDE in organizing the peer review, and gives the general public an understanding of how the project plans to improve the teaching and learning of mathematics and/or science.
Program Alignment	a. Describes how the activities proposed for this project align with the state academic content and the school improvement plans of the partnering LEA.
	b. Describes how the activities align with the Michigan Professional Development Vision and Standards.
Sustainability	Describes how the partnership will continue the activities after the grant funding expires.
Research/Evaluation Design Abstract	a. Primary target for intervention is checked.
	b. A brief description of evaluation design is provided.
	c. External evaluator is listed.
	d. Plans for measuring impact on students, teachers, classrooms, and partners are provided.
Management Plan	A detailed list of all the activities to be paid for by grant funds is provided. For each activity there is a timeline, identification of who will do the work, and a link to relevant budget line items.
Project Narrative	Narrative is uploaded
Appendix	a. Resumes of key faculty and staff.
	b. Letters of interest from STEM departments.
	c. Intent to participate forms from private schools.

Glossary of Terms

IHE – Institutes of Higher Education – can include universities, colleges, technical institutes, and community colleges

LEA – Local Education Agency

MSP – Mathematics/Science Partnership Grant

STEM faculty – Faculty who are on staff in the science, technology, engineering, or mathematics departments of IHE

USED – United States Education Department