

# Minnesota State University, Mankato Strategic Priority Funding Step 2: Invited Full Proposal

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7  
Proposal Tracking  
Number

\*\*\* Please **do not** use this form until invited to do so by the Planning Sub-Meet. \*\*\*

Proposal Name: Edina STEM Mathematics SEAL(Secondary Education Accelerated Licensure) program: Building partnerships with Community Colleges to Create a Pathway for Future Math Teachers from Diverse Backgrounds

This proposal is being submitted for a project that supports (please indicate priority by checking the appropriate circle):

- Global Solutions     
  Applied Doctoral Institution     
  Extended Learning  
 Quality and Excellence     
  Campus of the Future

Total Funds Requested for Expenditure in FY14 (2013-2014 academic year) \$25,000

Primary Contact Name Ms. Robbie Burnett Campus Mailing Address AH117/Edina

Primary Email Address robbie.burnett@mnsu.edu Phone Number 507.389.1570/952.818.8865

Please note:

- Upon notification of funding, the primary contact recipient will work with the Assessment and Evaluation Sub-Meet to prepare an assessment plan. Funds will only be released upon successful completion and approval of the assessment plan.
- A Mid-Year Report will be due January 13, 2014, and an Annual Report will be due June 30, 2014.

Primary Contact Signature *Robbie Burnett* Date 1-11-13

Co-Applicant Name(s) and Signature(s):

Dr. Candace Raskin *Candace Raskin* Date 1-10-2013

Dr. Anne Dahlman Date \_\_\_\_\_

\_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_ Date \_\_\_\_\_

I have reviewed the following proposal:

Department Director/Chair Signature\* *Ginger Zierdt/jer* Date 1/11/13

Department Director/Chair Signature\* \_\_\_\_\_ Date \_\_\_\_\_

Department Director/Chair Signature\* \_\_\_\_\_ Date \_\_\_\_\_

Dean Signature\* *Jim M. Han* Date 1-11-13

Dean Signature\* \_\_\_\_\_ Date \_\_\_\_\_

Dean Signature\* \_\_\_\_\_ Date \_\_\_\_\_

Division/Vice President Signature\* *LD* Date 1/14/13

Division/Vice President Signature\* \_\_\_\_\_ Date \_\_\_\_\_

RECEIVED

Date Submitted to Institutional Research, Planning, and Assessment: JAN 11 2013

(Deadline is January 11, 2013)

\*Signatures needed for all affected units, departments and colleges. Attached additional cover/signature sheets as needed.

Academic Affairs  
Minnesota State University, Mankato

# Strategic Priority Funding Proposal

## Full Proposal: Step 2

*(Please limit the proposal narrative and attachments to 10 pages)*

Proposal Name: Edina STEM Mathematics SEAL(Secondary Education Accelerated Licensure) program: Building partnerships with Community Colleges to Create a Pathway for Future Math Teachers from Diverse Backgrounds

1. Provide a clear description of the project being proposed. (5 points)

The Edina STEM Mathematics SEAL program is designed as pathway from high school to community colleges to Minnesota State University, Mankato (MNSU) creating a fiscally manageable program for students residing in the Twin Cities. Other than Metropolitan State University, MNSU at Edina is the only other 4-year public institution in the Metro area thus being the most affordable option that will attract future teachers from diverse backgrounds. This three year accelerated licensure program comprised of existing courses— strategically packaged and designed as a cohort model creates an option for students interested in receiving their MN 5-12 mathematics teaching license from MNSU to do so even if they live in the Metro area.

In this model, students are enrolled at MNSU and would have the ability to take their general education courses at one of four community colleges. A weekly two-hour advisory/tutor seminar built into each semester is the signature strategy of the program. In an adjunct professor role, a practicing K-12 math teacher will serve as the SEAL Mathematics Mentor Coach; emphasizing the value of the profession, demonstrating passion, and creating the connections between content and pedagogy strengthening the retention and persistence of students in the program. The mentor coach will facilitate the seminar sessions providing targeted, routine, rigorous and purposeful support for students to; build community within the cohort, receive mentoring and Minnesota Teacher Licensure Examination (MTLE) coaching for wrap around support.

This project has been under development since October 2012, and is a collaborative effort amongst the Maverick Teacher Recruitment Coordinator (MRC), leadership in the department of Mathematics, leadership in the department of K-12 &Secondary programs (KSP), both Dean’s in the College of Education (COE) and College of Science Engineering & Technology (CSET) and Director of Site Management and Expansion at MNSU Edina. The project has full support from all stakeholders mentioned above. If this proposal were accepted, funding would be used to advance the program in allowing us to recruit the initial 25 highly skilled diverse teacher candidates.

2. Identify the university strategic priority advanced by this project and explain the direct connection between the strategic priority and project. (20 points)

With respect to the University’s Strategic Priorities and related goals, this initiative will provide the following impact:

Strategic Priority 1: Change the world by collaboratively addressing our plant’s most challenging problems.	
Goal 1. Envision the university as a problem-solving engine without internal or global boundaries.	<i>Given that STEM has been identified as a teacher shortage area at the national level, there is a high demand for secondary math teachers in the state of Minnesota. The Edina STEM Mathematics SEAL program creates solutions to the teacher shortage in the state and positions the University as a critical player in strengthening our nation’s educational system by; growing the next generation of outstanding math teachers, with an emphasis on teachers of color, doing so in collaboration with funding organizations, and cooperating educational systems including high schools and community colleges. Even in these initial stages of planning K-12 school districts are expressing interest and support for this initiative. Minneapolis Public Schools (MPS) is working in collaboration with the Maverick Recruitment Center in the identification of high caliber juniors and seniors to recruit into the program. MPS is also exploring opportunities in co-teaching experiences and relative to recruitment efforts they are examining a</i>

	<i>possible loan forgiveness/repayment for teacher candidates hired within MPS district. The project will also promote the University as a partner in solving real world problems by working with 2-year community colleges to find supportive pathways for students to become math teachers—efficiently and effectively.</i>
<b>Goal 2</b> Build creative, engaged problem-solvers through collaborative and immersive experiences in the local, state, and global communities.	<i>The teachers who will matriculate via the Edina STEM Mathematics will not only be collaborative, effective, relevant and innovative, engaged problem solvers in their own profession, but they will generate a multi-fold return on investment through their daily work to inspire and educate tens of thousands of problem solvers in their own classrooms.</i>
<b>Goal 3</b> Communicate, collaborate, and partner internally and externally to identify, pursue, and promote global solutions.	<i>The Edina STEM Mathematics SEAL program will strongly leverage relationships with P-12 schools, community colleges, and career advising institutions to attract and increase the recruitment of future teachers—with a focus on students from traditionally underrepresented backgrounds. As partners, stakeholders will identify ways to support them, persist and complete their teacher education program and become math educators (a high need teaching area).</i>  <i>The Edina STEM Mathematics SEAL program exemplifies collaboration and partnering with internal and external departments/organizations in an effort to solve the shortage of high quality secondary mathematics teachers.</i>

**Strategic Priority 3: Greatly expand the reach of our extended learning programs.**

<b>Goal 2.</b> Increase enrollment in 100% on-line and off-campus offerings through the creation of marketing and data analysis tools while creating enhanced visibility of the home campus.	<i>The launch of Edina STEM Mathematics SEAL program will increase student enrollment in the current off-campus degree and licensure programs by 25% from current baseline.</i>
<b>Goal 3.</b> Build new and strengthen existing, partnerships with educational institutions, businesses, industries, non-profits and community groups and across greater Minnesota and beyond.	<i>As stated above, the Edina STEM Mathematics SEAL program strongly leverages relationships with middle schools, high schools, community colleges, and career advising institutions to attract and increase the recruitment of future teachers—with a focus on students from traditionally underrepresented backgrounds. As partners, stakeholders will identify ways to strengthen student-centered partnerships across educational and non-educational industries.</i>
<b>Goal 4.</b> Work collaboratively across internal university departments to evaluate the needs of on- line and off campus students, improve and maintain processes and services to support these students.	<i>Increasing the volume of students interested/enrolled in the College of Education's secondary education programs will necessitate strong collaboration with content majors in areas such as math and science to ensure students have sufficient access to critical content-area coursework. This project exemplifies such efforts across departments (Mathematics and K-12 &amp; Secondary) and colleges (COE and CSET). A greater volume of teacher candidate prospects will also provide an opportunity to collaborate with the University's General Education program as we research options for the flexible delivery of coursework to meet General Education requirements for students enrolled at the Edina campus. In addition, the departments within the College of Education will continue their collaboration and alignment in such issues as accreditation, assessment systems, professional learning teams with our P-12 partners, etc.</i>

3. Describe how the project will have a significant impact on students and deliver a significant return on investment to the university. (15 points)

Given the many national math and science initiatives to better prepare teachers and students for the world of STEM, mathematics continues to be a statewide academic discipline identified by the Minnesota Teacher Supply and Demand Report (2010) and Minnesota Department of Education (2012) as a high-need teaching area. This project will impact students by offering a market-driven, high quality teacher preparation program that meet the needs of K-12 schools. The design of the program will support candidates to persist, pass the MTLE, complete their teacher education program and become highly effective math teachers at the secondary level, a high need area. These Mathematics SEAL graduates will be in high demand, employable and marketable.

STEM Master Teaching Corps, 100Kin10 and the National Math & Science initiative are national level movements focused on dramatically improving the preparation of teachers and students for the world of STEM. The project will deliver a significant return on investment to the university by extending the University's capacity to, attract a new candidate pool in the metro area, increase enrollments, increase revenue and the ability to expand partnerships in the Twin Cities metro area. After cohort one, this model will generate enough revenue to become self-sustainable and provide a significant return to the University. Inclined to mirror the Twin Cities area population and needs of K-12 school districts, this project will attract more students to the University's Edina location and become the institution of choice. Our economic rates, high quality programs and relevant experiences perceives Minnesota State University, Mankato at Edina as the affordable option in the Twin Cities metro area. Ultimately the investment will heighten the University's potential for involvement in answering the nation's call to provide America's classrooms with the excellent math teachers.

4. Identify the specific measurable outcomes that will be used to measure the impact of the project. (10 points)
- Our target will be 50% increase in students from traditionally underrepresented groups enrolled in the STEM Mathematics SEAL program
  - MSU Edina location will see a 25% increase in students enrolled in undergraduate 5-12 mathematics licensure program
  - 80% of students in the program will score passing rates on the MTLE
  - 80% of students who begin the program will complete
  - 100% of students who complete the program and pass the MTLE will be employed as secondary math teachers
5. Describe how the activities generated by this project will be sustained after strategic priority funding has ended, or if applicable, explain why the project does not need to be sustained. (5 points)

An advisory committee is being established that has representatives from 2-year community colleges, mathematics department, KSP department, director of site management at MSU Edina, MRC, academic advisors, K-12 teacher and will be in place throughout the first cohort. Given the initial support of this project, the program will be sustained by the College of Education and the College of Science Engineering and Technology. The colleges would establish an action plan detailing when funding will be picked up by both colleges.

6. Provide a budget justification that explains why the funding being requested is required to support the project and outline the funding requested within the budget table below. (5 points)

The rationale for this funding request is to:

- Support the unclassified salary of the mentor coach position as an adjunct faculty member for year one of the program, a signature strategy of this plan designed to ensure student success. Travel expenses, supplies and materials are needed for the mentor coach's potential visits to Community College sites, a computer and office supplies.
- Advance marketing and outreach efforts targeting diverse audiences through radio advertisements, on-site visits to STEM high schools and hosting informational sessions. These exercises will assist in ensuring the ability to recruit the highest level students into the program with the potential for success and attract students from diverse backgrounds.

Budget table:

	FY14	FY14 Matching Funds
<b>Personnel</b>		
Unclassified Salary (in-load, overload)	\$12,000	\$12,000
Classified Salary		
Fringe (Classified and Unclassified)		
Graduate Assistant Salary		
Graduate Assistant Tuition Reduction/Waiver		
<b>Non-Salary</b>		
Student Help		
Purchased Services/Travel Expenses	\$1,500	
Supplies and Materials	\$1,500	
Building Improvement/Construction Costs		
Equipment		
Marketing and outreach targeting minority audiences	\$10,000	
<b>Total Budget/Funding Requested</b>	<b>\$25,000</b>	<b>\$12,000</b>

<sup>a</sup> Note: All current employees must be paid fringe benefits. Fringe should be estimated based on salary and position classification: Unclassified 30%, Classified 37%, Adjunct 7.65%.

<sup>b</sup> Estimated Tuition Reduction/Waiver for full-year enrollment: Masters \$5,858, Doctoral \$10,000.

7. Identify any special considerations or needs required for this project (e.g. physical space, contractual obligations, IT support, or collaborations with/implications for other units). (5 points)

Implications for other units involve the Office of Field and International Experience (OFIE). As students progress throughout the program, the level of field experience placements may increase warranting the need for additional assistance in facilitating field placements at the Edina location. As the program progresses the advising load in both departments will also increase impacting faculty loads.

8. Provide a project timeline outlining key tasks and dates for completion. (5 points)

October 2012	We've been moving this initiative forward since October 2012
January 2013	Establish STEM Mathematics Steering Committee
February 2013	Convene Dean's from education and science 2-yr community colleges
February 2013	Develop STEM Mathematics recruitment plan
March 2013	Develop STEM Mathematics marketing plan and materials
March 2013	Recruitment and outreach
April 2013 (if funded)	Conduct search for SEAL Mathematics Mentor Coach
May 2013	Requirement Open House at Minnesota State University, Mankato at Edina
May 2013	Begin student selection and enrollment
Fall 2013	First cohort begins the program

## **Summary**

### **Work already completed:**

- Collaboration since October 2012 amongst the Maverick Teacher Recruitment Coordinator (MRC), the department of mathematics, the department of K-12 & Secondary programs (KSP) has occurred resulting in full support of the initiative.
- The initiative has gained full support from Dean's of COE and CSET.
- Minnesota Department of Education identifies secondary mathematics as high need teaching area.
- Modeling and coaching built into the initiative to increase student success and engagement.
- Clearly identified specific measurable outcomes.

### **Work in progress:**

- Leadership from Minneapolis Public Schools (MPS) has expressed interest in partnering in the initiative with recruitment of students into the program, placements of co-teaching experience and employment upon completion of the program with possible loan forgiveness/reimbursement.
- After cohort one, this model will generate enough revenue to become self-sustainable and provide significant return to the University.

### **The need:**

- The need for this strategic priority proposal is to assist in ensuring the ability to recruit the highest level students into the program with the potential for success and attract students from diverse backgrounds.
- Provide weekly mentoring coaching position as an adjunct faculty member for year one of the program, a signature strategy of this program designed to ensure student success.

## **Overview of the STEM/SEAL Initiative**

### **STEM/Math Secondary Education Amplified Licensure Program- Mathematics STEM/SEAL DRAFT**

### **Unique features:**

- A 3-year undergraduate licensure program consisting of existing courses at MSU and surrounding community colleges
- Is strategically packaged and designed as a cohort model
- Creates an option for students interested in a MN 5-12 math license and who live in the metro area
- Offers an advisory seminar built into each semester
- Students receive mentoring and coaching for the MTLE exams for wrap-around support
- Students are enrolled in MSU but have the ability to take their general education courses in one of four community colleges

**Fall 2013**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
English 101 (Goal Area 1A)		4 credits	English 1112	Anoka
			English 1021	Century
			English 1108	Inver Hills
			English 1101	Normandale
Health 240 (Goal Area 5)		3 credits	Health 1102	Anoka
			Health 1060	Century
			Health 1130	Inver Hills
			Health 1106	Normandale
Math 121 Calculus I		4 credits	Math 1400	Anoka
			Math 1081	Century
			Math 1133	Inver Hills
			Math 1510	Normandale
URBS 100 (Goal Area 5 &8)	Edina	3 credits		
Required Non-credit Advisory Seminar for SEAL Program				
Fall Semester#1 = 14 credits				
Required Math Credits = 4	Required KSP = 0		Required Gen Ed = 10	

**Spring 2014**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 122 Calculus II		4 credits	Math 1401	Anoka
			Math 1082	Century
			Math 1134	Inver Hills
			Math 1520	Normandale
Biology 100 (Goal Area 3)		4 credits	Biology 1100	Anoka
			Biology 1020	Century
			Biology 1120	Inver Hills
			Biology 1007	Normandale
CMST 100/102 (Goal Area 1B)		3 credits	COMM 1110	Anoka
			COMM 1021	Century
			COMM 1110	Inver Hills
			COMM 1100	Normandale
URBS 110 (Goal Area 6)	Edina	3 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Spring Semester#2 = 14 credits				
Required Math Credits = 4	Required KSP = 0		Required Gen Ed = 10	

**Summer 2014**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 223 Calculus III	Edina	4 credits		
Math 247 Linear Algebra	Edina	4 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Summer Semester#3 = 8 credits				
Required Math Credits = 8	Required KSP =		Required Gen Ed = 0	

**Fall 2014 – Application to Professional Education during this semester**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 290 Foundations of Mathematics		4 credits	Math 290	Normandale
Math 354 Concepts of Probability and Statistics		3 credits	Math 354	Normandale
KSP 220 W (Goal Area 1C and 7)	Edina	3 credits		
KSP222	Edina	2 credits		
Health 101 (Goal Area10)		3 credits	Health 1110 Health 1020 Health 1120 Health 1104	Anoka Century Inver Hills Normandale
Required Non-credit Weekly Advisory Session for SEAL Program				
Fall Semester#4 = 15 credits				
Required Math Credits = 7	Required KSP = 5		Required Gen Ed = 3	

**Spring 2015**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 483	Edina	3 credits		
<b>Math 345 Abstract Algebra</b>	<b>Edina</b>	<b>4 credits</b>		
Astronomy 101 (Goal Area 3)		3 credits	Astronomy 1001 Astronomy 1070 Astronomy 1020 Astronomy 1104	Anoka Century Inver Hills Normandale
KSP 202	Edina/online	2 credits		
KSP 330	Edina	5 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Spring Semester#5 = 17 credits				
Required Math Credits = 7	Required KSP = 7		Required Gen Ed = 3	



**Summer 2015**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 332 Overview	Edina	4 credits		
Math 375 Analysis	Edina	4 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Fall Semester#6 = 8 credits				
Required Math Credits = 8	Required KSP = 0		Required Gen Ed = 0	

**Fall 2015**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 484	Edina	3 credits		
Math 485	Edina	3 credits		
KSP 440	Edina	3 credits		
KSP442	Edina	3 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Fall Semester#7 = 12 credits				
Required Math Credits = 6	Required KSP = 6		Required Gen Ed = 0	

**Spring 2016**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
Math 492 Capstone	Edina	3 credits		
URBS 230 (Goal Area 9)	Edina	3 credits		
English 242 W Intro to Creative Writing (Goal Area 1C and 11)	Edina	4 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Fall Semester#7 = 15 credits				
Required Math Credits = 9	Required KSP = 6		Required Gen Ed = 0	

**Summer 2016 - MTLE Summer Support**

**Fall 2016**

Required Courses Program & Gen Ed	MNSU at Edina Required Course	Credits	Direct Equivalent	Location Options
KSP 477	Edina	11 credits		
KSP 464	Edina	1 credits		
Required Non-credit Weekly Advisory Session for SEAL Program				
Fall Semester#8 = 12 credits				
Required Math Credits = 0	Required KSP = 12		Required Gen Ed = 0	

## References

U.S Department of Education, Office of Post-Secondary Education. (2012). *State of Minnesota Teacher Shortage Areas*. Washington, D.C.

MacCallum, D., Ross, P., (2010). *Minnesota Teacher Supply and Demand Study: A component of the Teacher Preparation Project Undertaken for the Minnesota Office of Higher Education*. Minneapolis, MN: MacCallum Ross, Inc.