REQUEST TO ESTABLISH NEW INSTITUTE AT THE UNIVERSITY OF NORTHERN IOWA
IOWA MATHEMATICS AND SCIENCE EDUCATION INSTITUTE

Action Requested: Consider approval of the request by the University of Northern Iowa to establish an Iowa Mathematics and Science Education Institute as part of the Iowa Mathematics and Science Education Partnership (IMSEP).

Executive Summary: The proposed Iowa Mathematics and Science Education Institute will facilitate the collaborative efforts of the Regent universities together with those of private and public entities to achieve the IMSEP goals: (1) improve mathematics and science performance of Iowa students; (2) prepare more high quality mathematics and science teachers for Iowa schools; and (3) promote statewide collaboration and cooperation. This proposal was reviewed by the Board Office and the Council of Provosts and is recommended for approval. Creation of the Institute requires Board of Regents approval, as stated in the Board of Regents Policy Manual §6.08, because the Institute will receive an annual institutional commitment of $250,000 or more. This request addresses the Board of Regents Strategic Plan priorities (2.0) to “provide needed service and promote economic growth” and (3.0) to “discover new knowledge through research, scholarship, and creative activities.”

Background:

❖ Need for Institute. Iowa’s leadership in mathematics and science education has eroded at a time when a global economy demands a mathematics- and science-literate work force. A need for a “clearinghouse or central coordinator” to resolve the “scattered and uncoordinated mathematics and science efforts” occurring throughout the state was identified at the 2007 Iowa Mathematics and Science Partnership Summit.

❖ Description of Institute. The proposed Institute will be the coordinative and evaluative unit for the Iowa Mathematics and Science Education Partnership. The Partnership’s four core projects and additional activities of the initiative are the shared responsibility of a stakeholder consortium – the Regent universities, private and community colleges; PreK-12 schools; area education agencies (AEAs); business and industry; government, and other appropriate organizations. The proposed Institute will be responsible for evaluating program and project goals and objectives.

❖ Desired outcomes of the Iowa Mathematics and Science Education Partnership.
  ➤ Double the number of Iowa PreK–12 and community college mathematics and science teachers produced by Iowa universities in 3-5 years.
  ➤ Improve the performance of Iowa PreK–16 students in mathematics and science courses.
  ➤ Enhance collaboration among the Regent institutions, community colleges, PreK–12 districts, government bodies, and private sector.
  ➤ Improve the content and pedagogical knowledge of Iowa mathematics and science teachers in PreK–12 districts, community colleges, and Regent universities.
increase the racial/ethnic and socio-economic diversity of mathematics and science teachers in Iowa.

增加在数学和科学领域获得学位的学生成都较高。

增加科学和数学课程的教育和质量。

增加数学和科学领域教师的多样性。

减少数学和科学领域未取得教师资格的教师数量。

减少数学和科学领域教师的离职率。

利用纳税人的投资来提高数学和科学教育的质量。

关系到印第安纳大学的战略计划。提议的研究所将解决印第安纳大学的战略目标。

“为本科生和研究生提供具有挑战性和性格教育的体验。”提议的研究所将为学生提供一个增强和激励的环境来考虑数学和科学教学领域。它也将响应学好数学和科学教学领域的需求。

“保持一个由创造性和智力严谨的教学和研究学者组成的教员队伍。”提议的研究所将为教员提供成长和机会来分享和扩展他们的教学实践。

集中于解决面临的数学和科学教师短缺的关键问题。数学和科学教师的招聘和保留是提议的研究所的关键组成部分。

关系到其他中心。提议的研究所将与其他中心和学院以及教育工作者在爱荷华合作，包括Kirkwood Community College的Workplace Learning Connection，North Iowa Area Community College的Regional Academy for Math and Science（RAMS），Iowa State University的Center for Excellence in Science and Mathematics Education，和Glenwood的Science Research and Innovation Center（SRIC）。

跨机构关系。四个核心IMSEP项目已经建立了良好的合作关系，包括ISU和SUI的工程学院，North Iowa Area Community，Area Education Agency 10，Cedar Rapids学校，Rockwell-Collins，和Kirkwood Community College。

研究所的独特性。董事会任命UNI校长Ben Allen来领导数学和科学领域的跨大学协作。每个大学都有自己独特的优势。
• **Staff.** The proposed Institute will have a central coordinative staff – director, program manager, grants and evaluation specialist, administrative personnel, and graduate and undergraduate students. Each Regent university will have dedicated faculty lines and a campus coordinator.

• **Facilities.** The proposed Institute will be located in the Center for Energy and Environmental Education at UNI. Equipment, such as computers and telephones, has been purchased through the FY 2009 state appropriation supporting the Institute. Other equipment, including office infrastructure needs, will be purchased as needed.

• **Expected need for Institute.** The proposed Institute will continue indefinitely to address the need for resources at the Regent universities to enhance and lead PreK-16 mathematics and science education improvement.

• **Costs and funding sources.** The proposed Institute will be funded in FY 2009 as part of the state appropriation of $4 million for the Iowa Mathematics and Science Partnership. This appropriation of $4 million is expected to be renewed annually. UNI will continue to provide infrastructure support to ensure success. Leveraged funds are expected to augment state support over time. The projected cost for the proposed Institute in Year 1 will be approximately $770,000; in Year 7, the cost is projected to be approximately $2.6 million.