

Contact: Diana Gonzalez

**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.
  - Increase the quality and quantity of science and mathematics coursework available to students in PreK–12 districts and community colleges.
  - Increase the number and diversity of students who major in mathematics and science fields at the Regent universities.
  - Decrease the number of unlicensed mathematics and science teachers in Iowa.
  - Decrease the attrition rate for mathematics and science teachers in Iowa.
  - Leverage taxpayer investment in mathematics and science education.
- ◇ Relationship of the Institute to UNI’s Strategic Plan. The proposed Institute will address the following UNI strategic goals:
- “Providing intellectually challenging and character-building experiences for undergraduate and graduate students in a personalized learning environment.” The proposed Institute will provide an enhanced and motivating environment for students considering a career in mathematics and science teaching fields. It will also respond to the growing needs of PreK-16 students.
  - “Maintaining a faculty distinguished by their creative and intellectually rigorous teaching and scholarship.” The proposed Institute will foster growth and opportunity for faculty to share and expand their knowledge base of teaching pedagogy.
  - “Focusing the involvement of the University in addressing critical local, state, national, and global needs.” The proposed Institute will address the critical shortages faced by the State of Iowa for mathematics and science teachers. Focusing on mathematics and science teacher recruitment and retention is a key component of the proposed Institute.
- ◇ Relationship of the Institute to other centers. The proposed Institute will collaborate with other centers and institutes and educators in Iowa, including the Workplace Learning Connection at Kirkwood Community College, the Regional Academy for Math and Science (RAMS) at North Iowa Area Community College, the Center for Excellence in Science and Mathematics Education at ISU, and the Science Research and Innovation Center (SRIC) at Glenwood.
- ◇ Inter-institutional relationships. The four core IMSEP projects have well-established partnerships, including the engineering colleges at ISU and SUI, North Iowa Area Community, Area Education Agency 10, Cedar Rapids schools, Rockwell-Collins, and Kirkwood Community College.
- ◇ Institute Uniqueness. The Board of Regents appointed UNI President Ben Allen to lead the mathematics and science inter-university collaborative. Each Regent university has well-developed strengths or fields which will contribute to the success of the collaborative. UNI’s mission positions the University to provide leadership regarding teacher preparation.

- ◇ 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.