

**MINNESOTA STATE COLLEGES AND UNIVERSITIES  
BOARD OF TRUSTEES**

**Agenda Item Summary Sheet**

**Committee:** Academic and Student Affairs

**Date of Meeting:** March 17, 2010

**Agenda Item:** Centers of Excellence Update

- Proposed Policy Change       Approvals Required by Policy       Other Approvals       Monitoring
- Information

**Cite policy requirement, or explain why item is on the Board agenda:**

Wilder Research will provide an evaluation of the centers of excellence to the Board of Trustees in April. This presentation is to provide background information on the work of the four centers of excellence prior to the evaluation presentation.

**Scheduled Presenter(s):**

Linda L. Baer, Senior Vice Chancellor for Academic and Student Affairs  
Dennis Siemer, V-Tek Incorporated  
Laura Beeth, Fairview Health Services  
Student representative  
Ronald Bennett, Minnesota Center for Engineering and Manufacturing Excellence

**Background Information:**

In 2005, Minnesota State Colleges and Universities established centers of excellence in health care, manufacturing and engineering, and information security at four state universities and 21 community and technical colleges. This presentation will provide an overview of the four centers' activities, educational programming and industry involvement during 2008 and 2009.

The four centers are:

1. HealthForce Minnesota, Winona State University,
2. Advance IT Minnesota, Metropolitan State University,
3. 360° Manufacturing and Applied Engineering Center of Excellence, Bemidji State University, and
4. Minnesota Center for Engineering and Manufacturing Excellence, Minnesota State University, Mankato.

**BOARD OF TRUSTEES  
MINNESOTA STATE COLLEGES AND UNIVERSITIES  
*INFORMATION ITEM***

**CENTERS OF EXCELLENCE UPDATE**

**BACKGROUND**

*How do the centers of excellence make an impact?*

The four centers of excellence established by the Minnesota State Colleges and Universities are making a broad impact on the educational programs and services needed to prepare today's incumbent workers and tomorrow's skilled workforce.

Over the past four years, the centers have operated as entrepreneurial start-ups by advancing the state's critical industries of health care, manufacturing and engineering, and information technology. The centers are providing resources, nurturing innovative solutions and establishing productive collaborations. The centers of excellence have and will continue to empower people to transform their lives through educational and career attainment.

Advancing the system's strategic goals, the centers have made investments to recruit and retain students, improve the skills of workers, upgrade equipment, support faculty development, link programs and develop new curriculum. They educate employers on emerging technology and foster applied research programs, while gaining regional and national recognition for their own expertise. Further, the centers promote distance learning and other new ways to deliver education, particularly to students and workers in underserved rural communities.

The centers have built connections among K-12 schools, community and technical colleges, state universities and leading employers, in some cases bringing together competing companies to work together to solve problems. Through camps and other outreach programs, the centers offer hands-on opportunities to prepare young students, our talent pipeline, for careers of the future. The centers also provide career and professional development opportunities through internship Web sites, job fairs, conferences and skills competitions, often produced with state and industry partners.

*Why are the centers of excellence important?*

Minnesota and the rest of the country are in the grips of the longest and deepest economic downturn since the Great Depression. One of the most painful near-term consequences has been the loss of more than 132,000 jobs in Minnesota since December 2007. A more subtle yet

significant impact is the collective tendency to lose sight of the longer-term threats to economic competitiveness and well being. Based on past experience with labor shortages and demographic changes, the increasingly global nature of economic competitiveness, and the rapid evolution toward more technical sophistication in key industry clusters, these challenges require the system's attention.

A highly educated workforce, strategically aligned with the emerging needs of employers, is the foundation of a vibrant regional economy. The well-being of the state's critical industries – health care, manufacturing and engineering, and information technology – has not been left to chance. Rather, like successful businesses that fare well in tough times, the state continues to invest to provide a more robust workforce for the state's critical industries, to advance the performance of companies in these industries, and to find innovative ways to meet these needs while leveraging outside resources to sustain such efforts.

Leading these efforts are the four centers of excellence established by the Minnesota State Colleges and Universities in 2005 -- HealthForce Minnesota, Advance IT Minnesota, the Minnesota Center for Engineering and Manufacturing Excellence, and 360° Manufacturing and Applied Engineering Center of Excellence.

### ***What have the centers of excellence accomplished?***

#### **HealthForce Minnesota**

- Created Scrubs Camps in 2008 to promote career awareness for middle school, high school and adult students, including unemployed and dislocated workers. In its first two years, 319 students and 89 adults attended Scrubs Camp, and camp offerings have grown from one camp to 10. These camps provided transformational experiences for many participants and lead to college enrollments. As a replicable model, the camp is available to be delivered nationally.
- Partnered with Allina Health System and St. Paul College to receive a \$2 million U.S. Department of Labor grant to provide online training in clinical laboratory science. Supports two-year laboratory technicians who want to continue their education in their own communities. Leveraged an additional \$1.2 million from industry partnerships.
- Advanced collaboration and organizational development through grants. Examples include a \$12,000 micro-regional grant awarded to Pine Technical College that was leveraged into a \$4.2 million U. S. Department of Labor grant for health care education.
- Served 9,481 people from projects, camps and partners in fiscal 2009. In fiscal year 2009, funded \$1.18 million in health care innovation and project investments throughout the

state. Leveraged dollars for innovation in fiscal year 2009 totaled more than \$1.16 million.

- Invested in more than 73 curriculum development projects and other programs since fiscal year 2006 to help advance health care practice. Projects include development of a health curriculum in Winona Public Schools; a mentorship program for nursing assistants on the White Earth Indian Reservation and Somalis in the Rochester area; and delivery of a bilingual health care curriculum in Spanish.
- Convened health providers and agencies across the state for a two-day summit to create a vision and develop a seven-step action plan for a Minnesota health delivery system.

### **Advance IT Minnesota**

- Worked with academic and industry partners to develop innovative curricula in emerging competencies like Internet Protocol (IP) telephony network security, open source software, enterprise risk management, computer forensics, and information technology leadership. More than 12 new courses and significant lab upgrades have been realized with center support.
- Converted more than 15 courses to online learning to create greater accessibility to information technology-related skill development.
- Organized, in partnership with industry, the yearly “Secure 360” conference on information technology security at the RiverCentre, now attended by more than 600 professionals and 70 corporate sponsors.
- Created a comprehensive Web site, *Minnesota IT Careers*, and complementary events to promote information technology careers. The site serves more than 1,200 secondary students and 500 college students each year.
- Served a leadership and supporting role to promote information assurance for Minnesota State Colleges and Universities through assessment of all 32 campuses. Trained information technology services staff and provided technical assistance where needed.

### **Minnesota Center for Engineering & Manufacturing Excellence**

- Established the Iron Range engineering program, a unique engineering degree completion program between Minnesota State University, Mankato and the Northeast Higher Education District. The program, seeded with \$50,000 from the center, is designed to meet the engineering needs of new employers in northeastern Minnesota including Polymet, Mesabi Nugget and Essar Steel. These three companies alone will need up to

70 engineers in the next few years.

- Supported South Central College's new mechatronics program to launch a distance learning component. Center funds of \$70,000 leveraged with industry funding supports instructional costs of the mechatronics program.
- Supported summer camps for engineering and manufacturing career awareness for middle and high school students from the Iron Range to southern Minnesota. More than 1,000 students have been served using \$250,000 in center funds as seed money. Early evidence indicates these programs are helping to improve college and university enrollments in engineering and manufacturing.
- Organized, trained and evaluated 198 schools in Project Lead the Way, a hands-on technical education program in middle and high school. Project Lead the Way enrollments have increased 10 percent over 2009. Organized and provided training for university faculty to teach in summer training institutes.
- Supported the development of a new distance-based automation training program at Alexandria Technical College that has served more than 60 industry technicians. The project created a new delivery model that provides 24/7 accessibility for complete manipulation of hardware located anywhere across the world via the Internet.

### **360° Manufacturing and Applied Engineering Center of Excellence**

- Developed four joint, multi-institutional certificate programs in manufacturing production technology, machine technology, automation technology, and welding technology. Each program offers a 30-credit certificate and is available online or as blended delivery.
- Supported the purchase of capital equipment recommended by industry partners and valued at more than \$2.5 million. Allows students to be trained and educated on the latest technology used by today's advanced manufacturing companies.
- Expanded career awareness and student outreach to west central Minnesota through the launch of the *Dream It. Do It.* marketing campaign. More than \$100,000 has been raised to support the campaign in collaboration with the Minnesota Department of Employment and Economic Development, Tri-State Manufacturers' Association, Alexandria Technical College, Minnesota State Community and Technical College, and other private and public partners.
- Partnered with Anoka Ramsey Community College on a \$238,000 FIPSE grant to develop an Associate of Science degree in applied engineering with a biomedical focus. The program articulates to the Bemidji State University's Bachelor of Applied Science

degree in applied engineering. Through this grant, Bemidji State University also will add a biomedical emphasis to the applied engineering program.

- Sponsored 40 technology-based events including career fairs, day camps, and weeklong summer camps for more than 3,000 middle school and high school students.
- Between 2006 and 2008, technical manufacturing-related programs promoted by the center have graduated 207 percent more associate degrees, 34 percent more certificates and 25 percent more diplomas for a total of 39 percent more awards. Source: Wilder Research evaluation, January 2009.

For more information on center activities, contact:

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