



STEM BACKGROUND

March 2011

As science and technology continue to have a growing affect on our daily lives and our economy, building the necessary foundation through education is critical. Consider these facts:

- The U.S. Bureau of Labor Statistics forecasts that eight out of 10 of the fastest growing occupations in the nation are jobs in the STEM fields.
- Here in Minnesota, the Department of Employment and Economic Development's Employer Survey reveals that engineering and technology top the list of types of knowledge most important to future hiring needs (48 percent). Also high on the list are chemistry, biology and other sciences (12 percent) and mathematics (10 percent).

Private colleges' commitment to STEM education

At the 17 institutions that are members of the Minnesota Private College Council, STEM education has long been a cornerstone. Here are some key points:

- Minnesota's private colleges and universities are a significant contributor to bachelor's degree graduates, awarding 29 percent of STEM degrees.
- Our share of undergraduate degrees is even higher for some key STEM-related areas:
 - **36 percent of all biological and biomedical science degrees,**
 - **46 percent of all mathematic degrees, and**
 - **50 percent of all physical science degrees.**
- Twenty-three percent of Minnesotans of color who earn undergraduate STEM degrees do so at one of our private colleges and universities. That makes us the state's second-largest source of STEM grads of color.
- Strong graduate level programs at our institutions mean we award 15 percent of STEM master's degrees in the state. These programs include computer science and engineering.

Our graduates build strong foundations in STEM fields while also gaining critical thinking skills that are essential in our global economy — a key benefit of our liberal arts focus.

STEM examples

There are many examples of our colleges' STEM contributions. Here are just a few:

- **Carleton College** is a leading source nationally of female undergraduates who then earn doctorates in the physical sciences. For the last 25 years, Carleton has ranked first among traditional liberal arts colleges in the number of graduates (male and female) who go on to obtain Ph.D.'s in chemistry and related fields.
- The Math, Physics, Computer Science Research Scholars (MapCores) program is a new offering for women at the **College of Saint Benedict**. Students accepted into the program receive a scholarship and gain cross-disciplinary academic and

- research experiences to prepare them for careers in these fields.
- **Concordia College** pre-med graduates have achieved an 88 percent acceptance rate into medical school over the past 10 years surveyed.
 - **St. Catherine University**'s initiatives include a STEM minor and certificate for undergraduates to broaden their career options. STEM majors are eligible for NSF scholarships, special mentors and collaborative research grants as well as honor societies, including Phi Beta Kappa. St. Kate's also offers STEM graduate certificate programs for in-service teachers.
 - **St. Olaf College** traditionally ranks in the top three four-year colleges in the nation in number of chemistry majors graduated each year.
 - Engineering students are working with faculty at the **University of St. Thomas** to develop small-scale wind turbines that will power cell towers and expand communications throughout the world.
 - Fourteen of our colleges partner with the **U of M's Institute of Technology** dual degree program in engineering.
 - Ten of our undergraduate colleges and three of our graduate colleges participate in the **Mayo Innovation Scholars Program** — a collaborative effort with the Mayo Clinic Office of Intellectual Property and Medtronic Foundation.
 - Five of our colleges are part of the **North Star STEM Alliance**, which aims to double the state's minority STEM graduates in the next five years.
 - Five of our colleges are sites for **Minnesota MentorNet**, which pairs STEM college students with professionals for one-on-one e-mail mentoring.

Visit www.mnprivatecolleges.org for more on the STEM disciplines and private colleges — including the Minnesota Private College Fund's Galileo Scholarship Fund.