

College of Science, Technology, Engineering, & Mathematics 2011-12 Strategic Planning

Mission Statement

Educating students to be life-long learners through an innovative approach to learning that combines theory, practice and experimentation in science, technology, engineering and mathematics.

We value:

- Quality teaching which actively engages our students in learning. We use best practices to innovatively teach a curriculum which is career focused and meets present global demands.
- Applied and original research and scholarship by faculty, staff and students. This promotes continuous learning, professional development, and collaborations in the Stout community and with outside partners.
- Active participation in the university, local and global communities through service and citizenship.
- High standards of ethical behavior, integrity, and trust in an inclusive and respectful environment.
- A supportive, positive and engaging workplace for faculty, staff and students.
- Inspiring present and future generations of innovators, teachers, and enlightened citizens.

College Goals

Commitment to the Success of All Students in Science, Technology, Engineering, & Mathematics

Develop systems providing for integration of course embedded assessments, student performance data, and current research into standard practices for course development and delivery. Focus on factors concerning access, retention, diversity, and graduation rates.

Contribution to Research on Teaching and Learning

Establish a continuing review of the research literature and college data to motivate studies of practices for inspiring student achievement in STEM. Identify key academic and resource advantages in the balance of location-based, technology-delivered, and project driven programming.

Strategic Alignment of College Strengths and Funding Opportunities

Identify alignments of college strengths, available college/university funds, current grant programs, opportunities for collaboration with external organizations, and interests of potential donors toward increasing funding and in-kind support for applied research, industrial projects, laboratory development, scholarships, and other college initiatives each year.

Community of Experts in Science, Technology, Engineering, & Mathematics

Initiate opportunities for the emergence of a community of current and future STEM experts, committed to the power of cross disciplinary ideas and new academic advances to generate innovations of significance for economic growth.

Targets

Determine methods of quantifying the academic and budgetary impact of our decisions. Automate data collection and make the results readily available to guide future planning.

Aligned Response

Develop effective and immediate responses for calls to action from our university, system, and state, advancing common goals of academic, economic, and societal significance.

College Action Items

Identify ways to continually increase the quality of our STEM teaching and learning environments, drawing upon distinct advantages afforded by on-location and online opportunities. Connect these efforts to current research, student performance assessments, accreditations, and resource management data. Support implementation and further study of promising new approaches.

Identify and implement opportunities to support an emerging sense of community and distinctive identity for college programs and expertise groups. Consider college-wide opportunities through organizational structure, design of available spaces, and events.

Provide for strategic alignment of college strengths with funding opportunities such as donations, grants, industry partnerships, Ethics Center, and Discovery Center.

Academic and Student Affairs Targeted Projects directly involving STEM

Goal 1: Offer high quality, challenging academic programs that influence and respond to a changing society

- Develop and revise courses to meet the requirements of the newly revised general education program, including Contemporary Issues courses and Social Responsibility and Ethical Reasoning courses
- Prepare for first ABET accreditation for the B.S. in Plastics Engineering and B.S. in Computer Engineering

Goal 2: Preserve and enhance our educational processes through the application of active learning principles

- Develop a tutor training and student support center for college algebra, pre-calculus, calculus, and courses relying upon these subjects for pre-requisite material
- Support the roll-out of SAGE by faculty/staff participation in identified mathematics courses and English courses and follow-up analyses

Goal 3: Promote excellence in teaching, research, scholarship and service

- Develop collaborations with the Medical Device Initiative
- Incorporate expectations for applied research, grant writing and work with the Discovery Center into new faculty position descriptions

Goal 6: Provide safe, accessible, effective, efficient and inviting physical facilities

- Invite proposals from art students with advanced experience in STEM to develop display pieces which both teach and inspire; commission at least two pieces for display in college areas
- Engage in division-wide space planning for the purpose of consolidating departments and colleges and identifying appropriate space for growing units

UW-Stout Academic Plan STEM College items
<http://www.uwstout.edu/provost/currhb/acplan.cfm>

Professional Science Master's (P.S.M.) in Industrial and Applied Mathematics: Entitlement to Plan approved by UW System Fall 2010; Authorization to Implement planned for Fall 2011; Implementation to be determined

M.S. in Biomedical Sciences: Collaboration with UW-RF and Marshfield Clinic; Entitlement to Plan to be submitted Fall 2011

M.S. in Construction Management: Entitlement to Plan to be submitted Fall 2011; Authorization to Implement planned for Spring 2012; Implementation planned for Fall 2012

Professional Science Master's Degree: Feasibility for new degree under discussion in collaboration with Minnesota State Colleges and University System, North Dakota State University, Concordia College, and UW-LaCrosse

Submajors:

- B.S. Engineering Technology, investigation of collaborative programming for remote site delivery with UW-Sheboygan, UW-Manitowoc, and Lakeshore Technical College (COBE grant)
- Food Packaging professional development certificate; Joint program under development between CEHHS and CSTEM

Inclusive Excellence Plan Items directly involving STEM

Goal 1: Increase the number of Wisconsin high school graduates from all segments who apply, are accepted, and enroll at UW System institutions

- Examine the academic programs in STEM that are underrepresented for women and develop a plan to increase the number of women who apply to, are accepted in, and enroll in the identified programs. This is a pilot program with the idea that it would later be expanded to other underrepresented groups.
- Bring an additional 200 students to campus from Saudi Arabia via a partnership with the government. Will bring in 50 students per year. King Abdullah scholarship.

Goal 3: Close the gap in educational achievement by bringing retention and graduation rates for all student segments in line with those of the student body as a whole

- Connect programmatic student learning objectives to standard departmental course assessments; initiate regular review of data for impact on under-represented populations in STEM and on general student success.

Goal 7: Improve accountability at UW-Stout

- Look for ways to share Inclusive Excellence plans by college and department. Deans report back on how they shared their plans.

AQIP Process Improvement Plan (Category 2) Items directly involving STEM

- Development of a strategic planning process, which includes the review of data and metrics provided by PARQ for the purpose of understanding the university targets and aligning CSTEM goals to provide positive impacts on these targets.
- College leadership ongoing review of available data, providing feedback to PARQ in cases of results that differ with information available within CSTEM or through other university sources.
- As updated data and reports become available, these are reviewed by the college chairs groups and brought to department faculty/staff by the chairs. This generates discussion of the underlying assumptions and selections made in data collection and of intended interpretations of the data. Resulting questions or comments are then communicated to the PARQ Director during meetings with the college dean or with college chairs or council. This is significant for aligning CSTEM goals, strategies, planning cycles, and targets with the strategic plans of the university and UW system.

STEM College Recruiting Plan

Plan in development – to be submitted October 14, 2011

STEM College Customized Instruction Program Budget Plan

Program budget plans in development – to be submitted October 30, 2011