

Education

Key Goals:

1. Improve science and mathematics learning in K-12 schools of the Upper Midwest in order to increase the number of students pursuing careers in science and engineering and to help re-develop Michigan's economy around 21st century technologies.
2. Improve the university's ability to attract external research funds by providing faculty expertise in targeted areas of psychological science, specifically human factors and human performance.

Actions Relating to Key Goals

1. Improve science and mathematics learning:

- a. Continue to deliver high quality teacher professional development programs in science and mathematics.
- b. Attract and graduate high quality students in the M. S. in Applied Science Education and the Peace Corps-Master's International graduate programs.
- c. Increase number of undergraduate students pursuing teacher certification in science and mathematics.
- d. Continue to attract external funding to support graduate students and teacher professional development programs.
- e. Develop new and innovative programs to attract professional scientists and engineers into the K-12 teaching profession.
- f. Work with state officials and other institutions to increase the number of students pursuing teacher certification in science and mathematics.
- g. Determine feasibility of developing partnerships with community colleges and urban school districts to increase number of underrepresented students in teacher education programs.
- h. Examine benefits and costs of seeking national accreditation for teacher education programs through TEAC or NCATE.
- i. Identify additional funding to support continuous improvement of Department of Education teaching facilities and equipment, including updating of wireless computing system.

2. Provide expertise in psychological science, specifically human factors and human performance:

- a. Recruit new tenure-track faculty in human factors psychology and in the psychology of human performance.
- b. Provide competitive salaries in high demand specialty areas of psychology.
- c. Increase external funding for psychology research.

- d. Expand and improve psychology research facilities, particularly for work in the interdisciplinary areas of simulated (virtual) reality and in human performance.
- e. Examine opportunities for development of M. S. degree in psychology.

Other Activities Related to MTU Strategic Plan

- 1.1 PSY major attracts students who would otherwise not attend a technological university, adding diversity of viewpoint and outlook to the student body.
- 1.2 Of the 6 full-time faculty, half are women; 17% are minority. PSY and Education attract a high proportion of women and minorities as students and as faculty.
- 1.3 There is a need to expand and improve the psychology research facilities if we are to carry out high quality faculty research and scholarship, particularly in areas such as human factors and human performance.
- 2.1 The Peace Corps Master's International Program, just initiated, will provide international opportunities for Science Education graduate students.
- 2.2 With a growing faculty in psychology and an expanding research program, the university should seriously examine the potential for a graduate program in the field, as well as the resources required to accomplish this.
- 3.1 Key interdisciplinary areas of psychology include Human Factors (connections with Electrical and Computer Engineering, Computer Science, Mechanical Engineering, Biomedical Engineering) and Human Performance (connections with Biological Sciences and Physical Education).

Science and Mathematics Learning is an interdisciplinary area that links education faculty with faculty in all science disciplines, mathematics, engineering, and forestry for research and professional development purposes.

- 3.2 The Department of Education will continue to serve as the university's link to K-12 education locally, regionally, and statewide. The department maintains contact with the Michigan Department of Education and with other teacher education institutions through membership in the Michigan Education Deans' Council and MACTE (Michigan Association of Colleges of Teacher Education). The department chair is the university's representative at monthly meetings of the Upper Peninsula Center for Education Development (UPCED), which brings together the seven ISD's and the three state universities of the region.

At the local level, the department will continue to be actively involved in the entrepreneurship activities related to K-12 schools through regular meetings with the ISD superintendent, the CEO of the SmartZone, and the president of the university. The department has continues to actively engage the local K-12 community through teacher professional development, meetings with area

principals and superintendents, and the department's Teacher Education Advisory Council.

- 3.3 The department's new Peace Corps-Master's International Program in Science Education will provide additional opportunities for international collaboration and cultural exchange.

Donor Opportunities:

Focus areas:

Science and mathematics learning to improve Michigan's economy.

Human factors and human performance psychology.

Opportunities:

Scholarships for students to study science and mathematics education at MTU.

Seed grants to support a simulated reality laboratory at MTU.

Endowed chair in human factors psychology.