Center for Science, Mathematics & Environmental Education

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Center Programs

• Family Engineering, Science, Chemistry, Physics, Forest Nights
• Outdoor Science Investigations Field Trips
• Western U.P. Science & Engineering Fair and Festival
• After School Engineering Classes for elem students
• Lake Superior Stewardship Initiative
• Great Lakes Research Center Education/Outreach
• Urban Environmental Education in Detroit
• Teacher Professional Development
Family Engineering, Science, Forest, Chemistry, Physics Nights

• Conduct ~ 20 events each year in four western counties of UP since 1998.

• Hands-on activities presented by MTU STEM students enrolled in ED 3510/3511 *Communicating Science* (2 credits) and STEM student chapter volunteers.

• Reach 2,500 K-6 students & parents locally each year.

• Events held at elementary schools, museum, library, pow wow, Girl Scouts, etc.
MTU is Co-Developer of **NEW** Family Engineering Program

To increase the number and diversity of future engineers by increasing awareness and understanding amongst elementary-age children & their parents about engineering and engineering careers.  [www.familyengineering.org](http://www.familyengineering.org)
Success of Family Engineering

- Increasing awareness and interest in STEM careers

Family Engineering events have shown significant positive impacts on families’ interest in, and awareness of, what engineers do.

“We learned that just about everything we do involves engineering.”

“The activities were fun and creative for all ages.”

- After your experience tonight, does your family have a better understanding of how engineering impacts our lives? 100% YES

After your experience tonight, are you now more likely to encourage your child to consider a career in engineering? 95% YES
Working to Recruit Under-Represented Students to STEM careers using STEM Student Chapters at Universities and Family Engineering as an “Engagement Tool”

- Coached 8 MTU-NSBE students who conducted an “alternative spring break” where they presented to 2500 K-12 students at 7 schools and conducted 3 Family Engineering Nights in Detroit.
- Coached 6 MTU-SHPE students who presented to 500 middle school students at Burton Middle School in Grand Rapids.
- Coached 6 MTU-AISES students to conduct a family engineering night at Baraga Elementary.
- Co-presenting with MTU-SWE students at 2012 SWE National Convention.
Urban Environmental Education (Detroit)

Program Components
• Participate 3 class field trips per school to Belle Isle.
• All students participate in a Stewardship Project.
• Create a schoolyard natural area
• Participate in community work days on Belle Isle.
• Conduct Community Open House events on Belle Isle.
• Teachers develop a 5-day forestry teaching unit.

Who Participates:
• 40 Middle and High School Teachers
• 20 middle/high schools in Detroit
• 1000 Grade 5-12 students

Student Reflections
• “It’s not just about making a path... its about making a difference
• “My favorite part of the forest was seeing chipmunks for first time and it amazed me!
• “I enjoy being outside in nature. Walking in the forest gives me happiness and joy.”
• “It changed me by making me appreciate nature. “
NEW Great Lakes Research Center

Education/Outreach for K-12 students, teachers, communities

*Recruiting volunteers to assist with Lake Superior Water Festival ~ Oct. 5
What Can We Provide?

1. ED3510/3511 *Communicating Science* class (1-2 credits per semester) to gain presentation skills.
2. FREE Family Engineering Training Workshops.
3. Opportunity to “practice presentation skills” at Family Science & Engineering events in local schools.
4. Ability to connect to local schools throughout Michigan to facilitate outreach to under-represented youth & families.
5. Opportunity to participate in urban environmental education/forest stewardship field trips for Detroit students.
6. Fundraising capability for your STEM chapter.
7. Strategies for expanding local efforts to national level.
For more information about the Center for Science, Math & Environmental Education visit:

http://wupcenter.mtu.edu

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