Helping Students Navigate
THE ROAD TO SUCCESS
Message From the Dean

Fall 2010 graduate enrollment reached 1,256 students, a new record high for Michigan Tech. We set another record as well: we awarded 324 graduate degrees, including 55 PhDs and 269 master’s.

Looking to the future, the University’s strategic plan calls for continued increases in the number of graduate students—3,000 by 2035. So far we are on track to meet that goal, but we all know that there will be challenges as we move forward. One of the biggest impediments we currently face relates to our ability to provide financial support to graduate students.

Michigan Tech’s faculty are increasingly successful at obtaining external support for our students—from government agencies, corporations, and nonprofit organizations. But, we need help from our alumni and friends as well. Attracting and retaining the best graduate students are increasingly competitive endeavors. We receive more applications to our programs than ever before (2,659 for fall 2010), and we accept about 47 percent of those students, but only 29 percent of those accepted actually matriculate at Michigan Tech. In many cases, students are forced to go elsewhere because we are unable to offer them any sort of scholarship or fellowship, and they cannot afford to continue their education without financial aid. Federal aid for graduate students has been cut recently, making it more difficult than ever before for low-income domestic students to get an advanced degree.

This year, we have set up a new fund that will be used to provide scholarships to outstanding students with financial need. I hope you will join me in contributing to this or another fund this year.

If you are reading this, you are probably already aware of some of the contributions made to society by our students and alumni. Our graduates are entrepreneurs, innovators, and experts in their chosen fields who are working to improve the quality of life and contribute to economic growth.

Michigan Tech’s students and alumni do great things. With our help even more students can have the opportunity to become graduate school alumni who spend their career creating the future and changing the world.

Jacqueline E. Huntoon  •  Associate Provost for Graduate Education  •  Dean of the Graduate School
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About the Cover:
The Graduate School gives guidance to its students as they navigate the road to success. Students like Maria Janowiak benefit from the support, advice, and services provided by the Graduate School. Maria’s path led her to a career as a scientist with the Northern Institute of Applied Climate Science’s Department of Climate Change Adaptation and Carbon Management.

American Indian/Alaskan Native  •  African American/Non-Hispanic  •  Asian/Asian American  •  Hispanic/Hispanic American  •  White/Non-Hispanic  •  International  •  Multiracial  •  Not Supplied

There was an increase in the number of white, non-Hispanic students, an increase in the number of international students, and a decrease in the number of students who did not supply information in 2010–11. Other categories showed small changes (less than ten students per category) as compared to last year.
Graduate School deans from across the state are working together to inform our state legislators of the importance of graduate education. For the last three years, their efforts resulted in the Governor proclaiming a Graduate Education Day in the state of Michigan. Each year our Graduate School has selected PhD students born in Michigan to represent the University by making presentations highlighting their research and its economic benefits to the state. Students have also had the opportunity to meet one-on-one with key legislators to discuss how Michigan Tech’s graduate students are helping to create the future for the state of Michigan.

Internal financial support includes teaching and research assistantships provided by Michigan Tech. External support includes fellowships, grants, and contracts. Self-supported students pay their own way or have assistance from an employer or another organization and their support is not administered through Michigan Tech.

Self–supported master’s students continue to grow in number at Michigan Tech. These students pursue degrees that make them more competitive in today’s workplace. In 2010, there was a slight increase in the number of master’s students receiving external support and a small decrease in the number receiving internal support.
New Program
CREATING THE FUTURE AND CHANGING THE WORLD

Integrated Geospatial Technology (MS)
The School of Technology is undergoing a transformation. Established in 1972, originally it offered training certificates, then two-year associate’s degrees, then bachelor’s degrees, and now comes its first graduate program—a master’s in integrated geospatial technology.

| 1,256 | Number of graduate students enrolled at Michigan Tech in fall 2010 |
| 9.4   | Percent overall increase in first-time master’s students in fall 2010 |
| 9     | Number of online graduate certificate and degree programs |
| 48    | ASEE 2010 ranking for ratio of research expenditures to doctoral degree recipients |
| 4     | The number of graduate programs ranked in the top fifty by US News & World Report (Civil Engineering, Environmental Engineering, Materials Science and Engineering, Mechanical Engineering-Engineering Mechanics) |
| 94    | Percent placement of graduate students immediately after graduation in 2010-11 |

Peace Corps Master’s International
Michigan Tech has the nation’s largest Peace Corps Master’s International program. Our graduate students combine their technical skills with a passion to serve others. They live, learn, and have provided service in over forty nations around the world.

PCMI programs at Michigan Tech:
- Applied Natural Resource Economics
- Biological Sciences
- Civil and Environmental Engineering
- Forestry and Natural Resources
- Mechanical Engineering
- Natural Hazards Mitigation (Geology)
- Rhetoric and Technical Communication
- Science Education
Applications, Accepts, and Enrolled: Based on Data for Fall

Academic Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010
---|---|---|---|---|---|---
Applications | 1190 | 1299 | 1705 | 2090 | 2441 | 2659
Accepts | 677 | 252 | 608 | 276 | 233 | 265
New Enrollment | 677 | 252 | 608 | 276 | 233 | 265

The Graduate School has seen a 123 percent increase in applications and an 85 percent increase in accepts from fall 2005 to fall 2010. To administer this volume of applications, the Graduate School implemented an online review process, enabling reviewers to receive and respond to application materials electronically.

Graduate Enrollment: Based on Data for Fall

Academic Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010
---|---|---|---|---|---|---
PhD Students | | | | | | 1206
Master’s Students | 896 | 916 | 912 | 984 | 1206 | 1256
Graduate Nondegree | 896 | 916 | 912 | 984 | 1206 | 1256

Graduate enrollment has increased by 40 percent since fall 2005, and the University exceeded its 2010 enrollment goal for graduate students (1,250). Michigan Tech will continue to focus on increasing graduate enrollment with a goal of having 3,000 graduate students enrolled by the year 2035.

Graduate Degrees

Academic Year | 05-06 | 06-07 | 07-08 | 08-09 | 09-10 | 10-11
---|---|---|---|---|---|---
PhD Graduates | 244 | 249 | 250 | 226 | 258 | 324
Master’s Graduates | 244 | 249 | 250 | 226 | 258 | 324

In 2010-11, Michigan Tech granted 269 master’s and 55 PhD degrees. This is the largest number of graduate degrees granted in one academic year in the history of Michigan Tech. The University’s 2012 goal of granting 225 master’s degrees was exceeded. The number of PhDs granted is on pace to meet the goal of 65 in 2012.
Teboh Roland, PhD, DABR
MS, Physics, 2004
Radiation Oncology Physicist
Johns Hopkins University Hospital

Dr. Teboh Roland works in an interdisciplinary department to provide cancer care. Teboh’s team of medical professionals applies radiation to treat over 170 cancer patients on a daily basis. They work hard to make sure each patient’s care plan is complete and carried out in a safe manner.

“Entrance into my field is very competitive and continuous success depends, to a large extent, on your physics background. Michigan Tech provided me the solid graduate foundation in physics that I needed to succeed in my medical specialty.”

While at Michigan Tech, Teboh utilized many of the support services offered by the Graduate School. As a prospective student, he received guidance and assistance during the application process and orientation, as well as direction for resource identification. As a graduate student, Teboh attended professional development seminars and collaborated with Graduate School and department staff on his thesis. The Graduate School celebrated Teboh’s successes by awarding him fellowships and verifying his commencement for potential employers. Teboh also took advantage of the Graduate School’s degree and milestone tracking services. Today, as an alumnus of Michigan Tech, Teboh continues to utilize the Graduate School services, including networking opportunities with students, faculty, staff, and alumni.
Megan Schrauben
MS, Applied Science Education, 2004
Director, Jackson County Mathematics and Science Center

While studying at Michigan Tech, Megan Schrauben had the opportunity to teach physics and English in Santa Cruz, Bolivia. She and another student arranged to travel with a few Senior Design teams and volunteer their time in the local schools. With the help of Bolivian road construction crews, they built a new school and designed a drainage system for the school and surrounding community. Four years later, Megan returned to Bolivia to work with another Senior Design team and build more rooms in the school. The entire experience culminated in her master’s thesis for Michigan Tech.

“Tech’s guidance and support in graduate school have given me unique perspectives in my varying roles in education. As director for the Jackson County Mathematics and Science Center, I get to share what I learned with today’s teachers and students.”

Megan’s unique situation—teaching full-time while attending graduate school at Michigan Tech—put her on an eighteen-month fast track to degree completion. During her first year of teaching, Megan took advantage of the Graduate School’s guidance and support through the application process. As a graduate student, she used the document editing and report review services. Since earning her master’s degree, Megan continues to network with Michigan Tech faculty and staff to garner support for her many interests: K-12 outreach, the High School Enterprise program in Michigan, an NSF research project, and a statewide science, technology, engineering, and mathematics (STEM) partnership.

Giving Opportunities

Sponsor a Graduate Student
Provide partial or full financial support to domestic graduate students with financial needs.

Dean’s Fellowship
Help Michigan Tech recruit a diverse group of domestic graduate students.

Doctoral Finishing Fellowship
Support outstanding PhD candidates during their last semester on campus.

Graduate School Peace Corps Fellowship
Recognize outstanding Peace Corps Master’s International students.

Graduate School Travel Fund
Send graduate students to academic conferences to present research results.

Graduate Student Enhancement Fund
Celebrate and reward graduate student achievements.

Graduate School Services

Prospective Students
• Application guidance and support
• Campus visit coordination
• Advocacy
• Visa assistance
• Faculty connections
• Orientation
• Resource identification

Current Students
• Professional development seminars
• Graduate Student Government
• Advocacy
• Awards and fellowships
• Travel grants
• Parental accommodation program
• Document editing and language support
• Responsible conduct of research training
• Degree and milestone tracking
• Thesis/dissertation review

Alumni
• Recognition of achievements
• Connection to campus and students
• Award nomination
• Networking

Faculty and Staff
• Targeted student recruiting
• Marketing and publications
• Graduate Faculty Council
• Training and assistance

Donors and Sponsors
• Recognition
• Stewardship
• Reporting

Support our graduate students
mtu.edu/gradschool/administration/giving/
Gender of Graduate Students by College
FALL 2010

**Women Graduate Students**
Increasing gender diversity on campus is a University-wide effort. With a goal of 35 percent women by the year 2020, we are committed to recruiting and retaining female students.

The Graduate School has been making progress toward this goal; in 2010 there was a 3 percent overall increase in the number of female graduate students. Fall 2010’s incoming PhD class was 30.1 percent female, whereas fall 2009’s incoming class was 21.7 percent female. Increases in the number of women can be attributed to the quality of our degree programs, research facilities, and faculty, as well as our targeted recruiting efforts.

In 2010, Michigan Tech was ranked tenth in the nation for the percentage (33.3 percent) of doctoral degrees granted to women in engineering by the American Society for Engineering Education. The ranking compared all US universities that award at least 25 PhDs per year.

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**Kaitlyn Bunker**
PhD, Electrical Engineering, 2014

Kaitlyn is currently working towards a PhD at Michigan Tech. She is a National Science Foundation Graduate Research Fellow. Her research goals are to enhance the technology used to control variable speed wind turbines and power electronics interfaces. Kaitlyn is focusing on creating solutions to challenges so that the clean, efficient energy in the wind can be used to generate more of our electricity. Kaitlyn is also interested in improving engineering education and encouraging young women to choose and complete engineering and science degree programs. She is the lead author for a study completed at Michigan Tech analyzing the differences between men and women students’ reasons for persisting in their majors.
Michelle Jarvie Eggart, PhD, PE
PhD, Environmental Engineering, 2007
Barr Engineering Co. and University of Maryland University College

“Michigan Tech was a wonderful place to go to graduate school, with access to four full seasons of outdoor fun. My faculty all knew me by name and provided great mentorship and advice. My graduate studies at Tech made me much more marketable. When I graduated, I had multiple job offers and was able to choose the best fit for me based on my interests. I am currently working on environmental engineering and sustainability projects and am also an adjunct faculty in environmental management. So many more doors are open to me now. I have the option of working in industry, for a regulator, or in academics.”
STEM FOCUSED

PRIMARY FIELD OF STUDY—
ENGINEERING/LIFE AND PHYSICAL SCIENCES

91.3 percent of Michigan Tech’s PhDs have math, engineering, life, or physical science as their primary field of study, compared to only 43.9 percent of PhD recipients from High Research Universities in general.

TIME TO COMPLETION

PRODUCTIVITY—RESOURCES AND FOCUSED RESEARCH

7.3 years since starting graduate school is the median time to degree for Michigan Tech’s PhDs. This is in comparison to 8.7 years at other High Research Universities.

CAREER OPPORTUNITIES

POST-GRADUATION EMPLOYMENT—IN INDUSTRY

50.0 percent of Michigan Tech’s PhD graduates leave with a signed employment contract in industry. At High Research Universities in general, only 17.2 percent of PhD graduates leave with a signed contract in industry.

ADVANCED RESEARCH

RESEARCH AND DEVELOPMENT WORK ACTIVITY

45.8 percent of Michigan Tech’s PhDs are dominantly involved in research and development after graduation, while only 24.6 percent of PhD recipients at High Research Universities as a whole are involved in these activities.

The information on this page is based on 2009 data reported in 2010.
2010–11 Full-Time Graduate Tuition*  
*Values shown are per semester. For schools on the quarter system, a "semester-equivalent" tuition is compared.

Like many universities, Michigan Tech continues to be forced to raise tuition due to declines in state appropriations for education. Michigan Tech’s resident tuition is well within the range charged by our selected benchmark institutions; nonresident tuition is at the low end of the scale. It is important to note that direct comparisons of nonresident tuition rates are difficult because many schools provide partial or full tuition waivers that may substantially reduce the amount of tuition that nonresident students actually pay. One continuing area of concern is our stipends, which are now clearly less than many of the schools with which we compete for students.
Our Campus

Michigan Tech’s campus is continuously expanding and evolving with new facilities and educational opportunities. Even with these changes, we remain committed to providing a rigorous and hands-on educational experience in a safe and natural environment with unparalleled opportunities for outdoor recreation and exploration. We are proud that our campus is rated among the safest in the nation.

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