MICHIGAN TECH
Graduate School

CREATE THE FUTURE CHANGE THE WORLD

Michigan Tech
Message From the Dean

I am extremely pleased to present this edition of Michigan Tech’s Graduate School Annual Report. Many people contributed to making this report a reality by gathering data, reviewing it for accuracy, and preparing it for distribution.

When I first became dean in 2005, one of my major goals was to use data to make informed decisions. At that time, few data related to graduate education were readily available. My staff and I, along with many other dedicated people, have worked hard to identify the types of information that we must look at and track through time if Michigan Tech is to achieve its strategic plan goals.

This document is our way of getting information about the Graduate School out to people who are interested in seeing what has happened in the past and where we are heading in the future. In most cases, retrospective or current data presented here are accompanied by a statement of where we hope to be at some point in the future. I look forward to hearing from people about our goals and collaborating with all of the Graduate School’s stakeholders to refine the goals and then work together to achieve them. Our success really depends on everyone.

Jacqueline E. Huntoon
Dean of the Graduate School

Graduate Student Enrollment Percent by Ethnicity: Fall 2008
Our students engage in cutting-edge research in a beautiful, natural environment known for its recreational opportunities. The pristine coastline of Lake Superior, the northern hardwoods, and the wildlife of the region are just a few things that attract graduate students to Michigan Tech. Students bike the Tech Trails, kayak the area’s lakes and rivers, ski on abundant powder, and view the aurora borealis.

About Michigan Tech

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Mission

The Graduate School is responsible for coordinating Michigan Tech’s programs to recruit, retain, and mentor graduate students. The Graduate School provides service to graduate students and faculty to support Michigan Tech’s efforts in the areas of education, research, and outreach.

Vision

The Graduate School will lead Michigan Tech in achieving its strategic goals by ensuring that all graduate students receive a high-quality education that prepares them for productive lives in technologically robust, multinational settings.
Michigan Tech Graduate School

Michigan Technological University is a premier research university of international stature, delivering education, new knowledge, and innovation to meet the needs of our technological world. Michigan Tech graduates have the skills and knowledge that allow them to create the future and change the world.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>The ranking of Michigan Tech’s Master’s International Peace Corps program nationwide for the fourth consecutive year (based on numbers of programs offered and students participating)</td>
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<tr>
<td>7.9</td>
<td>Percent increase in graduate enrollment for fall 2008</td>
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<tr>
<td>24</td>
<td>The number of research centers and institutes conducting innovative and timely interdisciplinary research</td>
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<tr>
<td>60.4</td>
<td>Millions of dollars in research expenditures for 2008</td>
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<tr>
<td>984</td>
<td>The number of graduate students enrolled at Michigan Tech for fall 2008</td>
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</tbody>
</table>

Goals of the Graduate School

- Recruit and retain a diverse group of outstanding graduate students
- Continuously evaluate and increase the quality and relevance of graduate degree programs at Michigan Tech
- Facilitate graduate students’ involvement in research, scholarship, and creative activities
- Publicize the achievements of graduate students
- Encourage interdisciplinary and international research
- Assist in the acquisition of external support for Michigan Tech graduate students
- Enhance the quality of graduate student life on and around the Michigan Tech campus by providing professional development opportunities and promoting a sense of community among graduate students
Graduate School Services
The Graduate School offers a range of services and online resources to prospective students, current students, faculty, and staff. We take pride in our role in bringing together the people, resources, and opportunities necessary for everyone’s success.

Prospective Students
• Worldwide recruitment draws a competitive applicant pool
• GRE and GMAT training and statement of purpose assistance
• Introduction to faculty with shared research interests
• Orientation to campus, academic culture, and community
• Visa and immigration assistance for incoming students

Current Students
• Seminars, workshops, and web resources for professional development
• One-on-one assistance for students seeking external funding
• Degree requirements, forms, and auditing procedures
• Calendars for deadlines, defenses, events, and recruitment
• Graduate Student Council

Faculty and Staff
• Web and brochure marketing for individual programs
• Funding for campus visits
• Dean’s Fellowship and Finishing Fellowship for faculty-nominated doctoral candidates
• Graduate Faculty Council and Graduate Faculty Locator

Online Resources
For Students
• Free Online Application
• Graduate Program Links and Brochures
• International Student Resources
• Financial Information
• Online Orientation
• Resources for Research
• Degree Completion Assistance

For Students and Faculty
• Campus and Community Links
• Online Learning Guides
• Weekly Defense Guides
• Policies and Procedures
• Graduate Catalog

PhD Students’ Milestones and Time-to-Degree
N = 843

<table>
<thead>
<tr>
<th>Milestone</th>
<th>&lt;1 yr</th>
<th>1-2 yrs</th>
<th>2-3 yrs</th>
<th>3-4 yrs</th>
<th>4-5 yrs</th>
<th>5-6 yrs</th>
<th>6-7 yrs</th>
<th>7-8 yrs</th>
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<tbody>
<tr>
<td>Qualifying/Comprehensive Exam</td>
<td>68</td>
<td>168</td>
<td>333</td>
<td>349</td>
<td>279</td>
<td>154</td>
<td>58</td>
<td>28</td>
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<tr>
<td>Research Proposal Defense</td>
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<td>Dissertation Defense Scheduled</td>
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<td>Graduation</td>
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<td>Attrition</td>
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</table>

Data for all PhD students who began their program between the summer of 2000 and the spring of 2008 are shown. This chart shows the number of students who achieved important milestones during the indicated time period after they began their program. Our goal is to have most students complete qualifying/comprehensive and proposal defense exams within two years and complete their degrees within four years. Our overall completion rate is currently 62 percent with a median time to degree of 7.2 years. Our median time to degree compares favorably with the national average for all High Research Universities (8.9 years). Median time to degree data are from the Survey of Earned Doctorates.
International Graduate Students

SPANNING THE GLOBE

The Graduate School recognizes the role international students play in maintaining Michigan Tech’s Carnegie Foundation classification as a high research activity, doctorate-granting research university.

International students are often among the top candidates for admission to graduate programs nationwide. Michigan Tech’s ability to attract and retain international students is a testament to its international reputation for quality.

Michigan Tech’s international students bring global perspectives to our campus and community and help our domestic students gain experience working with individuals from other cultures. Their contributions and presence on the campus are helping the University achieve its strategic goals.

Michigan Tech’s graduate student population currently consists of 43 percent international students from forty-seven countries. Students from India and China comprise 72 percent of the international graduate population on campus.

TOP COUNTRIES OF ORIGIN

- 165 Graduate Students
- 141 Graduate Students
- 8–13 Graduate Students
- 5–7 Graduate Students
- 3–4 Graduate Students
- 2 Graduate Students
- 1 Graduate Student

Alicia Thorsen

Alicia Thorsen, a native of Trinidad and Tobago, is a PhD student in the computer science department. One of only twenty winners of the prestigious 2007 Google Anita Borg Memorial Scholarship, Thorsen is researching parallel algorithm and application development using the Unified Parallel C (UPC) programming model. Her research will be used to link multiple computers and increase computational speed, allowing the computers to solve larger, more complex problems. Thorsen is committed to introducing young women to computer science and has taught computer science courses for the computer science department and Youth Programs.
Shreehari Elangovan

Originally from Coimbatore, India, Shreehari Elangovan is a PhD student in mechanical engineering. Elangovan researches the hypoelastic properties of the human body, focusing on the stresses in the body that cause cysts to form on our nerves. When complete, his research will allow early detection of stresses that lead to the formation of cysts on nerves located in the knee joint. "Michigan Tech has been an ideal environment for research," says Elangovan. “Students here are taught by extremely knowledgeable and experienced people who have practical experience in the field.”
In the fall of 2008, domestic graduate students made up 57 percent of the entire graduate population at Michigan Tech. These students came from across the United States, with the greatest concentration coming from the midwestern states of Michigan, Wisconsin, Minnesota, Illinois, and Ohio.

Thirty-seven of our fifty states and Puerto Rico are currently represented in our graduate population. Michigan has always been a strong source for graduate students; in fall 2008, one-third of the graduate students enrolled were Michigan residents. These students came from sixty-three of the eighty-three Michigan counties. The Detroit Tri-County Area currently supplies over 15 percent of our graduate enrollment.
Women are underrepresented nationwide in PhD programs in science, technology, engineering, and math. According to the 2009 American Society for Engineering Education (ASEE) report, Michigan Tech’s Graduate School awarded a greater percentage of PhDs in engineering to women than any of the other universities in the country that awarded twenty-five or more PhDs in engineering last year. In 2007-08, the most recent year for which data are available, Michigan Tech granted 40 percent of its PhDs in engineering to women.

The Graduate School actively works to increase the number of degrees granted to women. At both the local and national level, the Graduate School collaborates with organizations such as the Society of Women Engineers (SWE) to promote the benefits of graduate education.
Graduate Student Enrollment
PAST, PRESENT, AND PROJECTED

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<tbody>
<tr>
<td>PhD Students</td>
<td>637</td>
<td>670</td>
<td>710</td>
<td>831</td>
<td>916</td>
<td>984</td>
<td>1125</td>
<td>1250</td>
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<tr>
<td>Master’s Students</td>
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<td>Graduate Nondegree</td>
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<td>Projected Enrollment</td>
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Enrollment of degree-seeking and nondegree-seeking students has shown a steady increase since 1998. The University's strategic plan calls for continued growth, with the graduate population reaching a size of 1,250 students (approximately 500 PhD and 750 Master’s) by 2012.

Graduate Degrees
PHD AND MASTER’S GRADUATES

<table>
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<tr>
<th>Academic Year</th>
<th>01–02</th>
<th>02–03</th>
<th>03–04</th>
<th>04–05</th>
<th>05–06</th>
<th>06–07</th>
<th>07–08</th>
<th>08–09</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD Graduates</td>
<td>224</td>
<td>201</td>
<td>223</td>
<td>229</td>
<td>244</td>
<td>249</td>
<td>250</td>
<td>227</td>
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<tr>
<td>Master’s Graduates</td>
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Like the enrollment numbers above, there has been an overall increase in the number of graduates through time, particularly at the PhD level. Years with large graduating classes are typically followed by somewhat smaller numbers of graduates. In 2012, our goal is to graduate approximately 65 PhD and 225 Master’s students.
Why choose Michigan Tech?

According to the 2007 NSF Survey of Earned Doctorates Report, Michigan Tech is classified by the Carnegie Foundation as a High Research University. The data below compares Michigan Tech to other High Research Universities.

Less Debt

67.2 percent of Michigan Tech's PhD graduates had no debt. In contrast, only 49.5 percent of PhD recipients from all High Research Universities graduated without debt.

More Offers

58.7 percent of Michigan Tech's PhD graduates leave with a signed employment contract. At High Research Universities in general, only 40.8 percent of PhD graduates have a signed contract.

Real Research

78.0 percent of Michigan Tech's PhDs are dominantly involved in research and development after graduation, while only 39.4 percent of PhD recipients for High Research Universities as a whole are involved in these activities.

2008–09 Full-Time Graduate Tuition* at Peer Universities

*Values shown are per semester. For schools on the quarter system, a "semester-equivalent" tuition was compared.
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Michigan Technological University is an equal opportunity educational institution/equal opportunity employer. Michigan Technological University is a leading public research university, conducting research, developing new technologies and preparing students to create the future for a prosperous and sustainable world. Michigan Tech offers more than 50 graduate degree programs in engineering, forestry and environmental sciences, computing, business and economics, natural and physical sciences, humanities and social sciences.