

# **Portrait of Michigan Tech 2035**

## **Strong Partner in Change for Michigan, the US, and the World**

**Mission:** We prepare students to create the future.

**Vision:** Michigan Tech will grow as a premier technological research university of international stature, delivering education, new knowledge, and innovation for the needs of our world.

*This portrait of Michigan Tech in 2035 is meant to give meaning to the vision – what do we mean by a ‘premier technological university of international stature’? The description here should not be interpreted as either qualitative or quantitative goals or objectives. Those details will be in the five year planning documents. This description, rather, is intended to give a conceptual understanding of where we are going, and inform discussions of what we should be doing in the next five years to realize the vision. The portrait of Michigan Tech in 2035 includes:*

- 1. World Class faculty – 40% in endowed positions**
- 2. Student body of 8750**
  - 5750 Undergraduates**
  - 3000 Graduate**
  - 40-50% Female Enrollment**
- 3. Global literacy and communication skills in a variety of media will be a prominent part of education**
- 4. High tech/high touch, residential based transformational education**
- 5. Recognized nationally and internationally as a catalyst for research development and innovation at all levels of learning**
- 6. Sustainable financial model with less reliance on state funding**
- 7. University culture is entrepreneurial not bureaucratic with high quality services that are efficient, responsive and sustainable**
- 8. Year-round Calendar**

### **Narrative**

A portrait is a useful tool to help envision Michigan Tech’s characteristics in 2035, 150 years after it was founded. The process of painting this portrait helps to understand and shape our response to the economic, political, and societal forces and challenges.

The future cannot be predicted with high precision. There will always be long-term uncertainties or singular events that can change and influence profoundly the 2035 portrait. A series of strategic plans will outline what needs to happen in successive 5 year frameworks to achieve the final result.

These 5 year frameworks take into account the current situation, the current nature and mix of economic and social forces and the near-term trends. Like the various stages in the painting of a portrait from a first sketch, to the underpainting that approximates desired outcomes, to adding background tones and foreground details, to the finishing touches, Michigan Tech’s portrait of 2035 takes shape in various phases and the final outcome might change during this process.

## **1. World Class faculty – 40% in endowed positions**

The work of the faculty in teaching and research determines the reputation and excellence of a university. Commensurate with our vision of being a premier technological research university of international stature, Michigan Tech is attracting and retaining an internationally competitive faculty who instills the knowledge and confidence that graduates need to be top ranked in the degrees offered. The faculty prepares students to create the future.

Faculty publish in top journals in their field, their work is cited frequently, and the knowledge they create is translated into patents and technological advances. They are recognized as fellows in their professional societies and national academies.

## **2. Student body of 8750**

**–5750 Undergrad**

**–3000 Graduate**

**-40-50% Female Enrollment**

In addition to the reputation of the faculty, the talents of the students and their accomplishments after graduation determine the national and international recognition of a university.

Michigan Tech provides innovative and superior undergraduate education for 5750 undergraduates embedded in a rich research environment with 1800 masters and 1200 PhD students. Graduate Programs have been the fastest growing area at Michigan Tech.

Michigan Tech has a highly strategic focus with more than 80% of its programs being in the Science-Technology-Engineering-Mathematics (STEM) field and more than half of the enrollment in engineering. As a highly dynamic system, Michigan Tech understands what its core values and core programs are - and stimulates constant change and progress to provide an education on the cutting edge of modern science and engineering.

A significant portion of the masters students will be enrolled in 5 year accelerated masters program or take on-line degree options. Therefore a significant shift in the current proportion of 700 on-campus and 80 off-campus masters and 530 PhD students will take place.

The infrastructure to accommodate a doubling of the PhD enrollment and growth in faculty will be planned and developed through more efficient use of current space, the campus master plan, capital outlay requests and in collaboration with the surrounding community.

## **3. Global literacy and communication skills in a variety of media will be a prominent part of education**

Future prosperity depends on a highly skilled and educated workforce with a global perspective. Michigan Tech's graduates will be prepared to live in a diverse and ever changing world. Our students will be able to communicate effectively, orally, in writing, and in new media, to a wide variety of audiences. Graduates will be able to interact in meaningful ways with people from other cultures. This will be accomplished by acquisition of global knowledge and competencies through the study of languages and cultures.

#### **4. High tech/high touch, residential based transformational education**

The landscape of higher education is changing dramatically: technology is changing the way teaching and learning is happening, skills are acquired, and degrees are granted. The Open Educational Resource movement is evolving, free educational programs are offered. Institutions that offer degrees that are just credentials for certain technical skills will not thrive.

Michigan Tech has found its niche as a residential campus with a technology-rich teaching and learning environment. Its degrees will not only certify certain technical skills but will signal that the graduates have developed leadership and team-building capabilities, interpersonal connections, civic responsibilities and connection to public policy issues through engagement in campus and professional activities, and an understanding for the need of a sustainable lifestyle and lifelong learning.

#### **5. Recognized nationally and internationally as a catalyst for research development and innovation at all levels of learning**

Michigan Tech has identified certain areas in which departments and interdisciplinary research centers and institutes have achieved distinctive reputation. They generate innovative ideas and are known for basic and applied research and technology transfer. Michigan Tech ranks among the top universities in the nation for invention disclosures per \$10 million of research. In our K-20 outreach activities, our educational programs, and our sponsored programs will be innovative and Michigan Tech will be viewed as a valuable partner by our various constituents.

#### **6. Sustainable financial model with less reliance on state funding**

Resource availability is an indispensable and essential condition to fulfill the mission of a premier research university. Public funds in support of higher education will probably continue to decline and need to be replaced through increase in efficiencies, research grants, endowment revenues and tuition and fees. With public funding down to 16% of total university revenues in 2011, and decreasing rapidly, it is imperative to enhance alternative revenue sources in ways that are both effective and sustainable. We have become more tuition-driven, and need to diversify and increase other revenue streams in order to insure access for talented students and long-term access to resources to support our goals.

#### **7. University culture is entrepreneurial not bureaucratic with high quality services that are efficient, responsive and sustainable**

Michigan Tech's market distinction is being a university that is:

Entrepreneurial,  
Innovative,  
Flexible, and  
Self-sustaining.

These characteristics will be reflected in our business processes and in our relationships with students and other stakeholders. Employees will be empowered to respond to stakeholder needs and concerns, and will take pride in both their responsiveness and their efficiency.

## 8. Year-round Calendar

Mehaffy recently illustrates the core problem of higher education with an anonymous quote that higher education was designed in the 11th century and operates on a 19th-century agrarian calendar, while trying to prepare students for life and work in the 21st century. By 2035, Michigan Tech will have optimized the use of facilities and educational outcomes by implementing creative curricula that utilize a year-round educational process. This will increase utilization of existing facilities to minimize the need to construct new facilities, will give faculty and staff increased scheduling flexibility, and allow students to reduce time to graduation.

### Appendix: Actionable Targets for Portrait 2035

