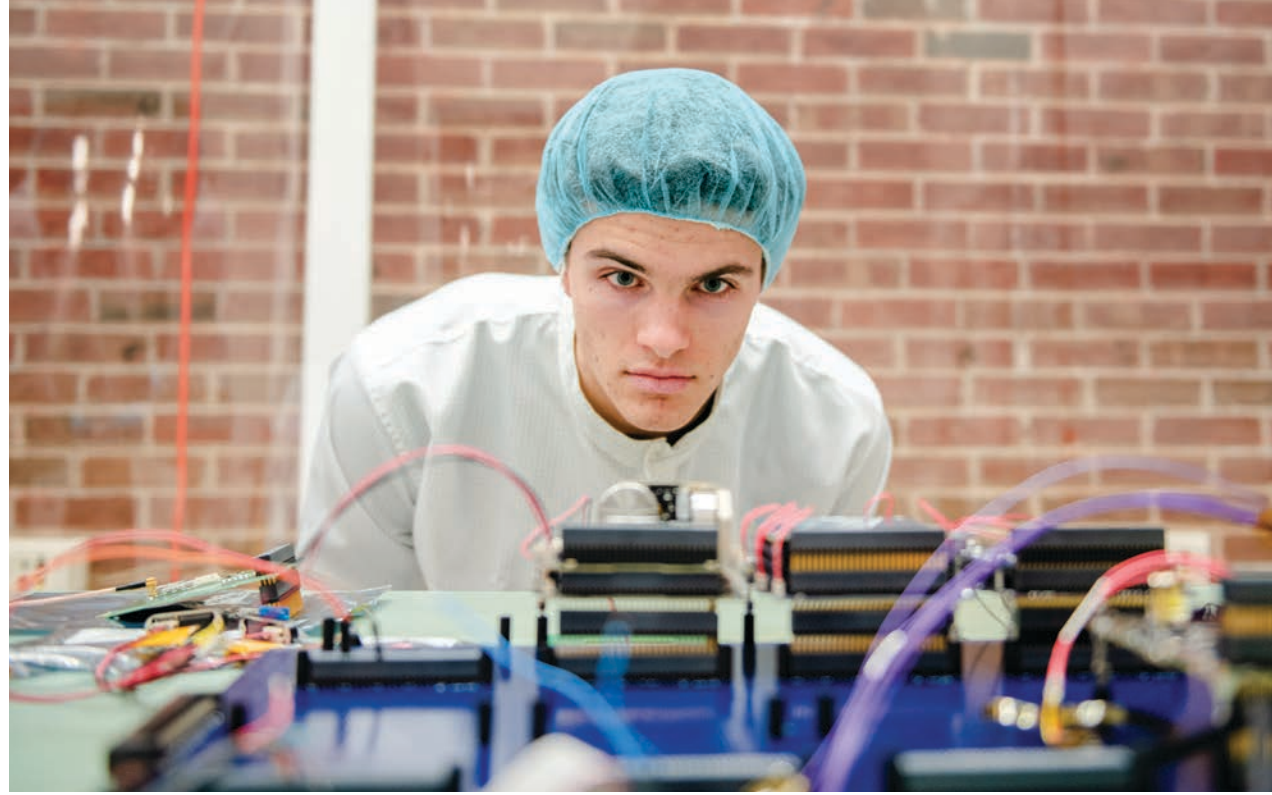
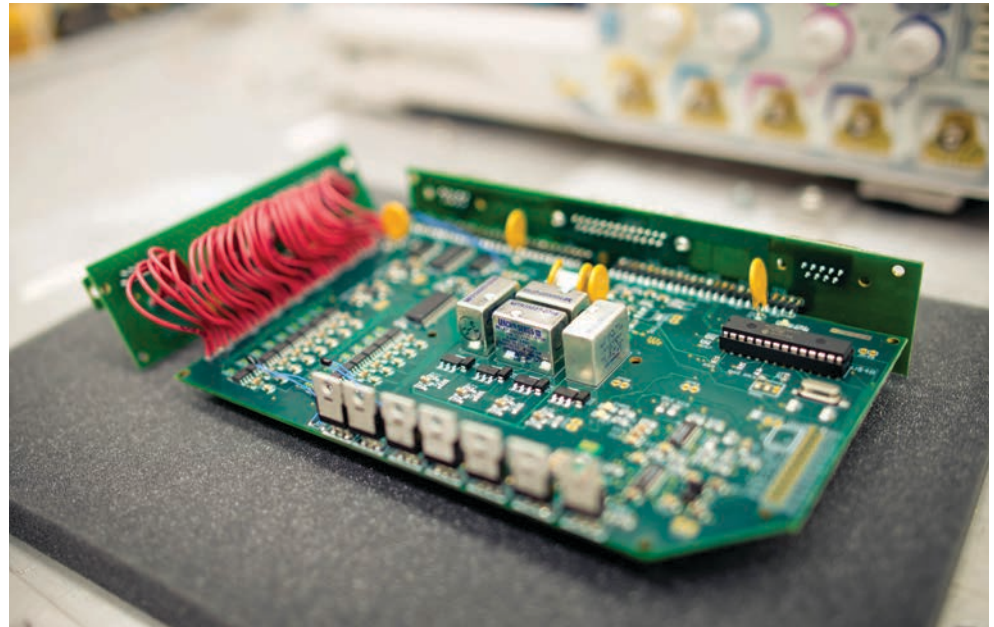
Michigan Technological University

MICHIGAN TECHNOLOGICAL UNIVERSITY'S

FY2021 Five-Year Capital Outlay Plan





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MISSION STATEMENT

Mission

The mission of Michigan Technological University is to create solutions for society's challenges by delivering action-based undergraduate and graduate education, discovering new knowledge through research, and launching new technologies through innovation.

VISION

Michigan Tech is a globally recognized technological university that educates students, advances knowledge, and innovates to improve the quality of life—and to promote mutual respect and equity—for all people within the state, the nation, and the global community.

93%

93% job placement rate for undergraduates

No. 8

No. 8 in the nation for public colleges that pay off the most (CNBC)

278k

278k square feet of research labs on campus

Tomorrow Needs Michigan Tech

More than 130 years ago, Michigan Technological University was established as a training ground for mining engineers, with founding legislation that called on us to "promote the welfare of the industries of the state." Over the decades, we evolved to keep pace with physical technologies—in mechanical engineering, health sciences, forestry, and computer science, to name a few. We also expanded our focus to examine not just the technologies themselves, but the impact they have on society.

Throughout the 2018–19 academic year, Michigan Tech President Richard J. Koubek led the University in a series of campus conversations with both internal and external stakeholders. The topic: How will Michigan Tech influence and adapt to the disruptive forces of the 21st century to create a better tomorrow for all of humanity?

From those conversations, nine institutional initiatives emerged:

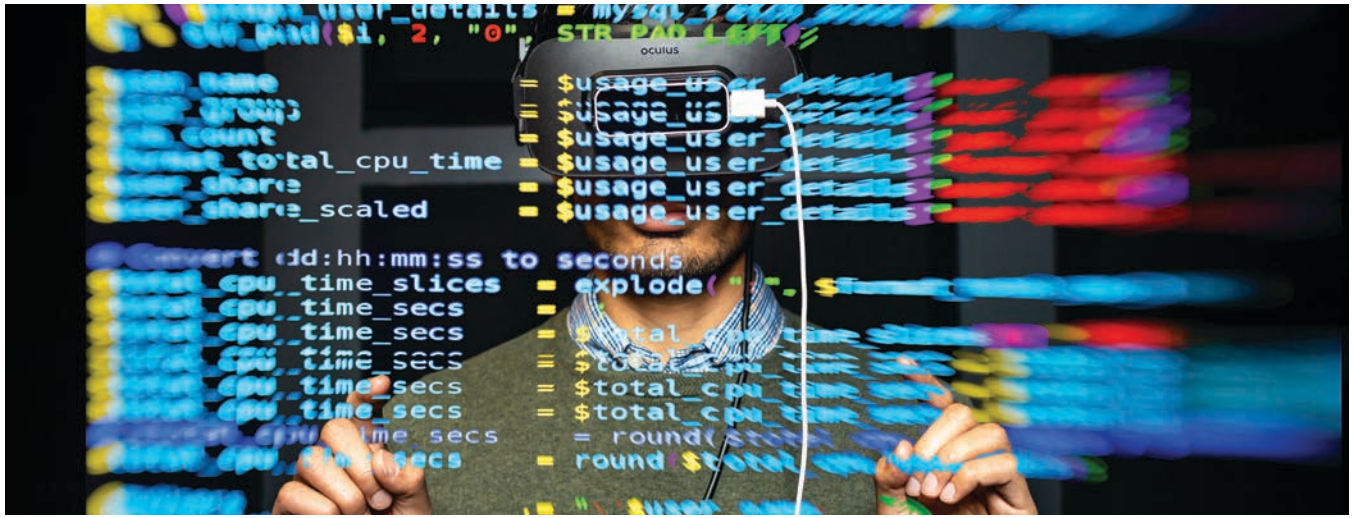
- Health and Quality of Life
- Data Revolution and Sensing
- Policy, Ethics, and Culture
- Education for the 21st Century
- Diversity and Inclusion
- Autonomous and Intelligent Systems
- Natural Resources, Water, and Energy
- Sustainability and Resilience
- Advanced Materials and Manufacturing

Health and Quality of Life

The H-STEM Complex

"As the Upper Peninsula's major research university, Michigan Tech's faculty and staff identified quality of life and health outcomes as a major component of our five-year growth plan. The H-STEM Complex can accelerate our efforts to create technological solutions to enhance health and quality of life, not only for our local communities, but for the entire state."

–Richard Koubek
Michigan Tech President



During the past two decades, Michigan Tech's faculty and students have become increasingly involved in developing technological innovations that improve the human condition. The University's Five-Year Capital Outlay Plan will support ongoing efforts and contribute to future growth in the state's capacity to design, develop, and deliver human-centered innovations.

In late 2018, the Michigan Legislature granted planning authorization for the University's H-STEM Engineering and Health Technologies Complex (H-STEM Complex). The H-STEM Complex will support Michigan Tech's integrated educational programs in health-related and human-centered technological innovations.

The H-STEM Complex will comprise newly constructed shared and flexible lab spaces, co-located with renovated classrooms and learning spaces in Michigan Tech's Chemical Sciences and Engineering Building. The planning and design process is underway and will continue through the 2019-20 academic year.

Health and Quality of Life

Vibrant Community

We learn more every day about the impact that stress, eating habits, and routine functions like sitting and sleeping have on our long-term health. Wellness is multifaceted and often a community endeavor. As a University, we're examining the ways in which humans can build vibrant communities of well-being while simultaneously creating technology to improve the human condition.

> **"There's a big role communities can play in the health of their residents.** Chronic diseases don't occur in isolation, but rather are closely affiliated with an individual's culture, behavior, and environment."
>
> **–Guy Hembroff**
> Director of the Health Informatics Graduate Program

A strong community increases an individual's quality of life, and healthy people foster a nourishing community. Research shows that students do best—both in their studies and later in their careers—when they feel a sense of belonging on their college campuses. Faculty and staff thrive in their positions when they feel supported and have a sense of purpose.

Integrating well-being into our curriculum teaches healthy habits and creates a feeling of connection in students. Initiatives that provide mentoring and professional development for faculty and staff keep them excited about their careers and intellectual endeavors.

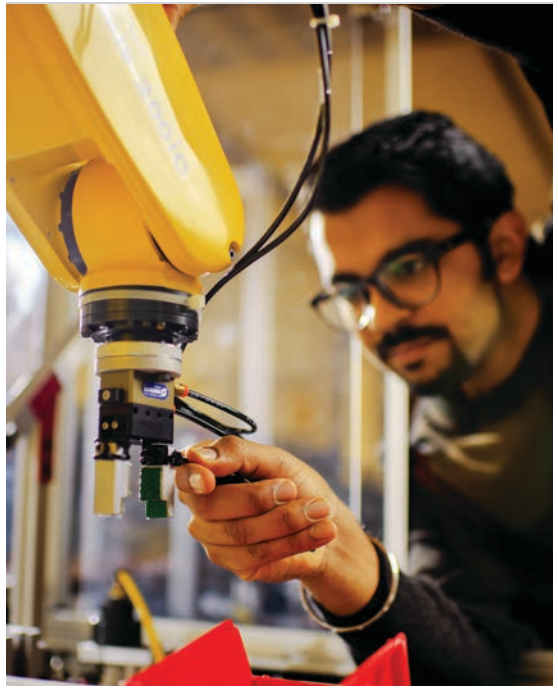
Many of those endeavors involve research to improve the human condition. NIH funding for health research on campus has tripled in just the last five years. Researchers are exploring diverse solutions for some of the greatest challenges to health and well-being, including diabetes, Alzheimer's disease, lack of sleep, and anxiety. And unlike many other universities, our health research labs involve students—undergraduate and graduate—in meaningful ways.

For students, exploring how to do research builds belonging as well as marketable skills. For faculty and staff, research that matters in people's daily lives is filled with purpose. **For everyone, the goal is shared enthusiasm, rigor, and well-being.**

Data Revolution and Sensing

The College of Computing

> **"Technology is Michigan Tech's middle name.** Technology, and its breadth of applications, are the connective tissue between engineering, science, and humanities. Technology enables cross-pollination and, in turn, many of the innovations that shape our society today."
>
> **– Adrienne Minerick,** Dean of the College of Computing



Computing and computer science are no longer subfields of engineering, math, or science; they're suffused in nearly every academic discipline. Technology has reshaped fields like archaeology, communications, and the arts, as well as forestry and other natural resource domains.

No matter a student's major, **computational skills are a job-market requirement**. It's estimated that more than 80 percent of middle-skill jobs—those that require more education or training than a high school diploma—require digital skills, and digital literacy is a minimum standard in nearly every middle-skill sector. The job market for computer and information systems managers is projected to grow 12 percent between 2016 and 2026, which is faster than the average for any other occupation.

In recognition of cyber technology's role in our lives, **Michigan Tech launched a new College of Computing** on July 1, 2019. The first and only college of its kind in the state of Michigan, the College of Computing intends to meet the technological, economic, and social needs of the 21st century—and answer industry demand for talent in AI, software engineering, data science, and cybersecurity.

With a mission to prepare students for lifelong prosperity and employability through relevant, contemporary academic programs in computing and cyber-technologies—and to support and drive cutting-edge, market-centered research in computing fields—the College of Computing is transforming the University into an academic institution that reflects the technological, economic, and social realities of the 21st century.

Policy, Ethics, and Culture

The Institute for Policy, Ethics, and Culture

Algorithmic culture. Medicine and biotechnology. Autonomous and intelligent systems. Surveillance and privacy. The technological changes and disruptive forces of the 21st century are urgent, complex, and vast. To explore the policy implications, ethical considerations, and cultural significance of life in a connected world, Michigan Tech launched a new Institute for Policy, Ethics, and Culture (IPEC) in fall 2019.

"An essential, unique feature of IPEC is its flexibility–its ability to both proactively identify emerging issues and to respond to them quickly with an interdisciplinary focus."

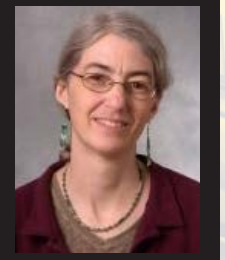
–Jennifer Daryl Slack
IPEC Director and Distinguished Professor of Communication and Cultural Studies

"Technology is a new culture, it's not just a backdrop. People tend to take extreme stances–they celebrate technology or they criticize it. But the best path forward is a participatory stance, one where people–not algorithms–make choices about when to use technology, when to unplug, and what data is or isn't shared."

–Soonkwan Hong
Associate Professor of Marketing

"Technological advances are necessary, but not sufficient to address global challenges related to human well-being, ecosystem health, and a changing climate. IPEC will foster innovative and forward-thinking policies, grounded in science and cultural insight. A primary goal of IPEC is to guide the ethical development and deployment of technology toward the 'future we want.'"

–Sarah Green
Professor of Chemistry



Education for the 21st Century

> "As I've navigated higher education myself as a student, teacher, researcher and administrator, I've grown to appreciate the value of an education that challenges students to struggle with the messy problems of engaging with the bridge between themselves and the real world, bringing in aspects of the humanities, arts, and social sciences, in ways that develop not only competence in a given field, but autonomy and relatedness."

–Lorelle Meadows
Dean of the Pavlis Honors College

We live in a time where change is constant, rapid, and often disruptive. **Technologies have evolved** to take on our more mundane tasks; artificial intelligence and automation continue to enter the mainstream, displacing humans in fields for which students are currently preparing while simultaneously creating jobs few are trained for.

To prepare the student of today to address the needs of society at a level that machines cannot, Lorelle Meadows, dean of Michigan Tech's Pavlis Honors College, says it's imperative to consider the whole student—not only their development as highly skillful and knowledgeable participants in their chosen fields, but also their growth as individuals with the competencies to manage uncertainty and change.

With this in mind, the Pavlis Honors College identified **nine key abilities** that every student in the College is encouraged to cultivate through critical reflection, design thinking, and interdisciplinary collaboration:

- Value diverse perspectives
- Engage in mentorship
- Communicate empathetically
- Welcome challenge
- Learn deeply
- Embrace ambiguity
- Balance confidence and humility
- Know yourself
- Act with purpose

Pavlis students intertwine their major with a series of experiences they design themselves and that build on their skills, interests, and values. Honors college staff leverage Michigan Tech's great network of faculty, staff, and alumni to build partnerships and create opportunities for students.

Meadows is leading a working group to implement the nine honors abilities across the Michigan Tech campus and curricula. The goal: Make sure every Michigan Tech graduate is an agile worker—self-aware, resilient, and confident. A global citizen. A lifelong learner.

Diversity and Inclusion

We hope to change the face of STEM.

A STEM degree has its advantages. A recent study by the Pew Research Center indicated that workers in STEM fields enjoy a pay advantage over workers in non-STEM fields, and that STEM training in college is associated with higher earnings.

That same report, however, showed that in computer-related jobs—the highest-paying and fastest-growing STEM sector—the number of women was decreasing. The Pew report also revealed that blacks and Hispanics are underrepresented across all sectors of the STEM workforce, except for health care practitioners and technicians (where they still accounted for only 11 percent of the workforce).

Unfortunately, the Pew report was not shocking; the lack of diversity in STEM fields is well known and well documented. Michigan Tech—widely referred to as a STEM school—faces the same challenge. In 2019, our incoming undergraduate class will be most diverse in University history, yet women will account for less than 30 percent of our student body, and underrepresented minorities will account for less than 10 percent of undergraduate enrollment.

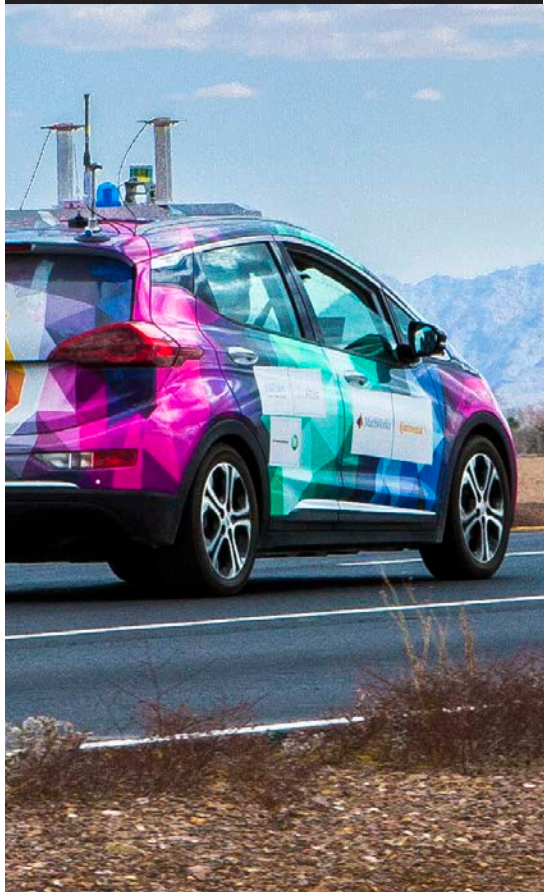
We know we have work to do. Our objective as an institution is to create and maintain learning, working, and living environments where students, faculty, and staff from diverse backgrounds feel they can thrive. **To reach this goal, we are:**

1. Committing as an institution to the sustained support of diversity, equity, and inclusion
2. Implementing a cross-campus education initiative for all members of the Michigan Tech community
3. Increasing the diversity of faculty, staff, and the student body through targeted and well-supported recruitment strategies
4. Collaborating and supporting retention programs and initiatives designed to educate and support a diverse campus community

In working toward these goals, **we hope to change the face of STEM.**

Autonomous and Intelligent Systems

Beyond the traffic signs, outside the yellow lines, autonomy at the ends of the Earth—Michigan Tech excels in unstructured environments.



Perhaps no products of the 21st century are more relevant to Michigan and the Great Lakes region than autonomous vehicles and vessels.

The Ford Motor Company recently pledged to have a fully functional self-driving car on the road by 2021, and at a 2017 Investor Day presentation, General Motors made it clear it was going "all in" on autonomous vehicles. And autonomy isn't limited to land alone. Out on the water at Michigan Tech's Marine Autonomy Research Site (MARS), industry, governments, and foundations are investing in autonomous vessel research to improve maritime travel and transport. **MARS is the first freshwater testbed of its kind in the world.**

Innovations in autonomy for vehicles and vessels are a harbinger of disruption across a wide range of industries, including many if not most of the industries in Michigan. They're also a source of concern for the average citizen—people are rightly concerned about the ethical and social impacts of automation and the construction of intelligent systems.

For Michigan Tech researchers, **engineering and perfecting these systems** in dirty and dangerous environments—like the Upper Peninsula's extreme weather conditions and off-road settings—is the right way to explore and demonstrate to the public the capabilities of automated and intelligent systems in a safe context.

As a key research area that spans civil engineering, mechanical engineering, electrical engineering, computer science, cognitive science, and many more, mobility needs more than traditional paths to move the field forward. Whether underwater or on the road, **Michigan Tech takes autonomy to the ends of the Earth.**

Natural Resources, Water, and Energy

> **"New sensors, new platforms seem to come online several times a year—**so how do we take advantage of that rapid innovation and hardware and make them available on a practical basis? Somebody has to do the testing to make sure the tech collects what's needed, and that's part of the niche we fill."
>
> **– Colin Brooks,** Research Scientist, Michigan Tech Research Institute

Finite resources and a changing climate demand that humans reconfigure their relationship with the environment. Through innovative technocentric education, transdisciplinary research, and improvements to our local environments, we can study and solve grand challenges in natural resources, water, and energy.

At most colleges and universities, the academic model is organized into disciplines. Each discipline provides its own perspectives, and each perspective has its own strengths and limitations. When these different perspectives are woven together, **our understanding of large challenges is much more complete.**

One of the most effective ways to bring vastly different disciplines together is to assemble a team to solve a pressing problem. The challenge provides the motivation for each expert to learn the languages of the other fields, to work to truly understand the approach and to collaborate on strategies. In the same vein, complex, local-to-global problems of managing natural resources, including energy and water, are best solved through the interaction of diverse and broad disciplines.

For example, a transdisciplinary team at Michigan Tech is investigating the feasibility of converting abandoned mines into valuable energy storage. Michigan Tech researchers and students in engineering, industrial archaeology, and energy policy have partnered with local communities to transform what many see as liabilities into pumped hydro energy storage facilities. In Michigan's Upper Peninsula, which is home to countless abandoned mines and some of the nation's highest electricity rates, the project could profoundly impact the livelihood of many rural communities.

At Michigan Tech, our innovative teams work across boundaries, scales, and disciplines to investigate and solve multifaceted issues in natural resources, water, and energy.

Sustainability and Resilience

When we look to the future, our focus tends to rest on technological advancements like automation and AI. But an equally important aspect of the current industrial era, says Andrew Storer, dean of Michigan Tech's School of Forest Resources and Environmental Science (SFRES), is the sustainable use of renewable natural resources and acknowledging the role of technology and AI in conserving the natural world.

> "Automation and AI will change how we manage natural systems in the future. Our graduates will have the knowledge to feed into these new technologies for sound stewardship and conservation activities."
>
> **–Andrew Storer,**
> Dean, School of Forest Resources and Environmental Science

At Michigan Tech, a university with large engineering programs, SFRES researchers are able to participate in multidisciplinary projects that use the newest technologies and also consider the impacts of those technologies on the natural environment. Much of the work in SFRES relies on data-rich technologies like remote sensing and geographic information systems that collect big data to assess natural systems, and to detect change in them.

What sets Michigan Tech apart from other institutions, Storer asserts, is the draw of our remote location with the forests and water-rich environment of Upper Michigan, the history and identity as Ojibwa homelands, and the diverse relationships connecting humans and the natural world. This provides a unique and elevated opportunity to challenge students with learning goals that incorporate social responsibility, sustainable development and environmental policy, and the latest available technologies.

Advanced Materials and Manufacturing

Reduce. Reuse. Remake. Recover. Renew.

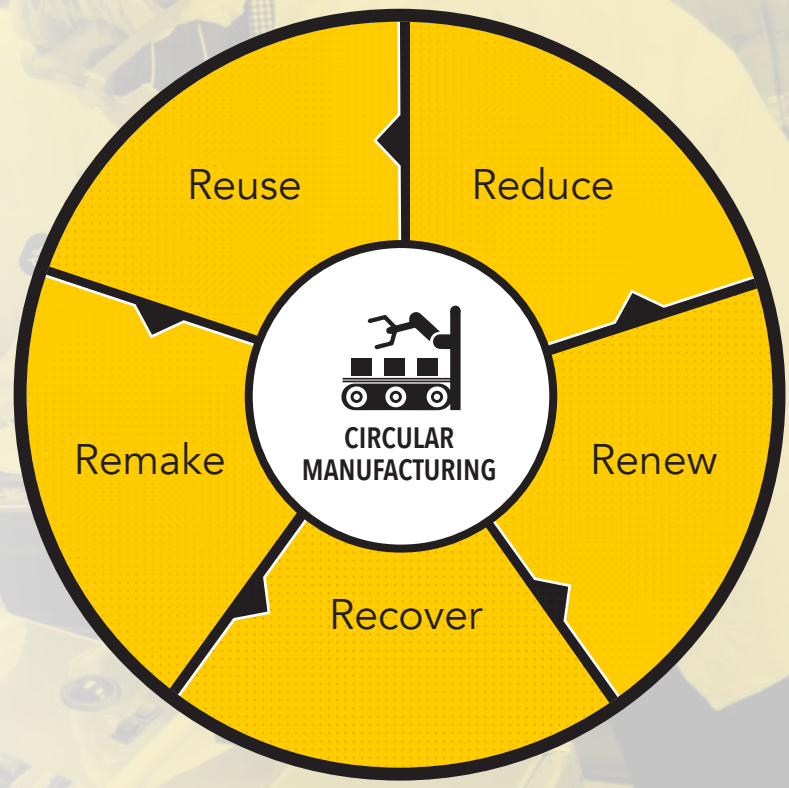
These strategies—the five Rs— are central to a circular economy, one in which the life of any good or material bought, sold, used, and discarded is extended as far as possible to curb extraction, pollution, and waste.

Circular manufacturing is the philosophy and practice of extending the useful life of materials and products through design for disassembly and reuse. It's a vital tool in addressing environmental crises like biodiversity loss, resource scarcity, and pollution.

Currently, only 9 percent of the global economy is circular, but an estimated 30 percent of large corporations have a circular strategy, and over 75 percent plan to adopt targets that will make their products, processes, or business models more circular in the next few years. And manufacturers around the world are building a business case for a circular strategy.

In carrying out our charge to promote the welfare of Michigan's industries, **Michigan Tech stands among global leaders** in experimental and digital design of advanced materials, like the composites materials at the heart of our work for the NASA Space Technologies Research Institute. We are renowned for our capabilities in microfabrication and the manufacture of metal alloys, concrete, composite materials, and wood products.

As the world moves toward a global economy, there is much room for innovation in materials and manufacturing technologies that support a circular strategy, including the use of data-driven and machine-learning approaches. And **Michigan Tech is ready to lead the charge.**



ENROLLMENT

Growing Michigan's H-STEM Workforce

This year's enrollment of underrepresented domestic minority students represents more than nine and a half percent of the undergraduate student body at **584 students.**

The average high school **GPA** of the 2019 entering class is **3.78.**

There are **2,032** women enrolled at Michigan Tech this fall, representing **28.9** percent of the student body.

7,037

The number of students enrolled at Michigan Tech during Fall 2019.

2,032

The number of women enrolled at Michigan Tech.

No.1

Ranking among public universities nationwide for students who said they made the right choice.

**Wall Street Journal/Times*

Growing Michigan's H-STEM Workforce

Michigan Tech Works to Make Education Accessible

Over the last few years, the University has seen a significant increase in the number of local students who applied to Michigan Tech and expressed interest in health-related areas. However, many did not enroll.

For the majority of these applicants, it came down to a financial choice.

The Portage Health Foundation Making a Difference Scholarships, established in 2016, helps Michigan Tech recruit local talent to health science and engineering degree programs and professions.

The top four awardees receive $8,000 annually. Eight awardees receive $1,000 annually. The awards are renewable for up to four years of study. In three years, 51 awardees have enrolled at Michigan Tech and are pursuing health-related career pathways.

300k

Michigan Tech and the Portage Health Foundation jointly invest over $300,000 annually in scholarships for students served by H-STEM programs.

STAFFING


MICHIGAN TECH HEALTH FACULTY

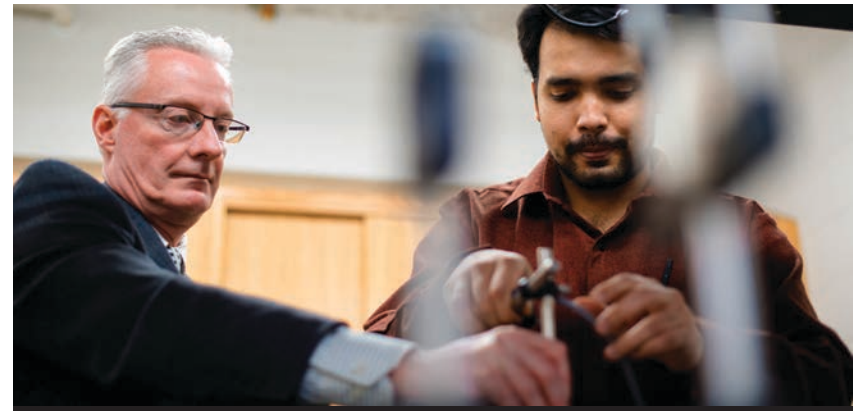
Michigan Tech Faculty Talent

Making the State of Michigan Continue to be a National Leader in STEM Education

The lack of facility space for our biomedical engineering degree programs is heightened by the overall shortage of facilities for health-related engineering and science research on campus. Because of the interdisciplinary nature of applying STEM solutions to health and human centered engineering, this problem is a critical issue for biomedical engineering programs and for retaining research talent and increasing enrollment across campus.

Faculty who leave the university often relocate out-of-state to benchmark universities with superior facilities (e.g., Massachusetts Institute of Technology, Virginia Tech, Purdue University, Penn State, Rensselaer Polytechnic). By retaining talent in the human-centered engineering and science disciplines at Michigan Tech, the state can continue to be a national leader in STEM education and technological innovation in the fields of human health.

Michigan Tech's new Health Research Institute serves faculty from across the University. These faculty are currently conducting research that is funded by over $12 million in external support. This research is improving the human condition and contributing to the development of new technologies that will support economic development in Michigan.



A visiting team verified what we knew to be true: lack of space in our biomedical engineering facility is causing overcrowding. This makes course and lab scheduling difficult for all health science and engineering students who are engaged in a variety of degree programs across campus. It also scatters across campus equipment needed by interdisciplinary researchers.

Michigan Tech Faculty Talent

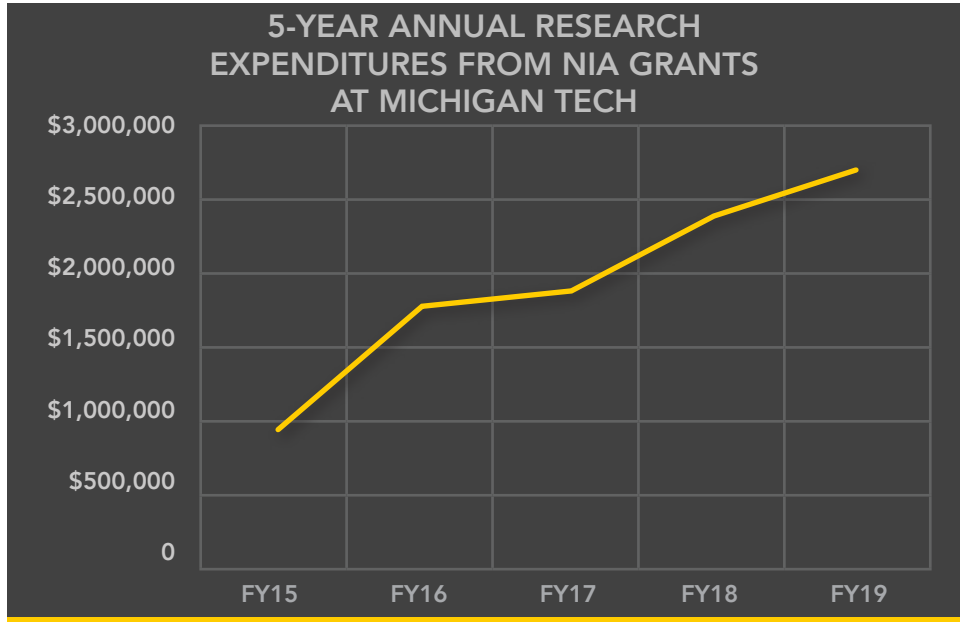
Faculty Provide Steady Economic Growth from Health-related Funding

At Michigan Tech, emerging healthcare leaders respond to healthcare problems, whether by developing material for better wound care, innovating a magnetoelastic sensor for use in an artificial knee, or improving surgeons' ability to destroy cancerous tumors with imaging technology—all three are examples of research happening at Michigan Tech.

Health research strategies emerge from close collaboration with the medical, clinical, and wellness communities who help identify the most pressing problems, and help ensure that what is invented in the lab translates into real world, high-priority applications.

As an invested partner in our local community, Michigan Tech is critically aware of how health research funding not only produces humanitarian benefits, but also generates significant domestic economic activity.

Nationally, public support for health research stems from an awareness of how health research is critical to US economic competitiveness and sustained growth of local economies.



$2.10 goes back into the local economy from every $1 of health-related research expenditures. Promoting local and regional economic development

Partnerships and Collaborations Across Michigan

Leveraging Resources and Talent

80.4M

Michigan Tech's total research expenditures for fiscal year 2019 are **$80.4M,** an increase over FY2017 of $8.7M or **12.3 percent.**

Michigan Tech faculty that will be using the facility have a strong history of building educational programs and partnerships across the state of Michigan.

In 2016, Michigan Tech and the SmartZone helped to establish a Leadership Roundtable for Health Solutions. This brings together leaders from 40 private- and public-sector health, education, and life science organizations to improve the quality of life in Michigan's Upper Peninsula through new technologies, improved practices, and innovative approaches to healthcare delivery networks. Members are committed to collaborating by investing leadership time, organizational talent, and resources.

Partnerships and Collaborations Across Michigan

Michigan Tech and Portage Health Foundation Address Local, Regional, and State Needs

6.7M

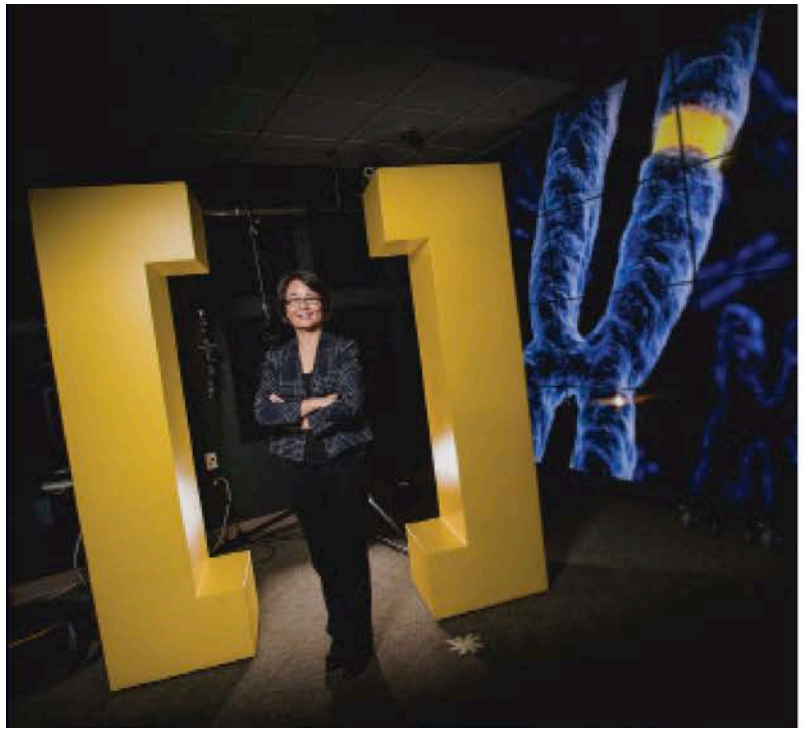
$6.7 million health-related research and education investment

A pivotal partnership was established in 2015 between Michigan Tech and the Portage Health Foundation. This partnership has resulted in a $6.7 million investment into Michigan Tech's health related research and educational offerings.

By collaborating with the local Portage Health Foundation, Michigan Tech is responding to local and regional needs for new health-related technologies and expertise. To date, funds have supported research, three endowed professorships (Endowed Professor of Preventative and Community Health, Endowed Professor of Population Health, and Endowed Professor of Technological Innovations), research internships for undergraduates, and scholarships for undergraduate and graduate students.

Portage Health Foundation's Endowed Professors

Because we are unable to describe the work of all the faculty and student researchers who will benefit from the H-STEM Complex, we focus instead on the work of the Portage Health Foundation's Endowed Professors.



QIUYING SHA
Portage Health Foundation
Endowed Professor of
Population Health

Portage Health Foundation's Endowed Professor

of Population Health

> **"I'm a statistician,** so when I apply for funding or pursue research it's always with the **data."**

Mathematics professor Dr. Qiuying Sha studies statistical genetics. She is bringing big data to rural medicine in Michigan.

Dr. Sha is the Portage Health Foundation Endowed Professor of Population Health. In her role, she wants to make sure people aren't treated as numbers in a system–instead, number crunching should support people's health.

Specifically, Sha is developing statistical models for personalized medicine—a practice in which lots of genetic data, family information, and medical history informs recommendations for each individual's medical treatment. Her work can also be applied to genetic screenings that help catch early signs of diseases and assist with preventative care.

Bringing big data to rural medicine in Michigan

Portage Health Foundation's Endowed Professor

of Preventative and Community Health

WILLIAM COOKE
Portage Health Foundation
Endowed Professor of
Preventative and
Community Health

Portage Health Foundation's Endowed Professor

of Preventative and Community Health

> "Our laboratory techniques are applicable to **real-world,** everyday issues."

Dr. William Cooke is an exercise physiologist and looks specifically at how nerves coordinate blood flow through the heart and brain. He's studied soldiers and astronauts and investigated questions ranging from how to detect an internal hemorrhage on the battlefield to assessing how low-orbit microgravity affects blood pressure control. He now wants to study the everyday folks of the Keweenaw to help them face the region's most prevalent health concerns.

"The Upper Peninsula isn't unique in their health problems, these are nearly global challenges," Cooke says, explaining that diabetes, obesity, and substance abuse, especially alcohol abuse and tobacco dependency, will be the main targets of his research. "Our laboratory techniques are applicable to real-world, everyday issues."

Dr. Cooke's philosophy: "Eat less, move more."

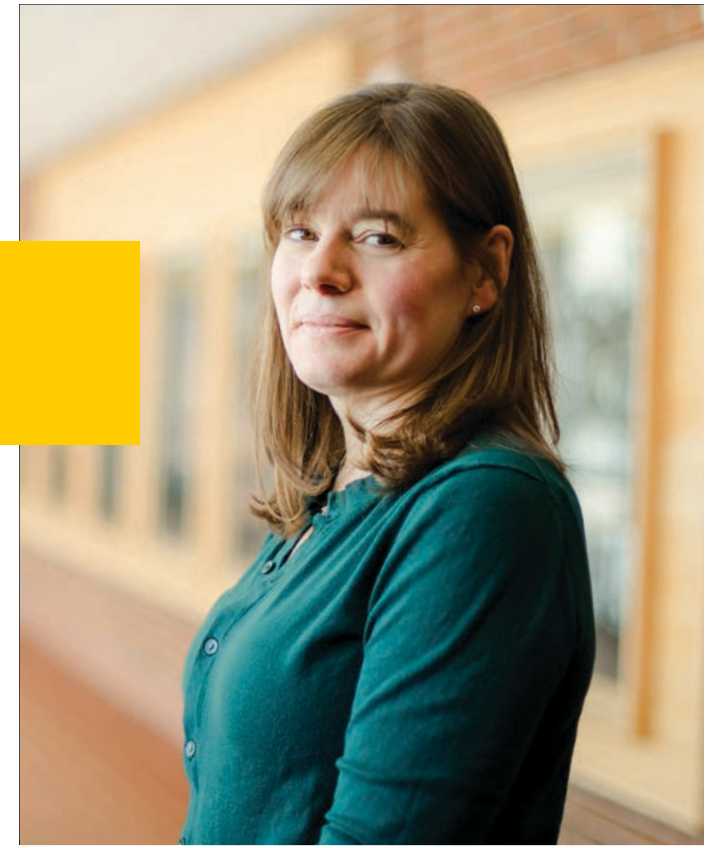
Investing to Build Capacity

Economic and social conditions have a major impact on health outcomes—especially in vulnerable and remote communities like Michigan's Upper Peninsula (UP). To build capacity in health-related research and better understand the challenges facing rural regions, Michigan Tech-appointed epidemiologist Kelly Kamm as an assistant professor in the Department of Kinesiology and Integrative Physiology.

Kamm's research explores the factors that influence health in vulnerable populations like young children and the elderly. She then develops and tests interventions to improve healthy behaviors, with the goal of creating scalable, cost-effective programs and strategies to improve nutrition and quality of life in communities with limited resources.

Recently, Michigan Tech partnered with UP health departments and other agencies to release the first-of-its-kind Community Health Needs Assessment (CHNA). Kamm analyzed data from an extensive Regional Adult Health Survey and contributed to writing the CHNA, a 350-page report that covers all 15 UP counties and provides a wealth of data on the health status of UP residents.

"The CHNA is an example of how we at Tech can partner in our community to provide expertise to local and regional programs or initiatives," Kamm says. "Nearly 5,000 people responded to the Adult Health Survey, and it is important for everyone to have the opportunity to see how that data is summarized and placed in the context of improving health in our region."



Portage Health Foundation Research Funding

Investing in Michigan Tech Faculty

Internal research funding is a critical stepping stone to being competitive for external research funds. In 1986, Michigan Tech made a strategic move to establish a peer-reviewed Research Excellence Fund (REF) grant program. With the financial support of the Portage Health Foundation, Michigan Tech has doubled the REF funds available ($220,000 per year) to human health researchers and faculty over the next five years. These funds are available through the following Michigan Tech Research Excellence Funds:

REF Research Seed Grants provide early-career faculty the resources to develop an externally funded research program. Typical projects support pilot studies that develop new research methods or procedures or collect evidence for a novel approach. All support student research.

REF Commercialization Milestone Grants provide resources to support the initial steps toward commercialization of technologies. These grants are intended to fund activities like testing and validation of the market need, development of technology prototypes, or preliminary validation of performance in real-world sectors.

REF Infrastructure Enhancement Grants provide departments, schools, colleges, and centers/institutes with resources to develop the infrastructure necessary to support sponsored research and graduate student education. Funded projects typically focus on acquisition of equipment, enhancement of laboratory facilities, or enhancement of administrative support structure to expand the research capability of the unit.

Core Facility Grants provide the University critical resources to efficiently support University-wide interdisciplinary and guest/partner research by providing funds that make available and maintain communal research space and state-of-the-art equipment. Michigan Tech's core facilities are an invaluable asset.

INSTRUCTIONAL PROGRAMMING

STEM Education Critical to Industry

Michigan Tech Delivers Talent, Innovation, and Technological Advancements

Historically, Michigan has been a high-income-but-low-education state, where the job market was largely dependent on durable goods manufacturing. Today, resources such as talent, innovation, and technological advancement are key factors playing important roles in the economic development, vitality and competitiveness of the state of Michigan. The Business Leaders for Michigan's publication, Business Leaders' Insights: Michigan's Talent Forecast April 2016 report states that the

> "goal of helping Michigan become a **'Top Ten'** state will be impacted by Michigan's ability to supply talent with the right education, training, and skills to fill high-paying, high-demand jobs."

This perspective is shared by others. For example, in December 2015, the Michigan Postsecondary Credential Attainment Workgroup, a coalition of business, education, and political leaders in our state, published an action plan to increase the qualifications of Michigan's workforce.

The Michigan Association of State Universities participated as did the Business Leaders for Michigan. A goal set by the Workgroup is to have 60% of the state's residents earn a high quality degree or other credential by the year 2025.

STEM Education Critical to Industry

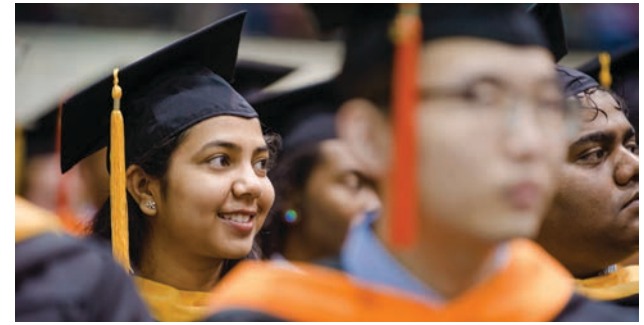
Preparing Talent that Matters for Michigan's Economy

As predicted by the 2007 Gathering Storm report (published by the National Academy of Science, National Academy of Engineering, and Institute of Medicine), the link between education and economic well-being has gone from being a suspicious notion, to being a well-documented fact.

By 2008, the storm had not just gathered, it had hit with full force. Michigan, with its low training and education attainment rates was ill-prepared to deal with storm-force economic winds. The shortage of trained and educated workers dragged down the economy and launched a war for talent among companies that continues today. Whereas at one time, businesses chased low wages across state borders and around the world, they were increasingly being forced to chase talent—which was, as predicted, in short supply—particularly in Michigan. This was in large part, due to the fact that Michigan residents were not sufficiently prepared to be a part of the high-tech workforce.

As recently as two years ago, only 38% of Michigan's working population in the age range of 25 to 64 had the credentials and skills required for employment in our state.

The Gathering Storm report and our state's leaders are both clear that 60% of the population needs to be employable in order to keep existing businesses in, and attract new businesses to, our state.



STEM Education Critical to Industry

H-STEM Complex Will Serve New Programs and Existing Programs

Michigan Tech's reputation and track record is built upon 125 years of vision, hard work, and commitment to the local community, the state, and the nation. To maintain our high-achieving status among STEM-dominant research institutions, Michigan Tech constantly pursues strategic initiatives designed to respond to changing state/national/global needs while staying true to who we are as a university. Strategic efforts are developed through collaborative university-wide conversations, such as Tech Forward, that frequently include external partners and other stakeholders. Germane to our Five-Year Capital Outlay Plan are several programmatic, hiring, and partnership initiatives that are critical to reaching Michigan Tech's Portrait 2045 goals.

Changes to the existing instructional programming, whether addition of new programs or elimination of underutilized programs, is driven by student demand and industry needs. The growing interest among students in majors such as biomedical engineering and kinesiology and integrative physiology, coupled with increased interest in transdisciplinary fields (particularly at the graduate level) is the basis for Michigan Tech's Five-Year Capital Outlay Plan. The priority project, Phase 1 of the H-STEM Complex, will address the needs associated with growth in student interest in health and technology (and other affiliated) degree programs.

70% of Michigan Tech students are in degree programs that will be served by the H-STEM complex.

The Brookings Institution ranked **Michigan Tech No. 1 in Michigan,** and **No. 4 in the US in "value-added" factors** such as the kinds of majors offered—particularly in STEM (science, technology, engineering, and math), graduation rates, student loan repayment rates, the difference between predicted earnings and graduates' actual earnings at mid-career and over a lifetime.

Meet **CARYN HELDT,** Director of the Health Research Institute, James and Lorna Mack Chair in Bioengineering

STEM Education Critical to Industry

Delivering Hands-on, Real-world Learning Opportunities

From Humans of Michigan Tech Stories:

"During my junior year of high school I went on a mission trip to Haiti. I went there thinking I was going to become a pastor—I thought I was going to study theology. Once I got down there, I realized there was a need for doctors in third-world countries. The only doctor within four hours had people lined up to his clinic. The summer before my junior year I was awarded a Summer Undergraduate Research Fellowship to study liver fibrosis and try to identify it with mechanical testing. Spearheading my own research project was huge. Doing research without the steps laid out. That fall I applied for a Portage Health Foundation scholarship. They partnered with the Pavlis Honors College to offer a health scholars research award.

And I got it.

My research was funded for the year, which meant I didn't need to get a part-time job, but even more than that, I got connected to research tools on campus, and transitioned from research in biomed to materials. Professor Pearce and I worked to identify malnutrition in children. We published a paper about a device called a middle-upper arm circumference band. We prototyped it. Tested it. Proved it worked. And for 2.3 cents, it can be 3D printed anywhere in the world and hopefully change lives.

Pretty cool."

ROSS MICHAELS, learned the rigors of research at Michigan Tech. It was the fact that he didn't just learn about organic chemistry, but learned how to change lives, and how to save them that won him a full ride to medical school.

STEM Education Critical to Industry

Michigan Tech's Undergraduate Research Programs

The characteristics of our students led to the creation of an honors college that is different from those at other universities. Michigan Tech's Pavlis Honors College is designed to welcome all highly motivated students, regardless of their GPA. Students participate in distinctive programs that provide the opportunity to develop new skills. One of our more recent programs is the Undergraduate Research Internship Program (URIP). This is a competitive, paid academic year internship. Interested students from any school or college identify a mentor and work in collaboration with their mentor to propose a research or scholarship project. Interns are provided professional development opportunities and are required to present their findings at an Undergraduate Research Symposium.

DR. XIAOQING TANG works with her undergraduate and graduate students to study micro RNA in pancreatic cells. Their findings could influence how we treat diabetes.

STEM Education Critical to Industry

Delivering Hands-on, Real-world Learning Opportunities

JILL POLISKY, an undergraduate researcher, worked with a doctor from Nicaragua to build 3D printing technology. Here she holds a "helping hand prosthetic" made with a 3D printer.

Undergraduates do 126,000 hours/year of paid research with faculty

HANNAH MARTI, supported by a Portage Health Foundation Undergraduate Research Experience Scholarship, and graduate student **TRAVIS WAKEHAM** (both standing) prepare to conduct an expired air analysis as part of their work with **JOHN DUROCHER** associate professor of biological sciences.

BIANCA JONES spent eight weeks in Denmark with **DR. CARYN HELDT** studying point-of-care devices that improve detection of diseases like malaria and tuberculosis.

STEM Education Critical to Industry

H-STEM Complex Will Recruit, Retain, and Grow Michigan's Talent

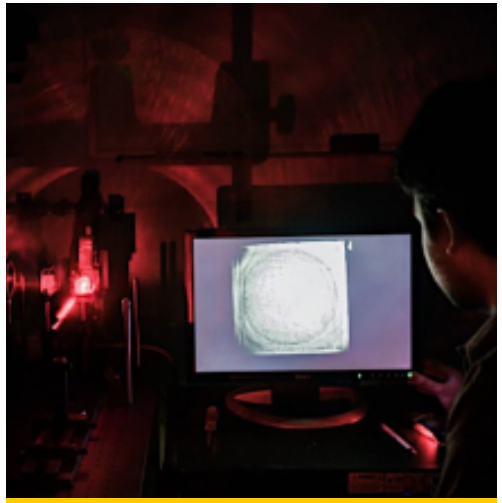
Growth in faculty research is important to both undergraduate and graduate students as well as the financial well-being of the University as a whole. The Graduate School at Michigan Tech has worldwide recognition as a leading public research university. While we anticipate continued growth in student interest in existing programs that will benefit from the H-STEM Complex, we also anticipate future development of new programs that will benefit from the project. These new programs will likely bridge traditional disciplinary boundaries. Michigan Tech has a long history of developing innovative STEM programs. For example, the University's Computational Science and Engineering PhD program was developed in the 1990s to address the needs of computationally focused scientists and engineers drawn from multiple traditional disciplines. Those researchers have continued to make substantial intellectual contributions to their own disciplines, as well as to computer science and computer engineering through their work with large data sets and novel computational methods. While it is impossible to know exactly what the future will bring, we predict that programs developed in the coming decade will involve cross-disciplinary collaboration from many units. Based on faculty members' interests, students are likely to develop solutions to problems or create technological advances that will ultimately improve the human condition.

EVANDRO FICANHA, 2016 PhD graduate from mechanical engineering-engineering mechanics, tested a prototype for a lighter, more streamlined robotic ankle that can "see" where it's going through an artificial vision system. Thus the ankle can adapt precisely, whether the user is climbing stairs or striding over a pothole.

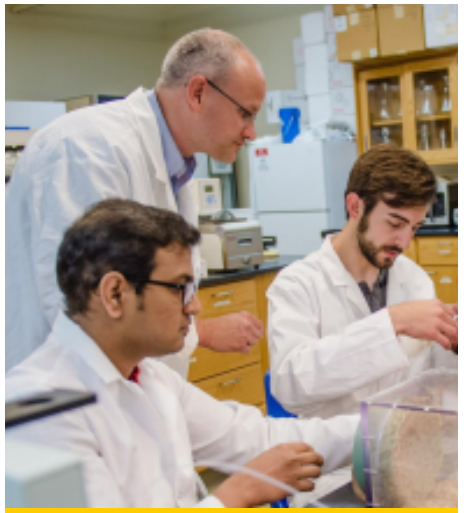
Two of our most recently added departments—Biomedical Engineering and Kinesiology and Integrative Physiology—are the product of cross-disciplinary collaboration. Those areas of study, once considered to be transdisciplinary, are now each recognized as their own discipline. Degree programs in these fields are now common.

Faculty Research Integrated Into Learning

H-STEM Complex Will Recruit, Retain, and Grow Michigan's Talent



ANINDYA MAJUMDAR, a doctoral student in biomedical engineering, uses scattered coherent light to better understand the inner workings of cells.



DR. THOMAS WERNER shows a bottle of fruit flies to a new group of graduate students. His research team analyzes fruit fly genetics to reveal pesticide resistance and gain insights into cancer.

DR. ASHUTOSH TIWARI and his doctoral student **NETHANIAH DORH** work on misfolded proteins. They collaborated with synthetic chemists and physicists to better understand a molecular probe to test protein stickiness, a precursor to some neurodegenerative diseases.

DR. MELANIE TALAGA, a 2016 PhD graduate from chemistry, worked with **DR. TARUN DAM** to identify inaccuracies in thyroid cancer detection tests.

Faculty Research Integrated Into Learning

H-STEM Complex Will Recruit, Retain, and Grow Michigan's Talent

DR. XIAOHU XIA, assistant professor of chemistry, is one step closer to making detection of cancer as easy as a home pregnancy test. Platinum-coated gold nanoparticles could make cheap and simple test-strip detection a reality.

DR. JOHN DUROCHER, associate professor of biological sciences, is getting to the heart of how obesity and fitness affect the sympathetic nervous system and arterial blood pressure responses.

DR. ADRIENNE MINERICK, dean of the of College of Computing, leads research that analyzes infant teardrops for nutrition.

Faculty Research Integrated Into Learning

Critical for Technological Innovation and Economic Development

DR. EBENEZER TUMBAN, molecular virologist, is funded by NIH to create a vaccine that will combat existing HPV infections as well as prevent new ones.

DR. CARYN HELDT, National Science Foundation CAREER Grant Award recipient and James and Lorna Mack Endowed Chair in Bioengineering, works with her students on virus removal for biotherapeutic drugs and is purifying viruses for vaccine production.

In her biomedical engineering lab, associate professor **DR. FENG ZHAO** stitches fibroblast cells into scaffolding—a process that, down the road, may help folks heal better after heart surgery.

STEM Education at Michigan Tech

Tissue Engineering

Lab-grown tissues that are just like the real thing

Stem cell therapies

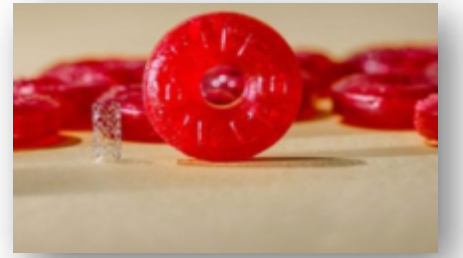
Cell sheet, cardiovascular, and neural tissue engineering

Biomechanics

Robotic prostheses that improve mobility and agility

Computational studies on football concussions

Exercise interventions for rehabilitation, ergonomics, and enhanced mobility and/or sports performance



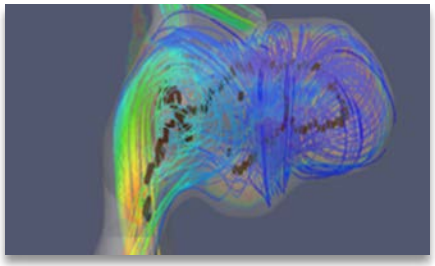
Biomaterials

Bio-absorbable, zinc-based stents that reduce complications

Theranostic scaffolds for wound healing

Nanoparticle test strips for cancer detection

STEM Education at Michigan Tech

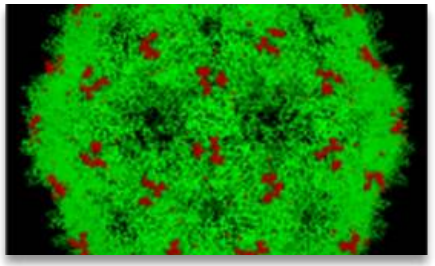


Imaging and Detection

Ultrasound for breast cancer diagnosis

Magnetic imaging to measure blood flow and treat vascular aneurysms

Optical imaging for measuring near-skin blood flow, oxygenation, and skin elasticity



Biochemistry

Purification, removal, inactivation, and detection of pathogens and toxins

Next-generation vaccines that could be the HPV "power off"

Protein misfolding corrections to understand diseases such as Parkinson's

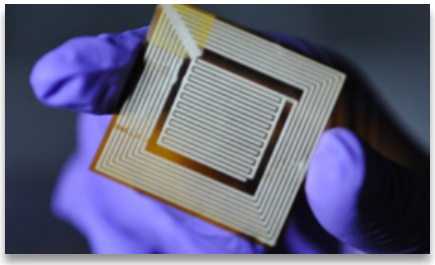
Kinesiology and Integrative Physiology

Sleep disorders

Autonomic and cardiovascular diseases

Hypertension, stroke, and answers to questions such as, "Does fatness affect health if you are fit?"

STEM Education at Michigan Tech



Devices

Smart knee implants

Microfluidic devices for breast cancer detection

Titania nanotube surfaces with integrated nanosilver for antibacterial orthopedic implants

Genetics and Population Health

Fruit fly genetic analysis to offer insights into cancer and other human diseases

Complex disease mapping, like Lou Gehrig's and cancer, to help identify causes and work toward solutions

Medical Informatics

Biometric developments

Healthcare security

Human computer interaction, intelligent medical devices, and biomedical imaging

Why Michigan Needs STEM Education

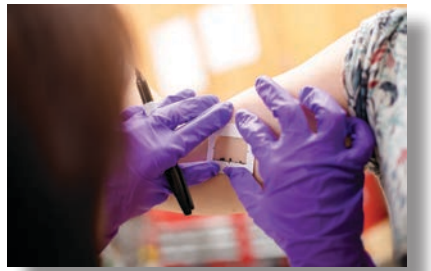
Medical Devices

Over 26% of Michigan venture capital investments go to pharmaceutical and medical device startups.

~300 Michigan companies specialize in medical devices and related ventures.

Michigan has seen a 32% increase in the number of medical device manufacturing companies.

Michigan is the Midwest's fourth largest supplier of medical devices.



Research & Development

In 2017, life science was the focus of capital deployment in Michigan, accounting for 42% of total capital invested.

The three largest sectors of that 42% were: 37% in medical devices, 12% in diagnostics, and 18% in pharmaceuticals.

Jobs

In Michigan, bioscience and related sectors are growing faster than the national average.

Michigan saw 27% employment growth over the last decade.

Michigan GSP growth ranked fourth among all states, while neighboring states grew at less than half of Michigan's rate in 2017.

Sources:
- senate.Michigan.gov/sfa/publications/econind/mei_mostrecent.pdf
- midevice.org/industry-profile
- michiganvca.org/wp-content/uploads/2017/04/2017-MVCA-Research-Report-spreads.pdf
- bio.org/sites/default/files/files/v3battelle-bio_2012_industry_development.pdf

FACILITY ASSESSMENT

Continuous Return on Investment

Continuous Process of Facility Assessment

Michigan Tech's space management is a continuous process maintained through our Accounting for Space, People, Indexes, Research, and Equipment (ASPIRE) database; specific roles in this process are outlined in the University's Space and Equipment Management Guidelines. This process is motivated, in part, by the need for additional space to accommodate the recent expansion in health related education programs. Biomedical engineering, as an example, has more than tripled enrollment over the past 10 years at Michigan Technological University. In 2011 Michigan Tech engaged SHW Group, Inc., to prepare a comprehensive Facility Assessment and Deferred Maintenance Capital Planning Report. This report became the basis for the current long-term deferred maintenance funding model and prioritization schema that is used to determine the priority of any project.

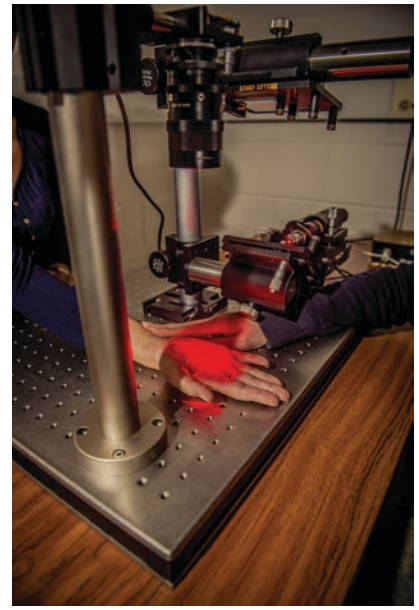
Every two years, the University completes the National Science Foundation (NSF) Survey of Science and Engineering Research Facilities, which allows for comparison relative to established benchmarks. According to the most recently published NSF data, the three top research spaces at Science & Engineering research institutions are: 1) biological and biomedical sciences, 2) health and clinical sciences, and 3) engineering. For biological and biomedical sciences, Michigan Tech had 22,628 net assignable square feet (NASF) of research space at the end of FY2017. Health Sciences had 3,609 NASF. NSF data show that Michigan Tech's combined NASF for biological and biomedical sciences plus health and clinical sciences is extremely low compared to in-state and out-of-state benchmarks. The status of existing research space also indicates there is need for improvements to these spaces in order to support the current level of research on campus and to maintain our current trajectory of increasing research and external funding. We need to improve our research spaces so that they are no longer classified by NSF as being in satisfactory condition (defined as facilities suitable for continued use over the next two years for most levels of research, but possibly requiring minor repairs or renovations), and are instead classified as being in superior condition (defined as facilities suitable for the most scientifically competitive research over the next two years).

Continuous Return on Investment

To achieve our long-term strategic plan goals, both upgraded facilities and increased NASF will be needed. Particularly, upgraded and expanded facilities that support education and research in areas of study related to human health are needed. To be competitive for large National Institutes of Health (NIH) grants, investigators must demonstrate:

1. the scientific environment will contribute to success,
2. institutional support, equipment, and other physical resources available are adequate, and
3. facilities and resources are appropriate to provide exposure to a research-oriented, clinical environment.

Our researchers cannot, at present, demonstrate that these criteria are met, hence our need for the H-STEM Complex.



The Biomedical Optics Laboratory is one example of where the lab space is insufficient to meet the needs of researchers.

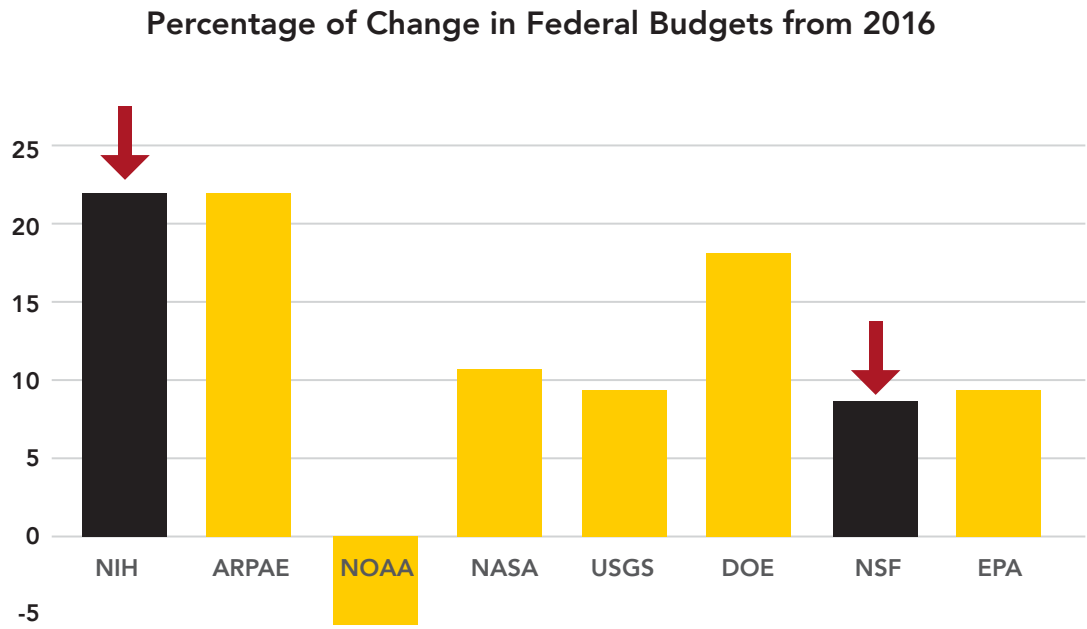
Continuous Return on Investment

As mentioned previously, Michigan Tech is in year four of a five-year partnership with the Portage Health Foundation, which will ultimately result in an investment of approximately $6.7 million for health research, education, technologies, economic growth, and community outreach at Michigan Tech. As part of this partnership, Michigan Tech set a goal to grow its NIH portfolio over the next five years by 20% each year. To date, we are on track to meet this goal. In FY20, the University began an initiative in Health and Quality of Life and is making further investments over the next five years to increase research that will be performed in the H-STEM Complex. The proposed H-STEM Complex will allow us to grow our NIH portfolio even more aggressively.

Continuous Return on Investment

NIH 2018 Budget Increase

While the University has a strong NSF portfolio, which makes up 32% of our total federal funding, we are not maximizing our potential to exploit funding opportunities offered by NIH, an agency with a large budget. After an omnibus bill that raised Alzheimer's disease research by $400 million (to $1.4 billion), antibiotic resistance research by $50 million, cancer research by $300 million, and research in precision medicine by $160 million, NIH saw a $2 billion increase to $39.1 billion for fiscal year 2019. In comparison, NSF's budget increase of $9 million basically holds NSF's funding steady.



Sources:
- sciencemag.org/news/2017/05/how-science-fares-us-budget-deal
- aip.org/fyi/2017/final-fy17-appropriations-us-geological-survey

Continuous Return on Investment

Facility Standards for Program Implementation

Michigan Technological University is a State of Michigan constitutional corporation, governed by a Board of Trustees appointed by the Governor of the State of Michigan. Although we have a great deal of regulatory autonomy, we endeavor to meet all code and facility standards applicable for the occupancy of our buildings. We are exempt from local building and zoning ordinances and subject only to State of Michigan laws and regulations that are clearly intended to apply to universities. In lieu of local building ordinances and State of Michigan laws and regulations that do not apply at the University, the University chooses to require that new construction adhere to a number of well-established building codes and standards, as listed in our Michigan Technological University Facilities Management Procedure for Codes and Regulatory Agencies Related to Facility Projects.

Regardless of origin or enforcing agency, all of the applicable building codes and standards listed in the document are to be followed. The document guides contractors and others working on University property and provides input on topics such as compliance with the State of Michigan Bureau of Fire Safety rules for schools and/or dormitories. This document does not eliminate the need to also comply with the Michigan Building Code, including its barrier-free provisions.

The 2010 Americans with Disabilities Act also must be followed. Additional codes may apply for particular situations, which are considered on a case-to-case basis. Adherence to narrow-scope codes and/or standards are required by the general codes listed in the document.

The edition of building codes listed in the document will be followed throughout the project, unless construction documents are submitted to the University for final review more than a year after adoption of a new version of code. If more than one year transpires between adoption of the new code and submission of construction documents to the University for final review, the most recently adopted edition of the building codes applies.

Michigan Tech research scientist Colin Brooks flies a modified hexacopter to do Eurasian Watermilfoil surveys. We received Environmental Protection Agency and Great Lakes Restoration Initiative grants to help tackle the invasive aquatic plant.

Continuous Return on Investment

Functionality of Existing Structures and Space Allocation to Program Areas Served

Academic spaces at Michigan Tech were generally designed and constructed to serve programming that existed in the past. Many spaces are dated and no longer satisfy current demands. For example, we have a number of areas that were originally designed and constructed as undergraduate labs that now must also meet the demands of graduate education and research.

Additionally, many programs need expanded and updated spaces to allow for modern pedagogy that includes projects, teaming, and collaborative research.

Michigan Tech's research and enrollment have both steadily increased, putting significant strain on outdated facilities and limited spaces. Our FY2021 Capital Outlay Request addresses the highest priority needs as outlined below.

Continuous Return on Investment

Priority Need: Chemistry and Chemical Engineering

The Chemical Sciences and Engineering Building, built in 1968, is largely in its original state. The majority of the classrooms, laboratories, research areas, and administrative spaces remain as they have been since original construction, with the exception of some renovations that have taken place over the years. As second and third generations of students come to Michigan Tech, the space remains largely as it was when their parents and grandparents attended.

Recently two undergraduate laboratories were remodeled to contemporary standards, serving as a model for future projects and a new Chemical Stores addition was recently completed, improving the safe handling of chemicals. An outdated cooling tower was replaced in FY2017, finishes have been updated in various locations throughout the building, and the roof was recently replaced. Nevertheless, a significant number of additional issues remain to be addressed. Of critical importance is improving the design of the ventilation system which is inadequate for the research being done today, updating the chiller and humidifiers, removing asbestos which can be found throughout the facility, and replacing end-of-life finishes.

The H-STEM Complex will involve significant repurposing of this building, which will provide an opportunity to utilize its well maintained shell. The new addition's capabilities will strengthen the University as a whole.

90%

student participation in co-op, internship, or Enterprise

8th

chemical engineering ranks among highest-paying careers

3

semesters of student experience in a simulated chemical plant

Continuous Return on Investment

Priority Need: Biomedical Engineering

The research and educational spaces within the department of Biomedical Engineering (BME) are outdated and inadequate for modern research and education. All of the space currently used by the Department of Biomedical Engineering is repurposed from spaces originally constructed for mining, mineral processing, and materials science activities.

The research areas lack modern biomedical-grade research benches. The layout of the research space is inefficient; there is not an 'open lab' configuration, which is now common in nearly every other biomedical research facility in the country. The 'open lab' design reduces costs and improves efficiency, workflow, collaboration, and safety. The current facilities lack the number of laminar flow hoods and biological safety hoods that are needed to efficiently and safely conduct research and educational activities. Ventilation from the current Animal Care Facility (ACF) is inadequate; odors emanating from the ACF penetrate the entire BME space.

Current teaching laboratory spaces suffer from the same shortcomings as research spaces, and are additionally too small. Teaching laboratory spaces for Bioinstrumentation and Laboratory Techniques classes can serve only 10 students at a time.

Both of these courses are required core courses for all BME students. High demand and small labs lead to significant scheduling issues and inefficiencies in delivering educational experiences, as BME currently enrolls approximately 315 undergraduate students.

The space allocated for Senior Design is similarly small and outdated. There is no wet-lab space that can be dedicated to the senior design program, which is a significant shortcoming and puts Michigan Tech and BME undergraduate students at a disadvantage relative to other BME departments nationally. Some activities have been moved into research laboratories, but this practice is not sustainable due to safety concerns and overcrowding.

Biomedical Engineering by the Numbers

$2M+

in sponsored program awards for fiscal year 2019

TOP 10%

rank in highest-paying careers

89.2%

undergraduate job placement rate

Continuous Return on Investment

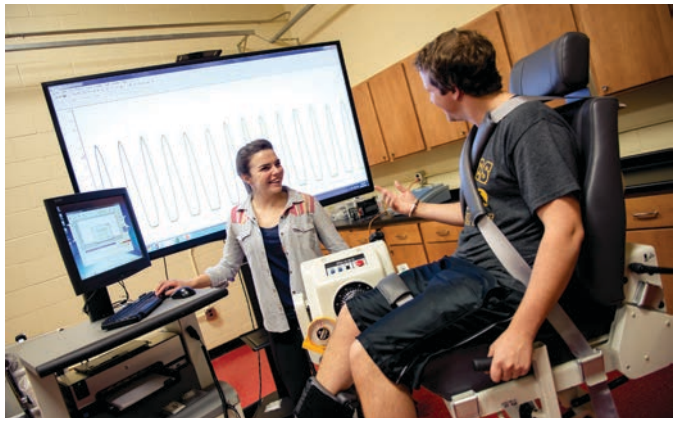
Priority Need: Biomedical Engineering

Over the past 10 years, the department of Kinesiology and Integrative Physiology (KIP) has transformed from a physical education program to a robust human health-focused research and education enterprise. Eighty percent of the tenure-track faculty in KIP have active federal grants from the National Institutes of Health (NIH) and/or the National Science Foundation (NSF). Much of KIP research overlaps with research in BME. For example, nearly one-third of KIP and BME faculty are engaged in funded research that can be broadly-defined as heart and vascular science and engineering. Several faculty have interdisciplinary research projects and grants, allowing for innovative and interdisciplinary solutions to complex global health challenges (e.g., cardiovascular disease, obesity, development of point-of-care medical devices).

The research and teaching facilities in KIP are scattered across multiple buildings and located in spaces that were not designed for behavioral and technological research to address human disease and debilitation.

KIP tenure-track faculty are located in three separate buildings. One was designed for physical education (Student Development Complex), one for environmental and biological science (Dow Building), and one for career services (Meese Cognitive and Learning Building). Additionally, the animal care facilities required for ~40% of faculty are located in another building in a space designed for mining, mineral processing, and materials science. Undergraduate and graduate students in KIP regularly collaborate with faculty and students from other departments as they engage in research, engineering-focused senior design projects, and community health projects. Teaching laboratories for these interdisciplinary activities are small and restrictive, and the use of converted space has led to ventilation and temperature control issues.

KIP research is conducive to the open lab model planned for the H-STEM Complex. Given the ongoing and growing research collaborations with BME, there is an urgent need to co-locate the two departments in close proximity.



Kinesiology & Integrative Physiology by the Numbers

90%

placement rates in physical therapy and medical schools; surpasses state and national norms

15:1

student-to-faculty ratio: top among kinesiology programs in the US

80%

tenure/ tenure-track faculty with active research sponsored by NIH, NSF, or industry

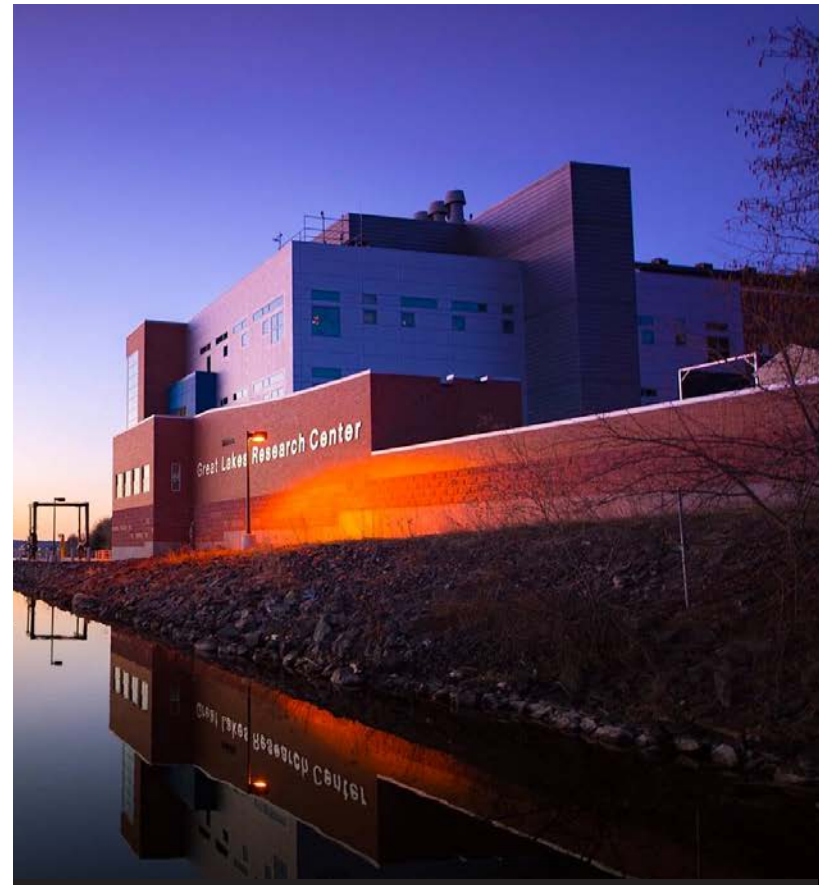
Continuous Return on Investment

Michigan Tech's Previous Capital Project: A Model for Success

The University's last capital outlay project, the Great Lakes Research Center (GLRC, pictured right), provided much needed space for water-related research on campus. The GLRC provides state-of-the-art laboratories to support research on a broad array of topics. Faculty members from many departments collaborate on research, ranging from air-water interactions to biogeochemistry to food web relationships.

The GLRC has seen continued growth in the number of proposals submitted by multidisciplinary teams and proposals with Co-Principal Investigators, demonstrating growth in individuals interested in contributing toward team science. In fiscal year 2018, five proposals included requests amounts in excess of $5 million.

Like the GLRC, the H-STEM Complex will address growing needs at Michigan Tech. The H-STEM project is anticipated to result in significant increases in the total value of proposals for research funding submitted and awards received. This will allow Michigan Tech to continue to increase its contributions in support of the state of Michigan's industries.



As a result of GLRC researchers' efforts, Michigan Tech ranks highly in research and development expenditures in Michigan in the areas of environmental science, atmospheric science, and oceanography.

Mandated Facility Standards

Utility System Condition

Michigan Tech's campus development plan was prepared in the mid-1960s to provide guidance for the development of academic programs and the physical plant. In conjunction with this plan, Commonwealth Associates, Inc. conducted a campus utilities study. Installation of the campus utilities, which began in 1970, followed the study's recommendations for underground services. The Facility Assessment and Deferred Maintenance Capital Planning Report of 2011, prepared by the SHW Group, Inc. provided additional guidance regarding utilities and infrastructure.

Central Heating Plant

Michigan Tech has a central heating plant and steam distribution system serving the University's campus. The plant has a total connected boiler capacity of 250,000 pounds of steam per hour providing over 100% redundancy at current steam demands. The steam distribution system consists of a walk-in tunnel system from the plant to the academic core. Tunnels run the entire length of the campus core and southward to the athletic complex. Service to individual buildings is provided through a mini-tunnel system. The distribution system was designed in anticipation of future growth. New facilities in the academic core are anticipated to be within 100-200 feet of a tunnel. The existing steam plant was built in 1950, with additional capacity added in 1957, 1964, and 1970. Burner and control upgrades performed in 1970 and 2002 improved efficiency and reliability of the system. Planned maintenance efforts continue to focus on long term reliability of the plant. Opportunities exist for improvements in the steam generating and distribution system to improve efficiency. The central heating plant presently serves 2,730,000 gross square feet of campus facilities with an instantaneous peak load of 90,000 pounds per hour and a one-hour average peak load of 85,000 pounds. The present connected load includes instructional, research, administrative, housing, athletic, and service facilities. Existing plant capacity can reliably provide steam services for an additional 1,000,000 square feet of building space, while ongoing energy conservation, and technology improvements further increase the plant's ability to service additional space.

Mandated Facility Standards

Utility System Condition

Electric and Communications Infrastructure
Michigan Tech's incoming electrical service is on a 69,000-volt American Transmission Co. line that terminates at an Upper Peninsula Power Company substation located next to Michigan Tech's substation. Michigan Tech's 9.0 MW diesel generating plant provides backup power to the entire campus in an emergency or power curtailment. Power is distributed to each building where transformers reduce the incoming voltage. The electrical/communications distribution system consists of a concrete-encased duct bank that runs the entire length of the academic core and south to the athletic complex with facility connections tapped from the main duct bank. The campus electrical distribution system was replaced in 2003. Electricity is distributed throughout campus via three separate lines. Two lines serve each building allowing loads to be balanced across all three lines and providing redundant feed to each building.

The system capacity is 11,500 kVA with 100% backup capability. Peak demand is 6,800 kVA at approximately a 0.9 power factor. The system will reliably service an additional 2,000,000 square feet. With planned maintenance, the 2003 cable installation is expected to last through 2053.

Michigan Tech's communication system consists of a number of underground conduits that provide adequate space for University communication infrastructure. Both fiber optic and copper pathways exist. The size and location of these will enable the system to meet future needs. Should additional fiber be needed, these pathways will be suitable. Any new structure built on campus would tie into this system as part of the project scope.

Water
Michigan Tech's water system is a combined fire and domestic looped manifold system, with an eight-inch main around the circumference of the campus. There are no capacity concerns with the water distribution system. Water usage is 28% below what it was in the late 1970s as a result of conservation efforts. Michigan Tech's water mains are sized for an annual usage of 375,000,000 gallons and a peak demand of 1,100 gallons per minute. Current usage is approximately 100,000,000 gallons annually. Water is provided by the City of Houghton. In 1996, the City of Houghton completed construction of a new water plant and continue to make distribution improvements that will meet Michigan Tech's needs into the foreseeable future.

In 2018, an analysis of the water system was conducted to determine any possibility of lead contamination. All samples were negative.

Mandated Facility Standards

Utility System Condition

Sewers
Michigan Tech's sewers are separated into storm and sanitary systems. The storm system drains into the Keweenaw Waterway at various locations. Riverine and urban flooding was identified as a critical vulnerability in the 2019 MTU Multi Hazard Mitigation Plan. Completion of a Campus Drainage Assessment to better address storm water back-up and flooding on campus was a recommended mitigation strategy. A fifteen-inch sanitary main, capable of handling 3,500,000 gallons per day, ties directly into the Portage Lake Water and Sewage Authority's transmission main. The treatment facility is located east of campus. The size of Michigan Tech's sanitary main and the new sewage treatment plant's capacity of 18,000,000 gallons per day provide sufficient capacity for foreseeable future needs. Sections of piping are reviewed annually via camera, and maintenance and replacement of older sections are ongoing.

Facility Infrastructure Condition
Michigan Tech's roads, sidewalks, and parking lots are in satisfactory condition and are maintained according to a replacement plan and conditional assessment. Recent improvement projects include paving a commuter student parking lot and re-paving and adding sidewalks along Cliff Drive (a main campus roadway). The University does not presently have a parking deck, nor any bridges, in its road system.

Adequacy of Existing Utilities and Infrastructure Systems for Current and Five-Year Projected Programmatic Needs
The central heating plant can serve an additional 1,000,000 square feet and the electrical system can service an additional 2,000,000 square feet; both are beyond the University's needs for the upcoming five years. A $100,000 investment in the south campus high-voltage line in 2018 further increased system capacity and reliability. The water plant and sewage facilities both provide sufficient capacity for foreseeable long-term needs. Michigan Tech completed two projects in 2019 to separate storm drain piping from sanitary sewer lines, lowering unnecessary flow to the sewage treatment plant and leaving more capacity for future projects.

Mandated Facility Standards

Campus Sustainability Initiatives

Michigan Tech formalized the effort of improving campus sustainability with the establishment of a Campus Sustainability Oversight Committee with leaders in the areas of Academics, Engagement, Planning, Facilities and Administration. The charge for this committee is to set goals and targets for sustainability at Michigan Tech, in the areas of Academics, Operations, Outreach, Waste Minimization, and Infrastructure. Sub teams will be formed to focus on specific sustainability initiatives.

Our initial goal is to reach the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment, and Recording System (STARS) Silver Level and to identify initiatives needed to achieve Gold Level.

The Energy sub-team will develop an energy audit plan to identify energy saving opportunities. Energy metering data shows that research buildings (such as the Dow Building, Minerals and Materials Engineering Building, and the R.L. Smith Mechanical Engineering-Engineering Mechanics Building) are energy intensive spaces. The buildings with the highest energy use will be given priority in the energy audit process.

A carpet of plants on many of the second-floor roofs at the GLRC soak up runoff and act as natural temperature regulators—helping to keep the building cool in the summer months.

Mandated Facility Standards

University Enterprise-Wide Energy Plan, Goals, and Audit Schedule

The University strives to identify and implement energy reduction strategies and projects based on input from the Campus Sustainability Oversight Committee, Green Campus Student Enterprise, Facilities Management, and the campus community. Nominated sustainability projects and strategies are vetted and prioritized using a life cycle cost approach to determine return on investment.

Energy Efficiency Improvements
Potential energy saving projects include: HVAC recommissioning, lighting controls, interior and exterior LED lighting upgrades, exhaust air energy recovery, computer server room infrastructure, water saving projects, combined heat, power and cooling. The university is in the process of upgrading HVAC control systems in all buildings.

The $941,000 West McNair Hall Bathroom Renovation and Maintenance Repairs project completed in the summer of 2017 reduced water use in the building by over 20%, saving $20,000 per year. The Great Lakes Research Center, the newest building on campus, is heated by waste heat recovered from boiler exhaust gas in Central Heating Plant reducing the heating cost for the building by over 70%

Electricity Cost Management
Through the State of Michigan Energy Choice Law, Michigan Tech has been able to control energy costs by purchasing energy from an Alternative Energy Supplier (AES). This has resulted in savings for the University of over 20% as compared to the local utility rate. 50% of the electricity purchased under our contract is from renewable sources. Michigan Tech is one of only three colleges and universities in Michigan recognized by the USEPA Green Power Partnership for use of sustainable electricity.

Land and Capacity for Future Development

The University owns real property in the Michigan counties of Houghton, Keweenaw, Baraga, and Ontonagon, and in the Wisconsin county of Lincoln.

Each year the Michigan Tech Board of Trustees Audit and Finance Committee reviews an updated list of real properties that could be considered for disposition and advised on strategy.

Land acquisitions through donations are vetted to identify their academic, research, or business purpose and are liquidated if no future use can be determined.

The "Fresh Look" Scenarios Plan Report of 2006 as well as the Campus Master Plan 1999 Amendment and all previous Master Plans and supplements contain information identifying footprints for potential academic, housing, and recreation building sites. Depending on the scope of the project, the campus has capacity for projected growth over the next 15-20 years. Potential land acquisition in areas local to the core campus are identified in the "Fresh Look" Scenarios Plan Report of 2006.

State Building Authority Obligations

Existing Obligations to the State Building Authority

Michigan Tech has four building projects with obligations to the State Building Authority.

Building	Lease Began	Lease Ends
Environmental Sciences and Engineering Building	1999	2034
Performing Arts Center	2001	2036
Center of Integrated Learning and Information Technology	2005	2040
Great Lakes Research Center	2013	2048

Facility Assessment Required Data

See Appendices:

Net to Gross Area Ratio Summary

Summary of Assignable Area

Statement of Values

IMPLEMENTATION PLAN

Priority of Major Capital Projects

Requested from the State with Estimated Costs

Five-Year State Capital Outlay Plan and FY 2021 Capital Project Request

Project Name	Gross Sq. Ft. New	Gross Sq. Ft. Renovated	Total Project Cost (000s)	State Funds (000s)	Est. Cost. Univ. Funds (000s)	Start/End Dates (years)
H-STEM Engineering and Health Technologies Complex—Phase 1	68,000	47,000	$44,700	$29,700	$15,000	2020/2023

H-STEM Engineering and Health Technologies Complex—Phase I
The H-STEM engineering and health technologies complex will support Michigan Tech's integrated educational programs that apply engineering and science to problems related to human health. Michigan Tech's technological niche allows it to contribute to health-related research, development, and education for its students by developing therapeutic devices, instruments, sensors, and preventative strategies. Research is currently supported by the American Heart and Lung Associations, Gerber Foundation, Portage Health Foundation, National Institutes of Health, and National Science Foundation (among others). The complex will include shared and flexible laboratory spaces, co-located with renovated classrooms and learning/spaces within an existing building (Chemical Sciences and Engineering) that meet current industry standards for safe operation and the training of students. The complex will permit teams of researchers and students from Biomedical Engineering, Chemical Engineering, Mechanical Engineering, Electrical and Computer Engineering, Materials Science and Engineering, Biology, Chemistry, Cognitive and Learning Sciences, Computer Science, and Kinesiology and Integrative Physiology to work together in collaborative space with shared equipment. The estimated cost of $44,700,000 will allow Michigan Tech's engineers and scientists to continue to increase economic prosperity through development of technologies and preparation of the future technological workforce. Research and educational efforts made possible by this complex will complement and add value to activities at other universities as well as care providers throughout the state.

Current Deferred Maintenance

Relative Estimate of Michigan Tech's Current Deferred Maintenance Backlog

In 2011 Michigan Tech contracted with the SHW Group to complete the "Michigan Tech Facilities Assessment and Deferred Maintenance Capital Planning Report 2011." That report, from May of 2011, determined the deferred maintenance backlog at Tech to be approximately $126,900,000. In context of the report, SHW defined deferred maintenance backlog as "expenditures for repairs which were not accomplished as part of normal maintenance or capital repair which have accumulated to the point that facility deterioration is evident and could impair the proper functioning of the facility. Deferred maintenance projects represent catch up expenses."

In 2014 Tech began funding deferred maintenance, with an initial annual budget of $500,000. Since that time, just over $7,500,000 of deferred maintenance projects have been completed or are currently being completed. However, because additional items do get added as they arise, the deferred maintenance backlog is still estimated at approximately $122,000,000.

It is important to note that Michigan Tech does not intend to act on some of the deferred maintenance needs currently included within the deferred maintenance backlog. Technology changes, programmatic changes, differing conditions at predicted end of life can impact whether a project will ever come to fruition. These items are taken into consideration annually as part of the review process and updated on five year deferred maintenance planning list. With this in mind, the actual deferred maintenance backlog of projects that Tech plans to address is closer to $40,000,000.

Impact from Deferred Maintenance and Structural Repairs

There is a long-term maintenance plan in place to address the deferred maintenance backlog. In FY2020 $2,200,000 in deferred maintenance projects was budgeted, with a planned increase of a $500,000 each year until an annual total of $3,000,000 is reached and maintained. Michigan Tech also addressed an additional $25,000,000 over the past four years in several high-impact deferred maintenance and renovation projects that will help lower total deferred maintenance costs.

Addressing deferred maintenance is an important piece of the University Strategic Plan because it allows the University to provide exceptional services and infrastructure. Recently completed projects such as the $13.6 million renovation to the Daniell Heights apartments, which primarily house graduate students, allow the University to invest in its students by providing attractive and affordable living options with easy access to campus and community transportation.

Current investments in the Chemical Sciences and Engineering Building undergraduate labs and Chemical Stores support academic programming for students in every major. Additionally, current projects to update building controls, fire alarms, and elevators allow numerous departments across campus to better, and more safely, serve students in their programs.

Status of On-going State Building Authority (SBA) Financed Projects

All SBA resource projects have been completed as planned to maximize program, research, and relationship (with donors who made gifts to the projects) impact. Given this, Michigan Tech is well positioned to move forward with our Five-Year Capital Outlay Plan and Capital Outlay Request, if funded.

Building	Project Status
Center of Integrated Learning and Information Technology	Completed
Environmental Sciences and Engineering Building	Completed
Great Lakes Research Center	Completed
Performing Arts Center	Completed

Rate of Return on Planned Expenditures

Increases in Research Funding Helps Rate of Return

It is reasonable to assume the rate of return on planned expenditures will be significant and sustainable given the projected increases in both enrollment and research funding.

The H-STEM Complex will provide faculty with the competitive research environment needed to grow our NIH and industry funded research portfolio by a conservative 20% per year. In FY19, our funding from the Department of Health and Human Services increased by 28% compared to FY18. This alone will have a sizable rate of return on planned project expenditures. In FY19 we reached an all time high expenditure level of $80.4 million. The new facilities will also reasonably enable increases in sponsored awards from all of the federal funding agencies currently supporting Michigan Tech research talent. No impact on tuition is expected from this project. We anticipate continued increases in enrollment bolstered by the new H-STEM Complex that will increase tuition revenue and auxiliary income.

Michigan Tech's debt service on $15 million, if bonding all matching funds, will be approximately $840,000 per year. This will be supported by the projected increases in both enrollment and research funding. Michigan Tech's FY2020 Facilities and Administrative (F&A) rate is 53% for on-campus research. An annual debt payment of $840,000 implies an increase in research funding of $5 million to service the debt solely through F&A recovery (this translates to an increase of 17.3% in HHS funding). We can also look at funding the debt from just the 27% Facilities component of the rate, which would imply an increase in research funding of $3.6 million (an increase of 20% in NIH funding and less than a 1% increase for all other federal funding agencies currently supporting Michigan Tech's H-STEM research).

The rate of return on expenditures is also something we take into consideration with all planned maintenance to increase efficiencies and eliminate waste. For example, in the H-STEM Complex we will recommission the current HVAC infrastructure and incorporate new sustainable technologies that will improve operational savings. Our Facilities Management Sustainability Initiatives will significantly increase operational savings and enhance the rate of return over time.

Alternatives to New Infrastructure

Michigan Tech always considers alternatives to new construction before creating new infrastructure. We have not received a capital outlay from the State of Michigan since 2008, when the Great Lakes Research Center was approved. Since that time, we have repurposed or expanded existing spaces to address needs.

For example, for Michigan Tech's doctorate in physical therapy, which was established in partnership with Central Michigan University, occupies renovated space in an existing structure. The Advanced Technology Development Complex (ATDC) was renovated to create an innovative distance learning center that includes lecture and laboratory spaces. A sleep laboratory was created in the existing Student Development Complex to support NIH-funded research in a quiet location that is removed from the main campus.

A new electron microscope is housed in a suite added to the ATDC that provides protection from vibration and electromagnetic interference that could negatively impact the equipment if it was located in a more congested area. Additions and renovations to the existing chemical sciences and engineering building have also been made. The new chemical storage facility was added to the building, and undergraduate teaching laboratories have recently been updated.

Michigan Tech is a careful and conscientious steward of its facilities, updating and upgrading current spaces whenever possible. In the case of the proposed H-STEM project, the magnitude of changes that are needed necessitates addition of new space as well as renovation of existing facilities.

Alternatives to New Infrastructure

For the H-STEM Complex, a complete renovation of the existing Chemical Sciences and Engineering Building was considered but was not selected for several reasons. The cost to renovate existing small, inflexible labs into modern research facilities was prohibitive. Available space in the building was also insufficient to allow for the addition of modern research facilities that meet new (and anticipated future) safety standards. Additionally, the increase in research and growth in number of students using the building is placing potentially unsustainable demands on the ventilation system.

Renovation of a different facility was also considered but was not selected because the Chemical Sciences and Engineering Building was identified in a 2011 Facilities Condition Assessment as the academic building on campus most in need of renovation. No other building was in need of such extensive renovation to address teaching needs.

An entire newly constructed facility was also considered but was not selected because it would not allow for renovation of existing teaching laboratory space. Construction of new classrooms, classroom labs, and office spaces were determined to be cost-prohibitive, especially as compared to the cost of renovating and repurposing existing space.

The combination of an addition to and renovation of the existing Chemical Sciences and Engineering Building addresses all needs in the most cost-effective way possible. The new addition will provide high-tech, flexible lab space that meets modern safety standards and the needs of students and researchers. Research labs in the existing building, which have exceeded their useful lifespan, will be repurposed to provide modern classroom and learning spaces for students.

The H-STEM Engineering and Health Technologies Complex—Phase 1 will enhance Michigan Tech's mission to "deliver action-based undergraduate and graduate education and discover new knowledge through research and innovation." The success of the project will be measured by increased enrollment, career placements, research expenditures, and the "accomplishments and reputation of our graduates, national and international impact of our research and scholarly activities, and investment in our University" (mtu.edu/stratplan).

Maintenance Schedule

Maintenance Schedule in Excess of $2,000,000

Fiscal Year 2021-2025 Maintenance Schedule
Scheduling of maintenance projects is informed by data collected from annual and bi-annual reporting on facility assessment. Project priorities are responsive to new safety standards, national benchmark goals for research spaces, and overall maintenance needs. This strategic approach allows Michigan Tech to recruit and retain research talent and provide students the most industry-relevant education. Attainment of our goals, in terms of rankings, career placement, and the University's Portrait 2045 depend on our ability to make strategic maintenance decisions.

The University recently completed a large maintenance project in our student apartments, the Daniell Heights Maintenance project. It is valued at $13,600,000 and was completed in June of 2019. Additionally, as a result of the federally declared flooding disaster that took place on June 17, 2018, the University is undertaking a number of repair and remediation projects. The largest associated project is the Administration Building Ground Floor Flood Damage Repair project, estimated to cost $2,400,000.

The University is also considering a restroom renovation project in the next few years in Douglass Houghton Hall ($1,900,000), the addition of a second passenger elevator to the Dow Environmental Sciences and Health Building ($1,280,000), replacement of the heating and ventilating system in the Administration Building ($1,950,000), and roof replacement at the Student Development Complex ($1,850,000), Chemical Science Building window replacement ($1,250,000), Minerals and Materials Building heating and ventilation upgrades ($1,500,000), and the replacement of the elevators in the Electrical Energy Resources Center ($1,196,000). While there are a number of additional projects planned for fiscal years 2021 through 2025, no other single stand-alone project valued at over $1,000,000 is planned for those years.

Non-routine Maintenance Budgeted for FY2020 and Relevant Sources of Funding
The University began budgeting general fund dollars towards non-routine maintenance in FY2014, with $7,500,000 in projects completed to date. A total of $2,200,000 is budgeted for FY2020 with a planned increase of a $500,000 each year until an annual total of $3,000,000 is reached and maintained. In order to maintain a budget-neutral impact on student tuition, increases in the non-routine maintenance budget have been implemented over an extended period of time.

Relevant Sources
For FY2017-FY2022, the Portage Health Foundation has committed $110,000 per year in support of Michigan Tech's health research. A portion of these funds is earmarked for infrastructure and core facility enhancement. Michigan Tech uses our existing shared application process through the Vice President of Research office to award funds. Shared facilities awards cover costs associated with research facilities, like replacing and maintaining equipment. Submission of a competitive proposal for University funding is restricted to recognized shared facilities. The goal is to provide substantial infrastructure enhancements to support health-related faculty and student activities.

APPENDICES

Class Section Counts by Enrollment and Level

Fall 2019 (Preliminary)

As defined by Common Data Set standards

Number of students enrolled per class								
Undergraduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	265	285	245	106	65	119	31	1,116
Class Sub-sections	85	214	73	20	19	20		431
Graduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	106	36	10	2	2		1	157
Class Sub-sections	24	6	1					31

Given the expected growth in enrollment, if we maintain the current student to staff/faculty ratios, class size projections over the next several years should not be substantially different than the distribution shown. The project request will alleviate scheduling strain that our growing student population is placing on current facilities, particularly labs.

2021 Five-Year Capital Outlay Plan
Michigan Technological University

III. Staffing and Enrollment

Enrollment Distribution by College and Major

	Standard Learning						Online Learning						
	Undergraduate			Graduate			Undergraduate			Graduate			
	Full Time	Part Time	Total	Full Time	Part Time	Total	Full Time	Part Time	Total	Full Time	Part Time	Total	Grand Total
No College Designated													
English as a Second Language(IESL)	1	0	1	0	0	0	0	0	0	0	0	0	1
Non Degree Seeking (GR)(NDG)	0	0	0	0	27	27	0	0	0	0	0	0	27
Non Degree Seeking (UG)(NDS)	0	64	64	0	0	0	0	0	0	0	0	0	64
Post Degree Studies(PDS)	2	10	12	0	0	0	0	0	0	0	0	0	12
Total No College Designated	**3**	**74**	**77**	**0**	**27**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**104**
School of Business & Economics													
Accounting(BACC)	39	4	43	8	2	10	0	0	0	0	0	0	53
Economics(BEC)	9	0	9	0	0	0	0	0	0	0	0	0	9
Engineering Management(BEM)	82	5	87	0	0	0	0	0	0	0	0	0	87
Finance(BFIN)	51	1	52	0	0	0	0	0	0	0	0	0	52
General Business(BGN)	22	1	23	0	0	0	0	0	0	0	0	0	23
Business Administration(BMBA)	0	0	0	24	11	35	0	0	0	0	0	0	35
Management(BMGT)	54	5	59	0	0	0	0	0	0	0	0	0	59
Management Information Systems(BMIS)	42	3	45	0	0	0	0	0	0	0	0	0	45
Marketing(BMKT)	24	2	26	0	0	0	0	0	0	0	0	0	26
Applied Natural Resource Econ.(BNRE)	0	0	0	2	0	2	0	0	0	0	0	0	2
Data Science(IDS)	0	0	0	5	1	6	0	0	0	0	0	0	6
Total School of Business & Economics	**323**	**21**	**344**	**39**	**14**	**53**	**0**	**0**	**0**	**0**	**0**	**0**	**397**
College of Computing													
Cybersecurity(CCY)	13	0	13	0	0	0	0	0	0	0	0	0	13
Health Informatics(CHI)	0	0	0	2	1	3	0	0	0	0	4	4	7
Computational Science & Engrg(EPD5)	0	0	0	3	2	5	0	0	0	0	0	0	5
Data Science(IDS)	0	0	0	19	1	20	0	0	0	0	0	0	20
Computer Science(SCS)	420	13	433	42	5	47	0	0	0	0	0	0	480
Cybersecurity(SCSC)	0	0	0	4	0	4	0	0	0	0	0	0	4
Software Engineering(SSEN)	83	3	86	0	0	0	0	0	0	0	0	0	86
Computer Network & System Admn(TCSA)	76	2	78	0	0	0	0	0	0	0	0	0	78
Electrical Eng Tech(TEET)	40	1	41	0	0	0	0	0	0	0	0	0	41
Total College of Computing	**632**	**19**	**651**	**70**	**9**	**79**	**0**	**0**	**0**	**0**	**4**	**4**	**734**
College of Engineering													
Adv Electric Power Engineering(CAEP)	0	0	0	0	0	0	0	0	0	0	2	2	2
Electric Power Engineering(CEPE)	0	1	1	0	0	0	0	0	0	0	0	0	1
Hybrid Elec. Drive Vehicle Eng(CHEV)	0	0	0	0	0	0	0	0	0	0	3	3	3
Applied Geophysics(EAG)	11	0	11	0	0	0	0	0	0	0	0	0	11
Biomedical Engineering(EBE)	278	8	286	24	1	25	0	0	0	0	0	0	311
Engineering(EBS)	20	0	20	0	0	0	0	0	0	0	0	0	20
Civil Engineering(ECE)	290	26	316	33	6	39	0	0	0	0	8	8	363
Chemical Engineering(ECM)	397	38	435	28	2	30	0	0	0	0	0	0	465
Computer Engineering(ECP)	254	10	264	14	1	15	0	0	0	0	0	0	279
Electrical Engineering(EEE)	360	17	377	87	11	98	0	0	0	1	19	20	495
Environmental Engineering(EEN)	152	8	160	12	2	14	0	0	0	0	0	0	174
Environmental Engrg Science(EENS)	0	0	0	0	2	2	0	0	0	0	0	0	2
Geological Engineering(EGE)	31	1	32	8	0	8	0	0	0	0	0	0	40
Geology(EGL)	15	3	18	15	16	31	0	0	0	0	0	0	49
General Engineering(EGN)	118	0	118	0	0	0	0	0	0	0	0	0	118
Geophysics(EGP)	0	0	0	7	2	9	0	0	0	0	0	0	9
Engineering(EGR)	0	0	0	1	0	1	0	0	0	0	0	0	1
Mechanical Engineering(EME)	1,280	83	1,363	209	25	234	0	0	0	0	25	25	1,622
Mining Engineering(EMG)	7	1	8	2	0	2	0	0	0	0	0	0	10
Materials Science and Engrg(EMSE)	109	10	119	31	1	32	0	0	0	0	7	7	158
Engineering - Environmental(EPD2)	0	0	0	9	1	10	0	0	0	0	0	0	10
Computational Science & Engrg(EPD5)	0	0	0	2	1	3	0	0	0	0	0	0	3
Atmospheric Sciences(IAS)	0	0	0	1	0	1	0	0	0	0	0	0	1
Automotive Systems & Controls(IASC)	0	0	0	0	0	0	0	0	0	0	7	7	7
Data Science(IDS)	0	0	0	1	0	1	0	0	0	0	0	0	1
Mechanical Eng-Eng Mechanics(MEEM)	0	0	0	74	10	84	0	0	0	0	20	20	104
Integrated Geospatial Tech(TGT)	0	0	0	2	0	2	0	0	0	1	4	5	7
Mechanical Engineering Tech(TMET)	146	12	158	0	0	0	0	0	0	0	0	0	158
Surveying Engineering(TSE)	5	0	5	0	0	0	0	0	0	0	0	0	5
Total College of Engineering	**3,473**	**218**	**3,691**	**560**	**81**	**641**	**0**	**0**	**0**	**2**	**95**	**97**	**4,429**

III. Staffing and Enrollment

Enrollment Distribution by College and Major

	Standard Learning						Online Learning						
	Undergraduate			Graduate			Undergraduate			Graduate			
	Full Time	Part Time	Total	Full Time	Part Time	Total	Full Time	Part Time	Total	Full Time	Part Time	Total	Grand Total
School of Forest Resources & Environmental Science													
Applied Ecology(FAE)	0	0	0	3	1	4	0	0	0	0	0	0	4
App Ecol & Environ Sci(FES)	52	0	52	0	0	0	0	0	0	0	0	0	52
Forest Ecology & Mgmt(FFEM)	0	0	0	7	1	8	0	0	0	0	0	0	8
Forestry(FFR)	71	0	71	5	2	7	0	0	0	0	0	0	78
Forest Science(FFS)	0	0	0	18	7	25	0	0	0	0	0	0	25
Geographic Information Science(FGIS)	0	0	0	2	2	4	0	0	0	0	0	0	4
Forestry(FMF)	0	0	0	12	2	14	0	0	0	0	0	0	14
For Molec Genetics & Biotec(FMGB)	0	0	0	4	0	4	0	0	0	0	0	0	4
Natural Resources Management(FNRM)	6	0	6	0	0	0	0	0	0	0	0	0	6
Wildlife Ecology & Cons(FWEC)	19	0	19	0	0	0	0	0	0	0	0	0	19
Wildlife Ecology & Mgmt(FWEM)	31	4	35	0	0	0	0	0	0	0	0	0	35
Data Science(IDS)	0	0	0	0	2	2	0	0	0	0	0	0	2
Total School of Forest Resources & Environmental Science	**179**	**4**	**183**	**51**	**17**	**68**	**0**	**0**	**0**	**0**	**0**	**0**	**251**
Interdisciplinary Programs													
Mechatronics(IME)	0	0	0	1	0	1	0	0	0	0	0	0	1
Construction Management(TCMG)	53	1	54	0	0	0	0	0	0	0	0	0	54
Total Interdisciplinary Programs	**53**	**1**	**54**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**55**
College of Sciences & Arts													
Business Analytics(CBA)	0	1	1	0	0	0	0	0	0	0	0	0	1
Computational Science & Engrg(EPD5)	0	0	0	1	0	1	0	0	0	0	0	0	1
Atmospheric Sciences(IAS)	0	0	0	5	1	6	0	0	0	0	0	0	6
Biochemistry/Molecular Biology(IBMB)	0	0	0	7	0	7	0	0	0	0	0	0	7
Data Science(IDS)	0	0	0	2	0	2	0	0	0	0	0	0	2
App. Cognitive Sci & Human Fac(SACS)	0	0	0	12	6	18	0	0	0	0	0	0	18
Humanities(SAH)	1	0	1	0	0	0	0	0	0	0	0	0	1
Anthropology(SANT)	9	1	10	0	0	0	0	0	0	0	0	0	10
Applied Physics(SAP)	14	0	14	11	0	11	0	0	0	0	0	0	25
Applied Science Education(SASE)	0	0	0	0	10	10	0	0	0	0	0	0	10
Applied Statistics(SAST)	0	0	0	0	0	0	0	0	0	0	28	28	28
Bioinformatics(SBI)	14	0	14	0	0	0	0	0	0	0	0	0	14
Biological Sciences(SBL)	101	2	103	32	5	37	0	0	0	0	0	0	140
Communication, Culture & Media(SCCM)	17	5	22	0	0	0	0	0	0	0	0	0	22
Chemistry(SCH)	33	1	34	33	0	33	0	0	0	0	0	0	67
Cheminformatics(SCHI)	2	0	2	0	0	0	0	0	0	0	0	0	2
Pharmaceutical Chemistry(SCHP)	13	2	15	0	0	0	0	0	0	0	0	0	15
Environmental & Energy Policy(SEEP)	0	0	0	14	9	23	0	0	0	0	0	0	23
Theatre & Electr. Media Perf.(SEMP)	6	1	7	0	0	0	0	0	0	0	0	0	7
English(SEN)	7	1	8	0	0	0	0	0	0	0	0	0	8
Exercise Science(SESC)	71	0	71	0	0	0	0	0	0	0	0	0	71
Audio Production & Technology(SFAT)	20	1	21	0	0	0	0	0	0	0	0	0	21
Theatre & Entertain Tech (BS)(SFET)	21	0	21	0	0	0	0	0	0	0	0	0	21
Sound Design(SFSD)	13	1	14	0	0	0	0	0	0	0	0	0	14
General Sciences and Arts(SGSA)	30	1	31	0	0	0	0	0	0	0	0	0	31
Indust Heritage & Archaeology(SIHA)	0	0	0	4	4	8	0	0	0	0	0	0	8
Kinesiology(SKIN)	0	0	0	6	1	7	0	0	0	0	0	0	7
Integrative Physiology(SKIP)	0	0	0	7	0	7	0	0	0	0	0	0	7
Mathematics(SMA)	70	4	74	0	0	0	0	0	0	0	0	0	74
Mathematical Sciences(SMAG)	0	0	0	28	3	31	0	0	0	0	0	0	31
Biochem & Molec Biology-Bio Sc(SMBB)	37	0	37	0	0	0	0	0	0	0	0	0	37
Biochem & Molec Biology-Chem(SMBC)	10	0	10	0	0	0	0	0	0	0	0	0	10
Medical Laboratory Science(SML)	67	1	68	0	0	0	0	0	0	0	0	0	68
Physics (BA)(SPA)	6	0	6	0	0	0	0	0	0	0	0	0	6
Physics(SPH)	45	0	45	18	1	19	0	0	0	0	0	0	64
Psychology(SPSY)	40	3	43	0	0	0	0	0	0	0	0	0	43
Rhetoric, Theory and Culture(SRTC)	0	0	0	27	8	35	0	0	0	0	0	0	35
Sports and Fitness Management(SSFM)	18	2	20	0	0	0	0	0	0	0	0	0	20
History(SSH)	8	1	9	0	0	0	0	0	0	0	0	0	9
Industrial Archaeology(SSM)	0	0	0	6	3	9	0	0	0	0	0	0	9
Social Sciences(SSS)	10	1	11	0	0	0	0	0	0	0	0	0	11
Sustainability Sci and Society(SSSU)	15	0	15	0	0	0	0	0	0	0	0	0	15
Statistics(SST)	11	1	12	10	1	11	0	0	0	0	0	0	23
Scientific & Tech Comm (BA)(STA)	16	1	17	0	0	0	0	0	0	0	0	0	17
Scientific & Tech Comm (BS)(STC)	7	1	8	0	0	0	0	0	0	0	0	0	8
Total College of Sciences & Arts	**732**	**32**	**764**	**223**	**52**	**275**	**0**	**0**	**0**	**0**	**28**	**28**	**1,067**
University Total	**5,395**	**369**	**5,764**	**944**	**200**	**1,144**	**0**	**0**	**0**	**2**	**127**	**129**	**7,037**

Projected Enrollment - Fall 2012 to Fall 2025

Year (Fall)	2012 (Actual)	2013 (Actual)	2014 (Actual)	2015 (Actual)	2016 (Actual)	2017 (Actual)	2018 (Actual)	2019 (Prelim)	2020	2021	2022	2023	2024	2025
University Enrollment	6,947	6,979	7,104	7,242	7,270	7,319	7,203	7,037	7,106	7,280	7,609	7,928	8,162	8,403
Graduate Non-Degree	70	25	22	30	23	37	48	39	30	30	30	30	30	30
Masters Enrollment	698	783	852	936	904	852	781	731	746	761	776	792	808	824
Doctoral Enrollment	554	550	568	555	514	513	546	503	508	513	518	523	528	533
Graduate Enrollment	1,322	1,358	1,442	1,521	1,441	1,402	1,375	1,273	1,284	1,304	1,324	1,345	1,366	1,387
Undergraduate Enrollment	5,625	5,621	5,662	5,721	5,829	5,917	5,828	5,764	5,822	5,976	6,285	6,583	6,796	7,016

Note: Includes online learning.

Enrollment by Class - Fall 2012 to Fall 2019 (Preliminary)

	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019 (Prelim)
Undergraduate								
Freshman	1,408	1,495	1,435	1,466	1,560	1,553	1,374	1,401
Sophomore	1,191	1,141	1,226	1,254	1,258	1,290	1,298	1,181
Junior	1,114	1,169	1,152	1,203	1,222	1,242	1,282	1,262
Senior	1,669	1,612	1,668	1,640	1,658	1,731	1,774	1,804
Total Undergraduate	**5,382**	**5,417**	**5,481**	**5,563**	**5,698**	**5,816**	**5,728**	**5,648**
Graduate								
Master's	638	732	805	883	858	809	735	639
Doctoral	539	532	547	529	493	494	520	478
Total Graduate	**1,177**	**1,264**	**1,352**	**1,412**	**1,351**	**1,303**	**1,255**	**1,117**
Total Standard Degree Seeking	**6,559**	**6,681**	**6,833**	**6,975**	**7,049**	**7,119**	**6,983**	**6,765**
Other Standard Learning								
Special & Unclassified	178	152	123	100	86	69	65	80
Post Graduate	64	52	58	57	44	32	35	36
Non-degree Graduate	51	17	12	23	19	24	33	27
Total Other Standard Students	**293**	**221**	**193**	**180**	**149**	**125**	**133**	**143**
On-Line Learning	**95**	**77**	**78**	**87**	**72**	**75**	**87**	**129**
Total All Students	**6,947**	**6,979**	**7,104**	**7,242**	**7,270**	**7,319**	**7,203**	**7,037**

Faculty and Staff to Student Ratios for Major Academic Colleges - Fiscal Year 2018-19

	Faculty FTE	Staff FTE	Student FYES	Faculty to Students Ratio	Staff to Students Ratio	Faculty and Staff to Students Ratio
College of Engineering	153.3	120.1	2,193.1	1:14	1:18	1:8
College of Science & Arts	190.5	69.4	3,178.1	1:17	1:46	1:12
Total University*	427.4	1,060.4	6,304.5	1:15	1:6	1:4

*Also includes Schools of Business and Economics, Forest Resources and Environmental Science, College of Computing, and all non-academic departments.

Note: FTE and FYES is based on the academic year. FTE excludes temporary nonrepresented employees.

Number of Class Sections with Students Enrolled by Level* - Fall 2019 (Preliminary)

Undergraduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	265	285	245	106	65	119	31	1,116
Class Sub-Sections	85	214	73	20	19	20		431
Graduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	106	36	10	2	2		1	157
Class Sub-Sections	24	6	1					31

* As defined by Common Data Set standards

Online Learning Projections 2019-20 through 2024-25

Year	Type of Students[1]		Projected #	G/UG%[2]
2019-20	A. On Campus Online		1,132	21/79
	B. Off Campus Online		1,028	31/69
	C. Corporate Off Campus		2	100/0
	D. Dual-Enrollment	Secondary School	2	0/100
2020-21	A. On Campus Online		1,192	24/76
	B. Off Campus Online		1,130	34/66
	C. Corporate Off Campus		2	100/0
	D. Dual-Enrollment	Secondary School	2	0/100
2021-22	A. On Campus Online		1,252	27/73
	B. Off Campus Online		1,232	37/63
	C. Corporate Off Campus		2	100/0
	D. Dual-Enrollment	Secondary School	2	0/100
2022-23	A. On Campus Online		1,312	30/70
	B. Off Campus Online		1,334	40/60
	C. Corporate Off Campus		2	100/0
	D. Dual-Enrollment	Secondary School	2	0/100
2023-24	A. On Campus Online		1,372	33/67
	B. Off Campus Online		1,436	43/57
	C. Corporate Off Campus		2	100/0
	D. Dual-Enrollment	Secondary School	2	0/100
2024-25	A. On Campus Online		1,432	36/64
	B. Off Campus Online		1,538	46/54
	C. Corporate Off Campus		2	100/0
	D. Dual-Enrollment	Secondary School	2	0/100

Notes:

1 A type- On Campus OnLine- Students taking at least one class using Online technology.

B type- Off Campus OnLine- Students taking at least one class using Online technology.

C type- Current corporate contract model- GM, Ford, and others.

D type- Dual enrollment with secondary school students with targeted service and recruiting effort. Usually one course a term.

2 G/UG% Graduate/ Undergraduate %

#	BUILDING	TYPE	GROSS	NET	RATIO
1	Administration Building	Administrative	73,389	50,500	1.45
2	Electrical Substation	Service	786	545	1.44
3	Michigan Tech Lakeshore Center	Administrative	61,365	39,400	1.56
4	ROTC Building	Classroom - 70%, Offices - 30%	21,584	14,824	1.46
5	Academic Offices Building	Offices	27,405	17,869	1.53
6	Annex Building	Science	10,956	9,042	1.21
7	Electrical Energy Resources	Engineering	162,140	108,843	1.49
8	DOW Envir Sciences & Eng Bldg	Engineering - 70%, Biology - 30%	184,180	110,459	1.67
9	Alumni House	Administrative	7,784	4,790	1.63
10	Rozsa Performing Arts & Educ	Auditorium	80,000	51,309	1.56
11	Walker - Arts & Humanities	Classroom	87,094	49,176	1.77
12	Minerals & Materials Engr Bldg	Engineering - 69%, Laboratory 31%	263,671	144,670	1.82
13	Hamar House	Administrative	4,259	3,544	1.20
14	Grover C. Dillman Hall	Engineering - 75%, Classroom - 25%	90,959	58,809	1.55
15	Fisher Hall	Science - 63%, Classroom - 37%	112,100	67,123	1.67
16	Widmaier House	Administrative	2,755	2,078	1.33
17	J.R. Van Pelt Library	Library	130,031	105,824	1.23
18	U.J. Noblet Forestry Building	Science - 70%, Laboratory - 30%	95,337	71,425	1.33
19	Chemical Sciences & Engr Building	Engineering - 32%, Chemistry - 9%, Laboratory - 31%, Classroom - 28%	162,500	94,921	1.71
20	R.L. Smith (MEEM) Building	Engineering - 49%, Laboratory - 23%, Classroom - 28%	162,500	96,108	1.69
24	Student Development Complex	Gymnasium	343,393	235,274	1.46
25	Sherman Field Press Box	Gymnasium	1,475	1,350	1.09
26	MTN Uplink Equipment Bldg	Service	265	120	2.21
28	Kanwal and Ann Rekhi Hall	Science - 86%, Classroom - 14%	51,439	39,352	1.31
30	Little Huskies Child Care	Dormitory	4,600	4,096	1.12
31	Douglass Houghton Hall	Dormitory	92,500	55,956	1.65
32	Daniell Heights Apartments	Dormitory	220,700	174,977	1.26
33	Daniell Heights Housing Shop	Service	1,152	1,081	1.07
34	Memorial Union Building	Administrative	92,935	63,387	1.47
35	Daniell Heights Nursery	Dormitory	2,400	2,190	1.10
36	Tech House (Abbey House)	Dormitory	2,452	2,269	1.08
37	Wadsworth Hall	Dormitory	300,239	185,647	1.62
38	West McNair Hall	Dormitory	51,522	32,516	1.58

#	BUILDING	TYPE	GROSS	NET	RATIO
39	McNair Hall Food Services	Dining Hall	18,000	11,683	1.54
40	East McNair Hall	Dormitory	71,300	45,686	1.56
41	Central Heating Plant	Service	12,780	10,386	1.23
42	Facilities Management Storage	Warehouse	5,680	5,322	1.07
44	Service & Storage Building	Service	21,176	16,377	1.29
45	Kettle-Gundlach House	Dormitory	5,096	4,072	1.25
46	Nordic Ski Waxing Center	Gymnasium	4,536	3,629	1.25
47	Vivian House	Dormitory	3,191	3,135	1.02
48	Hillside Place	Dormitory	77,926	56,330	1.38
49	Wast Mgmt Resrces Recvry Bldg	Warehouse	4,872	4,644	1.05
50	Gates Tennis Center	Gymnasium	29,610	28,737	1.03
51	O'Connor House (Meyer House)	Administration	2,972	2,573	1.16
52	Portage Lake Golf Course	Gymnasium	4,465	4,271	1.05
53	Mont Ripley Ski Hill	Gymnasium	2,100	1,987	1.06
54	Mont Ripley Ski Chalet	Gymnasium	4,600	3,644	1.26
55	Mont Ripley Storage Building	Warehouse	4,080	3,240	1.26
56	Daniell Heights Storage Bldg	Warehouse	1,261	1,189	1.06
57	Hagen House	Dormitory	2,891	1,985	1.46
58	Golf Course Storage Building	Warehouse	3,276	2,621	1.25
59	Golf Course Storage Bldg 95	Warehouse	625	502	1.25
60	Golf Course - Cart Storage	Warehouse	4,500	3,600	1.25
61	Golf Course - Cart Storage 95	Warehouse	3,600	2,800	1.29
62	Golf Course - Cart Storage 96	Warehouse	4,500	3,600	1.25
63	Golf Course Maint Bldg	Service	1,040	664	1.57
64	Golf Course - Pump House	Service	144	115	1.25
65	Daniell Heights Storage Bldg	Warehouse	3,200	3,081	1.04
66	Nordic Ski Timing Bldg	Gymnasium	192	165	1.16
67	Nordic Ski Warmup Bldg	Gymnasium	280	247	1.13
68	SDC Storage Building	Warehouse	1,800	1,711	1.05
69	KRC Engineering Design Center	Engineering	13,998	6,751	2.07
70	KRC Scientific & Admin Offices	Offices	10,037	7,141	1.41
71	KRC Machine & Vehicle Shops	Service	4,000	3,823	1.05
72	KRC Vehicle Service Bldg T3	Service	5,600	5,421	1.03

#	BUILDING	TYPE	GROSS	NET	RATIO
73	KRC Vehicle Storage Bldg T4	Warehouse	4,000	3,861	1.04
74	KRC Engineering Laboratories	Engineering - 17%, Laboratory - 83%	4,665	3,362	1.39
75	KRC Special Projects Facility	Engineering	1,000	787	1.27
76	KRC Support Services Facility	Service	1,000	894	1.12
77	KRC Water Truck Storage	Warehouse	1,600	1,490	1.07
78	KRC Eng Support Facil Bendix	Engineering	5,152	4,786	1.08
79	KRC Chrysler Support Fac II	Engineering	4,000	3,746	1.07
80	KRC Cold Storage Building	Warehouse	4,000	3,828	1.04
81	Power Generation Building	Service	3,432	3,151	1.09
82	Gundlach House (Ruppe)	Dormitory	5,702	4,708	1.21
84	Harold Meese Center	Science - 88%, Classroom - 12%	15,020	10,292	1.46
86	MTU Tower Building	Service	288	260	1.11
88	Chemical Storage Building	Warehouse	1,000	922	1.08
89	MTU Ski Trail Groomer Storage	Warehouse	1,200	1,131	1.06
90	Sands Pilot Plant	Engineering	11,520	10,805	1.07
92	Lahti (AERB) Building	Engineering - 15%, Laboratory - 85%	4,128	3,844	1.07
93	Fish Hatchery Building	Science	1,360	1,100	1.24
94	AMJOCH Observatory	Science	433	352	1.23
95	ATDC	Administrative - 12%, Engineering - 88%	25,097	20,676	1.21
96	Portage Lake Vault	Warehouse	2,786	2,700	1.03
100	Great Lakes Research Center	Laboratory - 27%, Science - 73%	54,778	35,936	1.52
101	Nordic Ski Storage	Warehouse	672	646	1.04
102	APSRC Building	Laboratory - 93%, Office - 7%	56,332	53,114	1.06
103	New Mineral Museum	Library	9,000	8,234	1.09
104	Mineral Museum Storage	Warehouse	2,340	1,983	1.18
105	KRC Cold Storage Building	Warehouse	1,600	1,403	1.14
106	Sands Storage Building	Warehouse	576	529	1.09
107	Lockhart House	Dormitory	3,068	2,406	1.28
108	KRC Inspection Pit	Service	416	375	1.11
109	Mt Ripley Pump House	Service	570	529	1.08
110	Larson House	Dormitory	2,941	1,843	1.60
111	Theta Tau House	Dormitory	5,721	4,577	1.25
112	Grounds Storage Building	Warehouse	6,600	6,447	1.02

#	BUILDING	TYPE	GROSS	NET	RATIO
201	FFC Hemlock Residence	Dormitory	2,160	1,728	1.25
202	FFC Sassafrass Residence	Dormitory	1,190	952	1.25
203	FFC Elm Residence	Dormitory	1,348	1,078	1.25
204	FFC Birdseye Residence	Dormitory	1,581	1,265	1.25
205	FFC Spruce Residence	Dormitory	1,462	1,170	1.25
206	FFC Tamarack Residence	Dormitory	1,779	1,423	1.25
207	FFC Birch Residence	Dormitory	1,392	1,114	1.25
208	FFC Basswood Residence	Dormitory	1,515	1,212	1.25
209	FFC Cedar Residence	Dormitory	1,470	1,176	1.25
210	FFC Beech Residence	Dormitory	1,269	1,015	1.25
211	FFC Ash Residence	Dormitory	2,114	1,691	1.25
212	FFC Balsam Residence	Dormitory	864	691	1.25
213	FFC Pump House	Service	1,070	636	1.68
214	FFC Sawmill Museum	Library	6,720	5,376	1.25
215	FFC 8-Car Garage	Garage	1,730	1,384	1.25
216	FFC Dorm II	Dormitory	2,066	1,327	1.56
217	FFC Classroom 1	Classroom	2,480	1,957	1.27
218	FFC Sauna Building	Dormitory	864	691	1.25
219	FFC Class 2	Classroom	1,150	920	1.25
220	FFC Recreation Building	Dormitory	1,150	1,068	1.08
221	FFC Computer Lab	Classroom	1,150	920	1.25
222	FFC Classroom 3	Classroom	1,150	1,089	1.06
223	FFC Dorm	Dormitory	11,250	9,000	1.25
224	FFC Carriage House	Dormitory	2,695	2,156	1.25
225	FFC Storage Building III	Warehouse	255	204	1.25
226	FFC Storage Building II	Warehouse	2,320	1,856	1.25
227	FFC Storage Shed	Warehouse	260	208	1.25
229	FFC Lumber Storage	Warehouse	2,520	2,016	1.25
230	FFC 9-Stall Garage	Garage	4,180	3,344	1.25
231	FFC Maintenance Building	Service	9,313	8,703	1.07
233	FFC Main Office	Office	3,200	2,920	1.10
235	FFC Wellhouse	Service	228	183	1.25
236	FFC Reservoir Shelter	Service	768	614	1.25

Michigan Technological University
Room Utilization Reports
Fall 2018, Monday-Friday, 8:00 AM-10:00 AM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	2	26	58%	6	30%
2	19	Chem-Sci	101	ClsRm	1,184	66	3	111	66%	9	45%
3	19		102	ClsRm	1,162	66	1	66	100%	3	15%
4	19		103	ClsLab	1,308	20	2	29	81%	6	30%
5	19		0104A	ClsRm	582	32	2	11	37%	6	30%
6	19		0104B	ClsRm	594	32	2	4	20%	5	25%
7	19		106	ClsRm	565	30	3	43	73%	6	30%
8	19		108	ClsLab	1,162	44	2	50	60%	6	30%
9	19		211	ClsRm	1,155	55	2	34	72%	3	15%
10	19		215	ClsRm	584	30	5	92	81%	8	40%
11	19		408	ClsLab	1,755	12	1	___	0%	6	30%
12	19		0501N	ClsLab	976	24	2	37	84%	6	30%
13	19		0501S	ClsLab	976	24	2	34	77%	6	30%
14	19		502	ClsLab	1,124	24	2	21	48%	6	30%
15	19		0503N	ClsLab	966	24	2	42	95%	6	30%
16	19		0503S	ClsLab	966	24	2	43	98%	6	30%
17	19		0601N	ClsLab	1,048	28	2	20	71%	6	30%
18	19		0601S	ClsLab	1,048	28	2	21	75%	6	30%
19	8	Dow	610	ClsLab	890	26	5	26	16%	9	45%
20	8		641	ClsRm	2,923	250	2	161	58%	6	30%
21	8		642	ClsRm	1,601	84	4	179	69%	12	60%
22	8		709	ClsLab	744	23	2	18	45%	3	15%
23	7	EERC	100	ClsRm	1,307	82	4	181	66%	8	40%
24	7		103	ClsRm	2,396	151	4	296	86%	5	25%
25	7		214	ClsRm	983	65	3	148	87%	5	25%
26	7		216	ClsRm	551	36	3	8	15%	6	30%
27	7		218	ClsRm	683	45	2	29	39%	5	25%
28	7		226	ClsRm	683	46	3	20	40%	5	25%
29	7		227	ClsRm	551	36	1	10	56%	3	15%
30	7		229	ClsRm	1,048	65	1	38	63%	3	15%
31	7		313	ClsRm	571	36	3	25	45%	8	40%
32	7		314	ClsRm	553	36	1	4	27%	3	15%
33	7		315	ClsRm	553	36	3	50	86%	8	40%
34	7		316	ClsRm	823	60	2	72	90%	5	25%
35	7		328	ClsLab	1,140	24	3	40	80%	6	30%
36	7		330	ClsLab	1,558	42	4	72	73%	9	45%
37	7		421	ClsLab	844	24	2	26	84%	3	15%
38	7		427	ClsLab	1,000	24	4	30	63%	7	35%
39	7		431	ClsLab	1,430	16	1	16	89%	2	10%
40	7		722	ClsLab	978	32	1	16	100%	2	10%
41	15	Fisher	101	ClsRm	937	32	2	39	74%	2	10%
42	15		125	ClsRm	583	35	2	20	45%	2	10%
43	15		126	ClsRm	593	35	2	44	100%	4	20%
44	15		127	ClsRm	693	35	2	20	44%	6	30%
45	15		129	ClsRm	792	53	4	119	62%	12	60%
46	15		130	ClsRm	712	44	2	26	35%	6	30%
47	15		131	ClsRm	712	44	2	10	40%	3	15%
48	15		132	ClsRm	693	44	1	4	27%	3	15%
49	15		133	ClsRm	693	44	2	41	71%	7	35%
50	15		135	ClsRm	5,036	476	2	216	86%	5	25%
51	15		138	ClsRm	1,395	92	3	228	99%	9	45%
52	15		139	ClsRm	2,016	125	3	164	68%	10	50%
53	15		229	ClsLab	702	14	4	84	95%	8	40%
54	15		230	ClsRm	579	35	1	29	97%	3	15%
55	15		231	ClsRm	697	44	2	49	70%	6	30%
56	15		325	ClsRm	1,064	72	2	88	92%	6	30%
57	15		326	ClsRm	1,064	71	4	191	92%	12	60%

Michigan Technological University
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#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
58	15		0327B	ClsRm	445	27	2	25	50%	5	25%
59	15		328	ClsRm	928	62	2	54	61%	6	30%
60	15		329	ClsRm	1,065	72	2	101	97%	8	40%
61	15		330	ClsLab	1,065	24	6	18	42%	5	25%
62	15		B020	ClsLab	941	27	5	122	102%	10	50%
63	100	GLRC	102	ClsLab	1,374	28	1	15	100%	3	15%
64	14	Dillman	101	ClsLab	2,187	60	2	28	70%	3	15%
65	14		202	ClsRm	776	36	4	52	66%	8	40%
66	14		203	ClsLab	863	26	2	36	90%	4	20%
67	14		204	ClsRm	761	43	2	20	44%	6	30%
68	14		208	ClsLab	1,559	64	4	115	92%	7	35%
69	14		214	ClsRm	954	60	3	60	41%	6	30%
70	14		320	ClsRm	1,051	43	3	51	61%	7	35%
71	14		B004	ClsLab	949	16	1	12	80%	1	5%
72	14		B008	ClsLab	1,495	15	1	12	80%	1	5%
73	84	Meese	109	ClsRm	680	25	5	15	25%	9	45%
74	84		110	ClsRm	564	25	3	46	71%	9	45%
75	28	Rekhi	112	ClsLab	775	20	2	56	70%	4	20%
76	28		214	ClsRm	1,328	48	3	119	88%	9	45%
77	28		G005	ClsRm	1,253	54	4	143	83%	11	55%
78	28		G006	ClsRm	1,026	40	6	63	68%	6	30%
79	28		G009	ClsRm	1,280	48	4	62	65%	6	30%
80	12	M&M Bldg	211	ClsLab	338	10	1	12	120%	3	15%
81	12		U111	ClsRm	723	30	2	23	96%	6	30%
82	12		U113	ClsRm	1,069	63	2	64	64%	6	30%
83	12		U115	ClsRm	2,540	240	3	316	76%	8	40%
84	12		U205	ClsRm	421	26	1	2	20%	3	15%
85	20	MEEM	111	ClsRm	1,429	96	3	174	82%	5	25%
86	20		112	ClsRm	1,652	115	3	195	98%	9	45%
87	20		120	ClsLab	2,630	72	5	297	102%	8	40%
88	20		202	ClsLab	951	16	2	35	100%	4	20%
89	20		303	ClsRm	1,131	48	1	36	86%	3	15%
90	20		305	ClsLab	1,175	16	2	32	114%	4	20%
91	20		402	ClsRm	1,265	48	2	10	19%	6	30%
92	20		403	ClsRm	1,131	48	5	103	86%	9	45%
93	20		405	ClsRm	607	40	5	108	93%	7	35%
94	20		406	ClsRm	1,130	40	3	49	70%	6	30%
95	20		502	ClsLab	928	16	1	15	100%	2	10%
96	20		0502A	ClsLab	712	16	3	43	110%	6	30%
97	20		505	ClsLab	1,588	16	2	25	89%	4	20%
98	20		601	ClsLab	1,980	16	1	7	35%	2	10%
99	20		701	ClsLab	867	16	3	43	110%	6	30%
100	20		1101	ClsLab	1,224	19	2	35	88%	6	30%
101	20		1103	ClsLab	1,092	20	1	6	50%	3	15%
102	20		1108	ClsLab	1,116	24	1	21	88%	2	10%
103	10	Rozsa Ctr	120	ClsRm	1,448	60	1	18	60%	3	15%
104	10		208	ClsLab	1,790	50	1	10	50%	3	15%
105	24	SDC	237	ClsRm	789	48	3	62	79%	5	25%
106	24		238	ClsRm	705	40	2	14	30%	3	15%
107	18	Noblet	108	ClsLab	692	24	3	25	50%	6	30%
108	18		139	ClsLab	618	18	1	12	71%	3	15%
109	18		143	ClsRm	616	40	5	23	33%	4	20%
110	18		144	ClsRm	1,689	26	2	59	87%	6	30%
111	18		G002	ClsRm	1,768	125	2	89	65%	6	30%
112	18		G029	ClsLab	1,104	32	1	10	100%	4	20%
113	37	Wads	G011W	ClsRm	2,385	128	12	273	95%	10	50%
114	11	Walker	109	ClsRm	792	36	3	97	97%	9	45%
115	11		0120A	ClsRm	904	30	1	20	100%	3	15%
116	11		134	ClsRm	1,173	40	3	108	94%	6	30%

Michigan Technological University
Room Utilization Reports
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#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
117	11		138	ClsRm	296	1	1	5	33%	3	15%
118	11		143	ClsRm	647	25	3	58	97%	9	45%
119	11		144	ClsRm	634	25	3	53	88%	9	45%
120	11		210	ClsLab	1,426	40	1	24	96%	3	15%
121	11		0329B	ClsRm	382	15	2	10	42%	6	30%
	Grand Totals:		Rooms: 121		131,411	5,839	308	7,367	75%	686	29%

Michigan Technological University
Room Utilization Reports
Fall 2018, Monday-Friday, 10:00 AM-3:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	5	56	41%	15	60%
2	19	Chem-Sci	101	ClsRm	1,184	66	10	265	85%	19	76%
3	19		102	ClsRm	1,162	66	7	285	75%	22	88%
4	19		103	ClsLab	1,308	20	4	52	72%	12	48%
5	19		0104A	ClsRm	582	32	10	104	57%	16	64%
6	19		0104B	ClsRm	594	32	11	167	67%	16	64%
7	19		106	ClsRm	565	30	9	68	46%	20	80%
8	19		108	ClsLab	1,162	44	7	181	73%	16	64%
9	19		211	ClsRm	1,155	55	8	162	68%	15	60%
10	19		215	ClsRm	584	30	8	96	52%	13	52%
11	19		408	ClsLab	1,755	12	3	13	68%	10	40%
12	19		0501N	ClsLab	976	24	2	40	91%	6	24%
13	19		0501S	ClsLab	976	24	2	33	75%	6	24%
14	19		502	ClsLab	1,124	24	2	39	89%	6	24%
15	19		0503N	ClsLab	966	24	2	39	89%	6	24%
16	19		0503S	ClsLab	966	24	2	38	86%	6	24%
17	19		504	ClsLab	1,100	24	2	30	83%	6	24%
18	19		0601N	ClsLab	1,048	28	3	37	88%	9	36%
19	19		0601S	ClsLab	1,048	28	3	30	71%	9	36%
20	19		B005	ClsLab	2,473	24	2	98	91%	12	48%
21	8	Dow	420	ClsLab	1,878	15	4	12	67%	2	8%
22	8		610	ClsLab	890	26	11	75	48%	15	60%
23	8		641	ClsRm	2,923	250	8	883	74%	18	72%
24	8		642	ClsRm	1,601	84	7	373	82%	20	80%
25	8		707	ClsLab	1,198	24	2	19	63%	5	20%
26	8		709	ClsLab	744	23	2	3	25%	1	4%
27	8		710	ClsLab	1,287	24	6	58	97%	9	36%
28	8		711	ClsLab	937	16	4	60	75%	8	32%
29	7	EERC	100	ClsRm	1,307	82	7	307	71%	18	72%
30	7		103	ClsRm	2,396	151	8	668	93%	19	76%
31	7		214	ClsRm	983	65	9	302	72%	23	92%
32	7		216	ClsRm	551	36	6	80	58%	12	48%
33	7		218	ClsRm	683	45	7	165	71%	21	84%
34	7		226	ClsRm	683	46	5	147	77%	14	56%
35	7		227	ClsRm	551	36	10	104	50%	17	68%
36	7		229	ClsRm	1,048	65	11	348	67%	20	80%
37	7		313	ClsRm	571	36	6	49	40%	17	68%
38	7		314	ClsRm	553	36	5	45	44%	14	56%
39	7		315	ClsRm	553	36	5	70	81%	13	52%
40	7		316	ClsRm	823	60	7	300	90%	21	84%
41	7		328	ClsLab	1,140	24	5	52	65%	9	36%
42	7		330	ClsLab	1,558	42	2	23	85%	4	16%
43	7		421	ClsLab	844	24	6	74	70%	13	52%
44	7		427	ClsLab	1,000	24	6	55	86%	9	36%
45	7		431	ClsLab	1,430	16	4	55	75%	10	40%
46	7		622	ClsLab	983	16	7	101	93%	14	56%
47	7		722	ClsLab	978	32	9	144	100%	18	72%
48	7		723	ClsLab	834	23	2	28	82%	4	16%
49	7		738	ClsLab	1,001	18	4	43	93%	8	32%
50	7		827	ClsLab	983	16	6	66	79%	12	48%
51	15	Fisher	101	ClsRm	937	32	10	101	48%	22	88%
52	15		125	ClsRm	583	35	11	130	63%	22	88%
53	15		126	ClsRm	593	35	9	173	84%	19	76%
54	15		127	ClsRm	693	35	8	120	67%	21	84%
55	15		129	ClsRm	792	53	9	295	81%	23	92%
56	15		130	ClsRm	712	44	8	241	91%	24	96%
57	15		131	ClsRm	712	44	8	137	53%	23	92%
58	15		132	ClsRm	693	44	8	137	57%	17	68%
59	15		133	ClsRm	693	44	9	199	77%	21	84%

Michigan Technological University
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#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
60	15		135	ClsRm	5,036	476	8	2,022	78%	22	88%
61	15		138	ClsRm	1,395	92	5	304	86%	17	68%
62	15		139	ClsRm	2,016	125	6	505	86%	18	72%
63	15		229	ClsLab	702	14	11	222	91%	22	88%
64	15		230	ClsRm	579	35	6	118	62%	15	60%
65	15		231	ClsRm	697	44	6	131	66%	18	72%
66	15		325	ClsRm	1,064	72	8	321	78%	24	96%
67	15		326	ClsRm	1,064	71	6	328	91%	19	76%
68	15		0327B	ClsRm	445	27	7	51	40%	20	80%
69	15		328	ClsRm	928	62	8	404	99%	24	96%
70	15		329	ClsRm	1,065	72	5	269	96%	18	72%
71	15		330	ClsLab	1,065	24	5	64	53%	9	36%
72	15		B020	ClsLab	941	27	14	311	93%	28	112%
73	15		B023	ClsLab	960	12	6	58	81%	12	48%
74	100	GLRC	102	ClsLab	1,374	28	4	63	95%	10	40%
75	14	Dillman	101	ClsLab	2,187	60	5	158	89%	13	52%
76	14		110	ClsLab	1,066	16	3	43	90%	6	24%
77	14		202	ClsRm	776	36	9	193	86%	20	80%
78	14		203	ClsLab	863	26	4	62	78%	9	36%
79	14		204	ClsRm	761	43	8	97	53%	17	68%
80	14		208	ClsLab	1,559	64	5	116	93%	9	36%
81	14		213	ClsLab	573	12	1	7	41%	3	12%
82	14		214	ClsRm	954	60	8	274	84%	18	72%
83	14		302	ClsLab	1,243	32	4	118	98%	8	32%
84	14		320	ClsRm	1,051	43	8	141	58%	19	76%
85	14		B003	ClsLab	988	16	3	34	71%	9	36%
86	14		B004	ClsLab	949	16	1	13	87%	1	4%
87	14		B006	ClsLab	547	6	2	25	83%	2	8%
88	14		B008	ClsLab	1,495	15	2	25	83%	2	8%
89	84	Meese	109	ClsRm	680	25	5	28	35%	9	36%
90	84		110	ClsRm	564	25	6	76	84%	13	52%
91	28	Rekhi	112	ClsLab	775	20	8	257	80%	16	64%
92	28		117	ClsLab	1,153	18	3	73	84%	8	32%
93	28		214	ClsRm	1,328	48	7	219	77%	21	84%
94	28		G005	ClsRm	1,253	54	5	197	85%	13	52%
95	28		G006	ClsRm	1,026	40	3	45	49%	9	36%
96	28		G009	ClsRm	1,280	48	9	217	67%	24	96%
97	12	M&M Bldg	211	ClsLab	338	10	2	23	115%	6	24%
98	12		U106	ClsLab	347	5	3	17	100%	2	8%
99	12		U111	ClsRm	723	30	2	22	92%	6	24%
100	12		U113	ClsRm	1,069	63	20	296	82%	17	68%
101	12		U115	ClsRm	2,540	240	13	897	82%	22	88%
102	12		U205	ClsRm	421	26	3	2	7%	5	20%
103	20	MEEM	111	ClsRm	1,429	96	6	484	101%	19	76%
104	20		112	ClsRm	1,652	115	8	606	99%	19	76%
105	20		120	ClsLab	2,630	72	3	146	82%	7	28%
106	20		202	ClsLab	951	16	2	35	60%	3	12%
107	20		302	ClsRm	1,129	48	4	108	68%	13	52%
108	20		303	ClsRm	1,131	48	6	181	80%	18	72%
109	20		305	ClsLab	1,175	16	4	64	114%	8	32%
110	20		402	ClsRm	1,265	48	7	142	66%	17	68%
111	20		403	ClsRm	1,131	48	6	86	44%	15	60%
112	20		405	ClsRm	607	40	9	187	88%	11	44%
113	20		406	ClsRm	1,130	40	5	178	89%	14	56%
114	20		502	ClsLab	928	16	1	15	100%	2	8%
115	20		0502A	ClsLab	712	16	5	67	103%	10	40%
116	20		505	ClsLab	1,588	16	5	57	81%	10	40%
117	20		601	ClsLab	1,980	16	3	36	72%	6	24%
118	20		701	ClsLab	867	16	5	68	105%	10	40%

Michigan Technological University
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#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
119	20		1101	ClsLab	1,224	19	4	68	81%	12	48%
120	20		1103	ClsLab	1,092	20	2	34	94%	6	24%
121	20		1106	ClsLab	1,064	24	1	22	96%	3	12%
122	20		1108	ClsLab	1,116	24	3	60	85%	6	24%
123	4	ROTC	101	ClsRm	1,273	47	5	41	43%	8	32%
124	4		201	ClsRm	1,705	30	4	33	55%	4	16%
125	10	Rozsa Ctr	120	ClsRm	1,448	60	4	125	100%	12	48%
126	10		208	ClsLab	1,790	50	3	47	67%	9	36%
127	24	SDC	237	ClsRm	789	48	4	49	45%	7	28%
128	24		238	ClsRm	705	40	2	24	44%	5	20%
129	18	Noblet	108	ClsLab	692	24	11	121	62%	19	76%
130	18		139	ClsLab	618	18	7	87	72%	20	80%
131	18		143	ClsRm	616	40	7	93	65%	16	64%
132	18		144	ClsRm	1,689	26	8	185	77%	17	68%
133	18		146	ClsLab	997	24	5	48	56%	7	28%
134	18		157	ClsLab	954	24	4	52	83%	12	48%
135	18		G002	ClsRm	1,768	125	7	488	97%	15	60%
136	18		G029	ClsLab	1,104	32	4	84	111%	16	64%
137	17	Library	243	ClsRm	578	21	3	16	27%	6	24%
138	37	Wads	G011W	ClsRm	2,385	128	29	610	91%	24	96%
139	11	Walker	109	ClsRm	792	36	7	129	59%	21	84%
140	11		0120A	ClsRm	904	30	8	160	73%	24	96%
141	11		134	ClsRm	1,173	40	8	242	93%	20	80%
142	11		138	ClsRm	296	1	4	31	44%	12	48%
143	11		143	ClsRm	647	25	7	85	55%	19	76%
144	11		144	ClsRm	634	25	7	118	84%	18	72%
145	11		202	ClsLab	1,009	28	2	28	100%	8	32%
146	11		204	ClsLab	745	5	2	24	89%	6	24%
147	11		210	ClsLab	1,426	40	6	72	65%	18	72%
148	11		211	ClsLab	731	15	3	37	76%	8	32%
149	11		0329B	ClsRm	382	15	2	14	58%	6	24%
Grand Totals:			Rooms: 149		161,147	6,422	872	22,608	78%	1,969	53%

Michigan Technological University
Room Utilization Reports
Fall 2018, Monday-Friday, 3:00 PM-5:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	1	20	67%	3	15%
2	19	Chem-Sci	101	ClsRm	1,184	66	14	122	43%	4	20%
3	19		102	ClsRm	1,162	66	1	15	75%	1	5%
4	19		0104A	ClsRm	582	32	2	20	36%	5	25%
5	19		0104B	ClsRm	594	32	1	26	87%	3	15%
6	19		106	ClsRm	565	30	2	21	47%	4	20%
7	19		108	ClsLab	1,162	44	2	61	65%	4	20%
8	19		211	ClsRm	1,155	55	3	48	50%	6	30%
9	19		215	ClsRm	584	30	1	8	32%	2	10%
10	19		408	ClsLab	1,755	12	1	5	63%	6	30%
11	19		0501N	ClsLab	976	24	3	53	80%	9	45%
12	19		0501S	ClsLab	976	24	3	51	77%	9	45%
13	19		502	ClsLab	1,124	24	3	52	79%	9	45%
14	19		0503N	ClsLab	966	24	3	58	88%	9	45%
15	19		0503S	ClsLab	966	24	3	61	92%	9	45%
16	19		504	ClsLab	1,100	24	3	42	78%	9	45%
17	19		0601N	ClsLab	1,048	28	2	27	96%	6	30%
18	19		0601S	ClsLab	1,048	28	2	28	100%	6	30%
19	8	Dow	420	ClsLab	1,878	15	4	47	72%	8	40%
20	8		610	ClsLab	890	26	2	32	40%	3	15%
21	8		641	ClsRm	2,923	250	2	163	82%	6	30%
22	8		642	ClsRm	1,601	84	6	150	97%	5	25%
23	8		707	ClsLab	1,198	24	2	29	97%	6	30%
24	8		711	ClsLab	937	16	2	30	75%	2	10%
25	7	EERC	100	ClsRm	1,307	82	1	34	68%	3	15%
26	7		103	ClsRm	2,396	151	4	392	88%	6	30%
27	7		214	ClsRm	983	65	1	38	58%	3	15%
28	7		216	ClsRm	551	36	1	27	90%	3	15%
29	7		218	ClsRm	683	45	2	39	56%	4	20%
30	7		226	ClsRm	683	46	1	22	73%	3	15%
31	7		227	ClsRm	551	36	1	11	28%	3	15%
32	7		229	ClsRm	1,048	65	2	45	56%	3	15%
33	7		313	ClsRm	571	36	4	22	31%	9	45%
34	7		315	ClsRm	553	36	1	13	37%	3	15%
35	7		316	ClsRm	823	60	2	46	96%	2	10%
36	7		328	ClsLab	1,140	24	2	26	74%	4	20%
37	7		330	ClsLab	1,558	42	3	40	77%	5	25%
38	7		421	ClsLab	844	24	3	18	45%	9	45%
39	7		427	ClsLab	1,000	24	2	30	94%	4	20%
40	7		622	ClsLab	983	16	4	61	95%	8	40%
41	7		722	ClsLab	978	32	4	63	98%	8	40%
42	7		723	ClsLab	834	23	2	27	90%	4	20%
43	7		738	ClsLab	1,001	18	2	18	56%	4	20%
44	7		827	ClsLab	983	16	4	59	102%	8	40%
45	15	Fisher	101	ClsRm	937	32	2	38	76%	3	15%
46	15		125	ClsRm	583	35	2	22	73%	4	20%
47	15		126	ClsRm	593	35	2	29	71%	5	25%
48	15		127	ClsRm	693	35	3	58	145%	6	30%
49	15		129	ClsRm	792	53	1	43	83%	3	15%
50	15		130	ClsRm	712	44	4	88	76%	9	45%
51	15		131	ClsRm	712	44	1	6	30%	3	15%
52	15		132	ClsRm	693	44	1	10	25%	3	15%
53	15		133	ClsRm	693	44	3	72	82%	8	40%
54	15		135	ClsRm	5,036	476	2	323	95%	4	20%
55	15		138	ClsRm	1,395	92	1	42	105%	3	15%
56	15		139	ClsRm	2,016	125	2	90	58%	4	20%
57	15		229	ClsLab	702	14	4	65	98%	8	40%

Michigan Technological University
Room Utilization Reports
Fall 2018, Monday-Friday, 3:00 PM-5:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
58	15		230	ClsRm	579	35	3	28	33%	6	30%
59	15		231	ClsRm	697	44	5	81	59%	7	35%
60	15		325	ClsRm	1,064	72	2	109	92%	6	30%
61	15		326	ClsRm	1,064	71	2	98	94%	6	30%
62	15		0327B	ClsRm	445	27	1	2	10%	3	15%
63	15		328	ClsRm	928	62	2	93	90%	6	30%
64	15		329	ClsRm	1,065	72	2	82	85%	8	40%
65	15		330	ClsLab	1,065	24	1	16	57%	2	10%
66	15		B003	ClsLab	689	14	1	11	46%	3	15%
67	15		B020	ClsLab	941	27	4	94	98%	8	40%
68	15		B023	ClsLab	960	12	2	23	96%	4	20%
69	15		B024	ClsLab	812	24	2	12	60%	4	20%
70	14	Dillman	101	ClsLab	2,187	60	1	41	91%	3	15%
71	14		110	ClsLab	1,066	16	1	13	81%	2	10%
72	14		202	ClsRm	776	36	1	13	52%	3	15%
73	14		204	ClsRm	761	43	1	___	0%	3	15%
74	14		208	ClsLab	1,559	64	1	20	83%	1	5%
75	14		214	ClsRm	954	60	2	13	29%	3	15%
76	14		302	ClsLab	1,243	32	2	48	80%	4	20%
77	14		320	ClsRm	1,051	43	1	8	25%	2	10%
78	14		B004	ClsLab	949	16	1	12	80%	1	5%
79	14		B006	ClsLab	547	6	1	12	80%	1	5%
80	28	Rekhi	112	ClsLab	775	20	1	29	73%	2	10%
81	28		214	ClsRm	1,328	48	3	41	31%	6	30%
82	28		G005	ClsRm	1,253	54	2	51	77%	5	25%
83	28		G006	ClsRm	1,026	40	2	21	53%	3	15%
84	28		G009	ClsRm	1,280	48	5	122	87%	7	35%
85	12	M&M Bldg	U113	ClsRm	1,069	63	1	___	0%	1	5%
86	12		U115	ClsRm	2,540	240	2	282	92%	5	25%
87	20	MEEM	111	ClsRm	1,429	96	1	78	98%	4	20%
88	20		112	ClsRm	1,652	115	1	69	86%	3	15%
89	20		120	ClsLab	2,630	72	6	361	96%	8	40%
90	20		202	ClsLab	951	16	3	51	93%	6	30%
91	20		302	ClsRm	1,129	48	1	14	58%	2	10%
92	20		303	ClsRm	1,131	48	1	40	100%	3	15%
93	20		305	ClsLab	1,175	16	2	31	111%	4	20%
94	20		402	ClsRm	1,265	48	4	39	38%	7	35%
95	20		403	ClsRm	1,131	48	1	34	85%	3	15%
96	20		405	ClsRm	607	40	4	32	49%	5	25%
97	20		406	ClsRm	1,130	40	2	83	104%	6	30%
98	20		502	ClsLab	928	16	1	15	100%	2	10%
99	20		0502A	ClsLab	712	16	1	14	108%	2	10%
100	20		505	ClsLab	1,588	16	1	12	86%	2	10%
101	20		701	ClsLab	867	16	1	14	108%	2	10%
102	20		1101	ClsLab	1,224	19	1	14	58%	3	15%
103	20		1103	ClsLab	1,092	20	1	21	105%	3	15%
104	20		1106	ClsLab	1,064	24	3	50	72%	9	45%
105	4	ROTC	100	ClsLab	3,385	30	6	111	37%	5	25%
106	4		101	ClsRm	1,273	47	1	12	24%	2	10%
107	4		201	ClsRm	1,705	30	2	7	12%	5	25%
108	10	Rozsa Ctr	120	ClsRm	1,448	60	2	33	45%	6	30%
109	10		208	ClsLab	1,790	50	2	71	27%	6	30%
110	18	Noblet	144	ClsRm	1,689	26	2	7	35%	2	10%
111	11	Walker	109	ClsRm	792	36	2	42	65%	6	30%
112	11		0120A	ClsRm	904	30	1	25	100%	3	15%
113	11		143	ClsRm	647	25	3	47	72%	7	35%
114	11		144	ClsRm	634	25	3	42	65%	6	30%
115	11		210	ClsLab	1,426	40	1	4	40%	2	10%
116	11		211	ClsLab	731	15	1	15	94%	4	20%

Michigan Technological University
Room Utilization Reports
Fall 2018, Monday-Friday, 3:00 PM-5:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
117	11		0329B	ClsRm	382	15	3	10	71%	3	15%
	Grand Totals:		Rooms: 117		131,194	5,473	261	5,859	72%	539	24%

Michigan Technological University
Room Utilization Reports
Fall 2018, Monday-Friday, 5:00 PM-11:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	3	78	87%	9	36%
2	19	Chem-Sci	102	ClsRm	1,162	66	1	36	72%	3	12%
3	19		106	ClsRm	565	30	1	14	70%	3	12%
4	19		211	ClsRm	1,155	55	14	36	16%	4	16%
5	19		408	ClsLab	1,755	12	1	___	0%	6	24%
6	8	Dow	641	ClsRm	2,923	250	13	40	18%	1	4%
7	8		642	ClsRm	1,601	84	13	35	18%	1	4%
8	7	EERC	214	ClsRm	983	65	13	33	16%	1	4%
9	7		216	ClsRm	551	36	1	17	0%	2	8%
10	7		218	ClsRm	683	45	1	14	47%	1	4%
11	7		313	ClsRm	571	36	1	14	88%	2	8%
12	7		622	ClsLab	983	16	2	29	97%	4	16%
13	7		722	ClsLab	978	32	1	11	69%	2	8%
14	7		827	ClsLab	983	16	3	38	62%	8	32%
15	15	Fisher	101	ClsRm	937	32	1	8	40%	1	4%
16	15		125	ClsRm	583	35	2	37	84%	4	16%
17	15		126	ClsRm	593	35	2	32	178%	4	16%
18	15		127	ClsRm	693	35	1	14	93%	2	8%
19	15		139	ClsRm	2,016	125	15	250	52%	4	16%
20	15		229	ClsLab	702	14	4	76	84%	8	32%
21	15		B020	ClsLab	941	27	4	94	98%	8	32%
22	14	Dillman	208	ClsLab	1,559	64	13	39	16%	1	4%
23	84	Meese	109	ClsRm	680	25	1	18	90%	3	12%
24	28	Rekhi	112	ClsLab	775	20	2	56	93%	4	16%
25	20	MEEM	120	ClsLab	2,630	72	13	29	13%	1	4%
26	20		302	ClsRm	1,129	48	27	89	20%	6	24%
27	20		303	ClsRm	1,131	48	1	26	104%	3	12%
28	20		402	ClsRm	1,265	48	1	35	97%	2	8%
29	20		405	ClsRm	607	40	2	13	46%	5	20%
30	20		1101	ClsLab	1,224	19	3	48	80%	9	36%
31	20		1108	ClsLab	1,116	24	1	22	92%	2	8%
32	4	ROTC	100	ClsLab	3,385	30	1	2	4%	2	8%
33	4		101	ClsRm	1,273	47	1	15	50%	2	8%
34	4		201	ClsRm	1,705	30	1	17	34%	2	8%
35	10	Rozsa Ctr	208	ClsLab	1,790	50	2	22	22%	6	24%
36	24	SDC	238	ClsRm	705	40	1	12	80%	5	20%
37	18	Noblet	144	ClsRm	1,689	26	9	42	100%	1	4%
38	17	Library	243	ClsRm	578	21	1	19	95%	2	8%
39	11	Walker	109	ClsRm	792	36	3	26	58%	7	28%
40	11		134	ClsRm	1,173	40	1	20	100%	3	12%
41	11		143	ClsRm	647	25	1	16	80%	3	12%
42	11		0329B	ClsRm	382	15	2	18	75%	6	24%
Grand Totals:			Rooms: 42		48,203	1,839	184	1,490	43%	153	15%

Michigan Technological University
Room Utilization Reports
Fall 2018, Saturday-Sunday, All Hours

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs
1	8	Dow	610	ClsLab	890	26	1	13	33%	2
	Grand Totals:		Rooms: 1		890	26	1	13	33%	2

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 8:00 AM-10:00 AM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	1	11	55%	3	15%
2	19	Chem-Sci	101	ClsRm	1,184	66	3	122	81%	8	40%
3	19		102	ClsRm	1,162	66	5	111	68%	9	45%
4	19		103	ClsLab	1,308	20	1	16	53%	3	15%
5	19		0104A	ClsRm	582	32	2	10	31%	3	15%
6	19		0104B	ClsRm	594	32	1	20	100%	1	5%
7	19		106	ClsRm	565	30	1	20	100%	2	10%
8	19		108	ClsLab	1,162	44	2	68	85%	6	30%
9	19		211	ClsRm	1,155	55	5	41	46%	6	30%
10	19		215	ClsRm	584	30	2	20	67%	3	15%
11	19		502	ClsLab	1,124	24	1	3	25%	3	15%
12	19		0601N	ClsLab	1,048	28	2	16	57%	8	40%
13	19		708	ClsLab	1,592	32	1	15	68%	3	15%
14	8	Dow	610	ClsLab	890	26	4	32	32%	6	30%
15	8		641	ClsRm	2,923	250	5	560	86%	7	35%
16	8		642	ClsRm	1,601	84	4	228	93%	11	55%
17	8		709	ClsLab	744	23	1	4	40%	2	10%
18	8		711	ClsLab	937	16	1	6	43%	3	15%
19	7	EERC	100	ClsRm	1,307	82	1	27	39%	3	15%
20	7		103	ClsRm	2,396	151	4	460	86%	8	40%
21	7		214	ClsRm	983	65	3	154	93%	5	25%
22	7		216	ClsRm	551	36	2	16	46%	6	30%
23	7		218	ClsRm	683	45	1	30	73%	3	15%
24	7		226	ClsRm	683	46	3	55	64%	7	35%
25	7		227	ClsRm	551	36	1	2	20%	3	15%
26	7		229	ClsRm	1,048	65	1	57	88%	2	10%
27	7		313	ClsRm	571	36	3	57	102%	5	25%
28	7		314	ClsRm	553	36	2	23	38%	6	30%
29	7		315	ClsRm	553	36	2	31	70%	5	25%
30	7		316	ClsRm	823	60	1	10	25%	3	15%
31	7		328	ClsLab	1,140	24	2	30	100%	4	20%
32	7		330	ClsLab	1,558	42	3	61	107%	4	20%
33	7		421	ClsLab	844	24	4	72	97%	7	35%
34	7		427	ClsLab	1,000	24	1	11	55%	3	15%
35	7		431	ClsLab	1,430	16	2	42	117%	5	25%
36	7		622	ClsLab	983	16	2	26	84%	4	20%
37	7		738	ClsLab	1,001	18	1	12	86%	2	10%
38	15	Fisher	101	ClsRm	937	32	2	19	38%	6	30%
39	15		125	ClsRm	583	35	2	12	48%	6	30%
40	15		126	ClsRm	593	35	2	7	28%	6	30%
41	15		127	ClsRm	693	35	2	40	73%	6	30%
42	15		129	ClsRm	792	53	3	64	44%	8	40%
43	15		130	ClsRm	712	44	2	62	93%	8	40%
44	15		131	ClsRm	712	44	1	10	40%	3	15%
45	15		132	ClsRm	693	44	1	40	100%	3	15%
46	15		133	ClsRm	693	44	1	19	54%	3	15%
47	15		135	ClsRm	5,036	476	2	267	67%	5	25%
48	15		138	ClsRm	1,395	92	1	74	103%	3	15%
49	15		139	ClsRm	2,016	125	3	321	96%	9	45%
50	15		230	ClsRm	579	35	1	11	42%	3	15%
51	15		231	ClsRm	697	44	3	50	67%	6	30%
52	15		325	ClsRm	1,064	72	2	113	95%	6	30%
53	15		326	ClsRm	1,064	71	3	119	81%	9	45%
54	15		0327B	ClsRm	445	27	2	27	59%	6	30%
55	15		328	ClsRm	928	62	3	126	88%	10	50%
56	15		329	ClsRm	1,065	72	3	159	94%	10	50%
57	15		330	ClsLab	1,065	24	7	20	29%	6	30%
58	15		B020	ClsLab	941	27	1	2	13%	2	10%
59	100	GLRC	102	ClsLab	1,374	28	1	22	110%	3	15%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 8:00 AM-10:00 AM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
60	14	Dillman	101	ClsLab	2,187	60	2	9	45%	5	25%
61	14		202	ClsRm	776	36	4	54	68%	8	40%
62	14		203	ClsLab	863	26	2	20	100%	4	20%
63	14		204	ClsRm	761	43	3	61	87%	7	35%
64	14		208	ClsLab	1,559	64	9	138	78%	11	55%
65	14		214	ClsRm	954	60	3	70	109%	6	30%
66	14		302	ClsLab	1,243	32	2	61	95%	4	20%
67	14		320	ClsRm	1,051	43	3	10	14%	6	30%
68	14		B003	ClsLab	988	16	2	17	53%	6	30%
69	14		B004	ClsLab	949	16	1	11	73%	1	5%
70	14		B008	ClsLab	1,495	15	1	11	73%	1	5%
71	84	Meese	109	ClsRm	680	25	4	29	41%	7	35%
72	84		110	ClsRm	564	25	1	13	65%	3	15%
73	28	Rekhi	112	ClsLab	775	20	1	22	55%	2	10%
74	28		214	ClsRm	1,328	48	2	50	83%	6	30%
75	28		G005	ClsRm	1,253	54	2	64	91%	6	30%
76	28		G009	ClsRm	1,280	48	2	11	44%	3	15%
77	12	M&M Bldg	U111	ClsRm	723	30	1	9	30%	3	15%
78	12		U113	ClsRm	1,069	63	1	52	100%	3	15%
79	12		U115	ClsRm	2,540	240	4	244	84%	7	35%
80	12		U209	ClsLab	664	7	1	9	90%	2	10%
81	20	MEEM	111	ClsRm	1,429	96	3	146	101%	7	35%
82	20		112	ClsRm	1,652	115	2	144	96%	6	30%
83	20		120	ClsLab	2,630	72	4	210	95%	7	35%
84	20		202	ClsLab	951	16	1	22	105%	2	10%
85	20		302	ClsRm	1,129	48	2	45	70%	4	20%
86	20		303	ClsRm	1,131	48	2	71	99%	4	20%
87	20		305	ClsLab	1,175	16	3	43	102%	6	30%
88	20		402	ClsRm	1,265	48	1	40	100%	3	15%
89	20		403	ClsRm	1,131	48	2	33	41%	6	30%
90	20		405	ClsRm	607	40	5	96	91%	6	30%
91	20		406	ClsRm	1,130	40	3	62	85%	6	30%
92	20		505	ClsLab	1,588	16	3	39	93%	6	30%
93	20		601	ClsLab	1,980	16	2	22	92%	4	20%
94	20		701	ClsLab	867	16	1	15	115%	2	10%
95	20		1101	ClsLab	1,224	19	2	29	81%	6	30%
96	20		1103	ClsLab	1,092	20	1	20	100%	3	15%
97	4	ROTC	101	ClsRm	1,273	47	1	20	100%	3	15%
98	10	Rozsa Ctr	120	ClsRm	1,448	60	1	14	47%	3	15%
99	10		208	ClsLab	1,790	50	1	13	87%	1	5%
100	24	SDC	237	ClsRm	789	48	1	24	75%	3	15%
101	18	Noblet	108	ClsLab	692	24	2	19	48%	2	10%
102	18		139	ClsLab	618	18	1	12	75%	2	10%
103	18		143	ClsRm	616	40	4	7	28%	1	5%
104	18		144	ClsRm	1,689	26	3	57	86%	9	45%
105	18		146	ClsLab	997	24	1	8	40%	3	15%
106	18		G002	ClsRm	1,768	125	2	88	81%	6	30%
107	11	Walker	109	ClsRm	792	36	2	56	93%	6	30%
108	11		0120A	ClsRm	904	30	2	40	89%	6	30%
109	11		134	ClsRm	1,173	40	2	73	97%	6	30%
110	11		143	ClsRm	647	25	1	6	24%	3	15%
111	11		144	ClsRm	634	25	2	41	103%	6	30%
112	11		210	ClsLab	1,426	40	4	53	48%	10	50%
113	11		0329B	ClsRm	382	15	1	3	25%	3	15%
Grand Totals:			Rooms: 113		124,821	5,580	248	6,599	78%	551	25%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 10:00 AM-3:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	7	67	50%	15	60%
2	19	Chem-Sci	101	ClsRm	1,184	66	7	307	77%	21	84%
3	19		102	ClsRm	1,162	66	6	342	92%	19	76%
4	19		103	ClsLab	1,308	20	3	55	92%	6	24%
5	19		0104A	ClsRm	582	32	10	135	59%	16	64%
6	19		0104B	ClsRm	594	32	12	149	61%	16	64%
7	19		106	ClsRm	565	30	10	92	48%	19	76%
8	19		108	ClsLab	1,162	44	5	141	82%	12	48%
9	19		211	ClsRm	1,155	55	5	92	46%	14	56%
10	19		215	ClsRm	584	30	8	93	67%	14	56%
11	19		0501N	ClsLab	976	24	2	35	80%	6	24%
12	19		0501S	ClsLab	976	24	2	36	82%	6	24%
13	19		502	ClsLab	1,124	24	2	9	25%	6	24%
14	19		0503N	ClsLab	966	24	2	27	75%	6	24%
15	19		0503S	ClsLab	966	24	2	26	72%	6	24%
16	19		504	ClsLab	1,100	24	2	30	83%	6	24%
17	19		0601N	ClsLab	1,048	28	2	24	86%	8	32%
18	19		708	ClsLab	1,592	32	1	15	68%	6	24%
19	19		B005	ClsLab	2,473	24	2	98	92%	12	48%
20	8	Dow	110	ClsLab	679	15	3	42	93%	3	12%
21	8		111	ClsLab	409	15	3	42	93%	3	12%
22	8		420	ClsLab	1,878	15	8	32	40%	3	12%
23	8		610	ClsLab	890	26	7	109	51%	11	44%
24	8		641	ClsRm	2,923	250	10	1,052	83%	23	92%
25	8		642	ClsRm	1,601	84	7	444	87%	21	84%
26	8		709	ClsLab	744	23	3	11	28%	9	36%
27	8		710	ClsLab	1,287	24	4	40	100%	6	24%
28	8		711	ClsLab	937	16	2	17	53%	6	24%
29	7	EERC	100	ClsRm	1,307	82	7	380	84%	17	68%
30	7		103	ClsRm	2,396	151	8	806	85%	21	84%
31	7		214	ClsRm	983	65	10	204	64%	21	84%
32	7		216	ClsRm	551	36	6	49	52%	14	56%
33	7		218	ClsRm	683	45	4	76	88%	11	44%
34	7		226	ClsRm	683	46	5	79	64%	9	36%
35	7		227	ClsRm	551	36	8	49	33%	18	72%
36	7		229	ClsRm	1,048	65	10	288	68%	16	64%
37	7		313	ClsRm	571	36	5	64	64%	12	48%
38	7		314	ClsRm	553	36	7	59	44%	16	64%
39	7		315	ClsRm	553	36	3	16	33%	9	36%
40	7		316	ClsRm	823	60	6	198	83%	16	64%
41	7		328	ClsLab	1,140	24	6	80	65%	12	48%
42	7		330	ClsLab	1,558	42	5	130	107%	9	36%
43	7		421	ClsLab	844	24	9	76	47%	13	52%
44	7		427	ClsLab	1,000	24	2	5	31%	3	12%
45	7		431	ClsLab	1,430	16	4	55	71%	12	48%
46	7		622	ClsLab	983	16	8	110	89%	16	64%
47	7		722	ClsLab	978	32	7	95	85%	14	56%
48	7		738	ClsLab	1,001	18	2	21	81%	4	16%
49	7		827	ClsLab	983	16	5	56	75%	10	40%
50	15	Fisher	101	ClsRm	937	32	5	60	57%	14	56%
51	15		125	ClsRm	583	35	7	116	66%	18	72%
52	15		126	ClsRm	593	35	4	50	56%	12	48%
53	15		127	ClsRm	693	35	8	105	59%	18	72%
54	15		129	ClsRm	792	53	7	182	65%	21	84%
55	15		130	ClsRm	712	44	8	141	60%	22	88%
56	15		131	ClsRm	712	44	5	121	76%	14	56%
57	15		132	ClsRm	693	44	8	119	51%	19	76%
58	15		133	ClsRm	693	44	7	180	74%	20	80%
59	15		135	ClsRm	5,036	476	7	1,606	82%	18	72%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 10:00 AM-3:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
60	15		138	ClsRm	1,395	92	6	342	77%	18	72%
61	15		139	ClsRm	2,016	125	7	535	92%	21	84%
62	15		229	ClsLab	702	14	13	251	81%	26	104%
63	15		230	ClsRm	579	35	4	62	52%	9	36%
64	15		231	ClsRm	697	44	7	91	61%	16	64%
65	15		325	ClsRm	1,064	72	6	269	78%	18	72%
66	15		326	ClsRm	1,064	71	7	344	91%	21	84%
67	15		0327B	ClsRm	445	27	7	69	54%	17	68%
68	15		328	ClsRm	928	62	8	336	90%	20	80%
69	15		329	ClsRm	1,065	72	6	310	93%	20	80%
70	15		330	ClsLab	1,065	24	3	18	26%	5	20%
71	15		B003	ClsLab	689	14	1	4	33%	3	12%
72	15		B020	ClsLab	941	27	9	161	75%	18	72%
73	15		B023	ClsLab	960	12	4	49	89%	8	32%
74	100	GLRC	102	ClsLab	1,374	28	1	20	100%	3	12%
75	14	Dillman	101	ClsLab	2,187	60	6	101	112%	13	52%
76	14		110	ClsLab	1,066	16	3	37	82%	6	24%
77	14		202	ClsRm	776	36	7	132	65%	17	68%
78	14		203	ClsLab	863	26	5	60	71%	6	24%
79	14		204	ClsRm	761	43	4	58	68%	12	48%
80	14		208	ClsLab	1,559	64	7	112	88%	10	40%
81	14		214	ClsRm	954	60	7	189	74%	17	68%
82	14		302	ClsLab	1,243	32	2	64	100%	4	16%
83	14		320	ClsRm	1,051	43	7	110	55%	15	60%
84	14		B003	ClsLab	988	16	3	45	94%	9	36%
85	14		B004	ClsLab	949	16	1	9	60%	1	4%
86	14		B006	ClsLab	547	6	2	20	67%	2	8%
87	14		B008	ClsLab	1,495	15	3	26	72%	4	16%
88	84	Meese	109	ClsRm	680	25	3	37	67%	7	28%
89	84		110	ClsRm	564	25	5	74	72%	14	56%
90	28	Rekhi	112	ClsLab	775	20	1	25	63%	2	8%
91	28		117	ClsLab	1,153	18	2	61	85%	6	24%
92	28		214	ClsRm	1,328	48	7	199	77%	21	84%
93	28		G005	ClsRm	1,253	54	7	242	80%	14	56%
94	28		G006	ClsRm	1,026	40	4	25	29%	9	36%
95	28		G009	ClsRm	1,280	48	8	182	81%	18	72%
96	12	M&M Bldg	U106	ClsLab	347	5	8	42	53%	3	12%
97	12		U113	ClsRm	1,069	63	6	249	86%	13	52%
98	12		U115	ClsRm	2,540	240	7	704	81%	17	68%
99	12		U205	ClsRm	421	26	7	32	28%	10	40%
100	12		U209	ClsLab	664	7	5	42	84%	10	40%
101	20	MEEM	111	ClsRm	1,429	96	5	394	105%	16	64%
102	20		112	ClsRm	1,652	115	7	439	92%	21	84%
103	20		120	ClsLab	2,630	72	7	202	78%	12	48%
104	20		202	ClsLab	951	16	3	38	88%	6	24%
105	20		302	ClsRm	1,129	48	7	152	54%	21	84%
106	20		303	ClsRm	1,131	48	7	175	83%	15	60%
107	20		305	ClsLab	1,175	16	8	114	102%	16	64%
108	20		402	ClsRm	1,265	48	9	213	70%	21	84%
109	20		403	ClsRm	1,131	48	4	133	77%	13	52%
110	20		405	ClsRm	607	40	8	112	61%	8	32%
111	20		406	ClsRm	1,130	40	6	175	92%	15	60%
112	20		502	ClsLab	928	16	2	11	79%	3	12%
113	20		505	ClsLab	1,588	16	9	117	93%	18	72%
114	20		601	ClsLab	1,980	16	6	58	100%	10	40%
115	20		701	ClsLab	867	16	2	30	115%	4	16%
116	20		1101	ClsLab	1,224	19	3	46	85%	9	36%
117	20		1103	ClsLab	1,092	20	3	53	88%	8	32%
118	4	ROTC	101	ClsRm	1,273	47	3	26	43%	4	16%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 10:00 AM-3:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
119	4		201	ClsRm	1,705	30	5	33	41%	6	24%
120	10	Rozsa Ctr	120	ClsRm	1,448	60	6	128	83%	18	72%
121	10		208	ClsLab	1,790	50	4	39	67%	12	48%
122	24	SDC	237	ClsRm	789	48	10	133	50%	16	64%
123	24		238	ClsRm	705	40	2	16	57%	4	16%
124	18	Noblet	108	ClsLab	692	24	5	66	66%	12	48%
125	18		139	ClsLab	618	18	7	78	70%	19	76%
126	18		143	ClsRm	616	40	6	117	68%	14	56%
127	18		144	ClsRm	1,689	26	6	133	72%	14	56%
128	18		146	ClsLab	997	24	5	93	88%	13	52%
129	18		G002	ClsRm	1,768	125	6	288	79%	13	52%
130	18		G029	ClsLab	1,104	32	2	25	83%	4	16%
131	17	Library	242	ClsLab	1,192	25	1	15	83%	2	8%
132	17		243	ClsRm	578	21	1	24	120%	2	8%
133	11	Walker	109	ClsRm	792	36	7	161	93%	21	84%
134	11		0120A	ClsRm	904	30	8	185	86%	24	96%
135	11		134	ClsRm	1,173	40	6	147	82%	17	68%
136	11		138	ClsRm	296	1	4	21	30%	12	48%
137	11		143	ClsRm	647	25	8	124	73%	24	96%
138	11		144	ClsRm	634	25	3	33	47%	9	36%
139	11		202	ClsLab	1,009	28	1	16	100%	4	16%
140	11		204	ClsLab	745	5	1	11	92%	3	12%
141	11		210	ClsLab	1,426	40	4	46	74%	12	48%
142	11		211	ClsLab	731	15	3	31	78%	12	48%
143	11		212	ClsLab	404	15	2	18	82%	6	24%
144	11		0329B	ClsRm	382	15	3	22	50%	9	36%
Grand Totals:			Rooms: 144		154,077	6,190	761	19,367	76%	1,753	49%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 3:00 PM-5:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
1	19	Chem-Sci	101	ClsRm	1,184	66	16	87	32%	5	25%
2	19		102	ClsRm	1,162	66	2	4	10%	3	15%
3	19		103	ClsLab	1,308	20	2	39	98%	4	20%
4	19		0104A	ClsRm	582	32	1	9	30%	2	10%
5	19		0104B	ClsRm	594	32	1	15	60%	2	10%
6	19		106	ClsRm	565	30	1	5	83%	1	5%
7	19		211	ClsRm	1,155	55	15	47	19%	4	20%
8	19		0501N	ClsLab	976	24	2	39	89%	6	30%
9	19		0501S	ClsLab	976	24	2	39	89%	6	30%
10	19		0503N	ClsLab	966	24	2	32	89%	6	30%
11	19		0503S	ClsLab	966	24	2	34	94%	6	30%
12	19		504	ClsLab	1,100	24	2	7	25%	6	30%
13	8	Dow	106	ClsLab	1,454	16	3	42	93%	9	45%
14	8		641	ClsRm	2,923	250	2	121	53%	6	30%
15	8		642	ClsRm	1,601	84	2	39	43%	3	15%
16	8		710	ClsLab	1,287	24	2	24	120%	4	20%
17	7	EERC	100	ClsRm	1,307	82	1	40	100%	3	15%
18	7		103	ClsRm	2,396	151	3	194	76%	7	35%
19	7		216	ClsRm	551	36	1	5	17%	3	15%
20	7		218	ClsRm	683	45	2	29	41%	5	25%
21	7		227	ClsRm	551	36	3	29	69%	4	20%
22	7		229	ClsRm	1,048	65	2	72	58%	4	20%
23	7		314	ClsRm	553	36	2	16	53%	3	15%
24	7		315	ClsRm	553	36	1	23	115%	2	10%
25	7		316	ClsRm	823	60	2	58	73%	6	30%
26	7		328	ClsLab	1,140	24	1	15	100%	2	10%
27	7		330	ClsLab	1,558	42	5	24	27%	8	40%
28	7		421	ClsLab	844	24	4	33	41%	5	25%
29	7		427	ClsLab	1,000	24	1	16	89%	2	10%
30	7		431	ClsLab	1,430	16	2	38	90%	4	20%
31	7		622	ClsLab	983	16	4	59	95%	8	40%
32	7		722	ClsLab	978	32	4	61	95%	8	40%
33	7		738	ClsLab	1,001	18	3	31	65%	7	35%
34	7		827	ClsLab	983	16	5	57	76%	11	55%
35	15	Fisher	101	ClsRm	937	32	3	9	16%	7	35%
36	15		125	ClsRm	583	35	2	30	68%	5	25%
37	15		126	ClsRm	593	35	4	49	75%	6	30%
38	15		127	ClsRm	693	35	2	8	23%	6	30%
39	15		129	ClsRm	792	53	1	41	93%	3	15%
40	15		130	ClsRm	712	44	2	56	80%	6	30%
41	15		131	ClsRm	712	44	2	15	54%	3	15%
42	15		132	ClsRm	693	44	2	34	40%	4	20%
43	15		133	ClsRm	693	44	1	20	83%	3	15%
44	15		135	ClsRm	5,036	476	1	168	96%	2	10%
45	15		138	ClsRm	1,395	92	3	179	80%	9	45%
46	15		139	ClsRm	2,016	125	2	62	69%	4	20%
47	15		229	ClsLab	702	14	3	69	96%	6	30%
48	15		230	ClsRm	579	35	2	14	23%	3	15%
49	15		231	ClsRm	697	44	2	26	58%	5	25%
50	15		325	ClsRm	1,064	72	2	81	81%	7	35%
51	15		326	ClsRm	1,064	71	2	79	69%	6	30%
52	15		0327B	ClsRm	445	27	3	13	25%	9	45%
53	15		328	ClsRm	928	62	2	53	72%	4	20%
54	15		329	ClsRm	1,065	72	2	64	62%	6	30%
55	15		330	ClsLab	1,065	24	1	3	30%	2	10%
56	15		B003	ClsLab	689	14	1	16	133%	3	15%
57	15		B020	ClsLab	941	27	1	20	83%	2	10%
58	15		B023	ClsLab	960	12	1	6	46%	2	10%
59	14	Dillman	101	ClsLab	2,187	60	1	16	67%	1	5%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 3:00 PM-5:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
60	14		110	ClsLab	1,066	16	1	10	67%	2	10%
61	14		202	ClsRm	776	36	10	15	15%	1	5%
62	14		203	ClsLab	863	26	1	19	127%	2	10%
63	14		204	ClsRm	761	43	2	26	59%	3	15%
64	14		208	ClsLab	1,559	64	2	38	79%	2	10%
65	14		213	ClsLab	573	12	1	11	61%	2	10%
66	14		214	ClsRm	954	60	1	7	35%	3	15%
67	14		320	ClsRm	1,051	43	2	46	94%	2	10%
68	14		B004	ClsLab	949	16	1	9	60%	1	5%
69	14		B006	ClsLab	547	6	1	9	60%	1	5%
70	14		B008	ClsLab	1,495	15	1	10	167%	2	10%
71	28	Rekhi	117	ClsLab	1,153	18	2	6	21%	6	30%
72	28		214	ClsRm	1,328	48	3	34	28%	6	30%
73	28		G005	ClsRm	1,253	54	2	64	107%	2	10%
74	28		G006	ClsRm	1,026	40	1	17	85%	3	15%
75	28		G009	ClsRm	1,280	48	3	42	65%	6	30%
76	12	M&M Bldg	U113	ClsRm	1,069	63	2	39	56%	4	20%
77	12		U205	ClsRm	421	26	2	4	11%	2	10%
78	20	MEEM	111	ClsRm	1,429	96	1	38	95%	3	15%
79	20		112	ClsRm	1,652	115	3	284	118%	6	30%
80	20		120	ClsLab	2,630	72	2	96	75%	3	15%
81	20		202	ClsLab	951	16	2	25	89%	4	20%
82	20		303	ClsRm	1,131	48	1	10	30%	3	15%
83	20		305	ClsLab	1,175	16	2	30	107%	4	20%
84	20		402	ClsRm	1,265	48	4	55	48%	6	30%
85	20		405	ClsRm	607	40	5	68	69%	7	35%
86	20		406	ClsRm	1,130	40	2	81	107%	6	30%
87	20		505	ClsLab	1,588	16	3	39	93%	6	30%
88	20		601	ClsLab	1,980	16	6	27	90%	6	30%
89	20		701	ClsLab	867	16	1	15	115%	2	10%
90	20		1101	ClsLab	1,224	19	1	18	100%	3	15%
91	20		1106	ClsLab	1,064	24	2	47	98%	6	30%
92	20		1108	ClsLab	1,116	24	3	54	95%	9	45%
93	4	ROTC	100	ClsLab	3,385	30	8	130	33%	4	20%
94	4		101	ClsRm	1,273	47	2	7	23%	3	15%
95	4		201	ClsRm	1,705	30	1	7	14%	2	10%
96	10	Rozsa Ctr	120	ClsRm	1,448	60	2	28	38%	6	30%
97	10		208	ClsLab	1,790	50	3	130	35%	7	35%
98	18	Noblet	143	ClsRm	616	40	1	9	45%	2	10%
99	18		144	ClsRm	1,689	26	5	48	37%	6	30%
100	18		G002	ClsRm	1,768	125	1	69	81%	2	10%
101	11	Walker	109	ClsRm	792	36	1	39	98%	3	15%
102	11		0120A	ClsRm	904	30	2	61	109%	6	30%
103	11		134	ClsRm	1,173	40	2	12	30%	3	15%
104	11		143	ClsRm	647	25	1	20	100%	3	15%
105	11		144	ClsRm	634	25	1	___	0%	3	15%
106	11		210	ClsLab	1,426	40	1	16	64%	2	10%
107	11		212	ClsLab	404	15	1	13	108%	3	15%
108	11		0329B	ClsRm	382	15	1	2	17%	3	15%
Grand Totals:			Rooms: 108		122,391	5,021	260	4,398	62%	461	22%

Michigan Technological University
Room Utilization Reports
Spring 2019, Monday-Friday, 5:00 PM-11:00 PM

#	Bldg No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	25	2	47	78%	6	24%
2	19	Chem-Sci	101	ClsRm	1,184	66	1	33	83%	3	12%
3	19		0104A	ClsRm	582	32	1	12	48%	2	8%
4	19		106	ClsRm	565	30	1	11	92%	2	8%
5	19		108	ClsLab	1,162	44	2	24	48%	4	16%
6	19		0501N	ClsLab	976	24	1	23	105%	3	12%
7	19		0503N	ClsLab	966	24	1	18	100%	3	12%
8	19		0503S	ClsLab	966	24	1	15	83%	3	12%
9	19		504	ClsLab	1,100	24	1	12	67%	3	12%
10	8	Dow	641	ClsRm	2,923	250	26	62	14%	2	8%
11	8		642	ClsRm	1,601	84	14	115	38%	4	16%
12	7	EERC	227	ClsRm	551	36	1	11	55%	1	4%
13	7		229	ClsRm	1,048	65	1	15	38%	3	12%
14	7		622	ClsLab	983	16	3	43	93%	6	24%
15	7		722	ClsLab	978	32	2	18	56%	4	16%
16	7		738	ClsLab	1,001	18	2	23	79%	5	20%
17	7		827	ClsLab	983	16	4	53	91%	12	48%
18	15	Fisher	101	ClsRm	937	32	1	17	57%	3	12%
19	15		126	ClsRm	593	35	1	15	60%	2	8%
20	15		129	ClsRm	792	53	1	4	16%	3	12%
21	15		139	ClsRm	2,016	125	13	67	29%	1	4%
22	15		229	ClsLab	702	14	3	57	79%	6	24%
23	15		325	ClsRm	1,064	72	1	45	69%	3	12%
24	28	Rekhi	112	ClsLab	775	20	1	41	103%	2	8%
25	28		117	ClsLab	1,153	18	1	3	30%	2	8%
26	20	MEEM	120	ClsLab	2,630	72	27	110	22%	5	20%
27	20		302	ClsRm	1,129	48	26	57	13%	3	12%
28	20		405	ClsRm	607	40	1	19	95%	2	8%
29	20		406	ClsRm	1,130	40	1	27	90%	3	12%
30	20		502	ClsLab	928	16	4	28	100%	6	24%
31	20		601	ClsLab	1,980	16	4	16	76%	4	16%
32	20		1101	ClsLab	1,224	19	2	33	92%	6	24%
33	20		1106	ClsLab	1,064	24	1	24	100%	3	12%
34	20		1108	ClsLab	1,116	24	1	18	95%	3	12%
35	4	ROTC	100	ClsLab	3,385	30	1	4	8%	2	8%
36	10	Rozsa Ctr	208	ClsLab	1,790	50	2	14	14%	6	24%
37	18	Noblet	139	ClsLab	618	18	1	16	100%	3	12%
38	17	Library	243	ClsRm	578	21	2	19	54%	4	16%
39	11	Walker	109	ClsRm	792	36	2	8	16%	4	16%
40	11		134	ClsRm	1,173	40	1	30	86%	3	12%
41	11		0329B	ClsRm	382	15	2	12	50%	6	24%
Grand Totals:			Rooms: 41		46,737	1,688	164	1,219	39%	151	15%

Michigan Technological University
Assignable Area by College/School and Department
Fall 2019

College/School	Department	Assignable Area
Pavlis Honors College	**Pavlis Honors College**	**10,704**
School Of Business & Economics	**School of Business and Economics**	**10,911**
College Of Engineering	Biomedical Engineering	14,601
	Chemical Engineering	40,410
	Civil & Environmental Engineering	70,085
	College of Engineering	8,966
	Electrical and Computer Engineering	44,570
	Engineering Fundamentals	3,672
	Geological & Mining Eng & Sciences	20,852
	Manufacturing & Mech Eng Technology	13,835
	Materials Science and Engineering	54,228
	Mechanical Engrg-Engrg Mechanics	108,566
	Total College Of Engineering	**379,785**
Sch Forest Resources & Envir Sci	Ford Center	68,947
	Sch Forest Resources & Environ Sci	60,598
	Total Sch Forest Resources & Envir Sci	**129,545**
College Of Science & Arts	Aerospace Studies (Air Force ROTC)	2,207
	Biological Sciences	44,893
	Chemistry	43,090
	Cognitive & Learning Sciences	9,563
	College of Sciences & Arts	1,049
	Humanities	17,303
	Kinesiology/Integrative Physiology	9,916
	Mathematical Sciences	12,242
	Military Science (Army ROTC)	5,399
	Physics	28,581
	Social Sciences	15,514
	Visual & Performing Arts*	56,737
	Total College Of Science & Arts	**246,494**
College of Computing	CNSA/MERET/HI Division	87
	College of Computing	11,605
	Computer Science	15,777
	Total College of Computing	**27,469**
		804,908

*Note: Visual & Performing Arts includes the Rozsa Ctr for Performing Arts.

**Note: Data as of 9/18/2019

Michigan Technological University
Statement of Values 2018–2019

Building Number	Building Name	Address	City	State	Zip	Buildings	Contents	Business Interruption	Total Values
1	Administration Building	Main Campus	Houghton	MI	49931	8,980,772	2,677,223		**11,657,995**
4	ROTC Building	Main Campus	Houghton	MI	49931	6,739,819	23,390		**6,763,209**
5	Academic Offices Building	Main Campus	Houghton	MI	49931	3,185,956	626,848		**3,812,804**
6	Annex Building	Main Campus	Houghton	MI	49931	1,095,644	60,937		**1,156,581**
7	Electrical Energy Resources Center	Main Campus	Houghton	MI	49931	30,250,704	10,373,158		**40,623,862**
8	Dow Environmental Sciences and Engineering Building	Main Campus	Houghton	MI	49931	47,041,346	4,283,556		**51,324,902**
9	Alumni House	Main Campus	Houghton	MI	49931	839,077	134,727		**973,804**
10	Rozsa Performing Arts and Education Center	Main Campus	Houghton	MI	49931	23,606,511	1,246,171		**24,852,682**
11	Walker Arts & Humanities Center	Main Campus	Houghton	MI	49931	11,931,309	686,354		**12,617,663**
12	Minerals & Materials Engineering Building	Main Campus	Houghton	MI	49931	46,359,391	9,156,378		**55,515,769**
13	Center for Diversity & Inclusion	Main Campus	Houghton	MI	49931	674,790	116,316		**791,106**
14	Civil-Geology Building	Main Campus	Houghton	MI	49931	12,132,178	2,995,877		**15,128,055**
15	Fisher Hall	Main Campus	Houghton	MI	49931	17,209,052	2,677,223		**19,886,275**
16	Widmaier House Forestry-Land	Main Campus	Houghton	MI	49931	76,822	42,836		**119,658**
17	Van Pelt Library	Main Campus	Houghton	MI	49931	22,388,334	1,579,482		**58,967,816**
18	UJ Noblet Forestry Building - Extension	Main Campus	Houghton	MI	49931	12,866,669	623,085		**13,489,754**
18	UJ Noblet Forestry Building - Extension	Main Campus	Houghton	MI	49931	7,027,581	2,237,873		**9,265,454**
19	Chemical Sciences & Engineering Building	Main Campus	Houghton	MI	49931	29,591,026	4,283,556		**33,874,582**
20	RL Smith ME-EM Building	Main Campus	Houghton	MI	49931	27,798,304	6,425,333		**34,223,637**
24	Student Development Complex	Main Campus	Houghton	MI	49931	40,587,921	4,257,117		**44,845,038**
25	Sherman Field Press Box	Main Campus	Houghton	MI	49931	144,055	48,169		**192,224**
26	Mitn Uplink Equipment Building	Main Campus	Houghton	MI	49931	141,009	10,709		**151,718**
217	Ffc Classroom Building 1	Ford Center	Houghton	MI	49931	225,332			**225,332**
222	Ffc Classroom Building Iii #22	Ford Center	Houghton	MI	49931	104,490			**104,490**
233	Ffc Main Office	Ford Center	Houghton	MI	49931	290,753	87,288		**378,041**
27	Ffc Dining Hall #23	Ford Center	Houghton	MI	49931	300,747	76,920		**377,667**
27	Ffc Office Annex	Ford Center	Houghton	MI	49931	163,548	64,354		**227,902**
231	Ffc Maintenance Building Ii #24	Ford Center	Houghton	MI	49931	147,360	30,153		**177,513**
230	Ffc 9-Stall Garage	Ford Center	Houghton	MI	49931	242,271	39,977		**282,248**
226	Ffc Storage Building Ii #25	Ford Center	Houghton	MI	49931	1,919			**1,919**
27	Ffc General Purpose Mtce	Ford Center	Houghton	MI	49931	566,885	267,722		**834,607**
225	Ffc Storage Building Iii #26	Ford Center	Houghton	MI	49931	69,471	23,692		**93,163**

Building Number	Building Name	Address	City	State	Zip	Buildings	Contents	Business Interruption	Total Values
27	Ffc Dorm	Ford Center	Houghton	MI	49931	1,022,178	234,999		**1,257,177**
27	Ffc Greenhouse #28	Ford Center	Houghton	MI	49931	8,959			**8,959**
27	Ffc Reception Bldg. #18	Ford Center	Houghton	MI	49931	51,966	5,696		**57,662**
27	Ffc Lumber Storage #29	Ford Center	Houghton	MI	49931	151,568	44,305		**195,873**
27	Ffc Hemlock Residence #1	Ford Center	Houghton	MI	49931	38,857			**38,857**
27	Ffc Tool Shed #32	Ford Center	Houghton	MI	49931	2,560			**2,560**
27	Ffc Sassafrass Residence #2	Ford Center	Houghton	MI	49931	48,784			**48,784**
27	Ffc Resevoir #34	Ford Center	Houghton	MI	49931	19,246			**19,246**
27	Ffc Elm Residence #3	Ford Center	Houghton	MI	49931	55,239			**55,239**
27	Ffc Well House #36	Ford Center	Houghton	MI	49931	14,435			**14,435**
27	Ffc Birdseye Residence #4	Ford Center	Houghton	MI	49931	64,786			**64,786**
27	Ffc Spruce Residence #5	Ford Center	Houghton	MI	49931	59,910			**59,910**
27	Ffc Tamarack Residence #6	Ford Center	Houghton	MI	49931	72,898			**72,898**
27	Ffc Birch Residence #7	Ford Center	Houghton	MI	49931	57,041			**57,041**
27	Ffc Basswood Residence #8	Ford Center	Houghton	MI	49931	62,082			**62,082**
27	Ffc Cedar Residence #9	Ford Center	Houghton	MI	49931	60,237			**60,237**
27	Ffc Beech Residence #10	Ford Center	Houghton	MI	49931	52,002			**52,002**
27	Ffc Ash Residence #11	Ford Center	Houghton	MI	49931	53,845			**53,845**
27	Ffc Balsam Residence #12	Ford Center	Houghton	MI	49931	38,220			**38,220**
27	Ffc Pump House #13	Ford Center	Houghton	MI	49931	64,358	7,699		**72,057**
27	Ffc Sawmill #14	Ford Center	Houghton	MI	49931	404,187	65,106		**469,293**
27	Ffc 8-Car Garage #15	Ford Center	Houghton	MI	49931	104,054	16,762		**120,816**
27	Ffc Dorm Ii #16	Ford Center	Houghton	MI	49931	225,332	57,632		**282,964**
27	Ffc Storage Building I #19	Ford Center	Houghton	MI	49931	69,170	14,153		**83,323**
27	Ffc Recreation Building #20	Ford Center	Houghton	MI	49931	69,170	17,690		**86,860**
27	Ffc Classroom Bldg. Ii #21	Ford Center	Houghton	MI	49931	104,490	26,724		**131,214**
28	Rekhi Hall	Main Campus	Houghton	MI	49931	15,832,047	3,201,985		**19,034,032**
31	Douglass Houghton Hall	Main Campus	Houghton	MI	49931	14,488,999	194,524		**14,683,523**
32	Daniell Heights Housing Orig.	Main Campus	Houghton	MI	49931	21,312,361	187,078		**21,499,439**
33	Daniell Heights Housing Shop	Main Campus	Houghton	MI	49931	69,288	9,872		**79,160**
34	Memorial Union Bldg.	Main Campus	Houghton	MI	49931	13,417,219	1,070,888		**14,488,107**
36	Abbey House	Main Campus	Houghton	MI	49931	41,590	5,354		**46,944**
37	Wadsworth Hall	Main Campus	Houghton	MI	49931	48,554,379	1,683,555		**50,237,934**

Building Number	Building Name	Address	City	State	Zip	Buildings	Contents	Business Interruption	Total Values
38	West McNair Hall	Main Campus	Houghton	MI	49931	5,935,524	28,117		**5,963,641**
39	McNair Food Service	Main Campus	Houghton	MI	49931	1,872,163	846,957		**2,719,120**
40	East McNair Hall	Main Campus	Houghton	MI	49931	8,846,444	267,722		**9,114,166**
41	Central Heating Plant	Main Campus	Houghton	MI	49931	15,308,783	60,059		**15,368,842**
42	Physical Plant Storage Bldg.	Main Campus	Houghton	MI	49931	2,496,018	321,266		**2,817,284**
43	Lakeside Laboratory	Main Campus	Houghton	MI	49931	3,023,880	3,771		**3,027,651**
44	Service & Storage Bldg.	Main Campus	Houghton	MI	49931	2,444,981	2,141,778		**4,586,759**
45	Kettle-Gundlach President's Residence	Main Campus	Houghton	MI	49931	450,304	21,528		**471,832**
46	Imp Storage Building	Main Campus	Houghton	MI	49931	108,468			**108,468**
49	Waste Mgmt Resources Bl	Main Campus	Houghton	MI	49931	167,084	10,709		**177,793**
50	Gates Tennis Center	Main Campus	Houghton	MI	49931	3,020,501	17,618		**3,038,119**
51	O'Connor House	Main Campus	Houghton	MI	49931	90,758			**90,758**
52	Portage Lake Golf Course	Main Campus	Houghton	MI	49931	642,675	80,317		**722,992**
53	Mont Ripley Quonset	Main Campus	Houghton	MI	49931	27,117	107,089		**134,206**
54	Mont Ripley Chalet	Main Campus	Houghton	MI	49931	630,386	107,089		**737,475**
55	Mont Ripley Storage Bldg.	Main Campus	Houghton	MI	49931	80,659	155,341		**236,000**
56	Daniell Heights Storage Bldg	Main Campus	Houghton	MI	49931	21,495			**21,495**
57	Hagen House	Main Campus	Houghton	MI	49931	94,343			**94,343**
58	Golf Course Storage Bldg.	Main Campus	Houghton	MI	49931	29,307	187,864		**217,171**
59	Golf Course Storage Building	Main Campus	Houghton	MI	49931	13,865	48,189		**62,054**
60	Golf Course Cart Storage	Main Campus	Houghton	MI	49931	56,690			**56,690**
61	Golf Course Cart Storage	Main Campus	Houghton	MI	49931	38,180			**38,180**
70	KRC Science & Admin Office	Keweenaw Research Center	Houghton	MI	49931	212,936	3,212,666		**3,425,602**
71	KRC Machine & Vehicle Shop	Keweenaw Research Center	Houghton	MI	49931	78,463	344,850		**423,313**
72	KRC Vehicle Service Bldg.	Keweenaw Research Center	Houghton	MI	49931	109,851	1,606,333		**1,716,184**
73	KRC Vehicle Storage Bldg.	Keweenaw Research Center	Houghton	MI	49931	47,806	321,266		**369,072**
74	KRC Engineering Laboratories	Keweenaw Research Center	Houghton	MI	49931	102,768	740,366		**843,134**
75	KRC Special Projects Building	Keweenaw Research Center	Houghton	MI	49931	59,154	38,949		**98,103**
76	KRC Support Services Building	Keweenaw Research Center	Houghton	MI	49931	19,553	7,659		**27,212**
77	KRC Water Truck Storage	Keweenaw Research Center	Houghton	MI	49931	162,906			**162,906**
78	KRC Engineering Support Facility	Keweenaw Research Center	Houghton	MI	49931	136,317	240,950		**377,267**
79	KRC Support Facility Ii	Keweenaw Research Center	Houghton	MI	49931	271,510	11,053		**282,563**
2	Electrical Substation	Main Campus	Houghton	MI	49931	559,311	1,121,973		**1,681,284**

Building Number	Building Name	Address	City	State	Zip	Buildings	Contents	Business Interruption	Total Values
80	KRC Cold Storage Bldg	Keweenaw Research Center	Houghton	MI	49931	271,510	160,634		**432,1**
81	Generator Building	Main Campus	Houghton	MI	49931	1,342,346	2,243,948		**3,586,294**
82	Gundlach-Ruppe House	Main Campus	Houghton	MI	49931	385,925			**385,925**
84	Meese Center	Main Campus	Houghton	MI	49931	1,919,583	267,722		**2,187,305**
86	MTU Tower Building	Main Campus	Houghton	MI	49931	16,008			**16,008**
88	Chemical Storage Bldg.	Main Campus	Houghton	MI	49931	67,756	21,418		**89,174**
89	Ski Trail Groomer Storage	Main Campus	Houghton	MI	49931	59,710	107,089		**166,799**
90	Sands Pilot Plant	Main Campus	Houghton	MI	49931	956,926	21,418		**978,344**
92	Lahti Building	Main Campus	Houghton	MI	49931	301,624	856,712		**1,158,336**
93	Fish Hatchery Bldg.	Main Campus	Houghton	MI	49931	14,658			**14,658**
94	Amjoch Observatory	MUL	Houghton	MI	49931	38,391	21,418		**59,809**
96	Portage Lake Vault Building	Main Campus	Houghton	MI	49931	190,167			**190,167**
98	Settling Basin	Main Campus	Houghton	MI	49931	213,828			**213,828**
98	Mont Ripley Chair Lift	Main Campus	Houghton	MI	49931	503,863			**503,863**
95	Advanced Technology Development Center	1400 Townsend Drive	Houghton	MI	49931	6,472,695	4,309,288		**10,781,983**
906	Michigan Tech Research Institute	3600 Green Court, Suite 100	Houghton	MI	49931		1,622,397		**1,622,397**
3	Michigan Tech Lakeshore Center	Main Campus	Houghton	MI	49931	7,050,433	535,445		**7,585,878**
65	Daniell Heights Storage Building	Main Campus	Houghton	MI	49931	22,778	21,418		**44,196**
30	Little Huskies Child Care Facility	Main Campus	Houghton	MI	49931	786,615	55,270		**841,885**
102	Blizzard Building	7 Industrial Drive	Houghton	MI	49931	5,965,750	1,052,988		**7,018,738**
69	Keweenaw Research Center Design Center	Main Campus	Houghton	MI	49931	2,060,897	107,089		**2,167,986**
63	Golf Course Maintenance Building	Main Campus	Houghton	MI	49931	67,830	102,271		**170,101**
48	Hillside Place Michigan Tech Student Apartments	1400 Townsend Dr.	Houghton	MI	49931	15,744,839	1,598,078		**17,342,917**
100	Great Lakes Research Center	Main Campus	Houghton	MI	49931	27,482,585	1,579,482		**29,062,067**
103	A.E. Seaman Mineral Museum	Main Campus	Houghton	MI	49931	1,627,023	102,212		**1,729,235**
110	East Street Residence		Houghton	MI	49931	119,397			**119,397**
111	Theta Tau House		Houghton	MI	49931	296,516	26,222		**322,738**
300	Facilities Storage Building		Houghton	MI	49931	303,600	104,887		**408,487**
	Business Interruption							99,734,000	
TOTALS						**590,939,647**	**88,969,331**	**99,734,000**	**814,642,978**