Michigan Technological University

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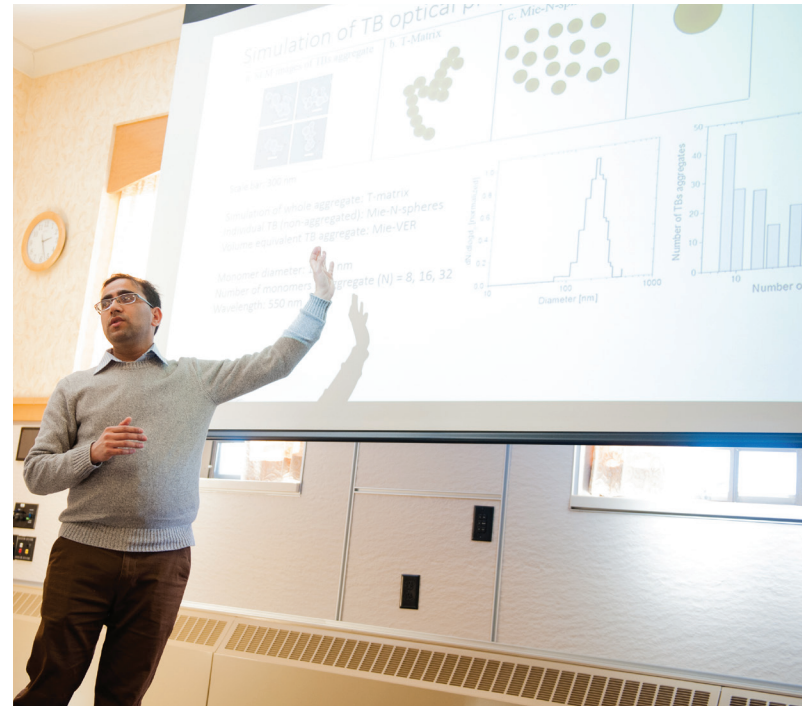
MICHIGAN TECHNOLOGICAL UNIVERSITY

FY2024 Five-Year Capital Outlay Plan


UltiMaker 3000



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MISSION

Creating Solutions

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.

93.8%

93.8 percent five-year average job placement rate for undergraduates

2nd

Ranked **No. 2** best value university in Michigan (SmartAsset)

280K

280,000 square feet of research labs on campus

Tech Forward Initiatives

"The Tech Forward initiatives provide a framework for Michigan Tech's leadership into the future in the Fourth Industrial Revolution. They are the product of multiple conversations about areas of excellence and opportunity that included voices from across the University, the local community, and our alumni. These conversations converged around exciting themes that will ensure the focus of our efforts for the future."

Andrew Storer
Interim Provost and Senior Vice President for Academic Affairs

Michigan Tech's Ongoing Institutional Initiatives:

- 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

Tech Forward Initiative: Health and Quality of Life

Vibrant Community

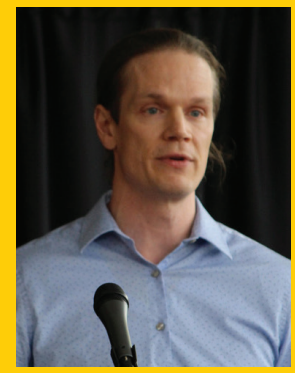
We learn more every day about the impact that stress, eating habits, and routine functions like sitting and sleeping have on our long-term health. Wellness is multifaceted and often a community endeavor. As a University, we're examining the ways in which humans can build vibrant communities of well-being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

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. National Institutes of Health (NIH) funding for health research on campus has more than 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 and 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.**



"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

Tech Forward Initiative: Data Revolution and Sensing

The Future of Business and Computing

"Digital transformation is revolutionizing every industry, and every successful company is scrounging to attract a high-quality tech workforce. The College of Computing at Michigan Tech was specifically created to train the workforce of tomorrow that Michigan needs today."

Dennis Livesay
Dave House Dean of Computing

Computing and computer science are no longer subfields of engineering, math, or science; they're suffused in nearly every academic discipline. In particular, digital technology has reshaped business competition and the fundamental business disciplines themselves.

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 business occupation.

In recognition of cyber technology's role in Michigan's economy, **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 and the College of Business, together with Michigan Tech's entire academic enterprise, intend to meet the technological, economic, and social needs of the 21st century—and answer industry demand for talent in artificial intelligence (AI), business analytics, software engineering, machine learning, data science, and cybersecurity.

Through the Center for Convergence and Innovation, Michigan Tech will prepare students for lifelong prosperity and employability through relevant, contemporary academic programs steeped in digital technologies—supporting and driving cutting-edge, market-centered research in computing fields. The Center for Convergence and Innovation will transform the University into an academic institution that reflects the technological, economic, and social realities of the Fourth Industrial Revolution.

Tech Forward Initiative: 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

"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

"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

Tech Forward Initiative: Education for the 21st Century

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, 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 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. "Students are excited about their work with the Honors College through the Honors Pathway program, and this interest is reflected in continued increasing enrollments," said Interim Provost Andrew Storer.

A working group formed through the Tech Forward Initiative Education for the 21st Century is working to implement the nine honors abilities across Michigan Tech through the development of a revised General Education program. This Essential Education program will prepare Michigan Tech graduates to be self-aware, resilient, and confident as global citizens and lifelong learners.

We hope to change the face of STEM.

A STEM degree has advantages. A recent Pew Research Center study indicated that STEM workers enjoy pay advantages over workers in non-STEM fields. However, the study also revealed that diverse employees, such as women, Black, and Hispanic workers were underrepresented across most tech fields and, in some cases, were experiencing declines. Michigan Tech's 2022 incoming undergraduate class was the most diverse in our history, but as we continue working toward the University goal of leadership in the Fourth Industrial Revolution, we must focus our efforts to achieve our vision of promoting "mutual respect and equity for all people."

The other facet of this vision is to equip all our students, faculty, and staff with critical skills and competencies to lead and serve an increasingly multicultural world. Twenty-first century problems will require 21st century perspectives and a culturally fluent workforce. This not only means developing technical skills and increasing the proportion of diverse employees, but also ensuring that all workers have effective cross-cultural skills to develop innovations that include the viewpoints of everyone—because broad-based inclusive solutions are the best solutions. This outlook will be part of our institutional DNA to fulfill our mission of addressing "society's challenges by delivering action-based undergraduate and graduate education."

Michigan Tech recognizes these challenges and will do our part. Our objective is to create and maintain learning, working, and living environments where all students, faculty, and staff experience the richness of diversity, equity, inclusion, and a sense of belonging (DEIS) across the institution.

To reach this goal, we are:

1. Weaving and sustaining DEIS as an intrinsic component of who we are as articulated by Michigan Tech's vision
2. Leveraging intentional strategic planning processes and both internal and external collaborations to infuse DEIS across the University
3. Recruiting, hiring, and retaining a diverse workforce of faculty and staff as well as recruiting and retaining a diverse student body to reflect our national and global demographics
4. Collaborating and supporting retention programs and initiatives designed to educate and support a campus community that experiences a sense of belonging

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

Tech Forward Initiative: 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.

A whole division of **Ford Motor Company** is dedicated solely to the research and development of self-driving car technology. Currently, Ford Autonomous Vehicles has around 90 Ford Fusion Hybrid sedans equipped with self-driving technology. This fleet of self-driving cars is being tested on the streets in California, Arizona, and Michigan. And in just a few short years, Ford's goal of a fully autonomous car in production will be a reality. **General Motors** also made it clear it was going all-in on autonomous vehicles and believes that all AVs should be EVs (electric vehicles), so their efforts will clearly advance their vision of zero crashes, zero emissions, and zero congestion, and help build a more sustainable and accessible world. 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 test bed 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.**

Tech Forward Initiative: Natural Resources, Water, and Energy

Finite resources and a changing climate demand that humans reconfigure our 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.**

"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

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 published a report in April 2022 on the feasibility of converting abandoned mines into valuable energy storage. Michigan Tech researchers and students in engineering, industrial archaeology, and energy policy 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.

Tech Forward Initiative: Sustainability and Resilience

Sustainability and resilience are powerful and transformative concepts with the potential to change the way we educate students, conduct research, and interact with our natural and built environment. Both sustainability and resilience are essential concepts and practices for students and the University, as we aim to be at the cutting edge of innovation and education for the 21st century and prepare to respond and thrive through future challenges.

Michigan Tech's remote location sets us apart from other institutions. The forests and water-rich environment of the Upper Peninsula, together with the land history and identity as Ojibwa homelands and the diverse relationships connecting humans and the natural world, provide 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.

> "The challenges of Michigan Tech are tied to the challenges of the world. We are excited to provide resources and engagement opportunites for students, faculty, and staff to contribute to our goal of being more sustainable and adaptable to an uncertain future."
>
> **Alan Turnquist**
> Director of Sustainability and Resilience

Tech Forward Initiative: Advanced Materials and Manufacturing

Reduce. Reuse. Remake. Recover. Renew.

These strategies—the five R's—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.

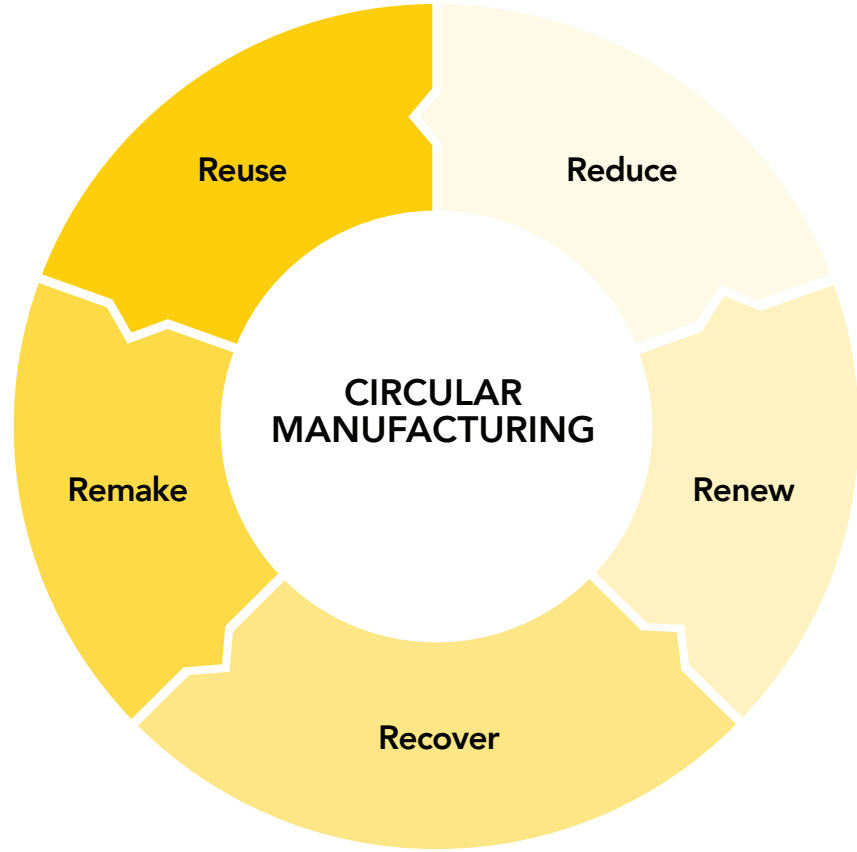
Circular manufacturing is the philosophy and practice of extending the useful life of materials and products through design for disassembly and reuse. It's a vital tool in addressing environmental crises like biodiversity loss, resource scarcity, and pollution.

Currently, only 8.6 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.

Currently, most circular economy initiatives are individual projects focused on physical materials and resources. However, to scale these solutions globally and across industries, we need to build coherent **digital foundations** to support attractive global circularity business models and accelerate the journey toward circularity.

As the world moves toward a global economy, there is much room for innovation in materials and manufacturing technologies as well as advancements in the digitalization of business ecosystems that support a circular strategy. And **Michigan Tech is ready to lead the charge.**



ENROLLMENT

Growing Michigan's Workforce

This year's total enrollment of underrepresented domestic minority students represents more than **11.5 percent** of the student body.

The average high school GPA of the entering class is **3.83.**

There are **2,116** women enrolled at Michigan Tech this fall, representing **29.9 percent** of the student body.

7,073

The number of students enrolled at Michigan Tech during fall 2022

2,116

The number of women enrolled at Michigan Tech

1st

Ranking among public universities nationwide for students who said they made the right choice
(Wall Street Journal/Times)

STAFFING


THE PEOPLE
WHO MOVE TECH FORWARD

Michigan Tech Faculty Talent

Ensuring the State of Michigan is a National Leader in Digital Transformation

According to the Michigan Bureau of Labor, the state expects an 8.5 percent increase in workforce demand for business and financial operations, a 9.1 percent increase for management, and an 11.9 percent increase for computer and mathematical operations—cumulatively generating over 58,000 projected new jobs by 2030. Michigan Tech has an opportunity to serve the state by supporting development that can enhance the growth in these areas. The College of Business graduate enrollment stands at an all-time high due to its TechMBA, Masters in Engineering Management, and data analytics-based Master of Science in Accounting degrees.

Michigan Tech's College of Business (COB) is already addressing the digital transformation's impact on the needs of businesses with curriculum offerings that include courses in accounting data analytics, marketing analytics, fintech, and commercialization of technology. The COB has intentionally built a tech-savvy business faculty through strategic hiring of faculty with STEM degrees and tech-industry experience. COB faculty focus on technological innovations, commercialization, and entrepreneurship.

The College of Computing (CC) at Michigan Tech is Michigan's first and only college of computing. Michigan Tech reaffirmed its role as a leader in promoting economic prosperity and preparing the workforce of the future by investing in the formation of this college—which remains unique in the state. CC faculty are active in collaborative cross-disciplinary research projects, while also providing learning experiences in computing education, cyber-physical systems, cybersecurity, data sciences, human-centered computing, and scalable architectures and systems. Michigan Tech's College of Computing alone saw a 12 percent increase in undergraduate enrollment for fall 2022 and is poised to double in size by the end of the decade.

The intentional mixing of faculty and educational programming in the new Center for Convergence and Innovation (CCI) will remove traditional academic silos and allow for cutting-edge preparation of students for success in Michigan's high-tech economic sectors. The CCI will significantly improve Michigan's ability to recruit and retain the talent needed to position itself as a leader throughout the 21st century.

The Center for Convergence and Innovation (CCI)—project will promote collaborations among researchers and leaders in business and computing that will support economic development throughout all segments of Michigan's industries.

Michigan Tech Faculty Talent

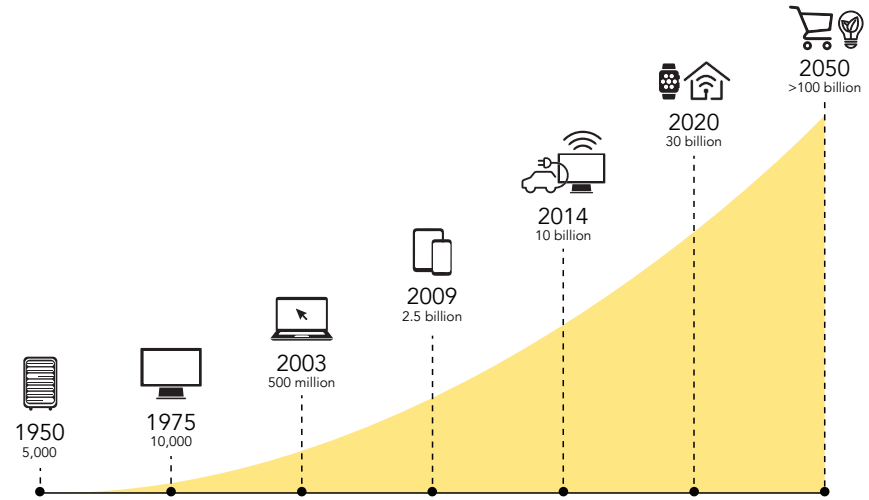
Providing Talent and Expertise for the Digital Age

The planned **Center for Convergence and Innovation** will provide a place to co-locate our existing business, data science, and computing programs to spur new degree programs, entrepreneurial projects, outreach to businesses and communities, increased industry and government funding for research, and the development of a highly agile workforce prepared to implement digital transformation solutions throughout Michigan. Students and employees from the College of Business and College of Computing will be commingled to promote cross-disciplinary collaboration, innovation, and entrepreneurship.

According to many experts, including Klaus Schwab, founder of the World Economic Forum, the transition from the Third to the Fourth Industrial Revolution is being marked by integration of digital technologies into all aspects of physical and biological systems. Companies will no longer compete on product innovation alone; they will compete on innovations of their fundamental business processes.

Michigan Tech is preparing students to be leaders in tomorrow's world.

To remain competitive in an increasingly fast-paced world in which technological innovations proceed at hair-raising speeds, businesses, industries, and governmental agencies must be nimble, agile, and sufficiently aware of recent and upcoming developments to be able to maintain financial viability—as well as social currency. One thing we can be sure of is that the future will bring rapid and continual change. Michigan Tech is preparing students to be leaders in tomorrow's world, and our computing- and business-related research is critical to US economic competitiveness and the sustained growth of local economies.



Expected adoption of IoT (Internet of Things) devices.

Source: Modified from Capra M, Peloso R, Masera G, Ruo Roch M, Martina M. Edge Computing: A Survey On the Hardware Requirements in the Internet of Things World. Future Internet. 2019; 11(4):100. https://doi.org/10.3390/fi11040100

Partnerships and Collaborations Across Michigan

Addressing Local, Regional, and State Needs

Michigan Tech faculty who will be located in the Center for Convergence and Innovation have a strong history of building educational programs and partnerships across Michigan. Through its focus on convergence and economic development, the proposed facility will allow Michigan Tech to better prepare for the high-tech workforce needed to keep Michigan competitive. Moreover, the facility will allow us to strengthen our already-deep community ties.

College of Business (COB) faculty completed an economic impact analysis of the Eagle Mine in the Upper Peninsula of Michigan. Lundin Mining, the operator of the only primary nickel mine in the US, sought out the unique combination of COB faculty expertise in economics, mining, econometrics, data analytics, and information systems to establish best practices in mining in relation to regional economic health. Current and ongoing economic research by COB faculty includes regional transportation, Michigan fruit and brewing industries, recreational fishing, and the economic impact of Michigan Tech's overall research expenditures.

COB faculty have and continue to actively partner with the Michigan Small Business Development Center, the Michigan Tech SmartZone, the Michigan Economic Development Corporation - STEM Forward, and the FinnZone to address Michigan's economic needs by providing expertise, mentorship, and collaborative support for new and established businesses.

The College of Computing (CC) is similarly focused on advancing Michigan. Multiple computing faculty members are partnering with industry and government organizations alike on research problems that will directly advance Michigan's competitiveness, including improving health outcomes, disaster resilience, autonomy, and automation. Our partners include hospital systems, the automotive industry, and everything in between.

CC faculty are also focused on ensuring that all Michiganders have opportunities within computing and tech. One example is Copper Country Coders, an educational program delivered by MTU students with assistance from computer science faculty. Copper Country Coders introduces students in middle and high school to the world of computer science and programming. Similarly, we are currently partnering with the Detroit Hispanic Development Corporation (DHDC) to deliver our first programming course to students from inner city Detroit. Partnering with DHDC and Ford Motor Company, we synchronously deliver the curriculum remotely to these high school students, with close mentorship provided in person at DHDC.

The COB also provides experiential education to local high school students by bringing real-world investment concepts into schools and classrooms through the **Husky Investment Tournament** for high schools.

How the Husky Investment Tournament Works:

3 or 4

students per term from grades 9-12

$1M

in virtual US dollars to invest

$1,000

to the winning team– with Michigan Tech scholarship offers

Partnerships and Collaborations Across Michigan

Addressing Local, Regional, and State Needs

As Michigan's first and only academic college focused on computing, the College of Computing at Michigan Tech is critically important to the state's continued economic vitality. We provide a high-value, hands-on education that prepares our alumni to lead in multiple areas related to digital transformation, including cybersecurity. Experiential initiatives are a critical component, including these current initiatives led by faculty member, **Yu Cai:**

RedTeam is a community and resource for students wishing to learn more about information security. RedTeam students interested in cybersecurity competitions compete in the National Cyber League, which can be thought of as the cybersecurity collegiate national championships. Michigan Tech's team has placed in the top 10 overall each of the past two years, and finished third out of 922 teams in spring 2021.

GenCyber provides summer cybersecurity camp experiences for students and teachers at the K-12 level. The program helps students understand safe online behavior and fundamental cybersecurity concepts and increases their interest in cybersecurity careers, and improves teachers' pedagogical methods for delivering cybersecurity content.

CyberCorps is a national program designed to recruit and train the next generation of information technology professionals, industrial control system security experts, and security managers to meet the needs of the cybersecurity mission for federal, state, local, and tribal governments. The program provides two- to three-year scholarships for cybersecurity undergraduate and graduate education.

Prominent Faculty

This document cannot be sufficiently long or detailed enough to adequately describe the work of all the faculty and students who will benefit from the Center for Convergence and Innovation. Instead, we focus on the work of a select group of Michigan Tech faculty who are leading researchers and educators.

Professor of Accounting Information Systems **Jun Dai** studies the application of new technologies to the auditing profession. Dai is also working on the application of blockchain and artificial intelligence (AI) to facilitate environmental, social, and governance (ESG) corporate reporting. Dai represents a large number of business faculty who are digitally transforming the business practices of tomorrow.

Dai's forward-looking approach has resulted in enormous positive attention from her peers. Dai received the 2021 American Accounting Association's Notable Contributions to Accounting Literature Award for her article "Toward Blockchain-Based Accounting and Assurance." In this article, Dai explores how blockchain technology will reengineer the existing accounting and auditing procedures to make them more transparent, intelligent, and automated.

Extensions of her work to supply chains, quality control, and finance are readily apparent. Her research has implications for all sectors of Michigan's economy.

Meet JUN DAI, Richard and Joyce Ten Haken Faculty Fellow in Accounting/Finance in the College of Business.

Prominent Faculty

Meet TIMOTHY HAVENS, William and Gloria Jackson Endowed Professor of Computer Systems in the College of Computing.

Timothy Havens is the William and Gloria Jackson Endowed Professor of Computer Systems. He also serves as the associate dean for research in the College of Computing and as the director of Michigan Tech's Institute of Computing and Cybersystems (ICC), which provides a platform for innovative research through support, facilitation, and collaboration within and outside of Michigan Tech.

The ICC's 55 members—in six research centers—represent more than 20 academic disciplines at Michigan Tech. Member scientists are collaborating to conduct impactful research, make valuable contributions in the field of computing, and solve problems of critical national importance.

In January 2022, Havens became the director of Michigan Tech's Great Lakes Research Center, which houses the supercomputer named Superior, and supports the research and outreach efforts of faculty, staff, and students from across campus.

Havens' research and teaching interests focus on pattern recognition and machine learning, signal and image processing, sensor and data fusion, heterogeneous data mining, and explosive hazard detection. Havens, his collaborators, and his students are creating the tools that will make Michigan's industries successful throughout the 21st century.

Prominent Faculty

Daniel Fuhrmann is the Dave House Endowed Professor of Computing. He also serves as the chair of the Department of Applied Computing.

In 2017-18, Fuhrmann led the University-wide Computing and Information Sciences Working Group that ultimately recommended the formation of a new academic unit devoted to computing.

Following that effort, as part of the University's Tech Forward initiative, Fuhrmann led the Data Revolution and Sensing Task Force, which in spring 2019 developed a vision and implementation plan for the new College of Computing.

Michigan Tech's newest college enrolled its first students in fall 2019 and boasts eight undergraduate degree programs ranging from cybersecurity to mechatronics.

Fuhrmann's expertise is in statistical signal and image processing, with applications in radar systems, sonar systems, medical imaging, and communications. Fuhrmann is a fellow of the Institute of Electrical and Electonics Engineers (IEEE).

Meet **DANIEL FUHRMANN,** Dave House Professor of Computing in the College of Computing.

Prominent Faculty

Manish Srivastava is the David L. and Marilyn A. Bernard Faculty Fellow in the College of Business. He also serves as professor of strategic management and innovation. Srivastava's research and teaching interests focus on technological innovation, strategic alliances, and evolution of knowledge structure of firms. He is a world-renowned expert on firm alliances to leverage technological resources for breakthrough innovations. His research has won awards at the Strategic Management Society, Academy of Management, and Pan-IIM World Management Conference.

His teaching focuses on helping students acquire knowledge and skills in developing technology and innovation strategies, international entry and growth strategies for small- and medium-sized enterprises, and business models for commercializing advanced technologies. He led efforts to establish the entrepreneurship, innovation, and technology minor offered by the College of Business. He has been invited by several world-renowned universities, such as Umea University, Virginia Tech, Washington State University, and the Indian Institute of Management Lucknow, to conduct workshops for their faculty and doctoral students on econometric methods.

Srivastava currently serves on the editorial review boards of the Journal of Management and Long Range Planning and as a guest editor for Long Range Planning.

Meet **MANISH SRIVASTAVA,** David L. and Marilyn A. Bernard Faculty Fellow in the College of Business.

Prominent Faculty

Keith Vertanen is a Dave House Associate Professor of Computer Science specializing in designing intelligent interactive systems that leverage uncertain input technologies. His areas of expertise include human-computer interaction (HCI), accessible computing, speech and language processing, mobile interfaces, and crowdsourcing. His extensive research focuses on systems that enhance the capabilities of users with diverse abilities.

Vertanen is a member of the Center for Human-Centered Computing (HCC). The HCC Center's research focuses on designing, building, and evaluating computational technologies as they relate to people's capabilities, limitations, and environments. By reflecting on how technologies affect society, the HCC Center prepares Michigan Tech students to become future creators with balanced viewpoints by educating their computing side, their human side, and their interactions.

Meet **KEITH VERTANEN,** Dave House Associate Professor of Computer Science in the College of Computing.

Funding for Research

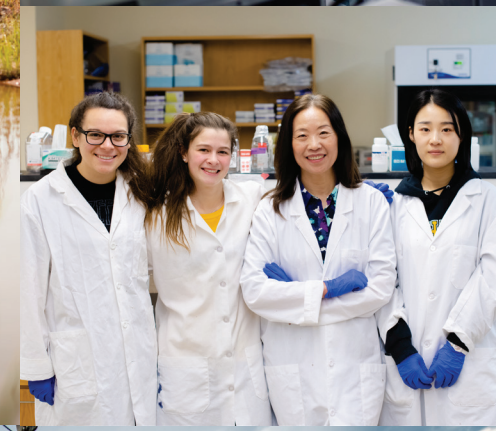
Investing in Michigan Tech Faculty and Students

University-supported (aka internal) research funding is a critical stepping stone that provides the seed funding needed by new researchers who must establish themselves as competitors for external research funding. In 1986, Michigan Tech made a strategic move to establish a peer-reviewed Research Excellence Fund (REF) grant program. These funds are available through the following Michigan Tech REF Programs:

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, colleges, and centers/institutes with resources to develop the infrastructure necessary to administer sponsored research programs and ensure excellence in graduate student education. Funded projects result in acquisition of equipment, enhancement of laboratory facilities, or professional development for administrative support.

Shared Facility Grants provide critical resources for University-wide interdisciplinary and guest/partner research activities. Funds are used to ensure researchers have access to shared research spaces and state-of-the-art equipment. Michigan Tech's shared facilities are an invaluable asset.



INSTRUCTIONAL PROGRAMMING

Digital Transformation Education Critical to Industry

Preparing Talent That Matters for Michigan's Economy

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 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:

> "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 work of that group laid the groundwork for Governor Gretchen Whitmer's call for 60 percent of Michigan residents to earn a postsecondary certificate or degree by the year 2030, a goal which is now referred to as "Sixty by 30."

In June 2021, an update was provided by this workgroup noting that 70 percent of jobs will require a postsecondary credential by 2030. Michigan's employers continue to see talent shortages in middle- and high-skilled positions and the talent base is undersupplied in disciplines like architecture/ engineering, computer science, and healthcare. "Michigan needs 12,000 people with computer engineering skills by 2030 to continue to be a leader in the mobility space."

Digital Transformation Education Critical to Industry

Preparing Talent That Matters for Michigan's Economy

> "As predicted by the 2007 Rising Above the 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 forced to chase talented employees—which were, 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 part of the high-tech workforce.

The COVID-19 pandemic disproportionately impacted unskilled workers in Michigan. As the disruption hit Michigan, the unemployment rate rose from 4.3 percent to 24 percent between March and April. In August 2020, it remained at 8.7 percent, approximately twice the pre-COVID rate, according to the US Bureau of Labor Statistics.

In her 2021 Mackinac Policy Conference Keynote Address, Governor Whitmer reaffirmed Michigan's commitment to growing the middle class, supporting small businesses, and investing in communities. Both the Gathering Storm report and our state's leaders are clear that individuals with at least some college education are going to be more employable in Michigan's increasingly high-tech economy.

Digital Transformation Education Critical to Industry

Center for Convergence and Innovation Embodies Michigan Tech's Vision for the Future

Michigan Tech's reputation and track record are built on 135 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, which frequently include external stakeholders. Germane to our Five-Year Capital Outlay Plan are several programmatic, hiring, and partnership initiatives that emerged from the Tech Forward campuswide strategic visioning process during the 2018-19 academic year. The Center for Convergence and Innovation will be the center of the MTU digital world and will be a key link in driving the Tech Forward intiatives forward.

Tech Forward Process and Strategic Vision Priorities

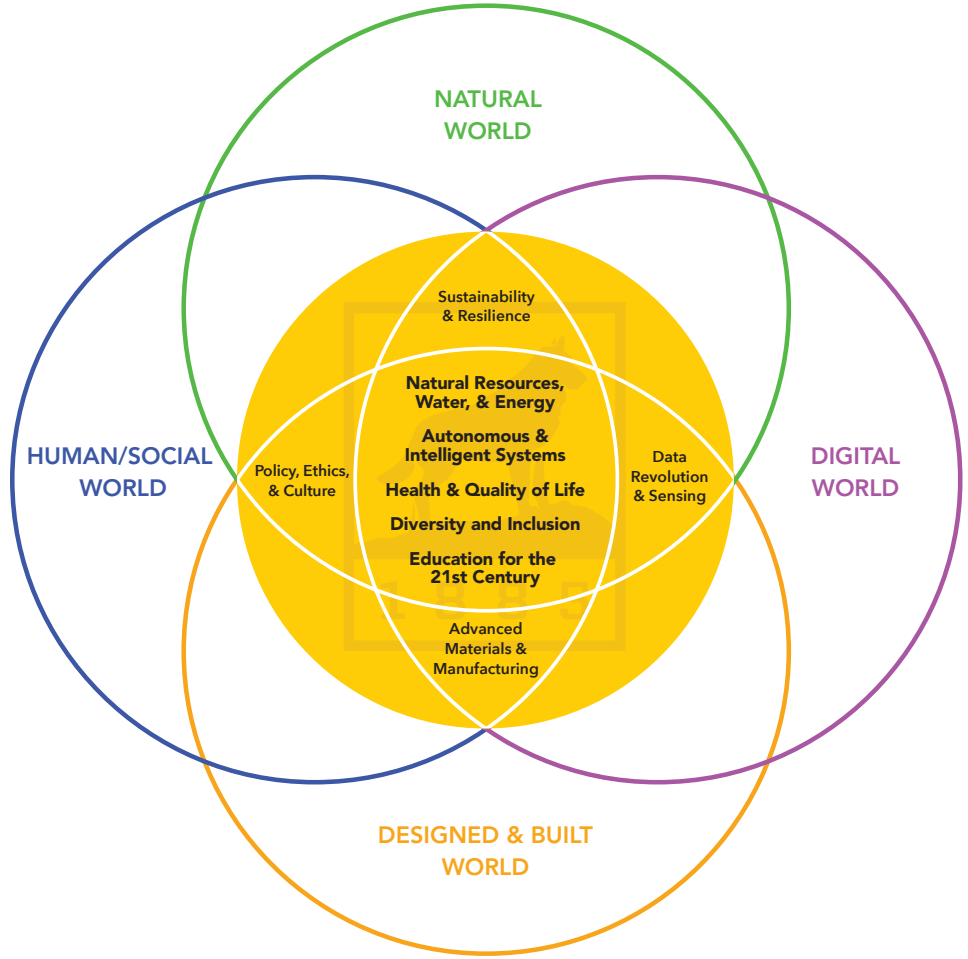
DEVELOP
solutions to natural resource, water, and energy problems

BUILD
innovative autonomous and intelligent systems

CREATE
technological solutions to enhance human health and quality of life

PREPARE
culturally receptive leaders for a diverse world

REDEFINE
education for the next generation



Digital Transformation Education Critical to Industry

Redefining Education for the Next Generation

Wayne Gersie
Vice President for Diversity and Inclusion

Enhancing diversity and inclusion for all at Michigan Tech was one of the nine initiatives that emerged from the Tech Forward process. As part of that initiative, the University hired our first vice president for diversity and inclusion in the fall of 2020. Wayne Gersie has been recognized for his service with multiple awards and has provided service to committees, panels, and as a keynote speaker to groups such as the National Association for Multicultural Engineering Program Advocates, American Society of Engineering Education, Black Engineer of the Year Award, Society for Hispanic Professional Engineers, The Tapia Conference and the National GEM Consortium.

The Brookings Institute 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 subjects—graduation rates, student loan repayment rates, and the difference between predicted earnings and graduates' actual earnings at mid-career and over a lifetime.

Gersie works closely with academic leaders across campus to help ensure that changes to the existing instructional programming, such as adding new programs or eliminating underutilized programs, are driven by student demand and industry needs. The growing interest among students in majors in transdisciplinary—or convergent—fields (particularly at the graduate level) is the basis for Michigan Tech's Five-Year Capital Outlay Program. The priority project, the Center for Convergence and Innovation, will address the needs associated with growth in student interest in preparing for leadership roles related to Industry 4.0.

Digital Transformation Education Critical to Industry

Redefining Education for the Next Generation

Students across campus benefit from the guidance and mentoring provided by outstanding faculty who are committed to students' success.

Sonia Goltz, professor of organizational behavior in the College of Business, is the inaugural holder of the new Mickus Endowed Faculty Fellow in Business Impact. Dr. Goltz is Michigan Tech's 2021 Diversity Award winner. Her research focuses on gender equity issues and related topics—such as social power and equity. She is one of the core members of Michigan Tech's ADVANCE team, which leads a multifaced initiative funded by the National Science Foundation. Goltz is known for bringing innovation to the classroom through the use of new and emerging teaching methods and tools.

Linda Ott, professor of computer science and chair of the Department of Computer Science, received Michigan Tech's inaugural Diversity Award in 2014. She was a founding organizer of the Michigan Celebration of Women in Computing and of the National Center for Women & Information Technology (NCWIT) Aspirations in Computing Michigan Affiliate Award for high school women. Ott led project teams for Michigan Tech's NCWIT Pacesetters and the NCWIT Extension Services for Undergraduate Programs. She received a NCWIT Extension Service Transformation Award Honorable Mention in 2020 for excellence in recruiting and retaining women in computing-related fields.

Digital Transformation Education Critical to Industry

Delivering Sustainable 21st Century Education

Michigan Tech intends to use mass timber as a main construction material for the Center for Convergence and Innovation. Mass timber consists of lumber glued together to form large structural elements. Michigan's forests are nearly 70 percent hardwoods, and mass timber construction provides a market for this important resource. Michigan Tech is a leader in the development of mass timber made from hardwood species in Michigan.

As the fight against climate change intensifies, mass timber is causing a revolution in the construction sector because growing renewable wood absorbs carbon from the atmosphere—and wood buildings can store carbon for hundreds of years. Wood has the potential to turn the construction sector, currently responsible for nearly 40 percent of the world's greenhouse gases, into a carbon-neutral or -negative sector when combined with other technologies.

Regional investment in mass timber manufacturing will have a dramatic effect on our rural communities. Industry sectors that depend on the forest are the largest job suppliers in rural northern Michigan. As the demand for paper declines, mass timber presents a new market for forest products. Demand for mass timber within the state will ultimately drive investment and employment in Michigan forest products, manufacturing, and engineering.

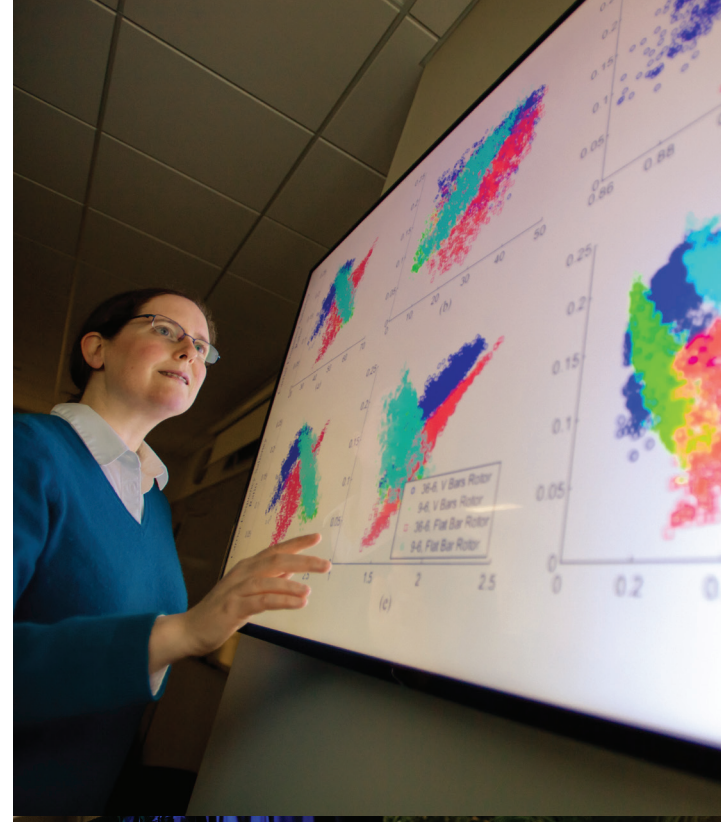
Mass timber is an advanced design and building technology and directly aligns with Michigan Tech's goals for cutting-edge innovation.

Digital Transformation Education Critical to Industry

Delivering Hands-on, Real-world Learning Opportunities

Revolutions in computing, connectivity, sensorization, and business are driving **digital transformation** throughout the economy. Yes, digital transformation is a buzzword—and it's also a new reality for every industry. There are many definitions, but perhaps the best is from the Enterprisers Project, which defines digital transformation as the "integration of digital technology into all areas of a business resulting in fundamental changes to how businesses operate and how they deliver value to customers." However, they caution that cultural change is the most difficult—and most important—ingredient. Success critically depends upon an agile workforce that embraces change (Harvard Business Review, March 2019). Unfortunately, neither universities nor companies are currently doing a very good job of preparing this workforce. The Center for Convergence and Innovation will address this critical unmet need, converging the proximity of our business, data science, and computing programs. Students and departments from the Colleges of Business and College of Computing will be commingled into one digital transformation building—the Center for Convergence and Innovation. **This one-of-a-kind building will be uniquely positioned to create Michigan's workforce of the future.**

Michigan Tech is already leading in this space. Created in 2019, our College of Computing is Michigan Tech's fastest growing unit and it remains the only academic college focused solely on computing and data science in the state of Michigan. And, as the only college of business embedded in a public technological university in the state, our College of Business faculty and curriculum are focused on technology innovations in business and entrepreneurship. Our faculty are primed for this combination. **The Center for Convergence and Innovation will position Michigan Tech even further ahead in preparing the state's workforce.** Our programs and research in data science, fintech, management information systems, and data security will obviously benefit from this proximity. Moreover, proximity and cooperation will promote new and deeper collaborations throughout the two colleges and, most importantly, between our students.



Faculty Research Integrated Into Learning

Critical for Technological Innovation and Economic Development

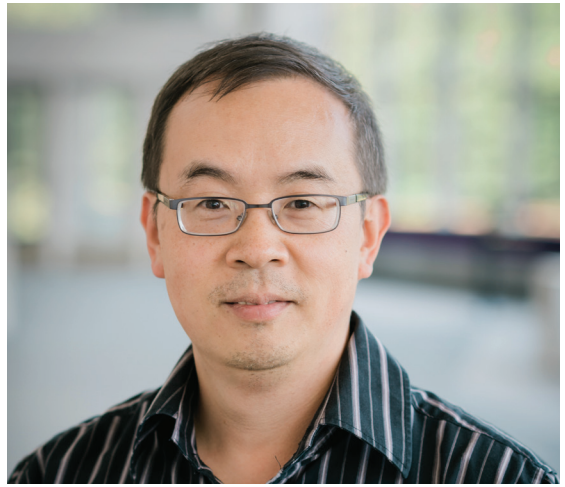
Jeff Wall is an associate professor in the College of Business. His research and teaching interests include artificial intelligence and machine learning for business. He recently held the Richard and Joyce Ten Haken Faculty Fellow position.

Laura Brown is an associate professor in the Department of Computer Science and the current director of Michigan Tech's interdisciplinary graduate program in data science. She is a co-advisor for Women in Computer Science (WICS).

Mari Buche and other researchers are currently working to provide recommendations to improve the gender balance in STEM fields. She also tries to answer the question, "What does it mean to be titled 'systems analyst,' when you were hired as a 'programmer?' And, if you do not make the transition to 'system analyst,' what will you inadvertently do to your career?"

Faculty Research Integrated Into Learning

Critical for Technological Innovation and Economic Development



Yu Cai, a professor in the College of Computing, also coordinates the BS in Computer Network and System Administration and the BS in Cybersecurity degree programs. He is also the director of the Computing Education Center within Michigan Tech's Institute of Computing and Cybersystems.

Ricardo Eiris leverages new technologies to explore the research areas of human-technology interaction, real/virtual humans in mixed reality, cyberlearning, and human-computer/robot collaborations. Eiris is currently an assistant professor in our collaborative construction management program.

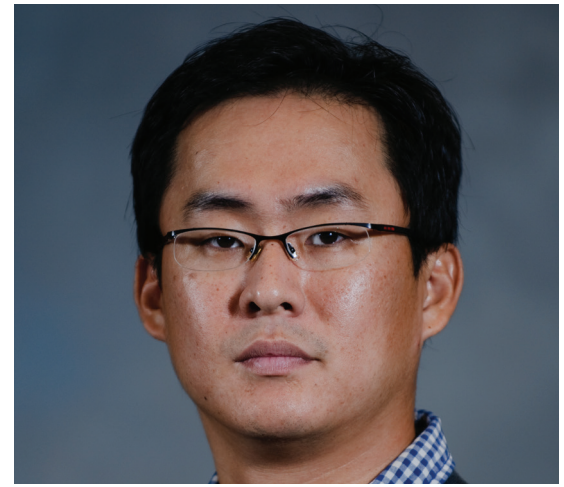
Dennis Livesay leads the College of Computing as the Dave House Endowed Dean of Computing. Throughout his career, he has worked across disciplinary boundaries—spanning biophysics, chemistry, computing, and data science.

Faculty Research Integrated Into Learning

Critical for Technological Innovation and Economic Development

Elham Asgari holds a BS in Electrical Engineering, Master of Business Administration degree, and a PhD in Business Management—a true example of how business and computing converge. An assistant professor of management and entrepreneurship, she also holds the Charles C. and John G. Gates Endowed Professorship in Entrepreneurship and Innovation.

Alex Sergeyev believes "a mechatronics degree is the key to your successful professional future." Sergeyev is a professor of mechatronics, electrical, and robotics engineering technology (MERET) and director of the FANUC Certified Industrial Robotic Training Center. His research focuses on developing advanced industrial robotics platforms and controls.



Soonkwan Hong believes in utilizing innovative technologies as a key piece in successful teaching methods. And in one of his research areas, he focuses on algorithmic consumer culture. Hong is an associate professor of marketing in the College of Business.

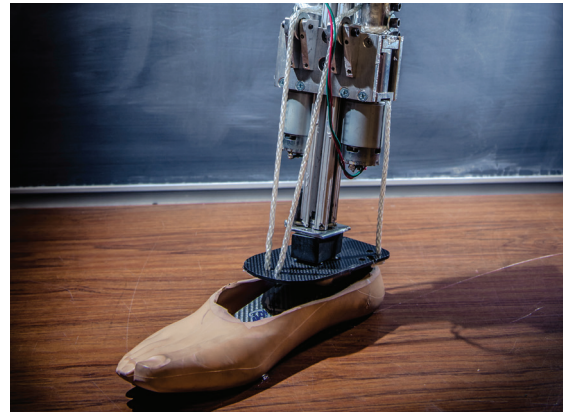
Digital Transformation Education at Michigan Tech

Engineering Management

Only 28 institutions in the US offer this at the bachelor's degree level and Michigan Tech is one of only two in Michigan.

MTU's program (MS and BS) prepares students to meet the growing industry demand for talent that can bridge the STEM/business divide.

Graduates possess firm STEM technical skills accompanied by strong underpinnings in business.



Mechatronics

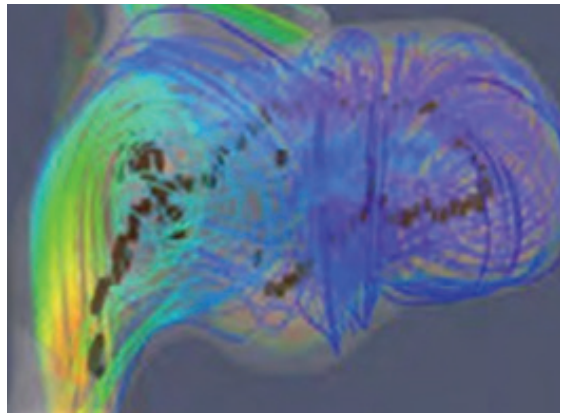
Mechatronics is the convergence of mechanical and electronic systems, which is becoming ubiquitous in modern life.

Just as prostheses improve mobility and agility, artificial intelligence is helping industries to become increasingly agile in responding to consumers' needs.

Cybersecurity

Michigan Tech's cybersecurity program is one of our fastest-growing programs, and is the only one of its kind in the region. The curriculum combines both theory and applied research across multiple computing disciplines, providing students a unique focus.

Digital Transformation Education at Michigan Tech



Computational Science and Engineering

Michigan Tech's PhD program in computational science and engineering engages faculty and students in interdisciplinary research and teaching, focusing on computational aspects of science and engineering.

Master of Business Administration (MBA)

Ranked by University HQ as the No. 5 Best Michigan MBA School, Michigan Tech's program provides students with both foundational skills and cross-disciplinary studies at a high-quality engineering and technological research university. This AACSB (Association to Advance College Schools of Business) accredited graduate program is designed to provide students with the comprehensive education needed to succeed.

Marketing

The marketing program at Michigan Tech offers a technology-driven and creativity-charged curriculum featuring marketing analytics, brand management, digital media marketing, and much more. It's the only branch of business to prepare innovative professionals through hands-on experiences in integrated marketing communication, new product development, consumer behavior and culture, and sales technology.

Digital Transformation Education at Michigan Tech

Software Engineering

The US Bureau of Labor Statistics expects software development positions to increase 22 percent by 2029. Michigan Tech's software engineering program prepares graduates for a wide variety of development roles, including computer games, business applications, operating systems, and network control systems.

Management Information Systems (MIS)

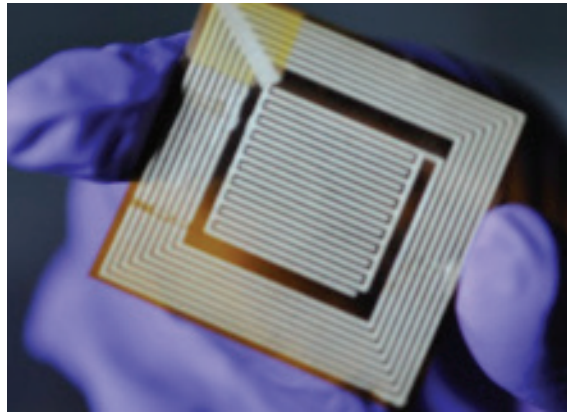
There are not enough students to meet industry need, creating a nationwide demand. Michigan Tech students in this program obtain hands-on experiences and professional education. Courses in programming, usability, network administration, entrepreneurship, graphic and information design, technical and professional communication, finance, and marketing help prepare MIS grads as team players, project managers, and problem solvers.

Health Informatics

Biometric developments, cybersecurity for healthcare industries, intelligent medical devices, and biomedical imaging all require the integration of digital technologies with healthcare.

Michigan Tech's master's program is ranked sixth in the nation among the Top 10 Online HI Programs by BestOnlineSchools.org.

Digital Transformation Education at Michigan Tech



Computer Science

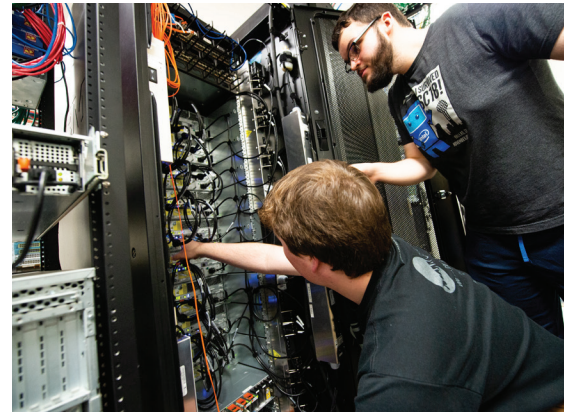
Michigan Tech's computer science program provides four concentrations: computer science, computer systems, applications, and game development.

Computer science prepares students for a career in computing, science, engineering, or graduate school. Computer systems focuses on designing, developing, and maintaining computing systems. Applications centers on problem-solving. Game development prepares students for careers in the game industry and related fields.

Accounting

Students benefit from studying accounting at a leading STEM university through cross-disciplinary applications led by nationally recognized professors. Undergraduates can select data analytics as a concentration.

Certificates in accounting analytics and forensic accounting are also available within the Michigan Tech MS in Accounting program.



Computer Network and System Administration (CNSA)

The Computer Network and System Administration bachelor's degree prepares students for some of today's most challenging and exciting career areas: computer network design, administration, and security. Michigan Tech graduates are in high demand and command excellent starting salaries.

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. 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.

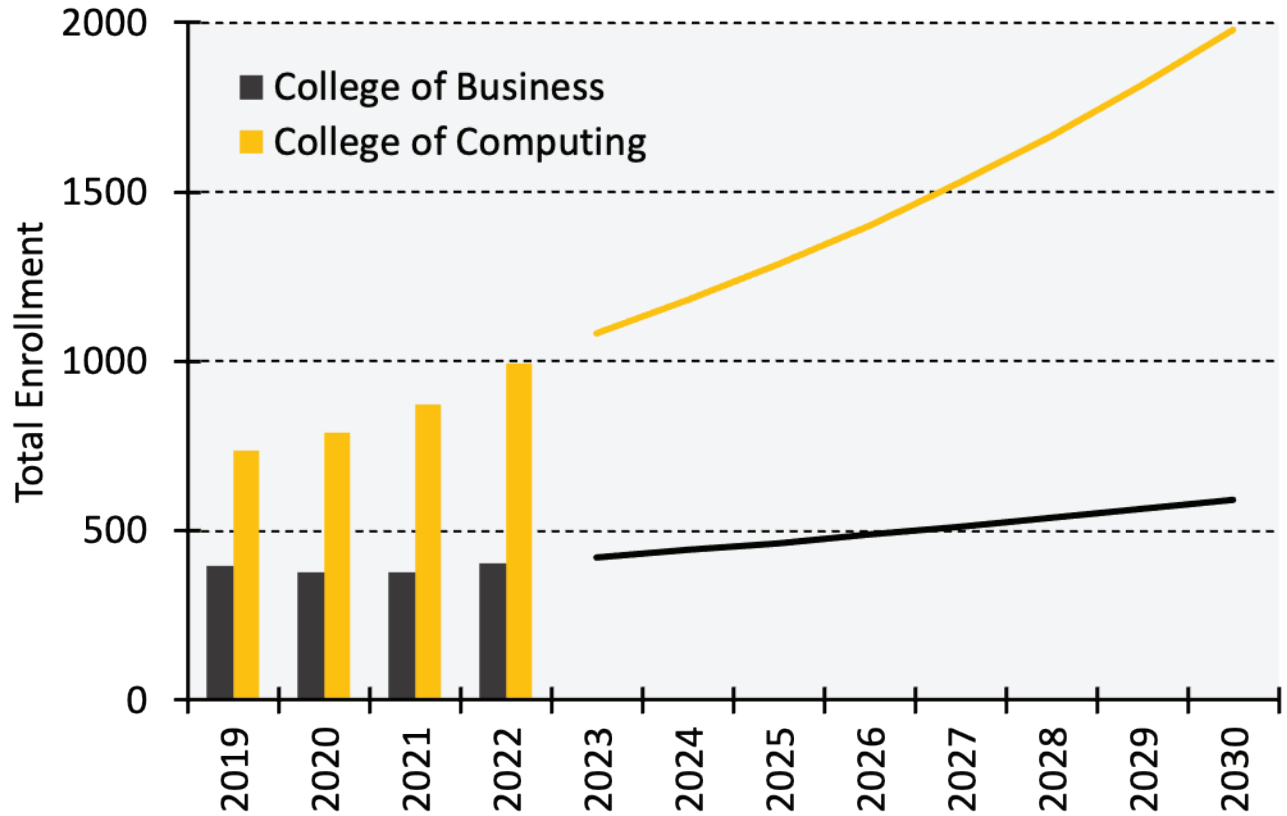
The College of Business currently has 10,911 net assignable square feet (NASF) and the College of Computing has 25,602 NASF. Analysis of projected enrollment increases (p. 45) indicates that the two colleges combined require a total of 325,000 NASF to serve their 2025 projected enrollment and research activity (p. 46).

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 the National Science Foundation (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 renovation), 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

Enrollment Growth in the Colleges of Business and Computing

The Colleges of Business and Computing have the two fastest-growing enrollments at Michigan Tech. Current space is inadequate to serve the projected increase in student numbers. These two colleges combined require 325,000 square feet to service the projected enrollment and research growth.

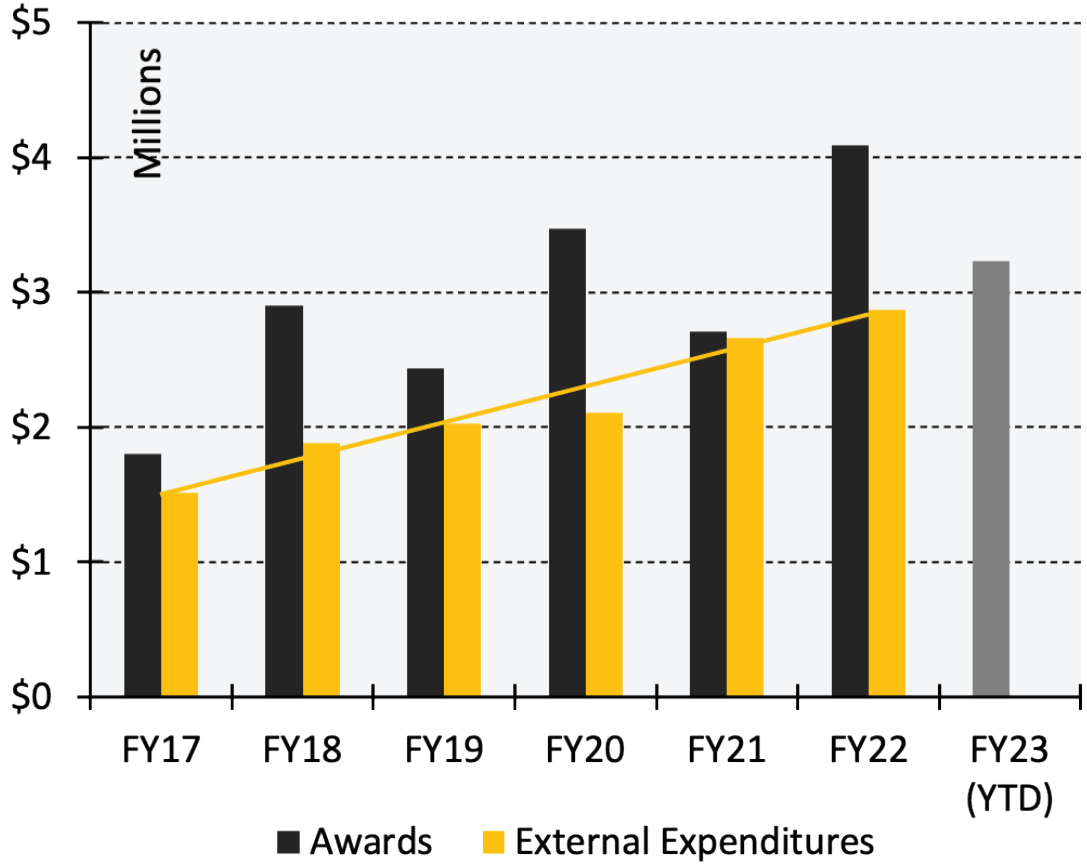


Continuous Return on Investment

Computing and Cybersystems Research Growth

The Institute of Computing and Cybersystems (ICC) is focused on supporting and advancing computing research at Michigan Tech. The ICC includes over 50 different faculty from more than 20 different academic disciplines. Member scientists are collaborating to conduct impactful research, make valuable contributions in the field of computing, and solve problems of critical national importance.

The figure here highlights that both externally funded research expenditures and new research grants are growing rapidly. In fact, while we are only two months into the current fiscal year, we have already brought in 80 percent of last year's record total.



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 is 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.

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 addressed the highest-priority needs at that time. With the H-STEM Engineering and Health Technologies Complex—Phase I in active construction to address these needs, our focus moves to the Colleges of Business and Computing, which require our attention in order to meet the needs of anticipated enrollment growth within those areas.

Continuous Return on Investment

Priority Need: Business

Top 50

student-run investment funds with over $2M in assets

1st

Applied Portfolio Management students have placed first in global investment competitions eight times including in 2022

The College of Business occupies two floors of the Academic Office Building (AOB). The AOB opened its doors in 1909, serving as the main administration, mineral museum, and library until the mid-1960s. After the new library and the new administration building were built, the AOB became home to the College of Business in 1970. The AOB is not ADA-compliant and it would be extremely cost prohibitive to bring it up to code. An antique freight elevator is the only means of accessible transportation to portions of the building, while many other areas in the building—including the dean's office, the academic advising office, and the main conference room—are completely inaccessible.

Currently, the College utilizes less than 11,000 square feet of space. Given the building's original purpose, even after remodeling, the layout is insufficient in many ways. The building lacks university classrooms and has only 220 square feet of open lab space for undergraduate students (i.e., less than one square foot of space per student). Faculty must teach in other buildings, and collaboration between students and faculty is often difficult when office space is not located near teaching spaces. The current space certainly will not meet the needs of the digital transformation education of the future.

Michigan Tech hosts the only college of business embedded in a public technological university in the state of Michigan, requiring that the College of Business faculty and curriculum focus on technology innovations in business, computing, engineering, and entrepreneurship. Michigan Tech's business faculty are primed for the cross-college collaboration necessary for preparing the workforce needed throughout the 21st century. Physical infrastructure has significant impact on enrollment, recruitment, and entrepreneurial partnerships. One example linking a physical infrastructure to tangible outcomes is the Applied Portfolio Management Program. Through a generous donor, the College of Business renovated space for a finance trading room. This physical investment in the finance area has produced stellar results.

The Center for Convergence and Innovation would provide advanced technology classrooms to allow for mixed-modality teaching and open physical spaces that will intentionally promote collisions between faculty and students from across both the College of Business and the College of Computing. Breakout rooms, reconfigurable spaces, and theme-based shared digital lab facilities will be spread throughout.

1,250

high school students who participated in the Husky Investment Tournament since fall 2019

Continuous Return on Investment

Priority Need: Computing

95%

computing enrollment growth since 2014

13.6%

growth in computing programs last year

2,000

computing enrollment goal for 2030

Kanwal and Ann Rekhi Hall was built in 2005 and currently houses most of the College of Computing, including all of the Department of Computer Science. In terms of number of majors, computer science is the second-largest academic degree and third-largest department at Michigan Tech. The building is currently functional and well-utilized, especially its three computer classrooms and Computing Learning Center. However, the facilities do not support pair-programming, which is the current industry standard. Moreover, at only 37,600 gross square feet, the facility is too small for current computing enrollments, and definitely cannot support additional growth or new specialties (i.e., a secure Internet of Things teaching and research environment).

Teaching labs for programs in the Department of Applied Computing are housed in the Electrical Energy Resources Center (EERC). Lab spaces for electrical engineering technology and mechatronics have been recently updated, including the creation of our Mechatronics Playground. Shared with the Department of Manufacturing and Mechanical Engineering Technology, the Playground is a point of pride and provides hands-on opportunities for our students to learn about modern industrial automation tools.

However, the computer lab and server room in the EERC that support the computer network and system administration degree–both of which are regularly utilized by students–are in need of updating. In particular, the server room is obsolete, poorly cooled, and undersized. The teaching lab is similarly outdated and does not support collaborative learning and related teaching innovations.

A lack of physical space for faculty and student research is another critical challenge. Most dedicated computing research labs are in Rekhi Hall, but with only 155 square feet per faculty across both buildings, a lack of physical space is severely limiting growth. Moreover, the server room in Rekhi Hall that supports our research in high-performance computing remains at less than half capacity due to fundamental design problems and HVAC failures.

Continuous Return on Investment

Priority Need: Digital Transformation Partnerships

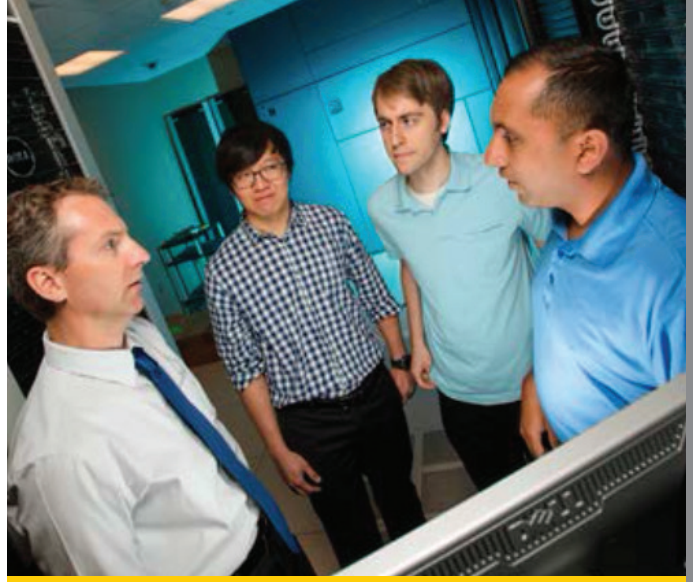
Computing research at Michigan Tech inextricably links the College of Computing and the Institute of Computing and Cybersystems (ICC). The ICC promotes collaborative, cross-disciplinary research and learning experiences for the benefit of MTU and society at large. Nearly all faculty from the College of Computing belong to the ICC, but it also hosts more than 30 faculty from outside the College, making it one of the most far-reaching research units on campus. The ICC is additionally unique in that it is composed of six subcenters, corresponding to (i.) computing education; (ii.) cyber-physical systems; (iii.) cybersecurity; (iv.) data sciences; (v.) human-centered computing; and (vi.) scalable architectures and systems. This year, both the College of Computing and ICC set records for external research expenditures.

The ICC has no physical home, which is hampering additional growth. The College is currently trying to leverage what research space it has to advance both computing research and the ICC, but the College does not even have enough space to appropriately support its current research faculty. Phase II of the Center for Convergence and Innovation will create a physical home for the ICC to advance collaborative digital transformation research even further, especially in terms of business analytics, management information systems, and fintech research.

In order to better support Michigan business, the future vision for the Center for Convergence and Innovation provides spaces to co-locate industry partners in the same building as our academic programs. Michigan Tech will create a unique and vibrant environment where students work hand-in-hand with faculty and corporate business leaders to both create and implement innovative digital transformation efforts. In this way, students will develop advanced workforce training before graduation and develop stronger connections to and affinity for our Michigan-based business partners, giving them a leg up in the high-tech workforce race. MTU prides itself on our applied and experiential learning model, and this will take us to the next level.

$5M

five-year research expenditures target



$4.1M

ICC research awards in FY22

$3.2M

ICC research awards in the first two months of FY23

Continuous Return on Investment

Priority Need: Digital Transformation Partnerships

The Center for Convergence and Innovation (CCI) cements Michigan Tech's leadership in the Fourth Industrial Revolution by integrating our computer and business programs to better prepare the modern workforce that Michigan-based industries desperately need to stay competitive, including software engineering, computer science, cybersecurity, data science and business analytics, fintech, health informatics, and tech-based entrepreneurship.

Eventually contributing to the academic preparation of over one-third of Michigan Tech's students, the University intends to fund this 175,000-square-foot facility project above the required match at a level equal to 57% of the total $70,000,000 project.

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 three 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.

The H-STEM Complex—Phase I project involves limited repurposing of this building, providing the opportunity to utilize its well-maintained shell. The new addition's capabilities will strengthen the University as a whole.

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.

90%

students participating in co-ops, internships, or Enterprise

8th

rank of chemical engineering among highest-paying careers

3

semesters of student experience in a simulated chemical plant

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 the last five years, the GLRC has increased awarded projects by 108 percent (from 37 to 77), and gone from $3.3 million to $9.2 million in awarded funds, an increase of 182 percent.

Like the GLRC, the H-STEM Complex—Phase I, currently in construction, will address growing needs at Michigan Tech. The H-STEM Complex—Phase I 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.

Michigan Tech ranks highly in research and development expenditures in Michigan.

Faculty and researchers launch new interdisciplinary endeavors and collaborate with fresh water experts and oceanographers from around the world at the GLRC (upper left and right.)

The new H-STEM building (bottom) will provide state-of-the-art teaching and research labs for health-related STEM studies.

Mandated Facility Standards

Utility System Condition

The Facility Assessment and Deferred Maintenance Capital Planning Report of 2011, prepared by SHW Group Inc., provided additional guidance regarding utilities and infrastructure. A new comprehensive campus master plan led by SmithGroup provides a prioritization framework for the future development of the campus.

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 percent 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. 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. We are currently in the first year of a three-year burner control upgrade project, which will improve 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.

Michigan Tech is a Green Power Partner. We've joined the EPA Green Power Partnership and are using 18,002,174 kilowatt-hours of green power annually.

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. A FY2022 project updated generator control to improve reliability of the system. 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 percent 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 30 percent below what it was in the early 2000s 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 5,300,000 gallons annually. Water is provided by the City of Houghton. In 1996, the City of Houghton completed construction of a new water plant and continues to make distribution improvements that will meet Michigan Tech's needs into the foreseeable future.

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. Following the 2018 Father's Day Flood, riverine and urban flooding was identified as a critical vulnerability. As recommended in the 2020 MTU Multi-Hazard Mitigation Plan, a campus drainage assessment plan is needed to understand backup and flooding. A 15-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. Regular inspection and maintenance of these aging systems will be required in the near future.

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 repairing and replacing sidewalks on the main campus. 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. In 2021 and 2022, the control system for the campus-wide generators was replaced along with new burner controls on the main boiler.

Mandated Facility Standards

Campus Sustainability Initiatives

Michigan Tech is investing heavily in improving the sustainability and resilience of our financial, built and natural environments. The Tech Forward initiative Sustainability and Resilience is in year three of a five-year investment aimed at positioning the institution as an internationally recognized academic thought leader in the Fourth Industrial Revolution. The initiative has made great strides through engaging stakeholders across campus and the community and strategically investing in solutions-based research, innovative education, and campus sustainability improvements.

Michigan Tech also hired its first director of sustainability and resilience in September of 2021. Reporting directly to the president for administration, the director's charge is to provide leadership for innovation and to enhance ongoing campuswide sustainability and resilience efforts in academics, research, and campus operations. The director's early focus is to incorporate sustainability and resilience considerations into the University's strategic plan and campus master plan to ensure these themes are at the heart of our campus identity moving forward.

Our cooperative efforts to advance sustainability and resilience are beginning to pay off. We earned a Silver rating from the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment and Recording System (STARS) in the fall of 2020. Students, faculty, and staff have conducted a comprehensive gap analysis and are actively pursuing a path toward a Gold rating for our next submission in 2023.

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. Michigan Tech has recently added a director of sustainability and resilience to lead these efforts.

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; and 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 percent, saving $20,000 per year. The GLRC, the newest building on campus, is heated by waste heat recovered from boiler exhaust gas in the central heating plant, reducing the heating cost for the building by over 70 percent. Michigan Tech is one of only three colleges and universities in Michigan recognized by the USEPA Green Power Partnership for use of sustainable electricity. H-STEM Complex—Phase I is designed to achieve LEED Gold certification.

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 percent as compared to the local utility rate. Fifty percent of the electricity purchased under our contract is from renewable sources.

Land and Capacity for Future Development

Proposed future campus layout from the recently approved Campus Master Plan.

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 advises 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.

In the spring of 2021, the University commenced upon an 18-month campus master planning process titled "Building the Future," which involved three sequential phases—Understand, Explore, and Realize. The University worked with SmithGroup, a nationally recognized architectural firm.

This rigorous process engaged vast numbers of campus and community constituents and identified pressing campus and urban issues, analyzed facility assets, and conducted campuswide qualitative and quantitative analyses. The plan built upon historical analyses, including the "Fresh Look" Scenarios Plan Report of 2006 as well as the Campus Master Plan 1999 Amendment. The Campus Master Plan includes supplements containing information on utilization, identifying footprints for potential academic, research, housing, and recreation building sites. Analyses include potential land acquisition in areas local to the core campus.

The new Campus Master Plan identifies research, academic, and student life priorities for growth over the next 15-20 years and was approved by the Board of Trustees on October 7, 2022.

State Building Authority Obligations

Existing Obligations to the State Building Authority

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

Building	Lease Began	Lease Ends
Center for 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 FY2024 Capital Project Request

Rank	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)
1	Center for Convergence and Innovation (CCI)	175,000	0	$70,000	$29,900	$40,100	2023/2026

Center for Convergence and Innovation: The Center for Convergence Innovation (CCI) will help position Michigan's economy as a leader in digital transformation through cutting-edge research, workforce development, and strategic partnerships. According to the Michigan Bureau of Labor, the state expects an 8.5 percent increase in workforce demand for business and financial operations, a 9.1 percent increase for management, and an 11.9 percent increase for computer and mathematical operations—cumulatively generating over 58,000 projected new jobs by 2030. Michigan Tech's College of Computing has had consecutive years of greater than 10 percent year-over-year growth (with 12 percent growth over Fall 2021) and is poised to double in size by the end of the decade. Michigan Tech's College of Business has had 8 percent growth in enrollment over Fall 2021. The CCI also aligns with Michigan's "Sixty by 30" and economic prosperity goals by supporting innovations in computing, connectivity, sensorization, and business in this new age of digital transformation.

Congruent with the state's long-term economic transformation, the project will provide a place to converge existing business, data science, and computing programs to spur new degree programs, entrepreneurial projects, outreach to businesses and communities, increased industry and government funding for research, and the development of a highly agile workforce prepared to implement digital transformation solutions throughout Michigan. Students and employees from the College of Business and College of Computing will be commingled to promote cross-disciplinary collaboration, innovation, and entrepreneurship.

The design of the building will intentionally promote connections among faculty and students from both colleges. Reconfigurable spaces and theme-based shared digital lab facilities will be spread throughout. Additional features of the building will include convergence centers of excellence (fintech, cybersecurity, data science and business analytics, health informatics, and tech-based entrepreneurship); active-learning, computer-learning, and remote-learning classrooms; flexible collaboration spaces open to all; student learning centers; open-access conference rooms; a reconfigurable digital makerspace; an entrepreneurship training hall; and large-, mid-, and small-sized lecture halls. In addition to meeting our convergence needs, this building will facilitate continued aggressive growth. The estimated investment of $70,000,000 will allow Michigan Tech's Colleges of Business and Computing to realize their combined potential and ensure Michigan's future economic prosperity.

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 catchup expenses."

In 2014 Tech began funding deferred maintenance, with an initial annual budget of $500,000. Since that time, just over $14,400,000 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 $125,000,000.

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, and 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 a 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 $89,000,000.

Impact from Deferred Maintenance and Structural Repairs

There is a long-term maintenance plan in place to address the deferred maintenance backlog. In FY2023 $4,000,000 in deferred maintenance projects was budgeted, with a planned increase each year until an annual total of $8,000,000 is reached and maintained.

A funding model for maintenance and renewal has been developed by the Association of Physical Plant Administrators (APPA) and the National Association of College and University Business Officers (NACUBO). A benchmark for annual funding should equal 2 percent of the building replacement value.

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 $1 million renovation to the chemistry undergrad labs addressed both deferred maintenance issues while raising the spaces to align with the University's reputation. These spaces support a large number of students in the engineering and science majors. Elevator upgrades and replacement continue to be a priority along with building envelope and infrastructure. Over 2,000 linear feet of failing domestic water pipe was replaced in the Student Development Complex, the ice arena roof was replaced, and the passenger elevator in Wadsworth Hall was replaced, along with three elevators in the EERC. All bathrooms in Douglas Houghton Hall were renovated to create private showers.

Current investments in the campus utility systems, such as the campus generator controls, boiler burners and controls, and steam tunnel repairs and replacements, increase our reliability and resilience. Small in visibility or wow factor, but large in impact, these are the types of projects that continue to need our attention.

Current Deferred Maintenance

Relative Estimate of Michigan Tech's Current Deferred Maintenance Backlog

Status of Ongoing 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 for Integrated Learning and Information Technology	Completed
Environmental Sciences and Engineering Building	Completed
Great Lakes Research Center	Completed
Performing Arts and Education Center	Completed
H-STEM Engineering and Health Technologies Complex—Phase I	In Construction

Rate of Return on Planned Expenditures

Enrollment Growth Helps Rate of Return

A strong return on investment for the Center for Convergence and Innovation is supported by data on recent enrollment growth in both the College of Computing and College of Business. Since 2014, both colleges have grown considerably. Enrollment in College of Business graduate programs has more than doubled over that period with 2022 enrollment at a record high. Similarly, enrollment in all computing programs has increased by 95 percent, with an average of 10 percent in annual growth. This year alone, enrollment in the College of Computing increased over 12 percent over fall 2021, with five different programs growing by more than 75 percent. The rates of growth in enrollment in data-driven and high-demand majors housed within both the College of Business and the College of Computing are anticipated to continue to grow far into the future. As a result of this growth, the project will not impact student tuition. The costs associated with the new building will be covered by increased revenue resulting from increased enrollment in business and computing disciplines. Further, and importantly, Michigan Tech will only be able to provide access to these high-demand programs to students who are interested in pursuing degrees in these fields if we have the types of spaces and facilities that will be included in the Center for Convergence and Innovation.

Michigan Tech has worked with its capital advisors to pro forma debt service schedules and overall capacity for the project in an effort to ensure that current debt capacity exists for the University's match while maintaining our A1 credit rating. Based on projected increases in both enrollment and research funding, the University anticipates that the project will not have a negative impact on University finances, including both debt capacity and bond rating.

The rate of return on this project, like others, takes into account planned maintenance to increase efficiencies and eliminate waste. For example, in the University's recent 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 for both the H-STEM project and the proposed Center for Convergence and Innovation.

Collaboration in this building will harness innovations in computing, connectivity, sensorization, and business intelligence, which will be work that enables Tech to strengthen Michigan's ability to serve industries around the state and advance their competitive advantage. The design of the $70 million facility is not one that just happens to teach both business and computing, but one that looks, feels, and behaves like the places students will be working in as they engage in the Fourth Industrial Revolution.

Alternatives to New Infrastructure

Michigan Tech always considers alternatives to new construction before creating new infrastructure. Since our capital outlay from the State of Michigan in 2008 for the Great Lakes Research Center, we have repurposed or expanded existing spaces to address needs.

For example, Michigan Tech's Esports gaming facility was constructed in two underutilized racquetball courts. The new two-story gaming arena is home to the varsity Esports team. The ores research facility in the Minerals and Materials Engineering Building was repurposed to house the Planetary Surface Technology Development Lab, aka, HuskyWorks. The space is used to simulate the lunar surface and environment for ongoing research of applications related to exploring the moon. Over the past few years the undergraduate chemistry labs were renovated with new casework, lighting, hoods, IT/AV upgrades, and infrastructure. This strategic renovation eliminated the need to build new space.

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. The main office space of the ATDC was repurposed to house the University's Advancement Department, which located them on campus in the heart of active research. 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 were located in a more congested area. Additions and renovations to the existing Chemical Sciences and Engineering Building have also been made. The new Chemical Stores facility was added to the building, and undergraduate teaching laboratories have recently been updated. As our newly adopted Campus Master Plan asserts, it has become apparent that our current space is not sufficient to address the trajectory of the University.

Michigan Tech is a careful and conscientious steward of its facilities, updating and upgrading current spaces whenever possible. In the case of the proposed Center for Convergence and Innovation project, the magnitude of changes needed based on the large growth projections of the Colleges of Business and Computing require the addition of a new space. Currently, the world's most successful companies are—at their core—computing and data intensive. By combining the College of Business and the College of Computing into a shared center, Michigan Tech will be able to address the digital transformation occurring across the entire economy. Initial discussions involved the creation of two new buildings to house the College of Business and the College of Computing separately. By strategically placing these colleges together, they will be able to share support spaces and building infrastructure. This "sharing" concept will help reduce building square footage needs and energy costs for the University as a whole.

Alternatives to New Infrastructure

The only possible alternative to the proposed project would involve complete redesign and renovation of the physical spaces that currently house the College of Business and College of Computing. However, the age of the Academic Office Building, which currently houses the College of Business, makes renovation nearly impossible. Furthermore, the current construction and layout lends itself to be repurposed into administrative space, which was the original intent for the building when it was built in 1908.

In order to meet the needs of students and faculty in both colleges, the renovation option would also require that many existing classrooms, offices, and support areas be repurposed into open and flexible collaboration spaces. This approach would result in an overall decrease in classroom, office, and support space, which would in turn lead to substantial overcrowding of remaining space within the Colleges of Business and Computing, as well as other colleges. Renovations to both the College of Business and the College of Computing would be very costly, making new construction the preferred approach to creating the amount and types of spaces needed.

The need for additional space is exacerbated by the fact that Michigan Tech is growing. Michigan Tech has aggressive growth goals that will allow the University to continue to support the ever-evolving tech-focused economy. During fall semesters of 2021 and 2022, the University enrolled its largest entering classes since 1982. Because of current and planned future growth, Michigan Tech's newly adopted Campus Master Plan identifies short- and long-term priorities for improvement of our physical plant. Two conclusions that emerged from the planning process are that the University needs more flexible space to support students' and faculty members' collaboration and that there is substantial need to update laboratories and classrooms. Most of Michigan Tech's infrastructure was built during the middle of the 20th century; the building that currently houses the College of Business is much older.

Like many buildings on campus, the areas housing the College of Business and College of Computing were designed at a time when the importance of open collaboration spaces, flexible classroom designs, and the concept of putting research on display was not fully recognized. Although the University is already planning to update and repurpose existing spaces in many buildings to enable and promote the types of informal and formal collaborations that lead to innovation, construction of the Center for Convergence and Innovation will help to address the University's overall need for additional space.

Maintenance Schedule

Maintenance Schedule in Excess of $2,000,000

FY2023-FY2027 Maintenance Schedule
Scheduling of maintenance projects is informed by data collected from annual and biannual reporting on facility assessment. Project priorities are responsive to new safety standards, national benchmark goals for research spaces, and overall maintenance needs. The newly adopted Campus Master Plan provides another source of data to use in the scheduling of maintenance projects. 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 bathroom renovation project in Douglass Houghton Hall ($2,300,000). Additionally, as a result of the federally declared flooding disaster that took place on June 17, 2018, the University has undertaken a number of repair and remediation projects, including reconstruction of the garden level of the Administration Building ($2,400,000) and the ski hill restoration to be completed in fall of 2022.

The University also completed another 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. Other projects currently in progress include the addition of a second passenger elevator to the Dow Environmental Sciences and Engineering Building ($2,100,000), and the repairs of the Lakeshore Center dock ($1,600,000).

The University is also considering Chemical Sciences and Engineering Building window replacement ($1,250,000), Minerals and Materials Engineering Building heating and ventilation upgrades ($1,500,000), Student Development Complex roof replacement ($1,200,000), Undergraduate Chemistry Lab renovations ($1,200,000), Organic Chemistry Lab renovations ($1,300,000), and the Ice Arena HVAC replacement ($4,000,000). While there are a number of additional projects planned for FY2023-FY2027, no other single stand-alone project valued at over $1,000,000 is planned for those years. As part of the Campus Master Plan, classrooms and teaching labs will be totally renovated across campus over the next several years, which will address ongoing maintenance issues. No individual space's renovation is greater than $1,000,000; however, in aggregate, the renovations will be in excess of $20,000,000 over the next five years.

Nonroutine Maintenance Budgeted for FY2023 and Relevant Sources of Funding
The University began budgeting general fund dollars toward nonroutine maintenance in FY2014, with $14,400,000 in projects completed to date. A total of $4,000,000 is budgeted for FY2023, with a planned increase each year until an annual total of $8,000,000 is reached and maintained. In order to maintain a budget-neutral impact on student tuition, increases in the nonroutine maintenance budget have been implemented over an extended period of time. A reserve account has been established to help address emergency repairs that occur but do not have budgets assigned.

APPENDICES

Class Section Counts by Enrollment and Level

Fall 2022

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	285	258	272	100	60	127	26	1,128
Class Subsections	101	217	73	25	12	25		453
Graduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	101	27	7	4	1	2		142
Class Subsections	33	8		1				42

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.

2024 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													
Non Degree Seeking (GR) (NDG)	0	0	0	0	12	12	0	0	0	0	3	3	15
Non Degree Seeking (UG) (NDS)	0	58	58	0	0	0	0	0	0	0	0	0	58
Post Degree Studies (PDS)	0	9	9	0	0	0	0	0	0	0	0	0	9
Total No College Designated	**0**	**67**	**67**	**0**	**12**	**12**	**0**	**0**	**0**	**0**	**3**	**3**	**82**
College of Business													
Accounting (BACC)	41	2	43	9	1	10	0	0	0	0	0	0	53
Economics (BEC)	10	0	10	0	0	0	0	0	0	0	0	0	10
Engineering Management (BEM)	61	0	61	0	0	0	0	0	0	0	0	0	61
Finance (BFIN)	62	0	62	0	0	0	0	0	0	0	0	0	62
General Business (BGN)	30	0	30	0	0	0	0	0	0	0	0	0	30
Business Administration (BMBA)	0	0	0	22	9	31	0	0	0	3	6	9	40
Engineering Management (BMEM)	0	0	0	22	1	23	0	0	0	1	1	2	25
Management (BMGT)	43	4	47	0	0	0	0	0	0	0	0	0	47
Management Information Systems (BMIS)	33	0	33	0	0	0	0	0	0	0	0	0	33
Marketing (BMKT)	38	1	39	0	0	0	0	0	0	0	0	0	39
Applied Natural Resource Econ. (BNRE)	0	0	0	1	0	1	0	0	0	0	0	0	1
Total College of Business	**318**	**7**	**325**	**54**	**11**	**65**	**0**	**0**	**0**	**4**	**7**	**11**	**401**
College of Computing													
Cybersecurity (CCY)	111	1	112	0	0	0	0	0	0	0	0	0	112
General Computing (CGN)	19	0	19	0	0	0	0	0	0	0	0	0	19
Health Informatics (CHI)	0	0	0	29	2	31	0	0	0	0	5	5	36
Security & Privacy in Healthcr (CSPH)	0	0	0	0	0	0	0	0	0	0	1	1	1
Computational Science & Engrg (EPD5)	0	0	0	5	2	7	0	0	0	0	0	0	7
Data Science (IDS)	0	0	0	37	2	39	0	0	0	0	0	0	39
Computer Science (SCS)	416	23	439	49	6	55	0	0	0	0	0	0	494
Cybersecurity (SCSC)	0	0	0	6	1	7	0	0	0	0	0	0	7
Software Engineering (SSEN)	115	3	118	0	0	0	0	0	0	0	0	0	118
Computer Network & System Admn (TCSA)	49	7	56	0	0	0	0	0	0	0	0	0	56
Electrical Eng Tech (TEET)	34	0	34	0	0	0	0	0	0	0	0	0	34
Total College of Computing	**744**	**34**	**778**	**126**	**13**	**139**	**0**	**0**	**0**	**0**	**6**	**6**	**923**
College of Engineering													
Aerodynamics (AERC)	0	0	0	0	0	0	0	0	0	0	1	1	1
Adv Electric Power Engineering (CAEP)	0	0	0	0	0	0	0	0	0	0	1	1	1
Electric Power Engineering (CEPE)	0	1	1	0	0	0	0	0	0	0	0	0	1
Eng Sustainability & Resilienc (CESR)	0	0	0	0	0	0	0	0	0	0	1	1	1
Hybrid Elec. Drive Vehicle Eng (CHEV)	0	0	0	0	0	0	0	0	0	0	4	4	4
Manufacturing Engineering (CME)	0	0	0	0	1	1	0	0	0	0	5	5	6
Natrl Hazds & Disaster Rsk Red (CNHD)	0	0	0	0	1	1	0	0	0	0	1	1	2
Quality Engineering (CQE)	0	0	0	0	0	0	0	0	0	0	1	1	1
Resilient Water Infrastructure (CRWI)	0	0	0	0	0	0	0	0	0	0	1	1	1
Struc Eng: Advanced Analysis (CSEA)	0	0	0	0	0	0	0	0	0	0	1	1	1
Struc Eng: Bridge Analysis Des (CSEB)	0	0	0	0	0	0	0	0	0	0	1	1	1
Struc Eng: Building Design (CSED)	0	0	0	0	0	0	0	0	0	0	3	3	3
Vehicle Dynamics (CVD)	0	0	0	0	0	0	0	0	0	0	1	1	1
Water Resources Modeling (CWRM)	0	0	0	0	0	0	0	0	0	0	2	2	2
Applied Geophysics (EAG)	8	0	8	0	0	0	0	0	0	0	0	0	8
Biomedical Engineering (EBE)	253	10	263	28	1	29	0	0	0	0	0	0	292
Engineering (EBS)	12	1	13	0	0	0	0	0	0	0	0	0	13
Civil Engineering (ECE)	287	7	294	31	3	34	0	0	0	0	21	21	349
Geospatial Engineering (ECGE)	27	0	27	0	0	0	0	0	0	0	0	0	27
Chemical Engineering (ECM)	300	24	324	26	3	29	0	0	0	0	0	0	353
Computer Engineering (ECP)	240	4	244	4	1	5	0	0	0	0	0	0	249
Electrical & Computer Engineer (EECE)	0	0	0	42	8	50	0	0	0	0	18	18	68
Electrical Engineering (EEE)	348	16	364	20	3	23	0	0	0	0	10	10	397
Environmental Engineering (EEN)	171	7	178	25	4	29	0	0	0	0	1	1	208
Environmental Engrg Science (EENS)	0	0	0	4	0	4	0	0	0	0	0	0	4
Geological Engineering (EGE)	26	0	26	8	2	10	0	0	0	0	0	0	36
Geology (EGL)	21	5	26	9	8	17	0	0	0	0	0	0	43
General Engineering (EGN)	162	1	163	0	0	0	0	0	0	0	0	0	163
Geophysics (EGP)	0	0	0	10	2	12	0	0	0	0	0	0	12
Engineering (EGR)	0	0	0	0	1	1	0	0	0	0	1	1	2
Mechanical Engineering (EME)	1,069	56	1,125	173	14	187	0	0	0	0	15	15	1,327
Mining Engineering (EMG)	14	0	14	4	2	6	0	0	0	0	0	0	20
Materials Science and Engrg (EMSE)	95	6	101	19	4	23	0	0	0	1	6	7	131
Engineering - Environmental (EPD2)	0	0	0	12	1	13	0	0	0	0	0	0	13
Computational Science & Engrg (EPD5)	0	0	0	3	1	4	0	0	0	0	0	0	4
Robotics Engineering (ERE)	70	0	70	0	0	0	0	0	0	0	0	0	70
Atmospheric Sciences (IAS)	0	0	0	4	0	4	0	0	0	0	0	0	4
Automotive Systems & Controls (IASC)	0	0	0	0	0	0	0	0	0	0	3	3	3
Mechanical Eng-Eng Mechanics (MEEM)	0	0	0	63	10	73	0	0	0	2	30	32	105
Integrated Geospatial Tech (TGT)	0	0	0	0	0	0	0	0	0	0	2	2	2
Mechanical Engineering Tech (TMET)	149	8	157	0	0	0	0	0	0	0	0	0	157
Total College of Engineering	**3,252**	**146**	**3,398**	**485**	**70**	**555**	**0**	**0**	**0**	**3**	**130**	**133**	**4,086**

2024 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
College of Forest Resources and Environmental Science													
Computational Science & Engrg (EPD5)	0	0	0	1	0	1	0	0	0	0	0	0	1
Applied Ecology (FAE)	0	0	0	12	1	13	0	0	0	0	0	0	13
App Ecol & Environ Sci (FES)	79	1	80	0	0	0	0	0	0	0	0	0	80
Environ Sci & Sustainability (FESS)	13	0	13	0	0	0	0	0	0	0	0	0	13
Forest Ecology & Mgmt (FFEM)	0	0	0	6	2	8	0	0	0	0	0	0	8
Forestry (FFR)	87	1	88	1	1	2	0	0	0	0	0	0	90
Forest Science (FFS)	0	0	0	13	5	18	0	0	0	0	0	0	18
Geographic Information Science (FGIS)	0	0	0	10	4	14	0	0	0	0	0	0	14
Forestry (FMF)	0	0	0	10	2	12	0	0	0	0	0	0	12
For Molec Genetics & Biotec (FMGB)	0	0	0	5	2	7	0	0	0	0	0	0	7
Natural Resources Management (FNRM)	5	0	5	0	0	0	0	0	0	0	0	0	5
Sustainable Bioproducts (FSB)	5	0	5	0	0	0	0	0	0	0	0	0	5
Wildlife Ecology & Cons (FWEC)	69	1	70	0	0	0	0	0	0	0	0	0	70
Wildlife Ecology & Mgmt (FWEM)	1	1	2	0	0	0	0	0	0	0	0	0	2
Total College of Forest Resources and Environmental Science	**259**	**4**	**263**	**58**	**17**	**75**	**0**	**0**	**0**	**0**	**0**	**0**	**338**
Interdisciplinary Programs													
Mechatronics (IME)	0	0	0	36	3	39	0	0	0	0	0	0	39
Mechatronics (IMX)	33	1	34	0	0	0	0	0	0	0	0	0	34
Construction Management (TCMG)	59	1	60	0	0	0	0	0	0	0	0	0	60
Total Interdisciplinary Programs	**92**	**2**	**94**	**36**	**3**	**39**	**0**	**0**	**0**	**0**	**0**	**0**	**133**
College of Sciences & Arts													
Applied Statistics (CAS)	0	0	0	0	0	0	0	0	0	0	1	1	1
Coaching Endorsement (CCE)	1	0	1	0	0	0	0	0	0	0	0	0	1
Computational Science & Engrg (EPD5)	0	0	0	2	1	3	0	0	0	0	0	0	3
Atmospheric Sciences (IAS)	0	0	0	8	0	8	0	0	0	0	0	0	8
Biochemistry/Molecular Biology (IBMB)	0	0	0	6	1	7	0	0	0	0	0	0	7
App. Cognitive Sci & Human Fac (SACS)	0	0	0	17	5	22	0	0	0	0	0	0	22
Anthropology (SANT)	9	0	9	0	0	0	0	0	0	0	0	0	9
Applied Physics (SAP)	21	1	22	13	1	14	0	0	0	0	0	0	36
Applied Statistics (SAST)	0	0	0	2	1	3	0	0	0	0	57	57	60
Bioinformatics (SBI)	5	0	5	0	0	0	0	0	0	0	0	0	5
Biological Sciences (SBL)	35	3	38	22	8	30	0	0	0	0	0	0	68
Chemistry (BA) (SCA)	4	0	4	0	0	0	0	0	0	0	0	0	4
Computational Biology (SCB)	2	0	2	0	0	0	0	0	0	0	0	0	2
Comp Chemistry & Chem Infrmtcs (SCCC)	3	0	3	0	0	0	0	0	0	0	0	0	3
Communication, Culture & Media (SCCM)	13	3	16	0	0	0	0	0	0	0	0	0	16
Chemistry (SCH)	35	1	36	34	5	39	0	0	0	0	0	0	75
Pharmaceutical Chemistry (SCHP)	6	0	6	0	0	0	0	0	0	0	0	0	6
Medicinal Chemistry (SCMC)	3	0	3	0	0	0	0	0	0	0	0	0	3
Ecology & Evolutionary Biology (SEEB)	31	0	31	0	0	0	0	0	0	0	0	0	31
Environmental & Energy Policy (SEEP)	0	0	0	15	7	22	0	0	0	0	0	0	22
Theatre & Electr. Media Perf. (SEMP)	5	1	6	0	0	0	0	0	0	0	0	0	6
English (SEN)	9	0	9	0	0	0	0	0	0	0	0	0	9
Exercise Science (SESC)	60	0	60	0	0	0	0	0	0	0	0	0	60
Audio Production & Technology (SFAT)	21	2	23	0	0	0	0	0	0	0	0	0	23
Theatre & Entertain Tech (BS) (SFET)	19	2	21	0	0	0	0	0	0	0	0	0	21
Sound Design (SFSD)	30	3	33	0	0	0	0	0	0	0	0	0	33
General Sciences and Arts (SGSA)	23	1	24	0	0	0	0	0	0	0	0	0	24
Human Biology (SHB)	55	1	56	0	0	0	0	0	0	0	0	0	56
Human Factors (SHF)	7	1	8	0	0	0	0	0	0	0	0	0	8
Indust Heritage & Archaeology (SIHA)	0	0	0	7	5	12	0	0	0	0	0	0	12
Kinesiology (SKIN)	0	0	0	4	2	6	0	0	0	0	0	0	6
Integrative Physiology (SKIP)	0	0	0	4	1	5	0	0	0	0	0	0	5
Mathematics (SMA)	46	1	47	0	0	0	0	0	0	0	0	0	47
Mathematical Sciences (SMAG)	0	0	0	18	1	19	0	0	0	0	0	0	19
Biochem & Molec Biology-Bio Sc (SMBB)	33	1	34	0	0	0	0	0	0	0	0	0	34
Biochem & Molec Biology-Chem (SMBC)	24	0	24	0	0	0	0	0	0	0	0	0	24
Mathematics & Computer Science (SMCS)	8	1	9	0	0	0	0	0	0	0	0	0	9
Medical Laboratory Science (SML)	66	1	67	0	0	0	0	0	0	0	0	0	67
Physics (BA) (SPA)	1	1	2	0	0	0	0	0	0	0	0	0	2
Physics (SPH)	39	0	39	29	0	29	0	0	0	0	0	0	68
Psychology (SPSY)	46	3	49	0	0	0	0	0	0	0	0	0	49
Rhetoric, Theory and Culture (SRTC)	0	0	0	20	11	31	0	0	0	0	0	0	31
Sports and Fitness Management (SSFM)	9	3	12	0	0	0	0	0	0	0	0	0	12
History (SSH)	5	1	6	0	0	0	0	0	0	0	0	0	6
Social Sciences (SSS)	11	1	12	0	0	0	0	0	0	0	0	0	12
Sustainability Sci and Society (SSSU)	31	1	32	0	0	0	0	0	0	0	0	0	32
Statistics (SST)	15	0	15	17	1	18	0	0	0	0	0	0	33
Scientific & Tech Comm (BA) (STA)	3	0	3	0	0	0	0	0	0	0	0	0	3
Scientific & Tech Comm (BS) (STC)	17	0	17	0	0	0	0	0	0	0	0	0	17
Total College of Sciences & Arts	**751**	**33**	**784**	**218**	**50**	**268**	**0**	**0**	**0**	**0**	**58**	**58**	**1,110**
University Total	**5,416**	**293**	**5,709**	**977**	**176**	**1,153**	**0**	**0**	**0**	**7**	**204**	**211**	**7,073**

Projected Enrollment - Fall 2015 to Fall 2028														
Year (Fall)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Prelim)						
University Enrollment	7,242	7,270	7,319	7,203	7,041	6,875	7,009	7,073	7,118	7,311	7,523	7,740	7,974	8,208
Graduate Non-Degree	30	23	37	48	43	28	39	45	50	58	67	78	90	104
Masters Enrollment	936	904	852	781	731	703	678	819	849	881	913	947	1,049	1,088
Doctoral Enrollment	555	514	513	546	503	502	514	500	510	520	531	541	552	563
Graduate Enrollment	1,521	1,441	1,402	1,375	1,277	1,233	1,231	1,364	1,409	1,459	1,511	1,566	1,691	1,755
Undergraduate Enrollment	5,721	5,829	5,917	5,828	5,764	5,642	5,778	5,709	5,709	5,852	6,012	6,174	6,283	6,453

Note: Includes online learning.

Enrollment by Class - Fall 2015 to Fall 2022 (Preliminary)								
	Fall 2015	**Fall 2016**	**Fall 2017**	**Fall 2018**	**Fall 2019**	**Fall 2020**	**Fall 2021**	**Fall 2022**
Undergraduate								(Prelim)
Freshman	1,466	1,560	1,553	1,374	1,401	1,300	1,565	1,501
Sophomore	1,254	1,258	1,290	1,298	1,180	1,231	1,171	1,297
Junior	1,203	1,222	1,242	1,282	1,262	1,217	1,201	1,189
Senior	1,640	1,658	1,731	1,774	1,805	1,802	1,744	1,634
Total Undergraduate	**5,563**	**5,698**	**5,816**	**5,728**	**5,648**	**5,550**	**5,681**	**5,621**
Graduate								
Master's	883	858	809	735	639	557	547	678
Doctoral	529	493	494	520	478	475	484	461
Total Graduate	**1,412**	**1,351**	**1,303**	**1,255**	**1,117**	**1,032**	**1,031**	**1,139**
Total Standard Degree Seeking	**6,975**	**7,049**	**7,119**	**6,983**	**6,765**	**6,582**	**6,712**	**6,760**
Other Standard Learning								
Special & Unclassified	100	86	69	65	80	54	64	57
Post Graduate	57	44	32	35	36	38	33	31
Non-degree Graduate	23	19	24	33	31	13	15	14
Total Other Standard Students	**180**	**149**	**125**	**133**	**147**	**105**	**112**	**102**
Online Learning	**87**	**72**	**75**	**87**	**129**	**188**	**185**	**211**
Total All Students	**7,242**	**7,270**	**7,319**	**7,203**	**7,041**	**6,875**	**7,009**	**7,073**

Faculty and Staff to Student Ratios for Major Academic Colleges - Fiscal Year 2021-22						
	Faculty FTE	**Staff FTE**	**Student FYES**	**Faculty to Students Ratio**	**Staff to Students Ratio**	**Faculty and Staff to Students Ratio**
College of Engineering	160.6	122.3	2,130.9	1:13	1:17	1:8
College of Science & Arts	165.4	68.9	2,834.8	1:17	1:41	1:12
Total University*	415.5	1,015.1	6,197.1	1:15	1:6	1:4

*Also includes Colleges of Business, Forest Resources and Environmental Science, 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 2022 (Preliminary)								
Undergraduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	285	258	272	100	60	127	26	1,128
Class Sub-Sections	101	217	73	25	12	25	0	453
Graduate	**2-9**	**10-19**	**20-29**	**30-39**	**40-49**	**50-99**	**100+**	**Total**
Class Sections	101	27	7	4	1	2	0	142
Class Sub-Sections	33	8	0	1	0	0	0	42

* As defined by Common Data Set standards

Online Learning Projections 2022-23 through 2027-28

Year	Type of Students[1]		Projected #	G/UG%[2]
2022-23	A. On Campus Online		1,333	25/75
	B. Off Campus Online		1,150	35/65
	C. Corporate Off Campus		5	100/0
	D. Dual-Enrollment	Secondary School	10	0/100
2023-24	A. On Campus Online		1,386	26/74
	B. Off Campus Online		1,196	36/64
	C. Corporate Off Campus		5	100/0
	D. Dual-Enrollment	Secondary School	11	0/100
2024-25	A. On Campus Online		1,455	30/70
	B. Off Campus Online		1,256	40/60
	C. Corporate Off Campus		6	100/0
	D. Dual-Enrollment	Secondary School	12	0/100
2025-26	A. On Campus Online		1,528	33/67
	B. Off Campus Online		1,319	43/57
	C. Corporate Off Campus		6	100/0
	D. Dual-Enrollment	Secondary School	12	0/100
2026-27	A. On Campus Online		1,589	36/64
	B. Off Campus Online		1,372	46/54
	C. Corporate Off Campus		6	100/0
	D. Dual-Enrollment	Secondary School	13	0/100
2027-28	A. On Campus Online		1,653	34/66
	B. Off Campus Online		1,427	44/56
	C. Corporate Off Campus		7	100/0
	D. Dual-Enrollment	Secondary School	13	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	Center for Diversity and Inclusion	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	Public Safety & Police Services Building	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%,	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	Kearly Stadium Press Box	Gymnasium	4,416	3,445	1.28
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 Maintenance	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	21725 Woodland Road 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
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 Energy Plant	Service	12,780	10,386	1.23
42	Facilities Management Storage	Warehouse	5,680	5,322	1.07
44	Facilities Building	Service	21,176	16,377	1.29
45	Kettle-Gundlach House	Dormitory	5,620	4,072	1.38
46	Tech Trails Waxing Center	Gymnasium	4,536	3,629	1.25
47	217 East Street House	Dormitory	3,191	3,135	1.02
48	Hillside Place	Dormitory	77,926	56,330	1.38
49	Property Storage	Warehouse	4,872	4,644	1.05
50	Gates Tennis Center	Gymnasium	29,610	28,737	1.03
51	207 East Street House	Administration	2,972	2,573	1.16
52	PLGC Clubhouse	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	Warehouse	4,080	3,240	1.26
56	Daniell Heights Storage 56	Warehouse	1,261	1,189	1.06
57	209 East Street House	Dormitory	2,891	1,985	1.46
58	PLGC Maintenance -1	Warehouse	3,276	2,621	1.25
59	PLGC Maintenance -2	Warehouse	625	502	1.25
60	PLGC Cart Storage -A	Warehouse	4,500	3,600	1.25
61	PLGC Cart Storage - B	Warehouse	3,600	2,800	1.29
62	PLGC Cart Storage -C	Warehouse	4,500	3,600	1.25
63	PLGC Maintenance - 3	Service	1,040	664	1.57
64	PLGC Pump House	Service	144	115	1.25
65	Daniell Heights Storage 65	Warehouse	3,200	3,081	1.04
66	Tech Trails Timing Building	Gymnasium	192	165	1.16
67	Tech Trails Warming Building	Gymnasium	280	247	1.13
68	SDC Storage	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	5,538	5,421	1.02
73	KRC Vehicle Storage Bldg T4	Warehouse	4,000	3,861	1.04
74	KRC Engineering Laboratories	Engineering - 17%, Laboratory - 83%	4,610	3,362	1.37
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	21610 Woodland Road House	Dormitory	5,702	4,708	1.21
84	Harold Meese Center	Science - 88%, Classroom - 12%	15,020	10,292	1.46
88	DPSPS/EMS Building	Warehouse	1,000	922	1.08
89	Tech Trails Maintenance	Warehouse	1,200	1,131	1.06
90	Sands Pilot Plant	Engineering	11,520	10,805	1.07
92	Advanced Energy Research 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	Advanced Technology Development	Administrative - 12%, Engineering - 60%, Science - 15%	25,012	20,676	1.21
96	SDC Annex Building	Warehouse	2,786	2,700	1.03
100	Great Lakes Research Center	Laboratory - 27%, Science - 73%	54,778	35,936	1.52
101	Tech Trails Storage	Warehouse	672	646	1.04
102	Advanced Power Systems Research	Laboratory - 93%, Office - 7%	56,332	53,114	1.06
103	A.E. Seaman 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	Warehouse	576	529	1.09
107	212 East Street House	Dormitory	2,630	2,406	1.09
108	KRC Inspection Pit	Service	416	375	1.11
109	Mt Ripley Pump House	Service	570	529	1.08
110	214 East Street House	Dormitory	2,756	1,843	1.50
111	46645 US-41 House	Dormitory	5,721	4,577	1.25
112	Facilities Storage	Warehouse	6,600	6,447	1.02
113	Salt Storage Building	Warehouse	1,932	1,760	1.10
112	Nara Family Maple Center	Classroom	557	498	1.12
201	FCF Hemlock Residence	Dormitory	1,326	1,728	0.77
202	FCF Sassafras Residence	Dormitory	1,200	952	1.26
203	FCF Elm Residence	Dormitory	1,348	1,078	1.25
204	FCF Birdseye Residence	Dormitory	1,581	1,265	1.25

205	FCF Spruce Residence	Dormitory	1,462	1,170	1.25
206	FCF Tamarack Residence	Dormitory	1,779	1,423	1.25
207	FCF Birch Residence	Dormitory	1,392	1,114	1.25
208	FCF Basswood Residence	Dormitory	1,515	1,212	1.25
209	FCF Cedar Residence	Dormitory	1,470	1,176	1.25
210	FCF Beech Residence	Dormitory	1,269	1,015	1.25
211	FCF Ash Residence	Dormitory	2,114	1,691	1.25
212	FCF Balsam Residence	Dormitory	864	691	1.25
213	FCF Pump House	Service	1,070	636	1.68
214	FCF Sawmill Museum	Library	6,720	5,376	1.25
215	FCF 8-Car Garage	Garage	1,872	1,384	1.35
216	FCF Dorm 2	Dormitory	2,428	1,327	1.83
217	FCF Classroom 1	Classroom	2,480	1,957	1.27
218	FCF Sauna Building	Dormitory	864	691	1.25
219	FCF Classroom 2	Classroom	1,125	920	1.22
220	FCF Recreation	Dormitory	1,178	1,068	1.10
221	FCF Computer Lab	Classroom	1,487	920	1.62
222	FCF Classroom 3	Classroom	1,305	1,089	1.20
223	FCF Dorm 1	Dormitory	11,250	9,000	1.25
224	FCF Carriage House	Dormitory	2,501	2,156	1.16
225	FCF Storage 3	Warehouse	255	204	1.25
226	FCF Storage 2	Warehouse	2,320	1,856	1.25
227	FCF Storage 1	Warehouse	260	208	1.25
229	FCF Lumber Storage	Warehouse	2,520	2,016	1.25
230	FCF 9-Car Garage	Garage	4,180	3,344	1.25
231	FCF Maintenance	Service	9,285	8,703	1.07
233	FCF Main Office	Office	3,200	2,920	1.10
235	FCF Wellhouse	Service	228	183	1.25
236	FCF Reservoir Shelter	Service	768	614	1.25

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#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	10	2	12	22%	6	30%
2	19	Chem-Sci	101	ClsRm	1,184	66	3	119	77%	10	50%
3	19		102	ClsRm	1,162	66	2	51	57%	6	30%
4	19		103	ClsLab	1,308	20	2	27	75%	6	30%
5	19		0104A	ClsRm	582	32	2	27	66%	5	25%
6	19		0104B	ClsRm	594	32	1	22	69%	2	10%
7	19		106	ClsRm	565	30	2	20	44%	5	25%
8	19		108	ClsLab	1,162	44	2	80	100%	6	30%
9	19		211	ClsRm	1,155	55	3	71	77%	6	30%
10	19		215	ClsRm	584	30	2	46	96%	2	10%
11	19		0501N	ClsLab	976	24	2	40	0%	6	30%
12	19		0501S	ClsLab	976	24	2	38	0%	6	30%
13	19		502	ClsLab	1,124	24	2	32	160%	6	30%
14	19		0503N	ClsLab	966	24	2	39	0%	6	30%
15	19		0503S	ClsLab	966	24	2	39	0%	6	30%
16	19		0601N	ClsLab	1,048	28	2	23	82%	6	30%
17	19		0601S	ClsLab	1,048	28	1	8	57%	3	15%
18	8	Dow	610	ClsLab	890	26	3	23	19%	6	30%
19	8		641	ClsRm	2,923	250	1	90	75%	3	15%
20	8		642	ClsRm	1,601	84	3	119	63%	10	50%
21	8		709	ClsLab	744	23	2	18	45%	3	15%
22	7	EERC	100	ClsRm	1,307	82	1	45	60%	3	15%
23	7		103	ClsRm	2,396	151	2	200	154%	5	25%
24	7		214	ClsRm	983	65	2	87	97%	2	10%
25	7		216	ClsRm	551	36	3	22	49%	4	20%
26	7		218	ClsRm	683	45	2	46	74%	6	30%
27	7		226	ClsRm	683	46	2	27	49%	4	20%
28	7		227	ClsRm	551	36	2	7	19%	6	30%
29	7		229	ClsRm	1,048	65	1	56	93%	3	15%
30	7		313	ClsRm	571	36	1	6	33%	3	15%
31	7		314	ClsRm	553	36	1	5	33%	2	10%
32	7		315	ClsRm	553	36	1	15	75%	1	5%
33	7		316	ClsRm	823	60	2	38	56%	3	15%
34	7		328	ClsLab	1,140	24	2	28	93%	4	20%
35	7		421	ClsLab	844	24	1	16	80%	1	5%
36	7		427	ClsLab	1,000	24	2	18	100%	2	10%
37	7		430	ClsLab	685	2	2	7	88%	2	10%
38	7		431	ClsLab	1,206	16	2	18	50%	5	25%
39	7		622	ClsLab	983	16	1	10	67%	2	10%
40	7		722	ClsLab	978	30	1	10	33%	2	10%
41	15	Fisher	101	ClsRm	937	32	3	44	73%	3	15%
42	15		125	ClsRm	583	35	3	61	88%	7	35%
43	15		126	ClsRm	593	35	3	76	101%	9	45%
44	15		127	ClsRm	693	35	2	39	98%	6	30%
45	15		129	ClsRm	792	53	3	113	84%	9	45%
46	15		130	ClsRm	712	44	5	84	69%	10	50%
47	15		131	ClsRm	712	44	4	43	72%	8	40%
48	15		132	ClsRm	693	44	1	30	100%	3	15%
49	15		133	ClsRm	693	44	4	95	91%	9	45%
50	15		135	ClsRm	5,036	476	2	240	83%	5	25%
51	15		138	ClsRm	1,395	92	4	210	92%	6	30%
52	15		139	ClsRm	2,016	125	4	335	121%	12	60%
53	15		229	ClsLab	702	14	4	90	98%	8	40%
54	15		230	ClsRm	579	35	3	12	29%	5	25%

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#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
55	15		231	ClsRm	697	44	1	22	92%	2	10%
56	15		325	ClsRm	1,064	72	3	147	97%	10	50%
57	15		326	ClsRm	1,064	71	4	184	97%	12	60%
58	15		0327B	ClsRm	445	27	1	5	25%	3	15%
59	15		328	ClsRm	928	62	3	127	100%	9	45%
60	15		329	ClsRm	1,065	72	2	99	94%	8	40%
61	15		B020	ClsLab	941	27	5	140	100%	10	50%
62	100	GLRC	102	ClsLab	1,374	28	1	14	93%	3	15%
63	14	Dillman	101	ClsLab	2,187	60	1	19	95%	3	15%
64	14		202	ClsRm	776	36	5	58	76%	9	45%
65	14		203	ClsLab	863	26	1	24	120%	2	10%
66	14		204	ClsRm	761	43	6	88	81%	9	45%
67	14		208	ClsLab	1,559	64	9	173	85%	11	55%
68	14		213	ClsLab	573	12	2	18	72%	6	30%
69	14		214	ClsRm	954	60	3	77	52%	6	30%
70	14		320	ClsRm	1,051	43	5	70	55%	9	45%
71	14		B008	ClsLab	1,495	15	3	20	50%	5	25%
72	84	Meese	110	ClsRm	564	25	2	20	50%	6	30%
73	28	Rekhi	112	ClsLab	775	20	4	85	73%	8	40%
74	28		113	ClsLab	777	20	1	26	72%	2	10%
75	28		214	ClsRm	1,328	48	1	39	98%	3	15%
76	28		G005	ClsRm	1,253	54	2	64	91%	5	25%
77	28		G009	ClsRm	1,280	48	3	48	63%	6	30%
78	12	M&M Bldg	211	ClsLab	338	10	2	21	105%	6	30%
79	12		U111	ClsRm	723	30	2	12	50%	6	30%
80	12		U113	ClsRm	1,069	63	2	68	81%	6	30%
81	12		U115	ClsRm	2,540	240	3	229	85%	7	35%
82	12		U205	ClsRm	421	26	1	2	10%	3	15%
83	20	MEEM	111	ClsRm	1,429	96	3	163	88%	5	25%
84	20		112	ClsRm	1,652	115	2	149	99%	6	30%
85	20		120	ClsLab	2,630	72	5	308	97%	8	40%
86	20		202	ClsLab	951	16	2	31	97%	4	20%
87	20		302	ClsRm	1,129	48	3	52	80%	6	30%
88	20		303	ClsRm	1,131	48	2	39	68%	4	20%
89	20		305	ClsLab	1,175	16	2	32	107%	4	20%
90	20		403	ClsRm	1,131	48	5	94	64%	9	45%
91	20		405	ClsRm	607	40	5	112	93%	7	35%
92	20		406	ClsRm	1,130	40	3	51	64%	6	30%
93	20		502	ClsLab	928	16	1	16	100%	2	10%
94	20		0502A	ClsLab	712	16	2	18	64%	4	20%
95	20		505	ClsLab	1,588	16	1	15	100%	2	10%
96	20		701	ClsLab	867	16	3	38	90%	6	30%
97	20		1101	ClsLab	1,224	19	2	35	97%	4	20%
98	20		1108	ClsLab	1,116	24	1	23	96%	2	10%
99	10	Rozsa Ctr	120	ClsRm	1,448	60	1	5	50%	3	15%
100	10		208	ClsLab	1,790	50	2	22	96%	6	30%
101	24	SDC	237	ClsRm	789	48	3	39	53%	5	25%
102	24		238	ClsRm	705	40	2	12	26%	3	15%
103	18	Noblet	108	ClsLab	692	24	2	18	60%	6	30%
104	18		143	ClsRm	616	40	3	46	90%	6	30%
105	18		144	ClsRm	1,689	26	2	53	83%	6	30%
106	18		G002	ClsRm	1,768	125	1	68	113%	3	15%
107	18		G029	ClsLab	1,104	32	1	8	73%	4	20%
108	17	Library	242	ClsLab	1,192	25	1	14	82%	3	15%

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#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
109	37	Wads	G011W	ClsRm	2,385	128	12	278	97%	10	50%
110	11	Walker	109	ClsRm	792	36	2	55	92%	6	30%
111	11		0120A	ClsRm	904	30	2	49	102%	6	30%
112	11		134	ClsRm	1,173	40	1	23	66%	3	15%
113	11		143	ClsRm	647	25	2	35	78%	6	30%
114	11		144	ClsRm	634	25	3	39	60%	9	45%
115	11		210	ClsLab	1,426	40	2	34	97%	6	30%
Grand Totals:			Rooms: 115		123,860	5,668	281	6,950	84%	620	27%

Michigan Technological University
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#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	10	4	63	70%	10	40%
2	19	Chem-Sci	101	ClsRm	1,184	66	7	180	62%	19	76%
3	19		102	ClsRm	1,162	66	9	285	82%	21	84%
4	19		103	ClsLab	1,308	20	3	42	78%	9	36%
5	19		0104A	ClsRm	582	32	10	70	56%	20	80%
6	19		0104B	ClsRm	594	32	10	194	80%	17	68%
7	19		106	ClsRm	565	30	5	38	51%	10	40%
8	19		108	ClsLab	1,162	44	9	179	64%	24	96%
9	19		211	ClsRm	1,155	55	9	149	59%	21	84%
10	19		215	ClsRm	584	30	8	99	73%	11	44%
11	19		408	ClsLab	1,755	12	1	5	50%	6	24%
12	19		0501N	ClsLab	976	24	2	37	0%	6	24%
13	19		0501S	ClsLab	976	24	2	37	0%	6	24%
14	19		502	ClsLab	1,124	24	2	36	0%	6	24%
15	19		0503N	ClsLab	966	24	2	39	0%	6	24%
16	19		0503S	ClsLab	966	24	2	36	0%	6	24%
17	19		504	ClsLab	1,100	24	2	35	97%	6	24%
18	19		0601N	ClsLab	1,048	28	3	39	93%	9	36%
19	19		0601S	ClsLab	1,048	28	2	20	71%	6	24%
20	19		B005	ClsLab	2,473	24	2	87	97%	12	48%
21	8	Dow	420	ClsLab	1,878	15	5	22	96%	2	8%
22	8		610	ClsLab	890	26	6	58	55%	8	32%
23	8		641	ClsRm	2,923	250	7	812	69%	18	72%
24	8		642	ClsRm	1,601	84	8	478	86%	23	92%
25	8		709	ClsLab	744	23	1	8	27%	1	4%
26	8		710	ClsLab	1,287	24	8	71	84%	11	44%
27	8		711	ClsLab	937	16	2	18	45%	3	12%
28	7	EERC	100	ClsRm	1,307	82	7	367	79%	20	80%
29	7		103	ClsRm	2,396	151	9	875	99%	26	104%
30	7		214	ClsRm	983	65	7	201	64%	16	64%
31	7		216	ClsRm	551	36	7	85	71%	11	44%
32	7		218	ClsRm	683	45	8	113	54%	20	80%
33	7		226	ClsRm	683	46	9	98	45%	21	84%
34	7		227	ClsRm	551	36	7	46	37%	14	56%
35	7		229	ClsRm	1,048	65	7	201	64%	15	60%
36	7		313	ClsRm	571	36	6	65	57%	15	60%
37	7		314	ClsRm	553	36	5	79	58%	15	60%
38	7		315	ClsRm	553	36	5	60	52%	14	56%
39	7		316	ClsRm	823	60	6	173	78%	15	60%
40	7		328	ClsLab	1,140	24	5	66	83%	8	32%
41	7		330	ClsLab	1,558	42	2	50	89%	4	16%
42	7		421	ClsLab	844	24	8	76	52%	19	76%
43	7		427	ClsLab	1,000	24	8	66	65%	10	40%
44	7		430	ClsLab	685	2	5	24	100%	7	28%
45	7		431	ClsLab	1,206	16	4	28	33%	10	40%
46	7		622	ClsLab	983	16	6	82	91%	12	48%
47	7		722	ClsLab	978	30	6	150	83%	12	48%
48	7		738	ClsLab	1,001	18	1	15	94%	2	8%
49	7		827	ClsLab	983	16	8	87	78%	16	64%
50	15	Fisher	101	ClsRm	937	32	9	136	75%	17	68%
51	15		125	ClsRm	583	35	8	113	67%	20	80%
52	15		126	ClsRm	593	35	7	113	88%	19	76%
53	15		127	ClsRm	693	35	9	186	87%	21	84%
54	15		129	ClsRm	792	53	7	204	78%	21	84%
55	15		130	ClsRm	712	44	9	155	73%	20	80%

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#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
56	15		131	ClsRm	712	44	9	184	71%	23	92%
57	15		132	ClsRm	693	44	9	132	65%	20	80%
58	15		133	ClsRm	693	44	7	192	75%	18	72%
59	15		135	ClsRm	5,036	476	9	1,965	73%	24	96%
60	15		138	ClsRm	1,395	92	5	297	88%	16	64%
61	15		139	ClsRm	2,016	125	7	545	88%	21	84%
62	15		229	ClsLab	702	14	10	200	87%	20	80%
63	15		230	ClsRm	579	35	7	88	63%	16	64%
64	15		231	ClsRm	697	44	8	162	75%	19	76%
65	15		325	ClsRm	1,064	72	8	281	83%	23	92%
66	15		326	ClsRm	1,064	71	5	252	106%	15	60%
67	15		0327B	ClsRm	445	27	5	34	40%	14	56%
68	15		328	ClsRm	928	62	7	325	91%	21	84%
69	15		329	ClsRm	1,065	72	6	239	97%	21	84%
70	15		330	ClsLab	1,065	24	1	9	38%	2	8%
71	15		B020	ClsLab	941	27	14	348	91%	28	112%
72	15		B023	ClsLab	960	12	6	67	88%	12	48%
73	100	GLRC	102	ClsLab	1,374	28	4	65	98%	10	40%
74	14	Dillman	101	ClsLab	2,187	60	8	146	62%	15	60%
75	14		110	ClsLab	1,066	16	3	45	94%	6	24%
76	14		202	ClsRm	776	36	9	116	68%	18	72%
77	14		203	ClsLab	863	26	5	65	79%	7	28%
78	14		204	ClsRm	761	43	9	110	63%	15	60%
79	14		208	ClsLab	1,559	64	6	121	73%	9	36%
80	14		211	ClsLab	968	48	6	51	55%	6	24%
81	14		214	ClsRm	954	60	9	354	87%	19	76%
82	14		302	ClsLab	1,243	32	4	131	86%	8	32%
83	14		320	ClsRm	1,051	43	7	123	73%	17	68%
84	14		B003	ClsLab	988	16	3	42	88%	9	36%
85	14		B008	ClsLab	1,495	15	2	29	97%	6	24%
86	84	Meese	109	ClsRm	680	25	3	17	38%	6	24%
87	84		110	ClsRm	564	25	4	46	77%	9	36%
88	28	Rekhi	112	ClsLab	775	20	7	228	90%	14	56%
89	28		113	ClsLab	777	20	2	51	71%	4	16%
90	28		117	ClsLab	1,153	18	5	88	85%	11	44%
91	28		214	ClsRm	1,328	48	8	180	71%	20	80%
92	28		G005	ClsRm	1,253	54	6	212	78%	14	56%
93	28		G009	ClsRm	1,280	48	6	148	78%	17	68%
94	12	M&M Bldg	211	ClsLab	338	10	2	21	105%	6	24%
95	12		U106	ClsLab	347	5	2	8	62%	2	8%
96	12		U111	ClsRm	723	30	1	13	108%	3	12%
97	12		U113	ClsRm	1,069	63	17	241	61%	16	64%
98	12		U115	ClsRm	2,540	240	9	877	118%	25	100%
99	12		U205	ClsRm	421	26	4	8	18%	8	32%
100	20	MEEM	111	ClsRm	1,429	96	6	464	101%	21	84%
101	20		112	ClsRm	1,652	115	7	507	77%	16	64%
102	20		120	ClsLab	2,630	72	3	125	78%	7	28%
103	20		202	ClsLab	951	16	2	22	61%	5	20%
104	20		302	ClsRm	1,129	48	10	189	76%	22	88%
105	20		303	ClsRm	1,131	48	8	227	73%	19	76%
106	20		305	ClsLab	1,175	16	4	60	100%	8	32%
107	20		402	ClsRm	1,265	48	8	204	75%	19	76%
108	20		403	ClsRm	1,131	48	5	38	32%	12	48%
109	20		405	ClsRm	607	40	12	223	80%	15	60%

Michigan Technological University
Room Utilization Reports
Fall 2021, Monday-Friday, 10:00 AM - 3:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
110	20		406	ClsRm	1,130	40	9	216	76%	18	72%
111	20		502	ClsLab	928	16	1	16	100%	2	8%
112	20		0502A	ClsLab	712	16	3	29	69%	6	24%
113	20		505	ClsLab	1,588	16	3	45	100%	6	24%
114	20		601	ClsLab	1,980	16	4	33	47%	8	32%
115	20		701	ClsLab	867	16	4	54	96%	8	32%
116	20		1101	ClsLab	1,224	19	3	54	100%	6	24%
117	20		1103	ClsLab	1,092	20	3	52	93%	7	28%
118	20		1106	ClsLab	1,064	24	2	40	100%	6	24%
119	20		1108	ClsLab	1,116	24	3	33	46%	6	24%
120	4	ROTC	101	ClsRm	1,273	47	8	64	47%	9	36%
121	10	Rozsa Ctr	120	ClsRm	1,448	60	4	116	101%	12	48%
122	10		208	ClsLab	1,790	50	2	37	82%	6	24%
123	24	SDC	237	ClsRm	789	48	6	47	36%	9	36%
124	24		238	ClsRm	705	40	4	62	48%	8	32%
125	18	Noblet	108	ClsLab	692	24	8	117	98%	21	84%
126	18		139	ClsLab	618	18	7	46	48%	12	48%
127	18		143	ClsRm	616	40	12	223	83%	22	88%
128	18		144	ClsRm	1,689	26	14	178	73%	24	96%
129	18		146	ClsLab	997	24	1	22	96%	3	12%
130	18		157	ClsLab	954	24	5	75	104%	15	60%
131	18		G002	ClsRm	1,768	125	10	371	110%	10	40%
132	18		G029	ClsLab	1,104	32	5	110	95%	19	76%
133	17	Library	242	ClsLab	1,192	25	6	78	79%	11	44%
134	37	Wads	G011W	ClsRm	2,385	128	28	567	88%	24	96%
135	11	Walker	109	ClsRm	792	36	8	260	97%	24	96%
136	11		0120A	ClsRm	904	30	8	197	105%	24	96%
137	11		134	ClsRm	1,173	40	8	216	96%	23	92%
138	11		138	ClsRm	296	1	3	21	47%	9	36%
139	11		143	ClsRm	647	25	7	104	74%	19	76%
140	11		144	ClsRm	634	25	6	70	58%	16	64%
141	11		202	ClsLab	1,009	28	3	38	95%	12	48%
142	11		204	ClsLab	745	5	1	8	100%	3	12%
143	11		210	ClsLab	1,426	40	7	72	51%	21	84%
144	11		211	ClsLab	731	15	3	35	71%	9	36%
145	11		212	ClsLab	404	15	3	16	59%	9	36%
Grand Totals:			Rooms: 145		157,157	6,328	867	21,688	79%	1,921	53%

Michigan Technological University
Room Utilization Reports
Fall 2021, Monday-Friday, 3:00 PM - 5:00 PM

#	Building 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	13	68	26%	4	20%
2	19		102	ClsRm	1,162	66	4	100	81%	8	40%
3	19		106	ClsRm	565	30	1	3	30%	1	5%
4	19		211	ClsRm	1,155	55	1	30	75%	3	15%
5	19		215	ClsRm	584	30	1	15	60%	3	15%
6	19		0501N	ClsLab	976	24	3	58	0%	9	45%
7	19		0501S	ClsLab	976	24	3	59	0%	9	45%
8	19		502	ClsLab	1,124	24	3	58	0%	9	45%
9	19		0503N	ClsLab	966	24	3	60	0%	9	45%
10	19		0503S	ClsLab	966	24	3	59	0%	9	45%
11	19		504	ClsLab	1,100	24	3	59	109%	9	45%
12	19		0601N	ClsLab	1,048	28	2	27	96%	6	30%
13	19		0601S	ClsLab	1,048	28	2	27	96%	6	30%
14	19		708	ClsLab	1,592	32	1	4	50%	6	30%
15	8	Dow	420	ClsLab	1,878	15	4	57	88%	8	40%
16	8		610	ClsLab	890	26	3	53	55%	6	30%
17	8		641	ClsRm	2,923	250	4	381	92%	9	45%
18	8		642	ClsRm	1,601	84	3	138	99%	6	30%
19	8		707	ClsLab	1,198	24	2	22	88%	6	30%
20	8		711	ClsLab	937	16	3	21	35%	4	20%
21	7	EERC	100	ClsRm	1,307	82	1	39	78%	3	15%
22	7		103	ClsRm	2,396	151	2	169	94%	4	20%
23	7		214	ClsRm	983	65	12	84	34%	4	20%
24	7		218	ClsRm	683	45	2	35	55%	4	20%
25	7		226	ClsRm	683	46	1	12	27%	3	15%
26	7		229	ClsRm	1,048	65	2	60	81%	5	25%
27	7		316	ClsRm	823	60	1	7	70%	2	10%
28	7		328	ClsLab	1,140	24	2	30	100%	4	20%
29	7		330	ClsLab	1,558	42	1	11	79%	2	10%
30	7		421	ClsLab	844	24	1	6	30%	4	20%
31	7		622	ClsLab	983	16	4	46	85%	8	40%
32	7		722	ClsLab	978	30	1	18	60%	2	10%
33	7		738	ClsLab	1,001	18	3	47	98%	6	30%
34	7		827	ClsLab	983	16	4	37	66%	8	40%
35	15	Fisher	101	ClsRm	937	32	2	26	70%	5	25%
36	15		125	ClsRm	583	35	4	71	95%	10	50%
37	15		126	ClsRm	593	35	3	25	43%	6	30%
38	15		127	ClsRm	693	35	2	40	80%	5	25%
39	15		129	ClsRm	792	53	1	31	65%	3	15%
40	15		130	ClsRm	712	44	5	64	89%	10	50%
41	15		131	ClsRm	712	44	2	28	51%	5	25%
42	15		132	ClsRm	693	44	5	56	74%	8	40%
43	15		133	ClsRm	693	44	3	59	61%	7	35%
44	15		135	ClsRm	5,036	476	4	453	73%	7	35%
45	15		138	ClsRm	1,395	92	3	137	94%	5	25%
46	15		139	ClsRm	2,016	125	4	215	79%	8	40%
47	15		229	ClsLab	702	14	3	69	100%	6	30%
48	15		231	ClsRm	697	44	3	39	68%	5	25%
49	15		325	ClsRm	1,064	72	2	66	99%	5	25%
50	15		326	ClsRm	1,064	71	3	111	85%	8	40%
51	15		0327B	ClsRm	445	27	1	3	33%	1	5%
52	15		328	ClsRm	928	62	2	75	72%	6	30%
53	15		329	ClsRm	1,065	72	2	95	95%	8	40%
54	15		B003	ClsLab	689	14	1	14	58%	3	15%
55	15		B020	ClsLab	941	27	4	112	100%	8	40%

Michigan Technological University
Room Utilization Reports
Fall 2021, Monday-Friday, 3:00 PM - 5:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
56	15		B023	ClsLab	960	12	2	21	81%	4	20%
57	15		B024	ClsLab	812	24	2	19	68%	4	20%
58	14	Dillman	110	ClsLab	1,066	16	1	11	69%	2	10%
59	14		202	ClsRm	776	36	4	26	43%	6	30%
60	14		204	ClsRm	761	43	3	38	59%	5	25%
61	14		208	ClsLab	1,559	64	14	39	27%	3	15%
62	14		211	ClsLab	968	48	2	25	96%	5	25%
63	14		213	ClsLab	573	12	2	9	45%	2	10%
64	14		214	ClsRm	954	60	2	5	17%	3	15%
65	14		302	ClsLab	1,243	32	2	67	88%	4	20%
66	84	Meese	109	ClsRm	680	25	2	17	57%	6	30%
67	28	Rekhi	112	ClsLab	775	20	1	37	103%	2	10%
68	28		113	ClsLab	777	20	1	13	87%	2	10%
69	28		214	ClsRm	1,328	48	3	43	34%	7	35%
70	28		G005	ClsRm	1,253	54	2	48	83%	4	20%
71	28		G009	ClsRm	1,280	48	1	11	37%	3	15%
72	12	M&M Bldg	U113	ClsRm	1,069	63	2	33	66%	4	20%
73	12		U115	ClsRm	2,540	240	1	196	93%	1	5%
74	12		U205	ClsRm	421	26	4	2	4%	3	15%
75	20	MEEM	111	ClsRm	1,429	96	1	59	118%	4	20%
76	20		112	ClsRm	1,652	115	1	73	83%	4	20%
77	20		120	ClsLab	2,630	72	17	314	53%	8	40%
78	20		202	ClsLab	951	16	3	45	102%	6	30%
79	20		302	ClsRm	1,129	48	2	44	75%	5	25%
80	20		303	ClsRm	1,131	48	2	50	74%	6	30%
81	20		305	ClsLab	1,175	16	1	15	100%	2	10%
82	20		402	ClsRm	1,265	48	3	57	65%	6	30%
83	20		403	ClsRm	1,131	48	2	16	23%	6	30%
84	20		405	ClsRm	607	40	2	39	81%	2	10%
85	20		406	ClsRm	1,130	40	2	66	66%	6	30%
86	20		502	ClsLab	928	16	1	16	100%	2	10%
87	20		0502A	ClsLab	712	16	1	12	86%	2	10%
88	20		505	ClsLab	1,588	16	1	12	80%	2	10%
89	20		701	ClsLab	867	16	1	12	86%	2	10%
90	20		1103	ClsLab	1,092	20	1	16	80%	3	15%
91	20		1106	ClsLab	1,064	24	3	62	103%	9	45%
92	20		1108	ClsLab	1,116	24	2	35	88%	5	25%
93	4	ROTC	100	ClsLab	3,385	30	7	111	32%	4	20%
94	4		101	ClsRm	1,273	47	1	12	24%	2	10%
95	10	Rozsa Ctr	120	ClsRm	1,448	60	2	27	36%	6	30%
96	10		208	ClsLab	1,790	50	3	78	29%	9	45%
97	18	Noblet	G002	ClsRm	1,768	125	3	104	473%	6	30%
98	17	Library	242	ClsLab	1,192	25	2	18	82%	3	15%
99	37	Wads	G011W	ClsRm	2,385	128	3	47	98%	4	20%
100	11	Walker	109	ClsRm	792	36	2	57	98%	6	30%
101	11		0120A	ClsRm	904	30	2	55	100%	6	30%
102	11		134	ClsRm	1,173	40	1	34	97%	3	15%
103	11		143	ClsRm	647	25	1	21	105%	3	15%
104	11		210	ClsLab	1,426	40	1	8	80%	2	10%
105	11		211	ClsLab	731	15	1	14	100%	4	20%
Grand Totals:			Rooms: 105		122,038	5,301	284	5,878	73%	526	26%

Michigan Technological University
Room Utilization Reports
Fall 2021, Monday-Friday, 5:00 PM - 11:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	19	Chem-Sci	102	ClsRm	1,162	66	2	72	90%	6	24%
2	19		108	ClsLab	1,162	44	12	30	14%	1	4%
3	19		0501N	ClsLab	976	24	1	20	100%	3	12%
4	19		0501S	ClsLab	976	24	1	20	100%	3	12%
5	19		0503N	ClsLab	966	24	1	20	0%	3	12%
6	19		0503S	ClsLab	966	24	1	20	0%	3	12%
7	8	Dow	641	ClsRm	2,923	250	25	110	20%	3	12%
8	8		642	ClsRm	1,601	84	13	88	38%	4	16%
9	8		711	ClsLab	937	16	1	6	30%	1	4%
10	7	EERC	100	ClsRm	1,307	82	12	51	26%	1	4%
11	7		218	ClsRm	683	45	1	17	57%	1	4%
12	7		328	ClsLab	1,140	24	1	11	55%	2	8%
13	7		622	ClsLab	983	16	3	33	85%	6	24%
14	7		738	ClsLab	1,001	18	2	16	89%	6	24%
15	7		827	ClsLab	983	16	4	29	48%	10	40%
16	15	Fisher	126	ClsRm	593	35	1	12	67%	2	8%
17	15		139	ClsRm	2,016	125	12	59	24%	1	4%
18	14	Dillman	204	ClsRm	761	43	1	27	68%	3	12%
19	14		208	ClsLab	1,559	64	12	19	8%	1	4%
20	14		214	ClsRm	954	60	1	25	83%	2	8%
21	28	Rekhi	112	ClsLab	775	20	3	101	94%	6	24%
22	28		113	ClsLab	777	20	2	38	86%	3	12%
23	20	MEEM	111	ClsRm	1,429	96	1	25	100%	1	4%
24	20		120	ClsLab	2,630	72	1	47	78%	3	12%
25	20		202	ClsLab	951	16	1	16	100%	2	8%
26	20		302	ClsRm	1,129	48	12	29	15%	2	8%
27	20		402	ClsRm	1,265	48	11	20	18%	1	4%
28	20		505	ClsLab	1,588	16	2	22	73%	4	16%
29	20		1101	ClsLab	1,224	19	3	54	100%	6	24%
30	20		1108	ClsLab	1,116	24	1	23	96%	2	8%
31	4	ROTC	100	ClsLab	3,385	30	1	4	8%	2	8%
32	10	Rozsa Ctr	208	ClsLab	1,790	50	2	45	45%	6	24%
33	24	SDC	237	ClsRm	789	48	1	10	33%	2	8%
34	18	Noblet	144	ClsRm	1,689	26	1	43	102%	1	4%
35	11	Walker	0120A	ClsRm	904	30	4	80	100%	6	24%
Grand Totals:			Rooms: 35		45,090	1,647	153	1,242	41%	109	13%

Michigan Technological University
Room Utilization Reports
Fall 2021, Saturday-Sunday, All Hours

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs
1	8	Dow	610	ClsLab	890	26	1	26	65%	2
Grand Totals:			Rooms: 1		890	26	1	26	65%	2

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 8:00 AM - 10:00 AM

#	Building 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	1	42	93%	3	15%
2	19		102	ClsRm	1,162	66	1	42	100%	3	15%
3	19		103	ClsLab	1,308	20	1	15	79%	3	15%
4	19		0104A	ClsRm	582	32	1	12	55%	3	15%
5	19		0104B	ClsRm	594	32	2	13	43%	3	15%
6	19		106	ClsRm	565	30	2	12	40%	3	15%
7	19		108	ClsLab	1,162	44	2	70	83%	6	30%
8	19		211	ClsRm	1,155	55	2	55	71%	5	25%
9	19		215	ClsRm	584	30	6	13	22%	6	30%
10	19		502	ClsLab	1,124	24	1	9	75%	3	15%
11	19		0601N	ClsLab	1,048	28	2	24	86%	8	40%
12	8	Dow	610	ClsLab	890	26	3	28	28%	6	30%
13	8		641	ClsRm	2,923	250	5	477	73%	7	35%
14	8		642	ClsRm	1,601	84	2	74	55%	5	25%
15	8		711	ClsLab	937	16	1	22	110%	3	15%
16	7	EERC	100	ClsRm	1,307	82	1	75	94%	3	15%
17	7		103	ClsRm	2,396	151	2	176	80%	6	30%
18	7		214	ClsRm	983	65	4	154	95%	7	35%
19	7		216	ClsRm	551	36	3	21	60%	4	20%
20	7		226	ClsRm	683	46	1	11	44%	3	15%
21	7		227	ClsRm	551	36	2	48	96%	4	20%
22	7		229	ClsRm	1,048	65	2	85	71%	6	30%
23	7		315	ClsRm	553	36	2	43	72%	5	25%
24	7		316	ClsRm	823	60	2	89	106%	3	15%
25	7		328	ClsLab	1,140	24	2	28	93%	4	20%
26	7		330	ClsLab	1,558	42	1	8	50%	2	10%
27	7		430	ClsLab	685	2	2	5	63%	2	10%
28	7		431	ClsLab	1,206	16	3	52	93%	6	30%
29	7		622	ClsLab	983	16	2	27	90%	4	20%
30	15	Fisher	101	ClsRm	937	32	4	34	57%	5	25%
31	15		125	ClsRm	583	35	2	41	91%	4	20%
32	15		126	ClsRm	593	35	2	21	42%	6	30%
33	15		127	ClsRm	693	35	2	42	93%	6	30%
34	15		129	ClsRm	792	53	3	91	71%	9	45%
35	15		130	ClsRm	712	44	2	48	69%	6	30%
36	15		131	ClsRm	712	44	1	32	80%	3	15%
37	15		132	ClsRm	693	44	1	41	93%	3	15%
38	15		133	ClsRm	693	44	2	32	46%	5	25%
39	15		135	ClsRm	5,036	476	2	226	75%	4	20%
40	15		138	ClsRm	1,395	92	3	186	85%	10	50%
41	15		139	ClsRm	2,016	125	3	208	77%	9	45%
42	15		230	ClsRm	579	35	2	65	100%	6	30%
43	15		231	ClsRm	697	44	2	8	20%	3	15%
44	15		325	ClsRm	1,064	72	2	82	85%	7	35%
45	15		326	ClsRm	1,064	71	3	109	89%	9	45%
46	15		0327B	ClsRm	445	27	1	13	54%	3	15%
47	15		328	ClsRm	928	62	3	130	86%	10	50%
48	15		329	ClsRm	1,065	72	3	140	81%	10	50%
49	15		330	ClsLab	1,065	24	1	11	73%	3	15%
50	100	GLRC	102	ClsLab	1,374	28	1	14	93%	3	15%
51	14	Dillman	202	ClsRm	776	36	4	70	89%	8	40%
52	14		203	ClsLab	863	26	2	15	75%	4	20%
53	14		204	ClsRm	761	43	4	70	95%	7	35%
54	14		208	ClsLab	1,559	64	8	120	83%	7	35%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 8:00 AM - 10:00 AM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
55	14		211	ClsLab	968	48	2	24	53%	6	30%
56	14		214	ClsRm	954	60	3	84	99%	6	30%
57	14		302	ClsLab	1,243	32	2	64	100%	4	20%
58	14		320	ClsRm	1,051	43	5	85	90%	8	40%
59	14		B003	ClsLab	988	16	1	15	100%	3	15%
60	14		B008	ClsLab	1,495	15	1	5	33%	3	15%
61	84	Meese	110	ClsRm	564	25	1	15	75%	3	15%
62	28	Rekhi	112	ClsLab	775	20	2	54	71%	4	20%
63	28		214	ClsRm	1,328	48	2	40	87%	3	15%
64	28		G005	ClsRm	1,253	54	3	40	57%	8	40%
65	12	M&M Bldg	U111	ClsRm	723	30	1	8	67%	3	15%
66	12		U113	ClsRm	1,069	63	1	21	66%	4	20%
67	12		U115	ClsRm	2,540	240	3	145	85%	4	20%
68	12		U205	ClsRm	421	26	1	9	45%	3	15%
69	12		U209	ClsLab	664	7	1	12	92%	2	10%
70	20	MEEM	111	ClsRm	1,429	96	1	70	73%	4	20%
71	20		112	ClsRm	1,652	115	2	130	68%	4	20%
72	20		120	ClsLab	2,630	72	2	96	91%	4	20%
73	20		202	ClsLab	951	16	3	30	70%	4	20%
74	20		302	ClsRm	1,129	48	2	47	57%	6	30%
75	20		305	ClsLab	1,175	16	3	45	94%	6	30%
76	20		402	ClsRm	1,265	48	2	54	68%	6	30%
77	20		405	ClsRm	607	40	2	23	96%	2	10%
78	20		406	ClsRm	1,130	40	4	97	92%	6	30%
79	20		601	ClsLab	1,980	16	2	17	71%	4	20%
80	20		701	ClsLab	867	16	1	14	93%	2	10%
81	20		1101	ClsLab	1,224	19	2	35	97%	4	20%
82	20		1103	ClsLab	1,092	20	1	20	100%	3	15%
83	10	Rozsa Ctr	120	ClsRm	1,448	60	1	24	80%	3	15%
84	24	SDC	237	ClsRm	789	48	1	17	85%	3	15%
85	18	Noblet	108	ClsLab	692	24	3	25	74%	4	20%
86	18		139	ClsLab	618	18	2	19	79%	6	30%
87	18		143	ClsRm	616	40	1	13	65%	3	15%
88	18		144	ClsRm	1,689	26	3	67	96%	9	45%
89	18		146	ClsLab	997	24	1	6	60%	3	15%
90	18		G002	ClsRm	1,768	125	2	94	86%	6	30%
91	18		G029	ClsLab	1,104	32	1	10	50%	3	15%
92	17	Library	242	ClsLab	1,192	25	1	12	120%	3	15%
93	37	Wads	G011W	ClsRm	2,385	128	6	121	101%	6	30%
94	11	Walker	109	ClsRm	792	36	2	39	78%	6	30%
95	11		0120A	ClsRm	904	30	2	51	102%	6	30%
96	11		138	ClsRm	296	1	1	9	75%	3	15%
97	11		143	ClsRm	647	25	2	35	88%	6	30%
98	11		144	ClsRm	634	25	1	21	105%	3	15%
99	11		204	ClsLab	745	5	1	4	44%	3	15%
100	11		210	ClsLab	1,426	40	2	31	103%	6	30%
	Grand Totals:		Rooms: 100		110,290	5,144	213	5,476	79%	477	24%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 10:00 AM - 3:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	10	4	89	94%	10	40%
2	19	Chem-Sci	101	ClsRm	1,184	66	6	247	87%	18	72%
3	19		102	ClsRm	1,162	66	6	197	72%	19	76%
4	19		103	ClsLab	1,308	20	3	58	95%	7	28%
5	19		0104A	ClsRm	582	32	5	68	59%	10	40%
6	19		0104B	ClsRm	594	32	7	80	50%	17	68%
7	19		106	ClsRm	565	30	9	69	49%	12	48%
8	19		108	ClsLab	1,162	44	6	104	55%	15	60%
9	19		211	ClsRm	1,155	55	5	102	73%	12	48%
10	19		215	ClsRm	584	30	4	30	43%	7	28%
11	19		0501N	ClsLab	976	24	2	45	98%	6	24%
12	19		0501S	ClsLab	976	24	2	43	93%	6	24%
13	19		502	ClsLab	1,124	24	2	9	25%	6	24%
14	19		0503N	ClsLab	966	24	2	32	89%	6	24%
15	19		0503S	ClsLab	966	24	2	32	89%	6	24%
16	19		504	ClsLab	1,100	24	2	31	86%	6	24%
17	19		0601N	ClsLab	1,048	28	2	24	86%	8	32%
18	19		B005	ClsLab	2,473	24	2	86	96%	12	48%
19	8	Dow	106	ClsLab	1,454	16	3	40	89%	15	60%
20	8		420	ClsLab	1,878	15	8	34	43%	3	12%
21	8		610	ClsLab	890	26	3	40	40%	7	28%
22	8		641	ClsRm	2,923	250	7	804	72%	19	76%
23	8		642	ClsRm	1,601	84	6	321	77%	19	76%
24	8		709	ClsLab	744	23	1	5	25%	2	8%
25	8		710	ClsLab	1,287	24	5	52	87%	9	36%
26	8		711	ClsLab	937	16	2	29	76%	6	24%
27	7	EERC	100	ClsRm	1,307	82	10	319	86%	20	80%
28	7		103	ClsRm	2,396	151	7	662	87%	19	76%
29	7		214	ClsRm	983	65	8	255	79%	22	88%
30	7		216	ClsRm	551	36	6	62	62%	11	44%
31	7		218	ClsRm	683	45	5	83	68%	11	44%
32	7		226	ClsRm	683	46	5	141	75%	13	52%
33	7		227	ClsRm	551	36	11	125	55%	20	80%
34	7		229	ClsRm	1,048	65	9	318	73%	20	80%
35	7		313	ClsRm	571	36	5	43	46%	12	48%
36	7		314	ClsRm	553	36	7	76	50%	16	64%
37	7		315	ClsRm	553	36	4	59	66%	10	40%
38	7		316	ClsRm	823	60	4	118	68%	11	44%
39	7		328	ClsLab	1,140	24	4	69	81%	8	32%
40	7		330	ClsLab	1,558	42	6	121	89%	10	40%
41	7		421	ClsLab	844	24	6	49	52%	11	44%
42	7		427	ClsLab	1,000	24	5	48	89%	8	32%
43	7		430	ClsLab	685	2	4	17	71%	6	24%
44	7		431	ClsLab	1,206	16	4	73	87%	8	32%
45	7		622	ClsLab	983	16	7	102	97%	14	56%
46	7		722	ClsLab	978	30	3	75	83%	6	24%
47	7		738	ClsLab	1,001	18	1	15	94%	2	8%
48	7		827	ClsLab	983	16	8	107	94%	16	64%
49	15	Fisher	101	ClsRm	937	32	8	79	52%	22	88%
50	15		125	ClsRm	583	35	9	168	80%	21	84%
51	15		126	ClsRm	593	35	8	102	71%	13	52%
52	15		127	ClsRm	693	35	5	68	64%	14	56%
53	15		129	ClsRm	792	53	6	202	82%	18	72%
54	15		130	ClsRm	712	44	10	220	69%	24	96%
55	15		131	ClsRm	712	44	7	145	60%	18	72%
56	15		132	ClsRm	693	44	5	72	57%	15	60%
57	15		133	ClsRm	693	44	6	106	69%	14	56%
58	15		135	ClsRm	5,036	476	7	1,581	79%	18	72%
59	15		138	ClsRm	1,395	92	6	448	85%	15	60%
60	15		139	ClsRm	2,016	125	8	678	88%	22	88%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 10:00 AM - 3:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
61	15		229	ClsLab	702	14	12	232	96%	24	96%
62	15		230	ClsRm	579	35	6	106	68%	15	60%
63	15		231	ClsRm	697	44	7	96	62%	18	72%
64	15		325	ClsRm	1,064	72	6	231	92%	17	68%
65	15		326	ClsRm	1,064	71	6	238	77%	18	72%
66	15		0327B	ClsRm	445	27	7	54	43%	18	72%
67	15		328	ClsRm	928	62	8	313	83%	23	92%
68	15		329	ClsRm	1,065	72	6	298	91%	20	80%
69	15		330	ClsLab	1,065	24	2	26	59%	4	16%
70	15		B003	ClsLab	689	14	1	5	42%	3	12%
71	15		B020	ClsLab	941	27	9	189	91%	18	72%
72	15		B023	ClsLab	960	12	4	53	98%	8	32%
73	100	GLRC	102	ClsLab	1,374	28	2	30	100%	6	24%
74	14	Dillman	101	ClsLab	2,187	60	8	123	72%	12	48%
75	14		110	ClsLab	1,066	16	3	37	82%	6	24%
76	14		202	ClsRm	776	36	7	91	52%	19	76%
77	14		203	ClsLab	863	26	6	78	77%	9	36%
78	14		204	ClsRm	761	43	8	88	58%	15	60%
79	14		208	ClsLab	1,559	64	11	244	83%	14	56%
80	14		211	ClsLab	968	48	6	89	65%	12	48%
81	14		214	ClsRm	954	60	9	283	78%	23	92%
82	14		302	ClsLab	1,243	32	4	77	84%	8	32%
83	14		320	ClsRm	1,051	43	10	120	59%	15	60%
84	14		B003	ClsLab	988	16	3	42	93%	9	36%
85	14		B008	ClsLab	1,495	15	2	23	77%	6	24%
86	84	Meese	109	ClsRm	680	25	3	26	58%	8	32%
87	84		110	ClsRm	564	25	1	13	65%	2	8%
88	28	Rekhi	113	ClsLab	777	20	4	124	86%	8	32%
89	28		117	ClsLab	1,153	18	2	8	22%	4	16%
90	28		214	ClsRm	1,328	48	7	189	77%	17	68%
91	28		G005	ClsRm	1,253	54	5	105	80%	11	44%
92	28		G009	ClsRm	1,280	48	6	197	88%	17	68%
93	12	M&M Bldg	U106	ClsLab	347	5	8	32	40%	3	12%
94	12		U113	ClsRm	1,069	63	6	225	84%	15	60%
95	12		U115	ClsRm	2,540	240	6	475	91%	14	56%
96	12		U205	ClsRm	421	26	3	28	53%	7	28%
97	12		U209	ClsLab	664	7	4	39	85%	8	32%
98	20	MEEM	111	ClsRm	1,429	96	6	420	92%	19	76%
99	20		112	ClsRm	1,652	115	6	372	72%	18	72%
100	20		120	ClsLab	2,630	72	11	280	80%	19	76%
101	20		202	ClsLab	951	16	2	30	77%	4	16%
102	20		302	ClsRm	1,129	48	4	122	69%	9	36%
103	20		303	ClsRm	1,131	48	5	136	69%	15	60%
104	20		305	ClsLab	1,175	16	7	97	87%	14	56%
105	20		402	ClsRm	1,265	48	7	160	66%	17	68%
106	20		403	ClsRm	1,131	48	7	132	59%	19	76%
107	20		405	ClsRm	607	40	8	143	80%	8	32%
108	20		406	ClsRm	1,130	40	6	172	83%	12	48%
109	20		505	ClsLab	1,588	16	8	107	84%	16	64%
110	20		601	ClsLab	1,980	16	4	46	96%	8	32%
111	20		701	ClsLab	867	16	2	23	77%	4	16%
112	20		1101	ClsLab	1,224	19	3	39	72%	6	24%
113	20		1103	ClsLab	1,092	20	2	35	88%	5	20%
114	20		1106	ClsLab	1,064	24	1	24	100%	3	12%
115	4	ROTC	100	ClsLab	3,385	30	1	12	60%	3	12%
116	4		101	ClsRm	1,273	47	6	40	36%	6	24%
117	10	Rozsa Ctr	120	ClsRm	1,448	60	6	124	95%	18	72%
118	10		208	ClsLab	1,790	50	4	40	73%	12	48%
119	24	SDC	237	ClsRm	789	48	7	68	42%	10	40%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 10:00 AM - 3:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
120	24		238	ClsRm	705	40	5	41	32%	10	40%
121	18	Noblet	108	ClsLab	692	24	4	53	74%	9	36%
122	18		139	ClsLab	618	18	7	101	89%	17	68%
123	18		143	ClsRm	616	40	7	116	68%	16	64%
124	18		144	ClsRm	1,689	26	11	168	82%	18	72%
125	18		146	ClsLab	997	24	5	80	82%	13	52%
126	18		157	ClsLab	954	24	1	21	75%	3	12%
127	18		G002	ClsRm	1,768	125	7	330	88%	15	60%
128	18		G029	ClsLab	1,104	32	4	50	67%	9	36%
129	17	Library	242	ClsLab	1,192	25	5	38	52%	6	24%
130	17		243	ClsRm	578	21	2	26	57%	6	24%
131	11	Walker	109	ClsRm	792	36	5	93	78%	13	52%
132	11		0120A	ClsRm	904	30	6	158	107%	18	72%
133	11		134	ClsRm	1,173	40	7	203	107%	20	80%
134	11		138	ClsRm	296	1	2	13	54%	6	24%
135	11		143	ClsRm	647	25	7	125	86%	21	84%
136	11		144	ClsRm	634	25	6	79	64%	18	72%
137	11		202	ClsLab	1,009	28	3	29	81%	12	48%
138	11		204	ClsLab	745	5	2	11	138%	6	24%
139	11		210	ClsLab	1,426	40	4	56	112%	12	48%
140	11		211	ClsLab	731	15	3	28	78%	12	48%
Grand Totals:			Rooms: 140		153,744	6,117	744	18,545	77%	1,710	49%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 3:00 PM - 5:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
1	5	Acad Ofc	201	ClsRm	610	10	1	13	65%	2	10%
2	19	Chem-Sci	101	ClsRm	1,184	66	12	43	20%	1	5%
3	19		102	ClsRm	1,162	66	1	50	91%	4	20%
4	19		103	ClsLab	1,308	20	2	41	98%	4	20%
5	19		0104A	ClsRm	582	32	1	11	37%	2	10%
6	19		211	ClsRm	1,155	55	13	59	22%	4	20%
7	19		0501N	ClsLab	976	24	3	65	94%	9	45%
8	19		0501S	ClsLab	976	24	2	47	102%	6	30%
9	19		0503N	ClsLab	966	24	2	34	94%	6	30%
10	19		0503S	ClsLab	966	24	2	34	94%	6	30%
11	19		504	ClsLab	1,100	24	2	31	86%	6	30%
12	19		708	ClsLab	1,592	32	1	12	55%	6	30%
13	8	Dow	610	ClsLab	890	26	1	10	50%	1	5%
14	8		641	ClsRm	2,923	250	2	216	83%	5	25%
15	8		642	ClsRm	1,601	84	1	15	83%	3	15%
16	8		710	ClsLab	1,287	24	2	19	95%	4	20%
17	7	EERC	100	ClsRm	1,307	82	2	36	48%	5	25%
18	7		103	ClsRm	2,396	151	12	17	14%	1	5%
19	7		214	ClsRm	983	65	1	40	100%	3	15%
20	7		216	ClsRm	551	36	1	2	7%	3	15%
21	7		218	ClsRm	683	45	2	17	38%	3	15%
22	7		227	ClsRm	551	36	3	17	43%	3	15%
23	7		229	ClsRm	1,048	65	3	129	78%	7	35%
24	7		313	ClsRm	571	36	2	24	44%	3	15%
25	7		314	ClsRm	553	36	1	10	63%	1	5%
26	7		328	ClsLab	1,140	24	2	23	51%	4	20%
27	7		330	ClsLab	1,558	42	1	20	118%	2	10%
28	7		421	ClsLab	844	24	5	32	36%	8	40%
29	7		427	ClsLab	1,000	24	1	9	50%	2	10%
30	7		431	ClsLab	1,206	16	1	20	100%	2	10%
31	7		622	ClsLab	983	16	4	56	93%	8	40%
32	7		722	ClsLab	978	30	2	45	75%	4	20%
33	7		738	ClsLab	1,001	18	2	23	72%	4	20%
34	7		827	ClsLab	983	16	4	58	102%	8	40%
35	15	Fisher	101	ClsRm	937	32	1	5	25%	3	15%
36	15		125	ClsRm	583	35	3	41	63%	7	35%
37	15		126	ClsRm	593	35	3	29	76%	4	20%
38	15		127	ClsRm	693	35	1	19	76%	2	10%
39	15		129	ClsRm	792	53	1	27	61%	3	15%
40	15		130	ClsRm	712	44	4	61	68%	8	40%
41	15		131	ClsRm	712	44	1	14	56%	3	15%
42	15		132	ClsRm	693	44	1	40	91%	2	10%
43	15		133	ClsRm	693	44	2	45	69%	4	20%
44	15		135	ClsRm	5,036	476	1	232	58%	3	15%
45	15		138	ClsRm	1,395	92	3	157	83%	9	45%
46	15		139	ClsRm	2,016	125	2	101	84%	4	20%
47	15		229	ClsLab	702	14	3	65	98%	6	30%
48	15		231	ClsRm	697	44	1	25	71%	3	15%
49	15		325	ClsRm	1,064	72	1	43	90%	3	15%
50	15		326	ClsRm	1,064	71	3	118	81%	9	45%
51	15		0327E	ClsRm	445	27	2	6	0%	4	20%
52	15		328	ClsRm	928	62	3	77	59%	7	35%
53	15		329	ClsRm	1,065	72	4	52	34%	9	45%
54	15		330	ClsLab	1,065	24	1	6	60%	2	10%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 3:00 PM - 5:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	20 Hr Utilization
55	15		B003	ClsLab	689	14	1	10	83%	3	15%
56	15		B020	ClsLab	941	27	3	43	93%	6	30%
57	15		B023	ClsLab	960	12	2	25	96%	4	20%
58	14	Dillman	110	ClsLab	1,066	16	1	6	40%	2	10%
59	14		202	ClsRm	776	36	2	43	98%	2	10%
60	14		204	ClsRm	761	43	1	4	27%	2	10%
61	14		208	ClsLab	1,559	64	3	70	83%	4	20%
62	14		302	ClsLab	1,243	32	2	42	91%	4	20%
63	14		320	ClsRm	1,051	43	2	48	100%	2	10%
64	84	Meese	110	ClsRm	564	25	2	42	93%	6	30%
65	28	Rekhi	112	ClsLab	775	20	1	38	106%	2	10%
66	28		117	ClsLab	1,153	18	2	11	39%	6	30%
67	28		214	ClsRm	1,328	48	2	12	13%	4	20%
68	28		G005	ClsRm	1,253	54	2	31	62%	6	30%
69	28		G009	ClsRm	1,280	48	1	20	42%	3	15%
70	12	M&M Bldg	U113	ClsRm	1,069	63	1	39	98%	3	15%
71	12		U115	ClsRm	2,540	240	1	99	99%	3	15%
72	20	MEEM	111	ClsRm	1,429	96	2	43	54%	5	25%
73	20		112	ClsRm	1,652	115	4	303	76%	7	35%
74	20		120	ClsLab	2,630	72	13	54	21%	4	20%
75	20		202	ClsLab	951	16	2	25	78%	4	20%
76	20		303	ClsRm	1,131	48	1	8	24%	3	15%
77	20		305	ClsLab	1,175	16	3	47	98%	6	30%
78	20		402	ClsRm	1,265	48	2	38	47%	5	25%
79	20		403	ClsRm	1,131	48	1	40	100%	3	15%
80	20		405	ClsRm	607	40	3	11	31%	3	15%
81	20		406	ClsRm	1,130	40	2	75	87%	6	30%
82	20		505	ClsLab	1,588	16	3	23	48%	6	30%
83	20		701	ClsLab	867	16	1	12	80%	2	10%
84	20		1101	ClsLab	1,224	19	1	17	94%	2	10%
85	20		1106	ClsLab	1,064	24	2	46	96%	6	30%
86	20		1108	ClsLab	1,116	24	3	64	107%	9	45%
87	4	ROTC	100	ClsLab	3,385	30	6	80	27%	4	20%
88	4		101	ClsRm	1,273	47	1	12	24%	2	10%
89	4		201	ClsRm	1,362	30	1	16	32%	2	10%
90	10	Rozsa Ctr	120	ClsRm	1,448	60	2	25	34%	6	30%
91	10		208	ClsLab	1,790	50	4	100	31%	10	50%
92	18	Noblet	143	ClsRm	616	40	1	12	60%	2	10%
93	18		144	ClsRm	1,689	26	1	43	86%	1	5%
94	18		G002	ClsRm	1,768	125	2	143	102%	5	25%
95	17	Library	242	ClsLab	1,192	25	2	18	90%	1	5%
96	11	Walker	109	ClsRm	792	36	2	67	96%	6	30%
97	11		0120A	ClsRm	904	30	2	52	104%	6	30%
98	11		134	ClsRm	1,173	40	2	40	100%	3	15%
99	11		143	ClsRm	647	25	2	36	90%	6	30%
100	11		144	ClsRm	634	25	2	35	88%	6	30%
101	11		210	ClsLab	1,426	40	2	24	77%	5	25%
102	11		212	ClsLab	404	15	1	3	30%	3	15%
	Grand Totals:		Rooms: 102		117,970	5,077	243	4,536	63%	436	22%

Michigan Technological University
Room Utilization Reports
Spring 2022, Monday-Friday, 5:00 PM - 11:00 PM

#	Building No.	Building	Room	Room Use	Sqft	Seats	Classes	Students	Classroom Utilization	Credit Hrs	25 Hr Utilization
1	19	Chem-Sci	102	ClsRm	1,162	66	1	37	93%	3	12%
2	19		108	ClsLab	1,162	44	2	20	25%	6	24%
3	19		0501N	ClsLab	976	24	1	20	87%	3	12%
4	19		0501S	ClsLab	976	24	1	21	91%	3	12%
5	19		0503N	ClsLab	966	24	1	18	100%	3	12%
6	19		0503S	ClsLab	966	24	1	17	94%	3	12%
7	8	Dow	641	ClsRm	2,923	250	24	76	18%	2	8%
8	8		642	ClsRm	1,601	84	13	76	30%	4	16%
9	7	EERC	100	ClsRm	1,307	82	1	3	8%	3	12%
10	7		226	ClsRm	683	46	1	21	84%	2	8%
11	7		622	ClsLab	983	16	2	20	67%	4	16%
12	7		722	ClsLab	978	30	1	5	17%	2	8%
13	7		738	ClsLab	1,001	18	2	15	47%	4	16%
14	7		827	ClsLab	983	16	4	68	106%	12	48%
15	15	Fisher	126	ClsRm	593	35	1	5	17%	3	12%
16	15		138	ClsRm	1,395	92	1	73	97%	3	12%
17	15		139	ClsRm	2,016	125	13	169	54%	4	16%
18	15		325	ClsRm	1,064	72	1	49	75%	3	12%
19	14	Dillman	204	ClsRm	761	43	1	29	85%	3	12%
20	14		208	ClsLab	1,559	64	12	25	12%	1	4%
21	14		214	ClsRm	954	60	2	56	70%	4	16%
22	84	Meese	110	ClsRm	564	25	1	13	108%	3	12%
23	28	Rekhi	112	ClsLab	775	20	1	38	106%	2	8%
24	28		113	ClsLab	777	20	1	36	100%	2	8%
25	28		117	ClsLab	1,153	18	1	2	20%	2	8%
26	28		214	ClsRm	1,328	48	1	30	75%	3	12%
27	28		G005	ClsRm	1,253	54	2	40	89%	4	16%
28	28		G009	ClsRm	1,280	48	1	24	71%	3	12%
29	20	MEEM	120	ClsLab	2,630	72	13	36	16%	3	12%
30	20		302	ClsRm	1,129	48	24	53	12%	3	12%
31	20		1101	ClsLab	1,224	19	2	24	67%	4	16%
32	20		1106	ClsLab	1,064	24	1	25	104%	3	12%
33	20		1108	ClsLab	1,116	24	1	23	115%	3	12%
34	10	Rozsa Ctr	208	ClsLab	1,790	50	2	20	20%	6	24%
35	18	Noblet	139	ClsLab	618	18	2	28	78%	4	16%
36	11	Walker	0120A	ClsRm	904	30	2	40	100%	3	12%
37	11		134	ClsRm	1,173	40	1	32	91%	3	12%
Grand Totals:			Rooms: 37		43,787	1,797	142	1,287	42%	126	14%

Michigan Technological University
Assignable Area by College and Department
Fall 2022

College	Department	Assignable Area
Pavlis Honors College	**Pavlis Honors College**	**10,704**
College of Business	**College of Business**	**10,911**
College of Engineering	Biomedical Engineering	14,601
	Chemical Engineering	39,559
	Civil, Environ & Geospatial Engrg	69,362
	College of Engineering	5,314
	Electrical and Computer Engineering	50,440
	Engineering Fundamentals	3,672
	Geological & Mining Eng & Sciences	20,852
	Manufacturing & Mech Eng Technology	13,923
	Materials Science and Engineering	54,926
	Mechanical Engrg-Engrg Mechanics	68,425
	Total College of Engineering	**341,074**
College of Forest Resources & Envir Sci	Ford Center	65,197
	College of Forest Resources & Environ Sci	60,546
	Total College of Forest Resources & Envir Sci	**125,743**
College of Sciences & Arts	Aerospace Studies (Air Force ROTC)	2,207
	Biological Sciences	44,893
	Chemistry	43,256
	Cognitive & Learning Sciences	9,563
	College of Sciences & Arts	1,281
	Humanities	17,183
	Kinesiology/Integrative Physiology	9,916
	Mathematical Sciences	12,242
	Military Science (Army ROTC)	5,399
	Physics	28,830
	Social Sciences	16,102
	Visual & Performing Arts*	57,034
	Total College of Sciences & Arts	**247,906**
College of Computing	**College of Computing**	**25,602**
		761,940

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

**Note: Data as of 9/12/2022

Michigan Technological University
FY23 Statement of Values

Building Number	Building Name	Address	City	State	Zip	Building	Contents	Business Interruption	Total Values
1	Administration Building	1400 Townsend Dr	Houghton	MI	49931	12,317,248	2,897,634		15,214,882
2	Electrical Substation	1400 Townsend Dr	Houghton	MI	49931	617,053	1,214,343		1,831,396
3	Michigan Tech Lakeshore Center	600 E Lakeshore Dr	Houghton	MI	49931	8,556,138	579,527		9,135,665
4	ROTC Building	1400 Townsend Dr	Houghton	MI	49931	7,435,625	25,316		7,460,941
5	Academic Offices Building	1400 Townsend Dr	Houghton	MI	49931	3,514,868	678,455		4,193,323
6	Annex Building	1400 Townsend Dr	Houghton	MI	49931	1,208,756	65,954		1,274,710
7	Electrical Energy Resources Center	1400 Townsend Dr	Houghton	MI	49931	33,373,731	11,227,161		44,600,892
8	DOW Environmental Sciences & Engineering Building	1400 Townsend Dr	Houghton	MI	49931	51,897,808	4,636,213		56,534,021
9	Alumni House	1400 Townsend Dr	Houghton	MI	49931	925,702	145,819		1,071,521
10	Rozsa Performing Arts & Educ	1400 Townsend Dr	Houghton	MI	49931	26,043,604	1,348,766		27,392,370
11	Walker - Arts & Humanities	1400 Townsend Dr	Houghton	MI	49931	14,479,383	742,860		15,222,243
12	Minerals & Materials Engr Bldg	1400 Townsend Dr	Houghton	MI	49931	56,259,994	9,910,205		66,170,199
13	Center for Diversity and Inclusion	1400 Townsend Dr	Houghton	MI	49931	818,899	125,892		944,791
14	Grover C. Dillman Hall	1400 Townsend Dr	Houghton	MI	49931	14,723,150	3,242,522		17,965,672
15	Fisher Hall	1400 Townsend Dr	Houghton	MI	49931	20,884,251	2,897,634		23,781,885
16	Public Safety & Police Services Building	206 MacInnes Dr	Houghton	MI	49931	110,200	46,363		156,563
17	J. Robert Van Pelt and John and Ruanne Opie Library	1400 Townsend Dr	Houghton	MI	49931	27,169,630	36,709,517		63,879,147
18	U.J.Noblet Forestry Building	1400 Townsend Dr	Houghton	MI	49931	14,195,000	674,382		14,869,382
18	U.J.Noblet Forestry Building	1400 Townsend Dr	Houghton	MI	49931	8,916,059	2,422,113		11,338,172
19	Chemical Sciences & Engineering Building	1400 Townsend Dr	Houghton	MI	49931	35,910,544	4,636,213		40,546,757
20	R. L. Smith (MEEM) Building	1400 Townsend Dr	Houghton	MI	49931	33,734,964	6,954,319		40,689,283
24	Student Development Complex	600 Macinnes Dr	Houghton	MI	49931	49,870,729	4,607,597		54,478,326
25	Kearly Stadium Press Box	1502 E Sharon Ave	Houghton	MI	49931	1,166,550	61,812		1,228,362
27	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	180,432	69,652		250,084
27	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	9,884	-		9,884
27	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	57,331	6,165		63,496
27	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	167,216	47,953		215,169
27	FCF Hemlock Residence	21226 Alberta Ave	L'Anse	MI	49946	42,869	-		42,869
27	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	2,824	-		2,824
27	FCF Sassafras Residence	21235 Model T Lane	L'Anse	MI	49946	53,820	-		53,820
28	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	21,233	-		21,233
30	FCF Elm Residence	21229 Husky Dr	L'Anse	MI	49946	60,942	-		60,942
31	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	15,925	-		15,925
32	FCF Birdseye Residence	21251 Model T Lane	L'Anse	MI	49946	71,474	-		71,474
33	FCF Spruce Residence	21235 Husky Dr	L'Anse	MI	49946	66,095	-		66,095
34	FCF Tamarack Residence	21271 Model T Lane	L'Anse	MI	49946	80,424	-		80,424
36	FCF Birch Residence	21345 Husky Dr	L'Anse	MI	49946	62,930	-		62,930
37	FCF Basswood Residence	21238 Model T Lane	L'Anse	MI	49946	68,491	-		68,491
38	FCF Cedar Residence	21361 Husky Dr	L'Anse	MI	49946	66,456	-		66,456
39	FCF Beech Residence	21307 Model T Lane	L'Anse	MI	49946	57,371	-		57,371
40	FCF Ash Residence	21353 Husky Dr	L'Anse	MI	49946	59,404	-		59,404
41	FCF Balsam Residence	21365 Husky Dr	L'Anse	MI	49946	42,166	-		42,166
42	FCF Pump House	21293 Alberta Ave	L'Anse	MI	49946	71,002	8,333		79,335
44	FCF Sawmill Museum	21277 Alberta Ave	L'Anse	MI	49946	445,915	70,466		516,381
45	FCF 8-Car Garage	no address	L'Anse	MI	49946	114,796	18,142		132,938
46	Ford Center and Forest	21235 Alberta Ave. #2	L'Anse	MI	49946	248,595	62,377		310,972
47	Ford Center and Forest	21281 Husky Dr	L'Anse	MI	49946	1,127,706	254,346		1,382,052
48	FCF Classroom 1	21307 Husky Dr	L'Anse	MI	49946	285,884	-		285,884
49	FCF Classroom 2	21288 Husky Dr	L'Anse	MI	49946	76,311	15,318		91,629
50	FCF Recreation	21294 Husky Dr	L'Anse	MI	49946	76,311	19,146		95,457
51	FCF Computer Lab	21302 Husky Dr	L'Anse	MI	49946	115,277	28,924		144,201

Michigan Technological University
FY23 Statement of Values

Building Number	Building Name	Address	City	State	Zip	Building	Contents	Business Interruption	Total Values
52	FCF Classroom 3	21310 Husky Dr	L'Anse	MI	49946	132,569	-		132,569
53	Kanwal and Ann Rekhi Hall	1400 Townsend Dr	Houghton	MI	49931	17,466,518	3,465,598		20,932,116
54	Little Huskies Child Care	500 MacInnes Dr	Houghton	MI	49931	954,606	59,820		1,014,426
55	Douglass Houghton Hall	1700 Townsend Dr	Houghton	MI	49931	17,583,298	210,539		17,793,837
56	Daniell Heights Apartments	2005 Woodmar Dr	Houghton	MI	49931	28,603,026	202,480		28,805,506
57	Daniell Heights Maintenance	2005 Woodmar Dr	Houghton	MI	49931	76,441	10,685		87,126
58	Memorial Union Building	1400 Townsend Dr	Houghton	MI	49931	16,282,627	1,159,052		17,441,679
59	21725 Woodland Road House	21725 Woodland Road	Houghton	MI	49931	96,000	5,795		101,795
60	Wadsworth Hall	1703 Townsend Dr	Houghton	MI	49931	53,567,043	1,822,159		55,389,202
61	West McNair Hall	1801 Townsend Dr	Houghton	MI	49931	7,203,127	30,432		7,233,559
63	McNair Hall Food Services	1801 Townsend Dr	Houghton	MI	49931	2,271,986	916,685		3,188,671
65	East McNair Hall	1801 Townsend Dr	Houghton	MI	49931	10,735,709	289,763		11,025,472
69	Central Energy Plant	1400 Townsend Dr	Houghton	MI	49931	16,889,233	65,004		16,954,237
70	Facilities Management Storage	1400 Townsend Dr	Houghton	MI	49931	2,753,702	347,715		3,101,417
71	Facilities Building	1400 Townsend Dr	Houghton	MI	49931	2,697,396	2,318,107		5,015,503
72	Kettle-Gundlach House	21680 Woodland	Houghton	MI	49931	496,793	23,300		520,093
73	Tech Trails Waxing Center	1400 Townsend Dr	Houghton	MI	49931	181,440	-		181,440
74	217 East Street House	217 East St	Houghton	MI	49931	112,413	-		112,413
75	Hillside Place	1801 Woodland Road	Houghton	MI	49931	17,370,307	1,729,645		19,099,952
76	Property Storage	1400 Townsend Dr	Houghton	MI	49931	211,983	11,591		223,574
77	Gates Tennis Center	1400 Townsend Dr	Houghton	MI	49931	3,796,219	19,068		3,815,287
78	207 East Street House	207 East St	Houghton	MI	49931	118,880	-		118,880
79	PLGC Clubhouse	46789 US Hwy 41	Houghton	MI	49931	779,926	86,929		866,855
80	Mont Ripley Ski Hill	49051 Ski Hill Lane	Houghton	MI	49931	29,917	115,905		145,822
81	Mont Ripley Ski Chalet	49051 Ski Hill Lane	Houghton	MI	49931	765,013	115,905		880,918
82	Mont Ripley Storage	49051 Ski Hill Lane	Houghton	MI	49931	163,200	168,130		331,330
84	Daniell Heights Storage 56	1400 Townsend Dr	Houghton	MI	49931	42,240	-		42,240
86	209 East Street House	209 East St	Houghton	MI	49931	115,640	-		115,640
88	PLGC Maintenance -1	46789 US Hwy 41	Houghton	MI	49931	131,040	203,330		334,370
89	PLGC Maintenance -2	46789 US Hwy 41	Houghton	MI	49931	25,000	52,156		77,156
90	PLGC Cart Storage -A	46789 US Hwy 41	Houghton	MI	49931	180,000	-		180,000
92	PLGC Cart Storage - B	46789 US Hwy 41	Houghton	MI	49931	144,000	-		144,000
93	PLGC Maintenance - 3	46789 US Hwy 41	Houghton	MI	49931	82,316	110,691		193,007
94	Daniell Heights Storage 65	1400 Townsend Dr	Houghton	MI	49931	128,000	23,181		151,181
95	KRC Engineering Design Center #69	23337 Airpark Blvd	Houghton	MI	49931	2,501,026	115,905		2,616,931
96	KRC Scientific & Admin Offices #70	23620 Airpark Blvd	Calumet	MI	49913	401,480	3,477,159		3,878,639
98	KRC Machine & Vehicle Shops	23620 Airpark Blvd	Calumet	MI	49913	160,000	373,241		533,241
98	KRC Vehicle Service Bldg T3	23620 Airpark Blvd	Calumet	MI	49913	221,520	1,738,579		1,960,099
100	KRC Vehicle Storage Bldg T4	23620 Airpark Blvd	Calumet	MI	49913	160,000	347,715		507,715
102	KRC Engineering Laboratories	23620 Airpark Blvd	Calumet	MI	49913	184,400	801,319		985,719
103	KRC Special Projects Facility	23620 Airpark Blvd	Calumet	MI	49913	75,050	42,156		117,206
107	KRC Support Services Facility	23620 Airpark Blvd	Calumet	MI	49913	24,808	8,290		33,098
110	KRC Water Truck Storage	23620 Airpark Blvd	Calumet	MI	49913	197,696	-		197,696
111	KRC Eng Support Facil Bendix	23620 Airpark Blvd	Calumet	MI	49913	206,080	260,787		466,867
112	KRC Chrysler Support Fac II	23620 Airpark Blvd	Calumet	MI	49913	299,540	11,963		311,503
113	KRC Cold Storage Building #105	23620 Airpark Blvd	Calumet	MI	49913	344,471	173,859		518,330
201	Power Generation Building	1400 Townsend Dr	Houghton	MI	49931	1,480,927	2,428,688		3,909,615
202	21610 Woodland Road House	21610 Woodland Road	Houghton	MI	49931	425,767	-		425,767
203	Harold Meese Center	1304 E Houghton Ave	Houghton	MI	49931	2,329,533	289,763		2,619,296
204	MTU Tower Building		Houghton	MI	49931	17,661	-		17,661
205	DPSPS/EMS Building	1400 Townsend Dr	Houghton	MI	49931	305,520	23,181		328,701
206	Tech Trails Maintenance	1400 Townsend Dr	Houghton	MI	49931	75,755	115,905		191,660
207	Sands Pilot Plant	6000 Carlos St	Houghton	MI	49931	1,214,075	23,181		1,237,256

Michigan Technological University
FY23 Statement of Values

Building Number	Building Name	Address	City	State	Zip	Building	Contents	Business Interruption	Total Values
208	Advanced Energy Research Building	1051 Ethel Ave	Houghton	MI	49931	382,677	927,243		1,309,920
209	Fish Hatchery Building	Fish Hatchery Road	Houghton	MI	49931	54,400	-		54,400
210	AMJOCH Observatory	47976 N Huron St	Houghton	MI	49931	48,707	23,181		71,888
211	Advanced Technology Development Complex	1402 Sharon Ave	Houghton	MI	49931	7,140,924	4,664,064		11,804,988
212	SDC Annex Building	1400 Townsend Dr	Houghton	MI	49931	241,269	-		241,269
213	Settling Basin	1400 Townsend Dr	Houghton	MI	49931	235,903	-		235,903
214	Mont Ripley Chair Lift	1400 Townsend Dr	Houghton	MI	49931	555,881	-		555,881
215	Great Lakes Research Center	100 Phoenix Drive	Houghton	MI	49931	30,319,836	1,709,518		32,029,354
216	Advanced Power Systems Research Center	7 Industrial Drive	Calumet	MI	49913	7,389,556	1,139,679		8,529,235
217	A.E. Seaman Mineral Museum	1404 Sharon Ave	Houghton	MI	49931	1,974,493	110,627		2,085,120
219	212 East Street House	212 East St	Houghton	MI	49931	119,837	-		119,837
220	214 East Street House	214 East St	Houghton	MI	49931	151,481	-		151,481
221	46645 US-41 House	46645 US-41	Houghton	MI	49931	359,841	28,381		388,222
222	Facilities Storage	1223 Garnet Street	Houghton	MI	49931	385,184	113,522		498,706
223	Salt Storage Building	113 Cemetary Road	Houghton	MI	49931	355,209	-		355,209
225	FCF Dorm 1	21358 Liberator Ave	L'Anse	MI	49946	331,796	83,253		415,049
226	FCF Storage 3	21219 Alberta Ave	L'Anse	MI	49946	76,643	25,643		102,286
230	FCF Storage 2	no address	L'Anse	MI	49946	92,800	-		92,800
231	FCF 9-Car Garage	21208 Glider Lane	L'Anse	MI	49946	294,011	43,268		337,279
233	FCF Maintenance	21245 Glider Lane	L'Anse	MI	49946	625,409	289,763		915,172
906	FCF Maintenance	21235 Alberta Ave. #2	L'Anse	MI	49946	372,520	32,635		405,155
215a	FCF Main Office	21235 Alberta Ave	L'Anse	MI	49946	352,847	94,474		447,321
231a	Michigan Tech Research Institute	3600 Green Court, Suite 100	Ann Arbor	MI	48105	-	1,755,966		1,755,966
-	Central Heating Plant Fuel Tanks	1400 Townsend Dr	Houghton	MI	49931	1,270,327	-		1,270,327
-	Copper Country Mall Print Shop Location	47420 M-26	Houghton	MI	49931	-	2,060,400		2,060,400
	Business Interruption					-	-	110,591,000	110,591,000
TOTALS	**TOTALS**					**693,823,438**	**133,348,413**	**110,591,000**	**937,762,851**