NORTHERN MICHIGAN UNIVERSITY

FIVE-YEAR FACILITIES MASTER PLAN

October 2023

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Section I
Mission

Mission Statement

Northern Michigan University's distinctive academic mission and career programs are nurtured by exceptional teaching and extensive opportunities for scholarship, creativity, and engagement. Our supportive, connected community empowers students, graduates, faculty, and staff to contribute to a diverse and sustainable world.

Vision Statement

Northern Michigan University promotes an active environment to foster strong minds and bodies, inspires innovation and inclusion through community engagement, and develops leaders capable of local and global impact.

CORE VALUES

COMMUNITY

Northern has a distinctive sense of place – some refer to it as the upper hand. We are a warm, friendly, caring, and helpful university. We are collaborative, on campus and off, valuing partnerships and service to each other, the community and the region. Our focus is always on students.

OPPORTUNITY

Like Lake Superior's vastness, there is depth and breadth to Northern's wide range of academic, research and scholarship, international travel and student service programs. We are affordable and accessible. We use our many resources to achieve deep personal and professional growth in ourselves and provide it for others.

RIGOR

A Northern education is like the black rocks that protect *Gichigami's* shores – a solid foundation that will endure the waves of time and change. We achieve academic excellence through top-caliber teaching, learning, research and service. Our work ethic and integrity are powered by discipline, courage, pride, sisu (determination), perseverance and the desire to help others succeed, in and out of the classroom.

ENVIRONMENT

The unparalleled rugged beauty of the physical environment at Northern's campus doorstep is something we admire, study, learn from, strive to protect and enjoy year-round. And like the Anishinaabe, we see a responsibility to plan for sustainability seven generations into the future.

INCLUSION

Northern is a safe and welcoming place. We aspire to learn from and encourage each other as global citizens, neighbors, colleagues and family. We desire to be a role model in embracing all types of diversity and diverse points of view, engaging in civil society and governance, protecting human rights and promoting social justice.

CONNECTIONS

At Northern, we make connections in dynamic ways, creatively using resources and technology to link people, ideas and projects. We nurture strong ties to the environment, community, disciplines, and our rich history and traditions. Like the Northern Lights (*Aurora Borealis*), these connections are often luminous and inspiring.

INNOVATION

Michigan's Upper Peninsula has always been home to bold, creative risk-takers and problem-solvers. Here, we excel at being inquisitive in looking beyond what is to what could be. We believe exploration unleashes and builds strength of mind and character. We endeavor to be entrepreneurs, discoverers and the best within our chosen fields.

Section II

Instructional Programming

Strategic Direction: Preparing for the Future

The NMU 2024 Interim Strategic Plan, approved by the NMU Board of Trustees in December 2021, positions Northern for a healthy transition of leadership while simultaneously sets the University up for the future. The interim strategic plan helps to tell the story of Northern Michigan University, while at the same time guides newly installed President Brock Tessman as he learns about all that makes Northern distinct in its higher education and regional leader missions. The plan is meant to continue to serve the Northern community through the 2023-24 academic year while President Tessman guides the development of a new strategic plan.

The interim plan acts as a guidepost supporting all the members of the NMU community—students, staff, faculty and administrators—in building toward a shared vision. Additional transitions in leadership positions such as provost and chief diversity officer will mean significant change for the future of NMU.

The interim plan has five focus areas:

- Diversity, Equity, Inclusion and Belonging
- Builders of a Culture of Sustainability
- Emergency Planning: COVID-19
- New markets, new supports
- Rural roots

DIVERSITY, EQUITY, INCLUSION and BELONGING creates and embraces a university-wide culture of inclusion and belonging for all members of the NMU community.

NMU acknowledges that historical patterns of oppression in US society—beginning with colonization, and continuing with racial and ethnic discrimination, and mistreatment of LGBTQIA+ people and people with disabilities and other marginalized populations—also exist on college campuses. NMU must commit to understanding those patterns and work to create a more just university and society. We must recognize that diversity, equity, inclusion and belonging (DEIB) do not simply exist with a statement but rather must be sewn into the fabric of our university culture and values. NMU must ensure the sustainability of the comprehensive, transformative work of diversity, equity, inclusion and belonging, and understand the long journey that will create a community where everyone feels safe, supported, and included. Some of the goals in this area include:

- Launching collaborations across our campus to create, foster, and continuously strengthen a comprehensive, university-wide, long-term DEIB action plan
- Recruiting and retaining faculty and staff of diverse backgrounds at all levels of employment
- Recruiting and retaining students of diverse backgrounds
- Integrating diversity, equity, accessibility, and inclusion in academics

Strategic Direction: Preparing for the Future

BUILDERS OF A CULTURE OF SUSTAINABILITY enhances and grows sustainability efforts and education throughout the planning, operations, education, research and service aspects of the university.

Sustainable actions are commonly defined as those that meet the needs of the present without compromising the ability of future generations to meet their own needs. Most definitions of sustainability emphasize the intersection of environmental protection, economic development and social equity. Thus, a focus on sustainability reinforces other focus areas such as diversity, equity and inclusion and rural roots. Building a culture of sustainability will require a comprehensive strategy that infuses sustainability considerations into all university-wide decision-making, curricula and outreach efforts. This coordinated approach builds on existing goals outlined in NMU's 2030 Sustainability Plan and Campus Energy Master Plan, which have been developed in consultation with the Sustainability Advisory Council, the Carbon Neutrality Task Force and the efforts of many students, staff and faculty across campus. Coordinating these efforts will bring NMU's performance in this area to the next level, and will promote NMU's reputation as a regional leader in sustainability. Some of the goals in this area include:

- Emphasizing sustainability in operations and in campus-wide policies
- Implementing first steps towards achieving carbon neutrality by 2050
- Improving waste and recycling efforts
- Providing a sustainable dining experience
- Creating new, interdisciplinary sustainability curricula, including hands-on learning experiences
- Educating students and community about different sustainability principles and practices
- Building local and regional partnerships to expand educational opportunities
- Supporting applied sustainability-related research

EMERGENCY PLANNING: COVID-19 ensures long-term emergency planning success by reflecting on what we have learned during the COVID-19 pandemic.

Thoughtful and careful emergency pre-planning helped us establish a strong mitigation response during COVID-19. As we plan for a shift to an endemic state, it is important to reflect and make updates to our traditional emergency planning and training practices based on what the COVID-19 pandemic has taught us about planning for long-term crises. Some of the goals in this area include:

- Transitioning from COVID-19 pandemic to endemic state
- Identifying those adaptions that were put into place in response to COVID-19 that should be retained and incorporated into the University's academic and general operations as ongoing good practice to meet the needs and expectations of post-COVID students, faculty, and staff.

Strategic Direction: Preparing for the Future

NEW MARKETS, NEW SUPPORTS grows and supports our student body by identifying new markets, developing new academic offerings, and supporting our students' mental and physical health.

NMU recognizes the necessity for highly effective recruitment and retention programming. Demographic and other external factors will create strains on enrollment and resources in the coming decade. In order to plan for these challenges, significant investments in enrollment and student success strategies are needed. Goals in this area include:

- Increasing NMU's competitive edge in attracting students
- Leveraging the unique programs offered by NMU to attract students
- Increasing diversity of the student body
- Engaging in proactive advising, leveraging student success technology and student-centered analytics
- Strengthening support for mental health and physical well-being
- Driving academic innovation of new and existing programs to attract new students
- Employing new, flexible and adaptive methods of content delivery to better meet the needs of current and future students

RURAL ROOTS leverages our unique rural location and expertise to serve rural communities by providing health services, economic models, workforce talent, and continuing education opportunities.

According to the U.S. Census Bureau and Office of Management and Budget, all communities within the Upper Peninsula are rural, and because of its location and the students that it serves, NMU is considered a rural-serving institution, according to the criteria set forth by the Alliance for Research on Regional Colleges. NMU is located on the ancestral and current homelands of the Anishinaabe Three Fires Confederacy and serves rural communities throughout the Upper Peninsula. Northern is uniquely positioned to leverage its geographic location and provide educational programs and research focused on rurality and rural issues. As an important community partner, NMU has a responsibility to contribute to the economic strength and sustainability of the U.P. in a manner that honors its connection to the land, its people and its rich cultural history while fostering the physical and mental health, and the education and employment needs of its residents. Some goals in this area include:

- Developing and expanding academic programs with a rural focus and infuse rural and regional topics into current curricula
- Leveraging our long history of providing access by expanding continuing education opportunities for rural residents and employers
- Increasing and supporting faculty and student research on rurality
- Coordinating, expanding and increasing health initiatives in the Upper Peninsula, especially to those that reach out to residents whose rural location hinders their ability to live healthy lives
- Improving internet access and digital security throughout the region
- Serving as a catalyst for regional economic and workforce development

Academic Programs

Baccalaureate Degree Programs

Major

Accounting
Acting
Anthropology
- *Concentrations*
- Archaeology
- Forensic Anthropology
- General Anthropology
- Sociocultural Anthropology

Applied Exercise Science and Health
- *Concentrations*
- Clinical Exercise Science
- Community Health
- Sport and Fitness Management
- Sport Performance and Fitness Leadership

Applied Workplace Leadership
Art and Design Education
Art and Design
- *Concentrations*
- Ceramics
- Computer Art
- Digital Cinema
- Drawing/Painting
- Graphic Design
- Human Centered Design
- Illustration
- Metalsmithing/Sculpture
- Photography
- Woodworking/Furniture Design

Athletic Coaching Education
Biochemistry
Biology
- *Concentrations*
- Botany
- Ecology
- General Biology
- Microbiology
- Physiology
- Zoology

Business Analytics
Chemistry (ACS Certified)
Clinical Health
- *Concentrations*
- Radiography
- Respiratory Therapy
- Surgical Technology

Clinical Laboratory Science
- *Concentrations*
- Anatomic Pathology
- Clinical Systems Analyst
- Diagnostic Genetics
- Medical Laboratory Science
- Microbiology
- Science Technologist

Communication Studies
- *Concentrations*
- Health and Environmental Communication
- Interpersonal/Intercultural Communication
- Organizational Communication
- Public Communication and Social Influence

Computer Science
Construction Management
Controlled Environment Agriculture
Criminal Justice
Dance
Data Science
Earth Science
Economics
Electrical Engineering Technology
Elementary Education (2 minors)
Elementary Education Integrated Science
Elementary Education Language Arts
Elementary Education Mathematics
Elementary Education Social Studies
Elementary Education Special Education
Embedded Systems

Academic Programs

Baccalaureate Degree Programs *(continued)*

Major

English
- *Concentrations*
  - Literature
  - Writing

Entrepreneurship
Environmental Science
- *Concentrations*
  - Natural Resources
  - Pollution Control and Remediation
  - Renewable Energy Technologies
  - Water Resources

Environmental Studies and Sustainability
Financial Management
Fisheries and Wildlife Management
Forensic Biochemistry
French
Geographic Information Science & Technology (GIST)
German Studies
History
- *Concentrations*
  - Global History
  - Traditional History

Hospitality Leadership Management
Human Resource Management
Individually Created Programs (ICP)/Individualized Studies
Industrial Technologies
Information Assurance/Cyber Defense
Insurance and Risk Management
International Studies
- *Concentrations*
  - Africa
  - Asia
  - Europe
  - Global
  - Latin America
  - Middle East

Loss Prevention Management
Management
Marketing
Mathematics
- *Concentrations*
  - Actuarial Sciences
  - General Mathematics

Mechanical Engineering Technology
- *Concentrations*
  - Advanced Mathematics
  - Renewable Energies
  - CNC Technology
  - Manufacturing Engineering Technology
  - Mechanical Engineering Design
  - Mechatronics

Medicinal Plant Chemistry
Mobile and Web App-Development
Multimedia Journalism
Multimedia Production
Music
Music with Elective Studies in an Outside Field
- *Concentrations*
  - Entrepreneurship
  - Marketing and Publicity
  - Multimedia Production
  - Music Management

Musical Theatre
Native American Studies

Academic Programs

Baccalaureate Degree Programs (*continued*)

Major

Neuroscience
- *Concentrations*
  - Cellular and Molecular Neuroscience
  - Behavioral and Cognitive Neuroscience

Nursing
Outdoor Recreation Leadership and Management
Paralegal
Philosophy
Physics
Political Science
- *Concentrations*
  - General Political Science
  - International
  - Pre-law
  - Public Administration

Pre-Athletic Training
Pre-Chiropractic
Pre-Clinical Psychology Program
Pre-Dental
Pre-Engineering
Pre-Law
Pre-Medical
Pre-Occupational Therapy
Pre-Optometry
Pre-Pharmacy
Pre-Physical Therapy
Pre-Physician Assistant
Pre-Veterinary Medicine
Psychology
- *Concentrations*
  - Brain and Behavior
  - Cognitive and Behavioral
  - Developmental Psychology
  - Interdisciplinary Psychology
  - Mental Health/Pre-Clinical Psychology
  - Social/Personality Psychology

Psychology/Behavior Analysis *(currently not accepting students)*
Public Relations
RN to Baccalaureate Nursing
Secondary Education Biology
Secondary Education Chemistry
Secondary Education Earth Science *(currently not accepting students)*
Secondary Education English
Secondary Education French
Secondary Education Geography *(currently not accepting students)*
Secondary Education Health and Physical Education
Secondary Education History
Secondary Education Industrial Technology
Secondary Education Integrated Science
Secondary Education Integrated Science Major with Biology Minor (Option I)
Secondary Education Integrated Science Major with Chemistry Minor (Option II)
Secondary Education Integrated Science Major with Earth Science Minor (Option III)
Secondary Education Integrated Science Major with Physics Minor (Option IV)
Secondary Education Mathematics
Secondary Education Music
Secondary Education Physics
Secondary Education Political Science *(currently not accepting students)*
Secondary Education Social Studies
Secondary Education Spanish
Secondary Education Special Education
Ski Area Business Management
Social Media Design Management
Social Work
Sociology
Spanish
Speech, Language and Hearing Sciences
Sports Science
Sustainable Business and Enterprise Creation
Theatre Technology and Design
Theatre and Entertainment Arts

Academic Programs

Associate Degree Programs

Major

Art and Design
Automotive Service Technology
Aviation Maintenance Technology *(currently not accepting students)*
Building Technology
Cannabis and Plant-Based Wellness Operations
Climate Control Technology
Clinical Laboratory Technology
- *Concentrations*
- Medical Laboratory Technician
- Science Technician

Computer Numerical Control Technology
Criminal Justice
Dance
Electrical Technology
- *Concentrations*
- Electrical Power Technician
- General Electronics
- Industrial Electrical

Engineering Design
Food Service Operations
General Business
General Studies
Health Information Processing *(currently not accepting students)*
Indoor Agriculture
Industrial Maintenance Technology
Information Assurance and Cyber Defense
Insurance
Law Enforcement
Native American Community Services
Office Information Assistant *(currently not accepting students)*
Paralegal
Radiography
Surgical Technology
Theatre Performance
Theatre Technology
Welding Technology

Academic Programs

Certificate Programs

Advanced Law Enforcement
Applied Workplace Leadership
Assistant Behavior Analyst *(currently not accepting students)*
Automotive Maintenance
Automotive Service
Aviation Maintenance Technology *(currently not accepting students)*
Cannabis Operations
Computer Numerical Control Technician
Cosmetology
Cosmetology Instructor
Cyber Defense
Deaf Studies
Electrical Line Technician
Esthetics
Geographic Information Systems
Heating, Ventilation, Air Conditioning and Refrigeration (HVACR)
Hospitality and Tourism Management *(currently not accepting students)*
Industrial Maintenance
Local Corrections
Manicure
Manufacturing Production Technician
Natural Hair Cultivation
Office Services *(currently not accepting students)*
Plant-Based Wellness
Post-Baccalaureate Paralegal
Practical Nursing *(currently not accepting students)*
Welding
Wildland Firefighting *(currently not accepting students)*
Workplace Intercultural Competency

Certifications

Advanced Study in French
Advanced Study in German
Advanced Study in Spanish
Basic Study in Chinese
Basic Study in French
Basic Study in German
Basic Study in Russian
Basic Study in Spanish
Competency: German-Speaking Cultures
Intermediate Study in French
Intermediate Study in German
Intermediate Study in Spanish
Native American Education
Teaching English to Speakers of Other Languages (TESOL)

Academic Programs

Graduate Programs

Certificate
- Applied Behavior Analysis
- Applied Clinical Psychology (currently not accepting students)
- Clinical Molecular Diagnostics
- Health Informatics (discontinued Fall 2023)
- Teaching English to Speakers of Other Languages (TESOL)

Doctorate

Nursing Practice
- Post-Baccalaureate Track
- Post-Master's Track

Education Specialist
- Administration and Supervision (Ed.S.)

Certification and Professional/Personal Development Programs for Educators

Certification
- Administrator: K-12 Principal
- Central Office
- Professional
- Standard

Endorsement
- Early Childhood
- Learning Disabilities
- Reading K-8

Masters

Administration of Outdoor Recreation and Nature-based Tourism
Applied Sports Psychology
Athletic Training
Biology
Business Administration

Masters *(continued)*

Clinical Molecular Diagnostics - Track 1:
- *Concentrations*
  - Human Genetics
  - Infectious Disease

Clinical Molecular Diagnostics - Track 2:
- Clinical Molecular Laboratory Education Track

Computer Science
Creative Writing
Early Childhood Education
Early Childhood Endorsement
Educational Administration: Administration and Supervision
Educational Administration: Native American Education Administration and Supervision
Educational Instruction
English
- *Concentrations*
  - Literature
  - Literature and the Environment
  - Writing and Literacy Studies

Exercise Science
Higher Education and Student Affairs *(Discontinued Fall 2020)*
Interdisciplinary Studies
Integrated Biosciences
Learning Disabilities
Learning Disabilities Endorsement
Mathematics
Nursing
Postsecondary Biology Education (discontinued Fall 2023)
Psychology
Public Administration
Reading K-8
Reading Specialist K-12
Social Work
- *Concentrations*
  - Advanced Generalist
  - Clinical
  - 4+1 Business Administration with a concentration in Accounting

Academic Programs

Elementary Education Minors
Early Childhood
French
German
Integrated Science
Language Arts
Mathematics
Reading
Spanish

Secondary Education Minors
Biology
Chemistry
Earth Science *(currently not accepting students)*
Economics *(currently not accepting students)*
English
French
Geography *(currently not accepting students)*
German
History
Mathematics
Physics
Political Science *(currently not accepting students)*
Spanish

Non-Education Minors
Accounting
Actuarial Sciences
Anthropology
Applied Ethics
Applied Statistics
Applied Workplace Leadership
Art and Design
Art History
Automotive Service Technology
Biology
Business Administration
Business Foundations (MBA Prep)
Cannabis Operations
Chemistry
Citizenship Studies

Non-Education Minors *(continued)*

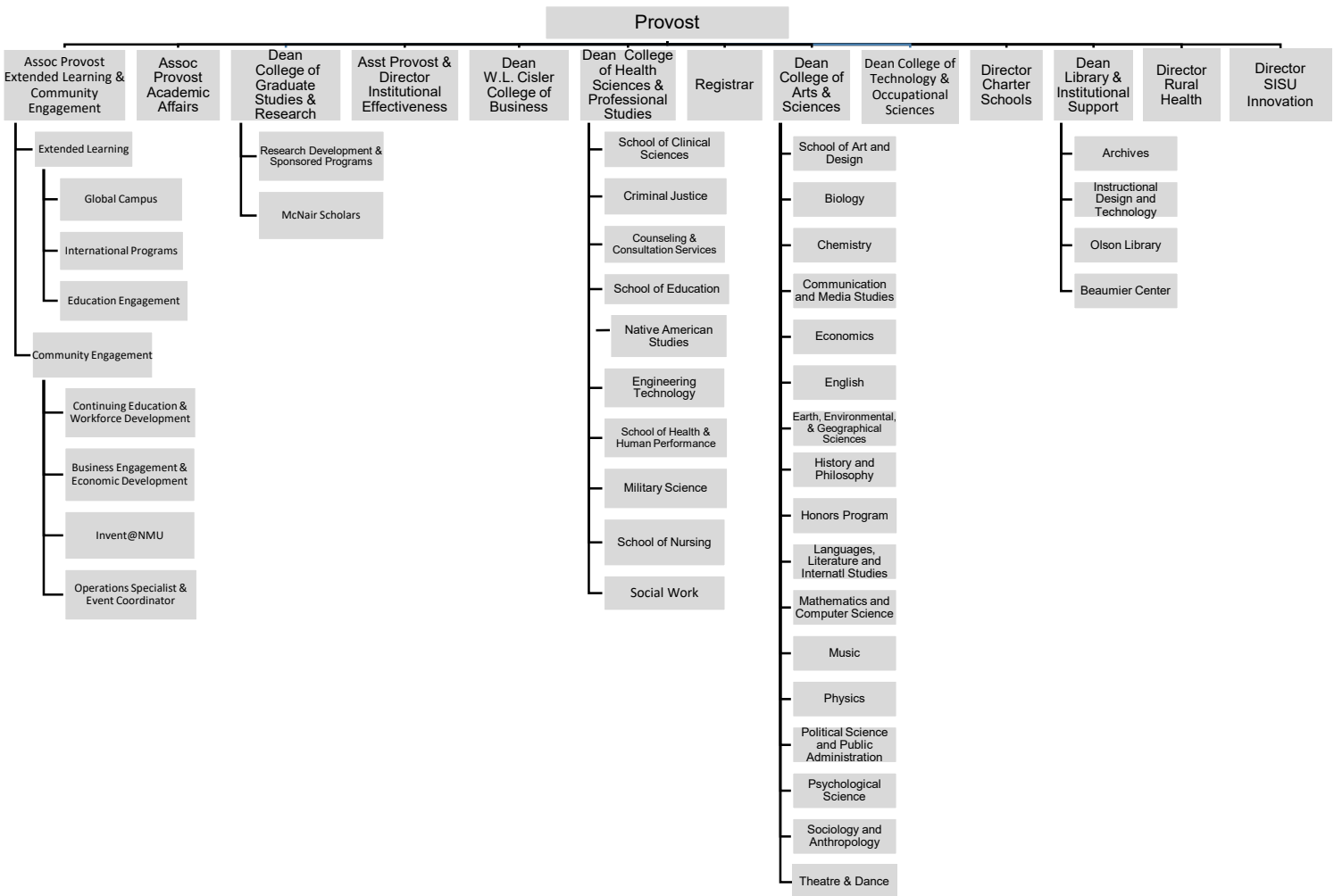
Clinical Exercise Science
Clinical Laboratory Techniques
CNC Technology
Communication Studies
Community Health
Computer Science
Construction Systems
Contracted Minor (Engineering Technology)
Criminal Justice
Dance
Data Science
Deaf Studies
Earth Science
Earth, Environmental, and Geographical Sciences Cluster
Economics
Electronics
Emergency Medical Services
Engineering Design
English
Entrepreneurship
Environmental Studies
Film Studies
Food, Environment, and Society
French
Gender and Sexuality Studies
Geographic Information Science & Technology (GIST)
German
Gerontology *(currently not accepting students)*
Group Science
Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR)
History
Hospitality Systems

Academic Programs

Non-Education Minors (*continued*)

Human Behavior Cluster
Human Biology
Human Services
Indoor Agriculture
Industrial Electrical Technology
Industrial Maintenance Technology
Information Assurance/Cyber Defense
Information Systems
Integrative Science
International Business
International Studies
Interpretation and Outdoor Education
Journalism
Latin American Studies
Loss Prevention Management
Management
Marketing
Mathematical Statistics
Mathematics
Media Studies
Military Science
Multimedia Journalism
Multimedia Production
Music
Native American Community Services (NACS)
Native American Studies
Nutrition
Office Services *(currently not accepting students)*
Outdoor Recreation
Philosophy
Physical Education - Coaching
Physics
Plant-Based Wellness
Political Science
Pre-Law
Pre-Professional Science
Psychology
Public Administration
Public Relations
Religious Studies
Renewable Energies
Research Analyst
Social Service
Sociology
Spanish
Speech, Language, and Hearing Sciences
Sport and Fitness Management
Sport Performance and Fitness Leadership
Sports Science Cluster
Substance Use
Sustainability
Teaching English to Speakers of Other Languages (TESOL)
Theatre and Entertainment Arts
Welding
Wildland Firefighting *(currently not accepting students)*
Wildlife Conservation Law and Policing
Workplace Intercultural Competency
Writing

Academic Affairs Division Organizational Chart



Instructional Programming

Existing Academic Programs and Projected Programming Changes

Northern Michigan University (NMU) continually strives to be the comprehensive university of choice in the Midwest where students receive individualized attention in a high tech learning environment. NMU competes by pursuing programs and initiatives aimed at continuous quality improvement. We focus on integrating student learning outcomes into curricular processes, including co-curricular development, contemporary general education, continuous academic program review, and the student learning outcomes assessment. The Center for Teaching and Learning (CTL) continues to provide classroom and instructional support with educator-scholar expertise. The CTL serves the institution with its advanced technology, up-to-date training and extensive hours. Also, in conjunction with Extended Learning and Community Engagement, the CTL offers the Online Teaching Fellows Program, a two program faculty development series based on Quality Matters standards and designed to advance faculty expertise in the design, development, and delivery of online courses. Additionally, the university's General Education Council's general education program had a successful launch in the fall of 2017, and the Council is working on creating sustainable outcomes assessment.

Academic programs, student achievement, and learning outcomes assessment have been the university's top priority. Evidence-based decision-making guides our planning activities for ultimate student success. Outcomes assessment is part of the contractual agreement with both of our faculty unions. This underscores the commitment of our faculty to continue to excel at teaching and learning. Additionally, NMU is accredited on Higher Learning Commission's Open Pathway, which is focused on quality assurance and institutional improvement. Fostering a culture of continuous quality improvement is essential to continuing to meet Open Pathway expectations. NMU's Assurance Review was in 2020-21, year four of the ten-year accreditation cycle. In February 2021, HLC notified NMU that we had successfully completed the Assurance Review, finding that all 18 Core Components of the Criteria for Accreditation are "met." Through the Extended Learning and Community Engagement, we continue to offer new online training and certification for both students and faculty to ensure continued top-quality instruction and student readiness for online learning. We continue to invest in our distance education by being active members of the State Authorization Reciprocity Agreement (SARA).

We continue to utilize Tableau software for Academic Affairs dashboards as a mechanism for making data-driven decisions. The dashboards highlight program sustainability and vitality, student success and outcomes, and financial effectiveness. Additional analytic capabilities are being added to our system allowing analysts to take deeper looks into student segments which helps with enrollment planning, retention programming, and other key performance targets.

Instructional Programming

Existing Academic Programs and Projected Programming Changes *(continued)*

We are implementing a catalog/curriculum management software platform.

Implement Open Educational Resources (OER) to encourage faculty to incorporate it into their coursework.

We are actively involved in national initiatives for student learning and outcomes assessment such as Liberal Education and America's Promise (LEAP), Voluntary System of Accountability, and the Student Achievement Measure (SAM), which is the collaborative efforts of six leading higher education associations to enhance transparency on student progress and completions.

We continue to find success in our retention initiatives, centralized advising for all new students and advising by embedded student success specialists after the first year.

Several new programs have been approved and include a Certificate in Hair Cultivation, a Graduate Certificate in Applied Clinical Psychology and a MS in Applied Sport Psychology.
We are proposing the development of a Forensic Science Program (interdisciplinary major).

Strategic Focus Areas:

Domestic and Global Outreach and Engagement

- Integrate global engagement and diversity learning experiences throughout the academic curriculum.
- Continue to explore and act upon opportunities to expand programs in nursing and clinical sciences to meet the growing demand for professionals in health care and related fields.
- Work with faculty to explore and act upon graduate programming (certificate, master's, doctoral) in areas of recognized strengths, needs, and opportunities.
- Develop new applied programs in computing and IT-related majors, including cybersecurity.
- Continue to develop new Career and Technical Education (CTE) programs.
- Foster belonging by engaging students in university activities and promoting student contributions to the university community.
- Identify and train diversity & inclusion liaisons for each college and division within Academic Affairs.

Instructional Programming

Existing Academic Programs and Projected Programming Changes *(continued)*

Student Success and Academic Excellence

The personal, social, and intellectual maturity of NMU students is the ultimate benchmark of the achievement of the university's mission. A high-quality university education creates lifelong learners, contributing citizens, and thoughtful neighbors. NMU will continue to develop programs and employ practices that maximize the opportunity for students to succeed in their university experience and lead a productive, meaningful life.

Acknowledgement and use of the rich learning environment outside the campus energizes the faculty-student relationship and creates an essential bridge from theory to practice. According to the Carnegie Foundation for the Advancement of Teaching, a community-engaged campus collaborates with its larger communities (local, state, regional, national, and global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity. Students who attend a community-engaged institution learn the broad context in which they live, work, play, and grow.

- Utilize corporate partners to promote additional international opportunities.
- Work with strategic technology and telecommunication partners to enhance the teaching, learning and working environment.
- Utilize corporate partners to increase internship opportunities for students.
- Utilize alternative energy plans to seed academic and research programs in energy and energy management.
- Continue to support Superior Edge.
- Implement strategies to assist students to more effectively communicate the skills and competencies developed through their achievements in community engagement.
- Continue to enhance our retention persistence efforts by utilizing the full capability of our centralized advising program, expanded embedded student success specialists, and retention software (ESP).
- Enhance learning opportunities inside and outside the classroom through partnerships between academic and student service collaborations.

Instructional Programming

Existing Academic Programs and Projected Programming Changes *(continued)*

Investment and Innovation

Enhance the portfolio of academic programs, research, and other activities that leverage the university's location in the Upper Peninsula of Michigan.

The attractiveness of the NMU campus in the beautiful natural environment of the Upper Peninsula of Michigan is a unique asset that should play a prominent role in our portfolio of academic programs, our research agenda and the efficiency with which the campus operates. While the campus itself represents NMU's physical assets, its academic programs, and other campus operations make up the human capital of the university community. Both are instrumental in sustaining the university's collective efforts to maintain a standard of excellence in practice, managing costs, and the institutional mission. Key among these are ongoing work to:

- Create an enhanced infrastructure (Educational Access Network & Broadcast ATSC 3.0) that will continually expand the availability and variety of new technological tools and services for NMU students, faculty and staff.
- Continue to work with, refine, and expand our Global Campus that provides reliable, convenient access to online courses and other essential student services.

Outreach and Engagement

Partnership, collaboration, and service within our communities are among the university's core values and strategic objectives as a rural-serving comprehensive institution. NMU works closely with local communities, schools, government entities, non-profit organizations, foundations, and both public and private sector partners to enhance community and economic development in the Upper Peninsula.

- Continue to increase and promote a culture of openness and access through regularly scheduled community/campus forums, high-quality publications and the effective use of communication technologies, like the university's wireless LTE system embedded in its Educational Access Network.

- The Office of Business and Strategic Partnerships and university leadership routinely participate in statewide, regional, and community-based economic development initiatives that advance opportunities for collaboration with university programs and deploy scholarship and resources to enhance prosperity in Michigan's Upper Peninsula.

Instructional Programming

Existing Academic Programs and Projected Programming Changes *(continued)*

Outreach and Engagement *(continued)*

- Collaborate with cybersecurity industry partners, regional K-12 institutions, economic development organizations, business associations, and other institutions of higher education to advance the mission and objectives of the U.P. Cybersecurity Institute on the regional and state economies by providing opportunities for career exploration, skill development, internships, and digital career opportunities through the NMU-led U.P. Cybersecurity Talent Consortium.

- Grow the recently established NMU Center for Rural Health, which was established to advance integrated health care solutions to serve residents of the Upper Peninsula. As a collaborating center of the Michigan Center for Rural Health (MCRH), the NMU Center for Rural Health received a $100,000 federal development grant to focus on diabetes prevention and treatment as well as access to emergency medical services across the Upper Peninsula. The Center also received a $1.43M grant with nine other partners to develop a community health worker training facility, re-establish a paramedic program at UP Health Systems and build a community paramedicine program.

- Continued development and community engagement with the SISU Institute for Innovation and Transformational Education. The SISU Institute was formed to encourage the cultivation of ideas leading to relevant and sustainable university services and academic programs. Innovation funding through SISU has been granted to: HyFlex Faculty Learning Community, Cyber Auto Program, Construction Management, Indoor Agriculture, the Fresh Water/Fresh Voices Conference, 60-year Curriculum, Rural Leadership Fellowship, Open Educational Resources, Forensic Science Program, SHINE (an interdisciplinary hub to improve sustainability-related communication, coordination, and education to attract and retain students), STEM Short Courses, The Undergraduate Research Fellowship Program, the EV & HEV Auto Curriculum, and Van Life (a project to use retrofitted vans as experiential learning environments for NMU students.

- Explore with the Michigan Public Service Commission, Michigan Department of Environment, Great Lakes & Energy, Michigan Department of Economic Development, U.P. universities, and alternative energy companies to make the Upper Peninsula a nationally recognized alternative energy and technology corridor.

Instructional Programming

Existing Academic Programs and Projected Programming Changes *(continued)*

Outreach and Engagement *(continued)*

- Continued and strategic engagement with industry partners and the scientific community in the growth and development of academic programs focused on scholarship and career opportunity in the growing cannabis industry. In addition to Northern's first-in-the-nation baccalaureate program in Medicinal Plant Chemistry, Northern recently instituted an interdisciplinary associate degree program in Indoor Agriculture, a baccalaureate degree in Controlled Environment Agriculture, and a credit certificate, an associate degree, and non-degree online credentials pertaining to cannabis careers. The university has cultivated and continues to grow partnerships with industry leaders and the scientific community in the growth and development of these programs.

- Expand the university's approach to strategic engagement with business, community, and institutional leaders in the Marquette community and throughout the Upper Peninsula. Building off of the university's "front door" community engagement model, Northern will establish a holistic and centralized approach for partnerships with mission-aligned businesses and organizations, including talent pipeline strategies, academic partnerships, sponsored programs, and institutional thought leadership on local and regional economic development strategies. This new approach will allow Northern to document and organize community engagement activities on campus, provide more visibility and access to the community, more fully connect the community with NMU faculty, staff, and students, and facilitate community and economic development.

- Accelerate the implementation of the "60-Year-Curriculum," a model for lifelong learning that provides students with educational pathways that involves coordination and articulation between credit education, continuing (non-credit) education, and workforce learning experiences. This credential laddering approach is particularly applicable to the CTE associate degree and certificate programs, (e.g., those housed in the university's newly renovated Jacobetti Complex).

Initiatives / Academic Program Needs with Impact on Facilities

Instructional Programming

A major part of NMU's success is its high-tech learning environment. The campus is a connected learning community with 8,210 notebook computers distributed, 1,434 to faculty and staff, and 6,776 distributed to students as part of the student's tuition and fees (the second most affordable tuition and fees in the state, including the notebook computer). These notebook computers have built-in wired and wireless, WLAN (Wi-Fi) and WWAN (LTE) networking capabilities. Wireless Wi-Fi technology throughout campus provides improved student access in and out of the classroom for coursework, research, and provides greater efficiency in the delivery of instruction and student services via the Internet.

In 2015, NMU migrated its existing WiMAX network to LTE, providing NMU students, faculty, and staff with true mobile and fixed broadband connectivity. As word of NMU's LTE service spread, requests from other educational institutions resulted in NMU's commitment to construct wireless broadband in surrounding Upper Peninsula communities. Today, NMU operates one of the nation's largest, self-deployed, educational LTE network covering significant portions of the 18,866 square miles of rugged terrain in Michigan's rural Upper and Lower Peninsulas. NMU offers its educational broadband service throughout Michigan's Upper Peninsula over a ten Geographic Service Area (GSA) region, primarily in areas where commercial broadband is unavailable and currently covers 117 rural communities. NMU is currently in the process of replacing all of the existing LTE broadband network with 5G-ready wireless equipment utilizing the FCC Rip and Replace program. When completed in late 2024, this facility upgrade will provide Upper Michigan learners with more reliable and affordable internet service.

The growth of NMU's LTE network has opened new opportunities for NMU to address educational broadband access concerns throughout its multiple-GSA region. In 2016, NMU launched its Educational Access Network ("EAN") as a means of extending learning opportunities to K-12 students needing Internet access and non-degree students of all ages who seek help with basic life or career / technical skills. The EAN offers families with school-aged children an optional Child Internet Protection Act ("CIPA") compliant, filtered service that delivers, to the home, an Internet connection identical to the one used in their children's public school. The EAN also provides individuals interested in non-credit education with Internet access and learning modules covering a wide range of self-help and workforce development topics as part of their access. Accessed through a web portal, the EAN online link takes students directly to degree and non-degree programs, offering them a "one-stop shop" for online learning. The University's EAN provides critical broadband access to over 4,801 K-12 and college families, 3,319 community members and families, veterans, and all current NMU college students, faculty, and staff, in underserved rural areas of the Upper Peninsula. In addition to serving a number of small townships and municipalities, NMU has also established LTE transmitter sites that serve five Native American tribal communities.

Initiatives / Academic Program Needs with Impact on Facilities

Instructional Programming: *(continued)*

Northern is a leader in the development and use of web-based or web-enhanced courses. The university has more than 1,237 course sections developed utilizing Web-based software, and more than 94 percent of its students are enrolled in at least one or more web-based or web-enhanced courses. NMU is a recognized leader in using technology in higher education, and our graduates enhance the economy of Michigan by being part of a workforce that is among the nation's most technologically advanced and leadership-oriented.

The university continues to focus on the renovation and transformation of existing facilities to a state-of-the-art environmentally efficient campus. A connected learning environment requires that we continue to improve our support systems, technology infrastructure, and facilities.

The university's public radio and television stations, WNMU-TV and WNMU-FM, have completed their digital transition, including redundant Internet Protocol (IP)-based studio-to-transmitter (STL) links. Coincidental to this change, WNMU has installed infrastructure allowing the station to migrate to American Television Standards Committee (ATSC) 3.0 broadcasts when technology now in development is adopted by consumers. This digital conversion initiative directly impacts the station's ability to offer instructional course content to university students, area residents and K-12 schools. Specifically, WNMU-TV's switch to ATSC 3.0 will allow WNMU to offer unlimited internet-protocol (IP) program streams. These new capabilities will directly support customized instruction and afford viewers a more efficient means of streaming course content. NMU is aggressively working to coordinate these new broadcast capabilities with its EAN service to appropriately leverage the strengths of LTE transmissions (one-to-one communications and ATSC 3.0 broadcasts (one-to-many broadcasts). Efficient use of wireless spectrum is a national priority and NMU is uniquely positioned to use these and other technologies in connecting its students with the educational content they need to be successful.

The initiatives noted above, and the projected programming changes identified in NMU's strategic plan, will have an impact on our facilities as they are implemented. We will continue to evaluate and plan for necessary changes in our capital infrastructure to meet the needs of proposed curriculum changes. One example is a partnership with Instructional Design and Technology allowed us to renovate the AV systems in two classrooms and add two way interactivity for Hyflex teaching.

In 2019, NMU continued leveraging its restructured campus audio-visual administrative and instructional services to plan and implement a renovation of all classroom AV technologies. Now in year six of this ongoing project, the renovation replaces existing analog projector, sound and control technologies with digital components that feature laser projection, enhanced room audio, and more reliable equipment control in each classroom. This project also adds remote management support that will provide improved repair and maintenance services handled by the AV staff. These annual, incremental upgrades provide document cameras, wireless laptop display support and the ability to incorporate legacy audio and video content as well as streaming media from the web while allowing NMU to keep instructional technologies up-to-date.

Community Presence Activities

Intercollegiate Athletics Sports Facilities

Northern Michigan University athletic and recreational facilities serve as a regional events center for the entire Upper Peninsula. A number of recreational programs are offered within the facilities for the community and include walking programs, recreational programming for children, adults, and youth sports camps. Youth programs in hockey, basketball, volleyball, swimming and diving, soccer, lacrosse, track and field, and others meet in our facilities throughout the year. Exercise and aquatic programs for senior citizens are held as well. These facilities have also become a tourist destination for visitors in our area.

The Superior Dome is home to NMU football, women's wrestling, men's and women's soccer, lacrosse, cross country, track and field, and hosts many MHSAA football playoff games. Approximately 300,000 people pass through the Superior Dome annually. The National Training Site Greco-Roman wrestling program also operate from the Superior Dome. The Noquemanon Ski Marathon, youth soccer and softball tournaments, and local non-profit fundraising events, are several examples of other activities taking place in the Superior Dome each year. The Superior Dome also serves the needs of regional business and industry by providing a venue for various trade shows and conferences. The Michigan Municipal League, Michigan Association of Counties, the Boat, Sport and Recreational Vehicle Show, and the U.P. Builders Show are examples of trade shows and conferences hosted there. NMU commencement ceremonies are held in the Superior Dome each December and May.

The Berry Events Center is home to NMU hockey, and men's and women's basketball for 2023-2024. Over 100,000 people pass through its doors annually. The facility hosts many junior hockey tournaments, NMU men's and women's club hockey games, adult hockey leagues, as well as figure skating programs. The Berry Events Center also plays host to concerts, lectures, and conferences. NMU faculty and students use the facility's academic classrooms for instruction and coursework.

The Physical Education Instructional Facility (PEIF) is home to the NMU School of Health and Human Performance, as well as NMU's volleyball and men's and women's swimming and diving teams. The facility hosts numerous community events, youth sports tournaments, youth sports camps, Native American pow wows, concerts, and lectures. NMU students, faculty, staff, and Marquette area community members utilize recreation venues in the PEIF through recreation memberships year-round. The PEIF is a comprehensive, indoor recreation facility that contains instructional activity venues and classrooms for NMU students.

Community Presence Activities

Intercollegiate Athletics

Northern Michigan University offers eighteen (18) NCAA intercollegiate men's and women's sports. Approximately 450 student-athletes compete in NCAA intercollegiate athletics annually. An average of 120 visiting teams visit the Marquette area annually to compete in events held at NMU. Events held at NMU regularly attract fans from throughout the Upper Peninsula, as well as Northern Wisconsin and Lower Michigan. Fans representing opposing teams from Ohio, Wisconsin, Illinois, Minnesota, Indiana, Alaska, and Canada annually attend events at NMU. Virtually all groups spend multiple days on each visit to Marquette.

Northern Michigan University National Training Site

NMU is home to a National Training Site (NTS) which provides Olympic-aspiring student-athletes the opportunity to continue their education while training to represent the USA at the Olympic Games and other international events. Since 1985, more than 22,000 athletes from 43 countries have trained at the site. More than 400 of these student-athletes have made Olympic teams earning 61 Olympic medals. Currently, there are over 60 Greco-Roman wrestling student-athletes training at the National Training Site.

USA WRESTLING

NATIONAL TRAINING SITE
NORTHERN MICHIGAN UNIVERSITY

Community Presence Activities

NORTHERN INITIATIVES
Money and Know-How

Northern Michigan University annually invests in the work of Northern Initiatives (NI), a Community Development Financial Institution. NI began as an on-campus initiative in 1985, and evolved into a non-profit corporation in 1992. For many of its 30 years, NI offices were on the campus of NMU and in 2021 moved to an economic development hub in downtown Marquette, with offices and employees throughout the state of Michigan.

NI was established to support the building of a more diverse and resilient Upper Peninsula economy, and has made 916 loans that total $73M in the U.P., and of that total 357 loans were made in Marquette County totaling $20M.

In 2008, NI expanded from 15 to 51 counties, and in 2017, further expanded and now work in all 83 Michigan counties.

NI works to fill market gaps. In 2022, 67% of loans were granted to start-up businesses, and lending to diverse entrepreneurs jumped to 67%. Northern Initiatives also pioneered technical assistance solutions, including the Initiate Portal, an online knowledge portal used at small businesses in 34 states, with 100% of its resources available in English and Spanish.

NMU students are a key piece of NI's work with small businesses. Typically, three or more NMU students work at NI supporting lenders with credit analysis, and business coaches by designing websites, or running social media campaigns and market research for small business customers. The Initiate Portal is the creation of four NMU (11 in total) graduates who now work for NI.

NI understands that access to capital is only a portion of the equation, and provides business owners with one-on-one personal coaching, resources, and tools such as unlimited access to the Initiate Portal, to help achieve their goals.

NI supports businesses in under-invested communities, building community wealth, improving the quality of life, and creating positive sustainable change.

Community Presence Activities

Community College and Meeting Needs of Business and Industry

In addition to its function as a regional comprehensive university with a wide variety of baccalaureate, graduate, and doctorate degree programs, NMU serves the role of a traditional community college for the citizens of Marquette and Alger Counties. NMU's community college programs offer students an array of associate degrees, certificate programs, diploma programs, and certifications in 50 areas of study.

Northern maintains extensive partnerships with K-12 schools through outreach activities, student teaching positions, and professional development for teachers and administrators. NMU serves this role as the fiscal agent and leader for the Upper Peninsula Center for Educational Development, a collaborative effort of all seven Intermediate School Districts, three public universities and three community colleges in the Upper Peninsula. Nearly every school district in the Upper Peninsula has recently hosted NMU student teachers. These partnerships provide experience with all class-levels in public, private, and charter educational settings. To further the value of these experiences, NMU has extended its LTE wireless network signal to student teachers in K–12 schools. In addition, NMU is partnering with industry, economic development organizations, 18 school districts, and four intermediate school districts to build opportunities for cybersecurity career exploration and talent development throughout the U.P.'s K-12 system.

NMU's Centers for Educational Development and Economic Education and the Seaborg Center for Math and Science Education provide a wide variety of professional development opportunities for teachers and administrators across the Upper Peninsula. NMU also serves as the fiscal agent for Region 15 of the MiSTEM Network which supports partnership building and the coordination of opportunities and resources for STEM teaching and learning across seven counties in the U.P. These efforts play an important role in connecting the K-16 education and business sectors. NMU also works with a number of schools in Michigan's Lower Peninsula, Northern Wisconsin, and Chicago. Additionally, NMU works with seven public school academies (charter schools) in Michigan.

Distance Education and Instructional Support

In order to provide greater access to higher education for the citizens of the Upper Peninsula, NMU has created numerous opportunities for people who cannot travel to campus to learn. This means offering educational experiences off-campus as well as online and using other synchronous and asynchronous electronic formats. NMU's off-campus initiatives include the Northern Promise, which contains programs for high school students to complete NMU coursework in their own high schools, online, or on campus. In most cases, the coursework is offered at no cost to students and partner high schools receive a substantial discount on the cost of tuition.

With regard to online education, a focal point of the Educational Access Network is NMU's Global Campus, which is a virtual campus that provides educational opportunities and support services tailored to online learners, many of whom are working adults. The Global Campus has focused on expanding online course and academic program offerings in order to provide educational experiences that U.P. residents want in a format that provides them maximum access.

Community Presence Activities

Distance Education and Instructional Support *(continued)*

The Extended Learning and Community Engagement division has partnered with the Center for Teaching and Learning to develop and implement the Online Teaching Fellows program that trains faculty in best practices in online course design and delivery. The most recent developments in distance education and instructional support include the creation of online media production studio with light board technology and investment in virtual and augmented reality technology for use as teaching tools.

Access to Global Campus academic programs and online personal and professional development offerings have increased significantly by the rapid development of NMU's unique wireless LTE network. The University migrated from its WiMAX wireless network to a carrier-grade LTE network that encompasses the entire U.P. and the north eastern portion of the lower peninsula. WiMAX technology was retired in 2016 and has been replaced with faster, more robust, LTE service that serves 115 rural communities. More than 7,000+ NMU students and thousands of additional K-12 and personal/professional development students (over 8,000 households) use the LTE network to manage education-related activities and research, including bandwidth intensive applications such as streaming media, video conferencing, and large data file transfers. NMU's success with LTE in the Marquette County area has spread throughout Michigan's Upper Peninsula, Northeastern Wisconsin, and now the north eastern portion of the lower peninsula, as the University continues construction of LTE broadband sites in Michigan. Licensed by the Federal Communications Commission (FCC) to serve 8 General Service Areas (GSAs), NMU has received financial assistance from the Michigan Economic Development Corporation (MEDC) and partners with area K-12 schools, colleges and universities to deliver educational broadband to rural communities in an effort to engage learners of all ages in credit and non-credit educational experiences. As a result of the EAN, learners of all ages will be able to successfully earn high school and college credentials, receive continuing education needed in workforce development programs across the region, and engage in online personal enrichment learning modules.

To provide even greater access to education for the citizens of the region, NMU continues its use of instructional, career pathway and "virtual field trip" experiences to K-12 schools in response to new high school graduation requirements and shrinking school budgets. Programs are conducted using internet-based interactive TV (ITV) technology along with streaming media. Content experts from within the University and surrounding areas provide "real world" information to students interested in career pathway information. In addition, NMU offers continuing education for teacher re-certification and enrichment using interactive TV and works with local Regional Educational Services Agencies (RESA) to support the technology needs of area schools.

Community Presence Activities

Public Broadcasting

NMU's public radio and television stations have completed their transition to digital broadcasting and are currently working to integrate “next generation” broadcasting into their program offerings and student experiential learning opportunities.

WNMU-TV has completed its migration to “open-platform” server technology and now fully supports four digital channels. As part of the FCC spectrum auction of 2016, WNMU changed its frequency assignment from channel 13 to channel 8 in July, 2020. This migration, funded entirely by spectrum auction proceeds, permits WNMU to not only comply with the FCC mandated channel swap, but also position itself to implement new broadcasting technologies afforded by the latest American Television Standards Committee (ATSC) 3.0 broadcasting standard. This digital upgrade treats all broadcast content as data and permit new web and internet datacasting which will be advantageous to NMU’s instructional mission. The change will also allow WNMU to implement new emergency messaging capabilities for public safety enhancement.

NMU uses its digital television and radio transmissions to offer Michigan's Upper Peninsula residents high-definition broadcasts, plus additional standard-definition program streams that contain classroom and course content especially designed for higher education and K-12 instruction. NMU Public Broadcasting is also working with NMU’s Extended Learning and Education departments to aid in the delivery of education services to K-12 and students using remote learning in a COVID-19 environment. In 2021, WNMU-TV added a 4th channel to its broadcasting service, the Michigan Learning Channel. This 24 x 7 service delivers K-12 standards-based instructional content to teachers, schools and home learners needing help with grade-level math, language arts and social-emotional learning. WNMU’s technical infrastructure is also heavily used to support the university’s emerging LTE operations. Carrier grade tower facilities, standby power, and IP links to the main university campus assist in providing a robust technical infrastructure that avoids costly facility duplication. Additionally, as WNMU continues with its proposed migration to ATSC 3.0, the station is exploring how its regional broadcasts work in conjunction with NMU LTE services to make the delivery of on-line course content more efficient. WNMU and WNMU-FM have been designated as the primary emergency alert facility for the Central Upper Peninsula Region and provide emergency messaging services to area broadcasters as needed. Both stations continue to provide service learning opportunities for NMU students with hands-on production, multimedia journalism, social media, graphics, and electronic engineering opportunities. Over the last several years, WNMU has joined NMU in retooling its experiential learning opportunities to give students stronger skill sets that make them more valuable to employers following graduation. As an example of its commitment to state-of-the-art experiential learning opportunities, Broadcast & AV Services fully renovated its main television studio with a updated modern set, color changing LED set and studio lighting, a new digital audio system, rolling and fixed display monitors, and a new graphics system. Along with these new production facilities, WNMU-TV and FM will continue to provide students with hands-on learning opportunities that allows participants to gain industry standard credentials on selected production systems that can be used to help secure employment upon graduation.

Economic Impact / Partnerships With Business and Industry

Economic Impact

NMU is a comprehensive Rural Serving Institution that works to advance partnerships with business, community, and economic development leaders that benefit and grow the regional economy. From an operational standpoint alone, NMU is among the largest employers in the Upper Peninsula, employing approximately 1,150 faculty and staff. In fiscal year 2022-23, NMU's annual payroll was $107M and the university purchased $42M in supplies and services and $7M in utilities, most of which was purchased locally. Additionally, $100M was spent on university construction projects over the past five years, from the combined efforts of NMU, the State of Michigan, and private developers for on-campus projects. The University also began providing communities that are unserved and underserved with wireless broadband. The economic impact today for the 115 communities now being served by Northern's Educational Access Network (EAN) is $14M, according to the Michigan Council of Advisory Network standards.

Invent@NMU and the Innovate Marquette SmartZone

Invent@NMU is an innovation and entrepreneurial program designed to provide NMU students with hands-on experience in assisting real-world clients with development of physical products from concept to market with the guidance of expert mentors as a service for innovators, start-ups and existing companies. While the focus of Invent@NMU is on student experiences, this program has positively impacted the local and regional economy in a meaningful way by assisting 725+ clients with their ideas, commercializing 14 new products, applying for over 25 patents, many of which have been issued, facilitating one licensing agreement, and bringing over 15 new products/businesses to market since the program's inception.

Students participate in both paid positions assisting entrepreneurs or as entrepreneurial clients. Student participation parallels their academic pursuits in design, engineering, business and manufacturing, offering key knowledge of the customer discovery and product development process that can be leveraged upon graduation. They work closely with faculty and industry mentors, collaborating with innovators and entrepreneurs whose products and ideas will benefit from such support. The program provides a wide range of experiential opportunities for students and augments their educational concentrations with real-world experiences. Student hiring is aligned with their educational pursuits and they work with mentors, both faculty and industry experts, to gain additional insight and experiences complementing their academic studies.

Invent@NMU's focus is on low investment and quick-to-market, practical, smartly designed manufactured products, but it also provides basic small business support such as the free services provided to regional businesses adjusting to the impacts of the COVID-19 pandemic as part of the university's #WildcatsMeanBusiness initiative.

Economic Impact / Partnerships With Business and Industry

Invent@NMU and the Innovate Marquette SmartZone *(continued)*

The program also assists entrepreneur clients with business planning, including planning for difficult various barriers that may prevent the client from successfully launching a product to market. By partnering with the university, innovators inexperienced in the process of market validation, commercialization, production and marketing can overcome those seemingly insurmountable odds to that often prevent entrepreneurs from pursuing their business idea. NMU received a $1.15 million grant from the Michigan Economic Development Corporation (MEDC) to implement a collaborative operating agreement between Invent@NMU and the Innovate Marquette SmartZone. The grant-funded partnership enables this collective work, further enhancing the services provided to inventors, innovators, and entrepreneurs in the Upper Peninsula.

In 2020, the university's partnership with the Innovate Marquette SmartZone matured to focus on the region's value proposition for the growing digital economy. Examples include the Innovate Marquette's promotion of NMU's cybersecurity education initiatives and the joint partnership with the national Center on Rural Innovation (CORI) in making Marquette one of only 25 member communities of the Rural Innovation Initiative. These partnerships have led to joint grant partnership proposals to the U.S. Economic Development Admiration and collaboration on mutually-aligned initiatives to promote the region's digital economy, such as the "Future is Digital Challenge" free credential program in partnership with CORI and Udacity. In 2021, Innovate Marquette and NMU Foundation collaborated on a successful grant application to the U.S. Economic Development Administration to build a modern capital support structure for entrepreneurs and regional startups. The university's Director of Corporate Engagement serves on the Board of Directors for the SmartZone, which provides for seamless communication and collaboration.

The NMU Foundation and Invent@NMU received a $150,000 gift from a private foundation to support Invent@NMU's desire to expand entrepreneurial services and programming throughout the Upper Peninsula region. This program will deliver Invent@NMU services in conjunction with signature events in each of the region's 15 counties in a mobile outreach format. Invent@NMU is acquiring two recreational style vans that will be retrofitted and branded to promote the mobile outreach programming in the style of "van life" that also aligns with the joint focus of NMU and Innovate Marquette in supporting innovation in outdoor recreation products.

Economic Impact / Partnerships With Business and Industry

Invent@NMU and the Innovate Marquette SmartZone *(continued)*

Consistent with the mission of supporting product innovation of this sort, Innovate Marquette and Invent@NMU are working with industry leaders, including Ford Motor Company, to develop new product innovations that will compliment this "Vanbassador" program, including a new solar-power awning system invention. The program is expected to further Invent@NMU's mission of supporting entrepreneurs throughout the Upper Peninsula region.

In 2022, Innovate Marquette and Invent@NMU joined other local and regional economic development organizations, including InvestUP, Northern Initiatives, the Lake Superior Community Partnership, and the Northern Michigan PTAC to collocate office and meeting spaces in the newly renovated "Kaufman Block" in downtown Marquette. This arrangement establishes a collaborative and more accessible economic support ecosystem for the Marquette community and Upper Peninsula region. By aligning common yet distinct approaches, this arrangement serves our common goal of promoting regional economic development and supporting entrepreneurs.

Business and Strategic Partnerships

In 2018, Northern established a centralized office to facilitate the university's strategic engagement with corporations, small businesses, and other mission-aligned institutions and NGOs. This was the university's first effort to establish a holistic approach for aligning the university's value proposition with business and industry to achieve mutually beneficial outcomes. Priority areas of focus include talent pipeline partnerships (e.g., U.P. Cybersecurity Talent Consortium and U.P. Manufacturing Talent Consortium, internship and other experiential learning programs, and alignment with on-campus recruiting programs and alumni networks), program evolution and new program development (establishing and coordinating industry advisory committees), academic partnerships (e.g., Shimadzu Analytical Core Laboratory for Medicinal Plant Sciences), entrepreneurial and interdisciplinary program partnerships (e.g., the Sustainability Hub for Innovation and Environment's ("SHINE") *Good for Upper Peninsula* initiative to support regional businesses), brand and market exposure partnerships, and project alignment for corporate/foundation grant proposals.

The director of this office also works cooperatively with university leadership to advance the institution's economic development and community engagement mission.

Economic Impact / Partnerships With Business and Industry

Partnerships with Business and Industry

NMU's College of Technology and Occupational Sciences (CTOS) includes one and two-year career-technical programs that naturally lend themselves to industry partnerships to meet the needs of existing businesses and emerging industries while also supporting working adults in furthering educational attainment and career objectives. The College also works closely with K-12 school districts in the region to provide career exploration initiatives for students as well as employer-endorsed dual enrollment programs, such as the Marquette-Alger Technical Middle College. The college was established to reaffirm the university's commitment to regional business and industry needs in the critical occupations of in-demand skilled trades, as well as helping to expand upon and create new sectors in the region.

Some of the CTOS partnerships include the Industrial Maintenance and Welding program partnerships with Cliffs Natural Resources and Lundin Mining's - Eagle Mine, as well as the Electrical Line Technician Program, which is a joint venture between the university, the Lake Superior Community Partnership Foundation, and numerous electrical companies, both utility and contractor, developed to help fill an employment void within the regional electrical power distribution industry. In 2020, the college developed an Indoor Agriculture program that partners with local farmers and grocers around growing and distributing food locally in cold weather climates. Most of the CTOS programs have active advisory groups made up of leaders and experts within their respective industries.

The Engineering Technology Department at NMU houses mechanical and electrical engineering programs that play a critical role in the workforce development needs of regional industry, including high demand for Computer Numeric Control (CNC) machining skills, which is particularly acute with growing medical device manufacturers in the region. Key industry partners include Able Medical Devices (a J.M. Longyear, LLC company), Resolve Surgical Products, Mount Mfg., Cleveland-Cliffs, Inc., Precision Edge Surgical Products, Van Aire, Inc., Independent Machine, Eagle Mine, Argonics, Inc., Team Tech Motor Sports, and many others. In August 2023, the university's Office of Business and Strategic Partnerships launched a new work-based learning partnership with three regional medical device manufacturers that will enable students to earn pay along with academic credit with courses that align with corresponding learning objectives. This objective for this "work scholars" program is to expand for additional academic programs in the future.

Northern has a variety of partnerships to meet the needs of existing businesses, emerging industries, the public schools, and working adults. Among our current corporate partners with on-site or specially designed education programs are Cleveland-Cliffs, Inc., Eagle Mine, Potlatch Deltic, Graymont, Resolve Surgical Products, WE Energies, Northcross Group, and Novacoast, Inc. Northern is also in the process of developing another campus-based internship program with TriMedia Environmental & Engineering Services, Inc. through the university's Sustainability Hub for Innovation and the Environment ("SHINE").

Economic Impact / Partnerships With Business and Industry

Partnerships with Business and Industry (continued)

Additionally, the programs in CTOS and Engineering Technology support the efforts of Invent@NMU and the Innovate Marquette Smart Zone in assisting entrepreneurs, especially with product prototyping and manufacturing support.

Internships for NMU students with business, industry, and service providers are critical to quality employment preparations. NMU's most well-known internship sponsors are Resolve Surgical Technologies, Able Medical Devices, Mount Mfg., Guide Star, Pillr/Novacoast, Northcross Group, American Express Financial Advisors, General Motors, Hudson's Corporation, Dendreon, Mayo Clinic, UP Health Systems, Marshfield Clinic, Michigan State Police, Michigan DNR, Northwestern Mutual Life, Disney Professional Internships, Six Flags Great America, State Farm Insurance, the U.S. Marshall Service, and Wal-Mart.
Northern continues to explore best practices for offering internships and other forms of student experiential learning. In 2022, the university began discussions about collaboration on this topic with InvestUP, a privately funded and governed non-profit that aims to drive prosperity across the Upper Peninsula. InvestUP and the university are working towards establishing a strategic and collaborative process for promoting and placing student internships with the organization's members and other regional employers. Internships are also currently sponsored by numerous employers in programs such as Construction Management, Information Assurance and Cyber Defense, Computer Science, Art & Design, Indoor Agriculture, Earth, Environmental, and Geographical Sciences, Clinical Lab Sciences, Political Science and Public Administration, Biology, and more. The NMU College of Business also facilitates a robust internship program in partnership with a variety of corporate partners, which is in part facilitated through the Dean's Advisory Council.

The NMU College of Business and the university's director for Business Engagement and Economic Development, partnered with the U.S. Department of Commerce and Michigan Economic Development Corporation in bringing the ExportTech program to Northern. The program pairs export and supply chain experts with university faculty and a team of students to develop support and solutions for regional companies seeking to grow product exports.

Northern also convenes two consortia formed under the State of Michigan's Marshall Plan for Talent: The U.P. Cybersecurity Talent Consortium and the U.P. Manufacturing Talent Consortium. In partnership with U.P. K-12 institutions, intermediate school districts, industry, economic development, business association, and other non-governmental organizations, these consortia were convened with separate missions to develop novel training and educational programming to advance career opportunities for students pursuing high-demand and high-paying jobs.

Economic Impact / Partnerships With Business and Industry

Partnerships with Business and Industry *(continued)*

The U.P. Cybersecurity Talent Consortium was ultimately the only cyber/I.T.-focused initiative in the state funded and received $2.47 million to support a region-wide K-12 micro-credentialing program to advance skill-development in cybersecurity competencies. The grant also included equipment and operational support for the Upper Peninsula Cybersecurity Institute at Northern, which is the only civilian cyber hub on the Michigan Cyber Range located north of Grand Rapids. The U.P. Manufacturing Talent Consortium was also awarded $1.3 million for equipment to support a collective plan for advancing high-demand manufacturing competencies among K-12, community college, and university students. The UPCI has held numerous career exploration, teacher development, and industry certification training sessions since its inception, including, most recently a three-day symposium that attracted dozens of industry experts, education partners, and the National Cyber Director, the President's chief advisory on cybersecurity matters.

Partnership with UP Health System – Marquette

The School of Clinical Sciences collaborates with UP Health System – Marquette for specialized training of students studying in the clinical science programs. NMU offers majors in Radiography, Surgical Technology, Clinical Laboratory Sciences to include Cytogenetics and Laboratory Medicine, Clinical Assisting, and Speech, Language and Hearing Sciences. Students are selected and placed in the clinical portion of their degree programs with approximately 50 students in training at UP Health System – Marquette throughout the year. Many of these students are actively recruited by UP Health System – Marquette and its regional partners. In addition, due to an increased reliance on genetic-based testing in health care, several laboratory employees of UP Health System have completed advanced training through the NMU Clinical Molecular Genetics graduate program.

The School of Nursing places approximately 20 Doctor of Nursing Practice (DNP) students, 200 Bachelor of Science in Nursing (BSN) students, and 40 Practical Nursing (PN) students in a variety of clinical settings throughout the year. The majority of these clinical placements are at UP Health System – Marquette. NMU's partnership with UP Health System – Marquette helps to meet the need for nurses, both regionally and globally. HRSA and the Bureau of Labor Statistics report an increased need in numbers of nurses through 2025, largely due to the increased health care needs of the aging Baby Boomer generation, the large number of retiring baby boomer-aged nurses, and increased access to health care services for millions of people because of the Affordable Care Act.

Economic Impact / Partnerships With Business and Industry

Cleveland-Cliffs, Inc.

The College of Technology and Occupational Sciences Department of Engineering Technology, works closely with Cleveland-Cliffs, Inc. to prepare entry-level technical employees for the Tilden mining/processing operations. Associate degree programs in Electrical Technology and Industrial Maintenance, along with baccalaureate degree programs in Mechanical Engineering Technology, Industrial Technologies, and Electrical Engineering Technology, prepare graduates for employment with this local company. Management at Cleveland-Cliffs views the technical programs at NMU as virtually a sole source provider of entry-level technical talent to their mining/processing operations. Additionally, the Continuing Education and Workforce Development department has provided many hours of non-credit customized training and craft testing for Cleveland-Cliffs employees for many years.

Potlatch Corporation

Continuing Education and Workforce Development has delivered many different trainings to Potlatch employees including hydraulics, rigging and hoisting and welding. Potlatch remains a solid partner with Continuing Education and Workforce Development when it comes to the belief that training builds internal value.

U.P. Paper Company

Continuing Education and Workforce Development has been a training resource to this paper company through each transition. During operations at Manistique Paper, FutureMark and U.P. Paper Company, crucial trainings have been provided including welding, belt drives and rigging and hoisting. Employee trainings have proven to create a team momentum.

Eagle Mine

NMU Continuing Education and Workforce Development has delivered over 400 hours of training to Eagle's employees. Eagle has reached out with needs for new millwrights, MSHA new miner training, including defensive driving and welding, as well as many soft skills training such as ethics and harassment and communications. Eagle International has donated equipment specific to their operations that will not only enhance training for their personnel, but will add to the student experiences for baccalaureate and associate degree programs in NMU's Industrial Maintenance and Industrial Technology programs. Continuing Education and Workforce Development as well as CTOS are working with Eagle's training staff to begin to prepare their workforce for ultimately transitioning their skill sets into other regional in-demand jobs over the next three to five years.

Economic Impact / Partnerships With Business and Industry

Food Service Industry

In response to changes in Michigan's food safety laws, NMU conducts mandatory food safety certification courses. All food service industry businesses, including those closely linked with the critical regional tourism industry, are able to have local access to regulatory training.

TeamTech Motor Sports

TeamTech was founded by NMU Engineering Technology graduate, Curt Tucker. He is a leading supporter of the SAE Baja racing team housed in the department, and his company has been instrumental in several intern and job placements for graduates, and partnered NMU with NASA to do some support research for their restraint systems.

Resolve Surgical

Engineering Technology has had a strong partnership with RTI Surgical for over 10 years. RTI's support originated in its support of a one year certificate program for CNC machine operators. RTI provides equipment and instructors in support of the program and hires many of the graduates for their manufacturing floor. However the partnership has grown over the years with RTI now employing several current Mechanical Engineering Technology students as interns and hiring many of the program graduates. RTI supports Engineering Technology with technical expertise, materials, and various other support while we provide them with engineering support, interns, and permanent employees.

J.M Longyear | Able Medical Devices

J.M. Longyear's Able Medical Devices is another surgical product manufacturer that has realized growth with support of NMU alums from the Engineering Technology program. Able's managing staff serve as adjunct faculty in the program and have built a productive relationship to advance the program's capabilities and career opportunities for students and alumni. Most recently Northern and Able Medical Devices led a public-private partnership with Tsugami Corporation and its supplier, Morris Midwest, and the U.P. Manufacturing Talent Consortium to develop a high precision Swiss Turn laboratory in the Department of Engineering Technology. This partnership was supported by a generous gift by J.M. Longyear, a gift-in-kind by Tsugami and Morris Midwest, and a grant through the U.P. Manufacturing Talent Consortium derived from the state of Michigan's Marshall Plan for Talent.

Economic Impact / Partnerships With Business and Industry

Cybersecurity Cluster Growth

Since the development of the Information Assurance and Cyber Defense program within the College of Business, Northern has led numerous initiatives in collaboration with industry and economic development partners to advance career opportunities in digital economy jobs like cybersecurity. In 2018, Northern partnered with the Michigan Economic Development Corporation, the Michigan Defense Center, and Merit to establish the U.P. Cybersecurity Institute as a training and career exploration hub on the Michigan Cyber Range, which is the only such asset located north of Grand Rapids. Parallel to this initiative, Northern convened the U.P. Cybersecurity Talent Consortium, which developed a cybersecurity career training initiative that was awarded $2.47 million through the State of Michigan's Marshall Plan for Talent. The university has also established an advisory committee of cybersecurity industry professionals, including experts and CIOs across the country. The university's first graduates of the Information Assurance and Cyber Defense program are assuming key CISO and I.T. security roles at regional banks, global mining companies, cybersecurity start-ups, and global technology companies.

Just recently, a technology and cybersecurity services firm based in Arlington, VA and Portland, ME announced its intent to establish a regional office in Marquette that will be aligned with an academic partnership with Northern and focused on the university's cybersecurity talent pipeline. These efforts have been highlighted by the Center on Rural Innovation a national "action tank" that works to advance digital opportunity in Rural America.

Electrical Line Partnership

A joint venture between NMU, Lake Superior Community Partnership, and numerous electrical companies (both utilities and contractors) developed the Electrical Line Technician Program to help fill an employment void within the electrical power distribution industry. The curriculum received all equipment through donations and is located at Sawyer Airport.

Argonics Engineered Polyurethane

Argonics has been associated on various levels with the Engineering Technology Department since its founding in 1993. From consultation on multiple projects, internships and permanent employees, the interaction has been beneficial for both parties.

Economic Impact / Partnerships With Business and Industry

Northern Initiatives (NI) and Marquette Food Co-Op

NI and Marquette Food Co-Op collaborated with NMU to build a demonstration hoop house. The project involves the production of fruits and vegetables in an environmentally controlled green structure. This project provides local families and growers a sophisticated demonstration site that will assist local farmers in expanding and refining crop selection and methods associated with agriculture in the U.P.

Continuing Education and Workforce Development

Continuing Education and Workforce Development offers non-credit workforce development training for individuals and organizations.

- Training designed to meet the current and future needs of regional employers.
- A wide variety of skilled and professional training courses as well as customized programs to meet specific needs.
- Roughly 80 Upper Peninsula companies trained through Continuing Education and Workforce Development each year.
- Hard and soft skill trainings available.

Workforce Training

NMU provides a variety of non-credit training opportunities and customized training for business and industry. While Cliffs Natural Resources, Michigan Operations, has historically been our primary customer, the university has increasingly concentrated on developing new industry relationships. Continuing Education and Workforce Development works with other regional companies such as J.M. Longyear, Northern Hardwoods, Potlatch, and Lundin Eagle Mine to assist with their training needs.

Professional Education

NMU is committed to the provision of high-quality professional development programs in its service region through both the creation of such activities within its academic departments and through collaboration with outside providers who meet University approval standards. Recognizing the need and value of continuing professional development in order to keep abreast of constantly changing demands and possibilities in the workplace, and in order to encourage practicing professionals to participate in various activities directly related to their job, NMU Continuing Education (CE) provides the following:

Economic Impact / Partnerships With Business and Industry

Professional Education *(continued)*

Educators – The 900-level program offers credit earning educational opportunities to over 400 teachers each year. Teachers use these courses towards their teacher licensure recertification or upgrade. In addition, NMU-CE also offers non-credit State Continuing Educational Clock Hours (SCECH) that teachers use towards these same purposes. Many teachers use a combination of both 900-level courses and SCECHs during their teacher recertification.

Social Workers – NMU-CE is a course sponsor for the National Association of Social Workers and partners with numerous local entities to provide social workers with educational opportunities. These opportunities are used by social workers to maintain their Social Work State License.

Grief Support Specialist – This online program was developed in order to address the increasing demands on the mental health industry. Participants, which include social workers, counselors, psychologists, clergy workers, funeral directors, teachers, hospice, nursing home, and other health care workers, learn the principles and best practice techniques to enhance their professional and personal life related to grief.

Emergency Medical Professionals – NMU and UP Health System Marquette are working collectively and collaboratively to offer emergency medical training and trauma education to any/all persons who are granted admission into the SEMT and/or Trauma Education programs.

Bus Drivers – NMU is the state-approved Pupil Transportation Bus Driver Training Agency for the central and western Upper Peninsula. The purpose of school bus safety instruction is to promote safe, efficient pupil transportation programs using Michigan Department of Education approved curriculum.

Real Estate Appraisal Education – NMU offers a full range of residential and non-residential continuing education appraisal courses to thousands of appraisers each year at sites located throughout Michigan and via webinar. These courses are used by appraisers to retain their individual appraiser licenses.

Off-campus, individualized programs, seminars, and training – NMU-CE recognizes that adult students require programs that deliver results specific to their professional needs with course schedules and delivery methods that allow participation outside the traditional semester format. The goal is to provide these vitally important lifelong learning opportunities to individuals and groups in the Upper Peninsula and beyond.

Economic Impact / Partnerships With Business and Industry

Motorcycle Safety Training

NMU is one of 14 state-sponsored regional training agencies providing motorcycle safety training funded through a grant from the Michigan Department of State. Both experienced riders, as well as those with little or no experience, seeking a license endorsement enroll in these courses. If successful, new riders receive a completion waiver that is good for one year for the riding skills portion of the state motorcycle endorsement test.

Commercial Driver's License (CDL) Truck Driving Program

NMU's Continuing Education and Workforce Development offers a five week, non-credit training program for Certified Truck Driver Education. The program is offered four times per year and fully prepares participants for the state required CDL. In 2023, a CDL-2 program was added. These programs were developed specifically to address regional employer and nationwide truck driver shortages.

Upper Peninsula Cybersecurity Institute

Opened in the spring of 2019, the Upper Peninsula Cybersecurity Institute at Northern Michigan University is the only facility of its kind in the U.P. and one of six statewide. The institute offers non-degree and industry credentials relevant to emerging careers in cybersecurity. It also augments NMU's existing cyber defense bachelor's degree and provides additional career exploration and training opportunities with U.P. K-12 school districts and postsecondary institutions.

Personal Enrichment

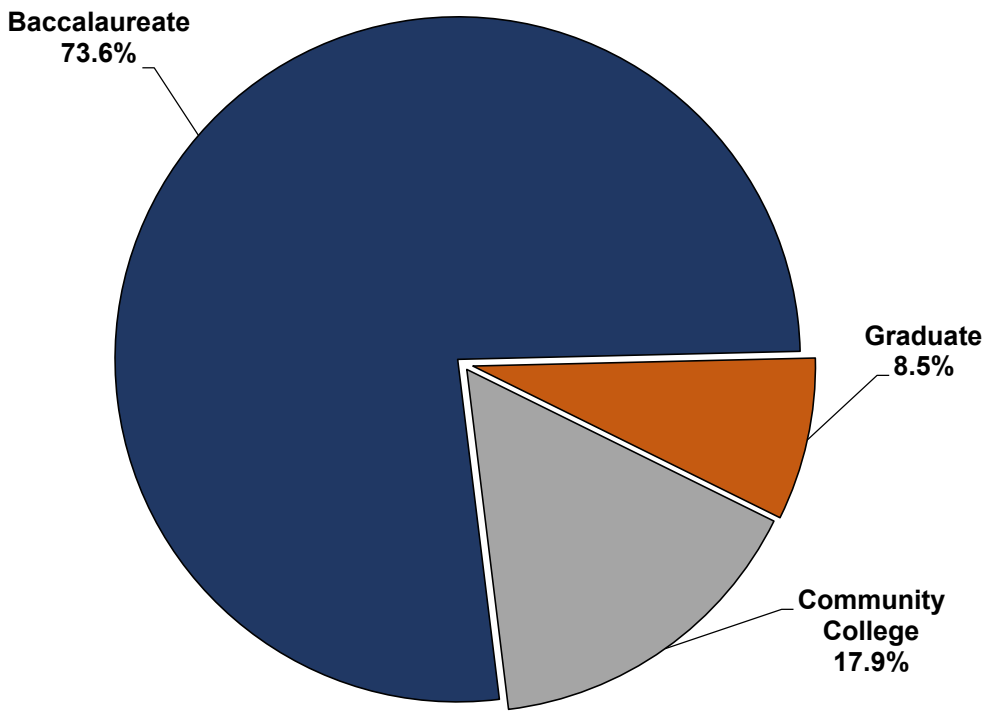
Northern Center for Lifelong Learning (NCLL) plans and offers informal educational programs and activities to enrich the daily lives of its members through mini courses, regular programs, outdoor activities, and social events. NCLL is a member-directed, self-supporting nonprofit.

Section III

Enrollment and Staffing

Enrollment

Headcount
Fall 2023 (n = 7,197 – 10th Day of Class)



Average age

- Undergraduates: 23.1
- Graduates: 34.4
- Overall: 24.0

Other student statistics

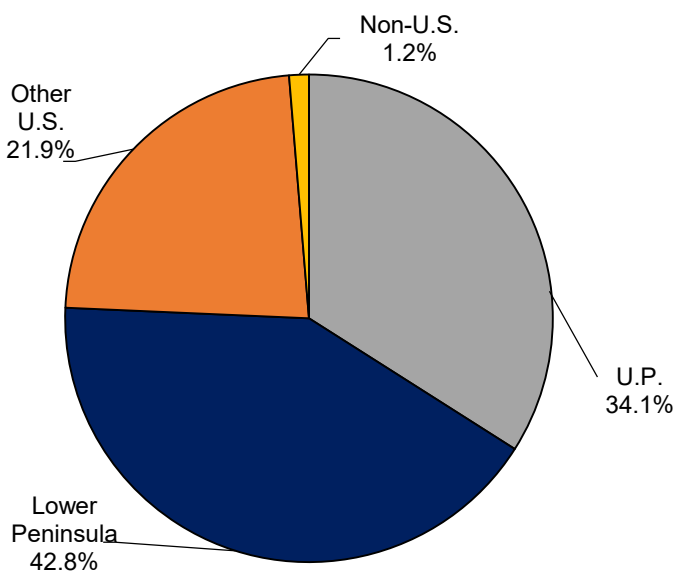
- At least one student from:
  - 82 of 83 Michigan counties
  - 48 different states
  - 40 different countries

Enrollment

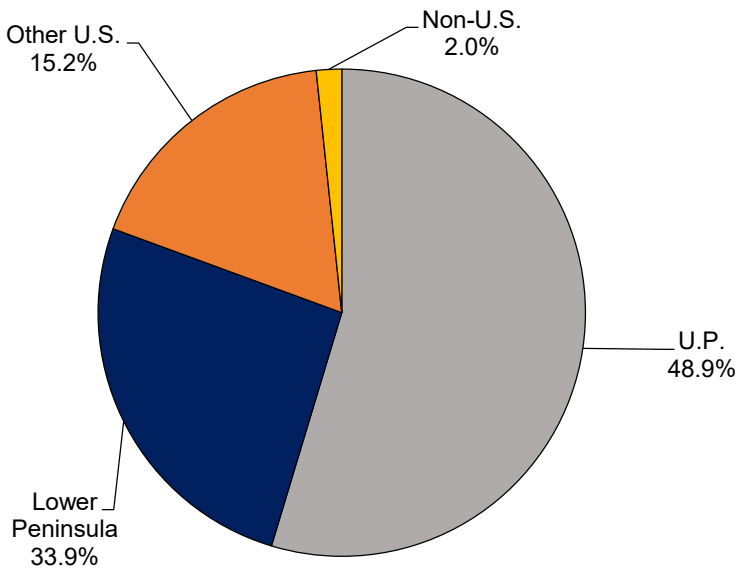
Recruiting Region

Fall 2023 (n = 7,197 – 10th Day of Class)

Undergraduate
(n = 6,584)

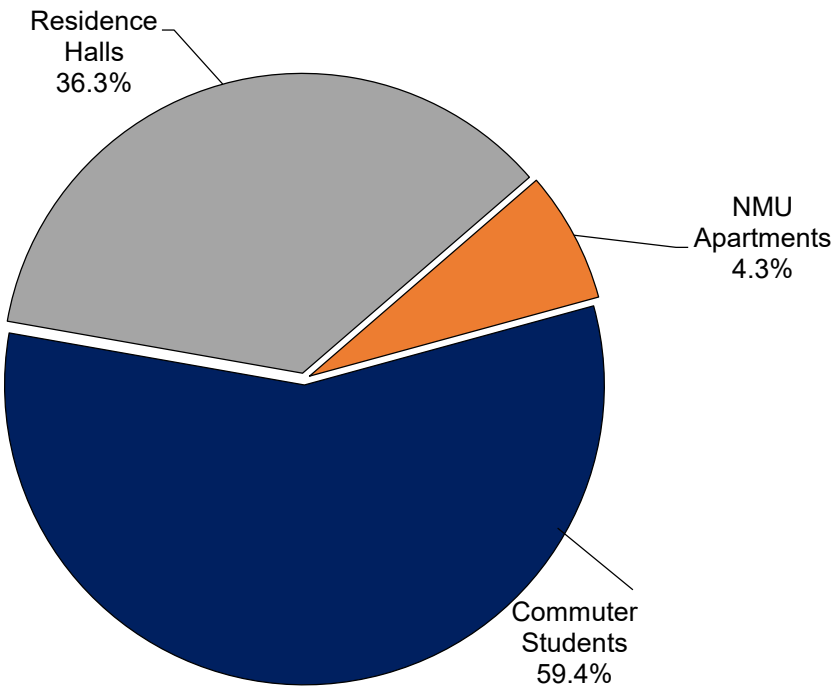


Graduate
(n = 613)



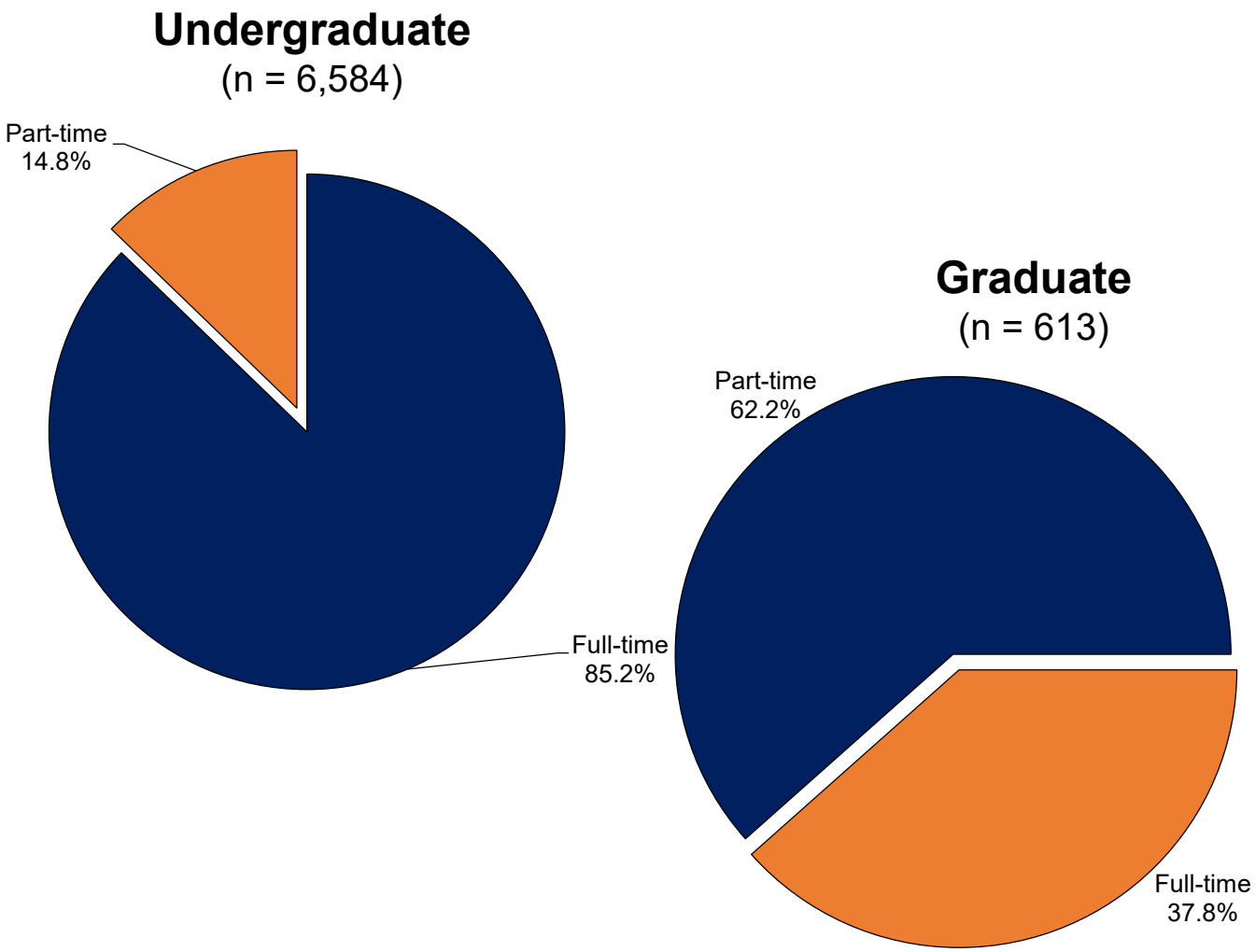
Enrollment

Where NMU Students Live
Fall 2023 (n = 7,197 – 10th Day of Class)



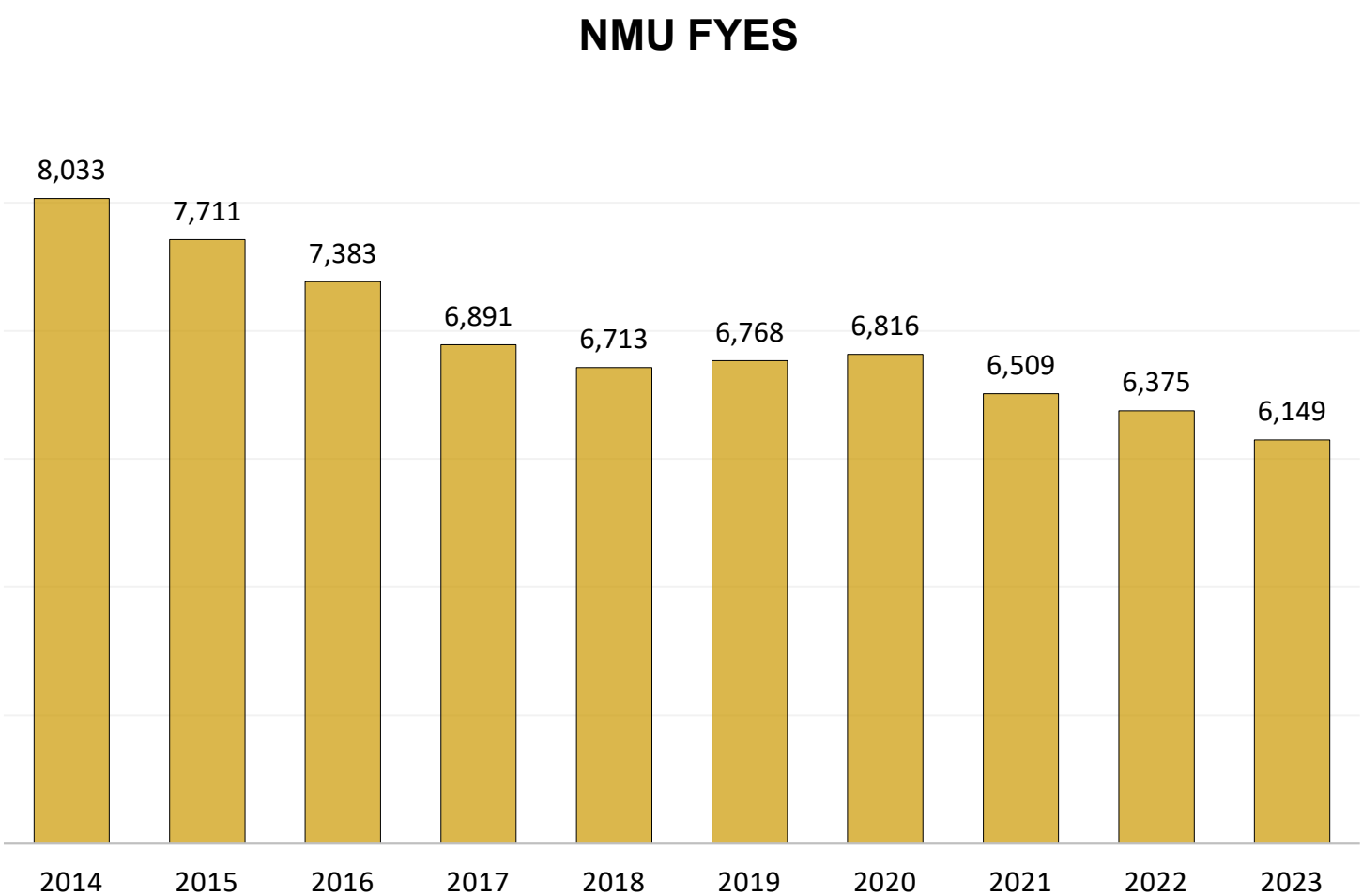
Enrollment

Full-time/Part-time Status
Fall 2023 (n = 7,197 – 10th Day of Class)



Enrollment

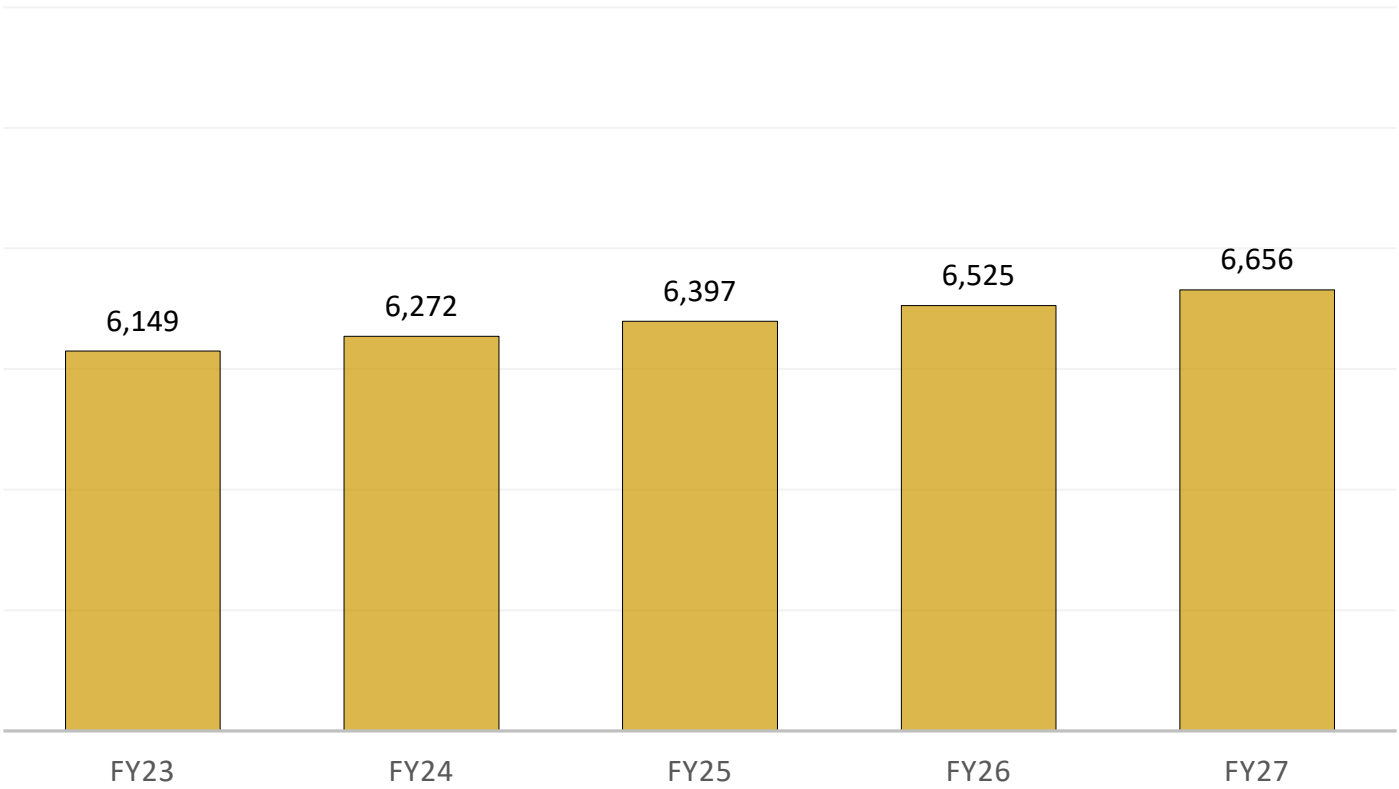
Full Year Equated Student Change



Enrollment

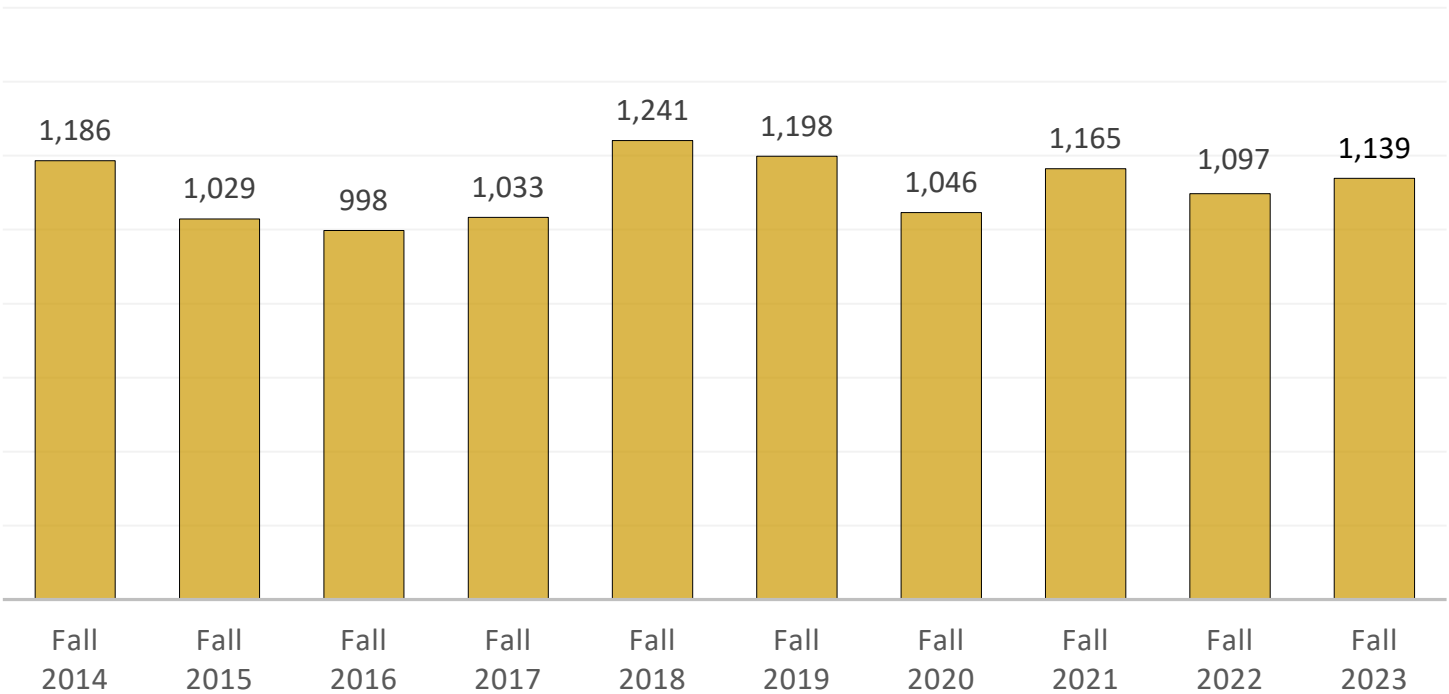
Full Year Equated Student Change (FYES)

5 Year Projection



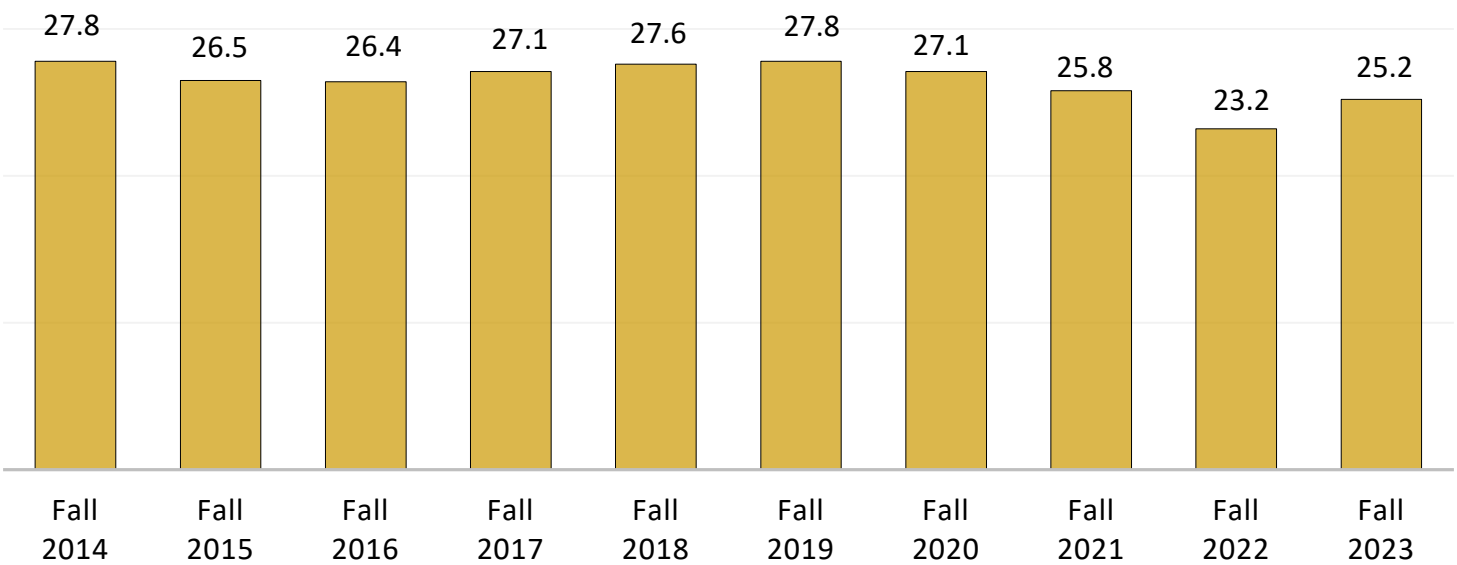
Enrollment

Baccalaureate First-Time, Full-Time New Freshmen



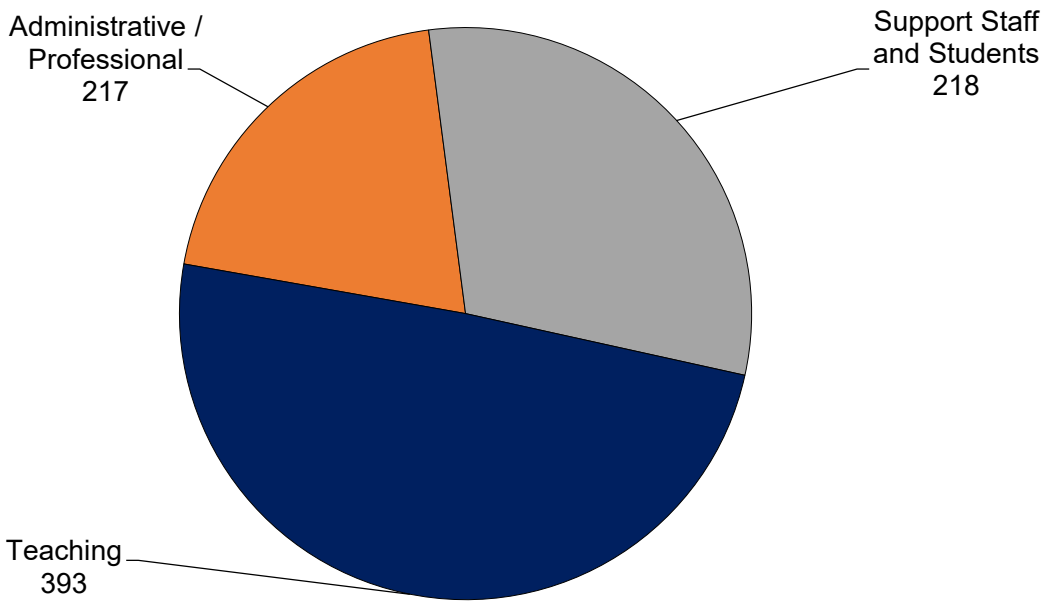
Enrollment

Average Lecture Class Size and Projected Average Class Size



Staffing

2022-2023 Full-Time Equivalent By Employee Category



Staff FTE

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Instructional Staff	392	393	394	395	389	394	393	395	400	405	410
Administrative/Professional Staff	172	177	181	191	194	205	217	217	220	220	220
Support Staff and Students	256	250	256	244	216	216	218	220	225	230	235

Student (FYES) – to – Staff Ratios

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Instructional Staff	17.58	17.08	17.18	17.26	16.73	16.18	15.65	15.88	15.99	16.11	16.23
Administrative/Professional Staff	40.06	37.93	37.39	35.69	33.55	31.10	28.34	28.90	29.08	29.66	30.25
Support Staff and Students	26.92	26.85	26.44	27.93	30.13	29.51	28.21	28.51	28.43	28.37	28.32

Section IV

Facility Assessment

Introduction

In 2018, the university contracted with Sightlines, Inc. to update the university's Facility Condition Assessment noting the existing condition of all campus building systems, hardscape and infrastructure. This assessment was constructed as an electronic tool that categorizes all short and long term maintenance needs and can be updated annually to allow user-defined summaries of maintenance need by system, replacement year, building or building type. This planning tool allows the university to evaluate multiple criteria to identify necessary levels of annual maintenance funding and prioritize capital investments over a 20 year period while considering the university's strategic goals, 2019 Campus Master Plan, Five Year Facilities Master Plan and annual capital outlay requests. This system guides the maintenance, adaptation and use of the university facilities for all campus departments.

NMU and Sustainability

The University has adopted the 2022 Interim Strategic Plan with five focus areas aimed to guide NMU's future. One of the focus areas is Builders of a Culture of Sustainability that will enhance and grow sustainability efforts and education throughout the planning, operations, education, research and service aspects of the university. The strategies of this focus area include:

1. Centralize sustainability efforts to improve planning, coordination and communication.

2. Implement sustainability initiatives to contribute to a diverse and sustainable world (NMU mission statement).

3. Support sustainability education inside and out of the classroom to develop leaders capable of local and global impact (NMU vision statement).

Several tactics have been identified to meet the noted strategies which center around:

- the **Sustainability Hub for Innovation & Environment (SHINE)** to promote sustainability efforts,
- a **Campus Energy Master Plan** and **Carbon Neutrality by 2050 Plan**,
- transition of the university fleet to **hybrid or electric vehicles**,
- **sustainable building design** for all new campus infrastructure,
- development of **post-consumer composting systems** on campus,
- implementation of **sustainability dining practices**,
- the student-initiated **Green Fund** to implement sustainability initiatives,
- the **Decolonizing Diet Project** practices integrated into NMU Dining Services,
- **Sustainable Outdoor Recreation Economy certificate**,
- **sustainability-focused internships, service projects, research** and other experiential learning opportunities in collaboration with local partners,
- **sustainability certificate program** that is accessible to a wide range of audiences and
- **educational efforts around Indigenous practices**, including indigenous food movements and relational accountability.

Sustainability Hub for Innovation & Environment (SHINE)

SHINE was launched in August 2021 as a virtual hub that serves as an arm of the Sustainability Advisory Council and beginning in Fall 2022 has a physical home on Presque Isle Avenue. SHINE serves to advance sustainability within the NMU campus and throughout the community through the embodiment of two of NMU's core values: Innovation and the Environment. SHINE advocates for change and facilitates action by collaborating with partners across campus and the region to strategically address issues of environmental impact, social justice and economic equity.

NMU and Sustainability

Sustainability Hub for Innovation & Environment (SHINE) *(continued)*

The Builders of a Culture of Sustainability focus area includes cultivating and growing SHINE. In addition to collaborating with regional partners and providing thought leadership, SHINE will work to implement action items in NMU's 2030 Sustainability Plan. Specifically, SHINE will promote awareness, responsibility, and inspire innovative sustainable solutions on campus.

It will work with NMU's Sustainability Advisory Council to complete the biannual campus-wide sustainability audit, the STARS rating certified by AASHE. Additionally, SHINE's peer-to-peer education program, EcoReps, offers students the resources and knowledge to solve sustainability issues and make a collective difference on campus. SHINE will facilitate access to resources for classes, research and community partners. It will also foster student-led efforts such as Eco Reps and Sustainable NMU.

SHINE's ultimate mission is to foster collaboration on transformational sustainability projects by providing recommendations based on research, strategy, and big picture ideas.

Campus Energy Master Plan and Carbon Neutrality by 2050 Plan

The university hired an engineering consultant to prepare a Campus Energy Master Plan that calculated its baseline carbon footprint and analyzed its existing heating, air conditioning and electrical systems to determine what modifications or new technology could be implemented to reduce the university's carbon footprint each decade to reach carbon neutrality until 2050.

The university's baseline carbon footprint was calculated using energy and transportation fuel data from the years 2018 and 2019 since it was the most current data prior to the pandemic when operations were more typical. The university's baseline GHG emissions for 2018 and 2019 were calculated to be 32,000 tonnes/year which is lower than the average university (globally) at 52,000 metric tonnes/year.

A Carbon Neutrality Task Force was formed in Fall 2021 with broad campus representation including faculty, staff and the ASNMU president. The task force used the technical data in provided by the engineering firm in the Campus Energy Master Plan to draft the university's Carbon Neutrality Plan and set the draft plan goals to reduce carbon emissions by 25% by 2030, 50% by 2040 and 85% by 2050.

NMU and Sustainability

Campus Energy Master Plan and Carbon Neutrality by 2050 Plan *(continued)*

Five strategies have been identified to achieve the carbon reduction goals-4 of the strategies focus on the sources of emissions and 1 on the capture of emissions. Past initiatives that support these strategies have included reducing energy use, optimizing our infrastructure through facility renovations and demolitions, right sizing campus through repurposing existing space like Hospitality Management and Cosmetology in the Northern Center, investing in renewable energy as in the solar PV array at the SHINE building and increasing carbon sequestration by planting trees and composting.

The five strategies to achieve carbon neutrality include:
1. Reduce Energy Use
2. Optimize Infrastructure
3. Right Size – Reduce Physical Campus Footprint
4. Invest in Renewable Energy
5. Increase Carbon Sequestration

When evaluating the potential future reduction initiatives, the Carbon Neutrality Task Force identified five core values that are critical in the selection process:

- academic engagement (providing opportunities for faculty and student research and class engagement);
- agility and adaptability (technology is quickly changing so the campus energy master plan should be updated every 5 years or so to see what new opportunities may exist);
- financial sustainability (using university resources wisely and implementing technologies that provide a competitive advantage while reserving remaining resources and standing ready to act when new technologies become available);
- reporting transparency (having trackable and measurable initiatives) and
- service reliability (with the university's remote location and harsh climate selecting reliable systems that can be serviced locally is critical especially when considering that over 60% of the university's emissions are produced by its heating systems).

To start with, potential initial investments to reduce the university's carbon emissions by 25% to 25,000 tonnes/year by 2030 include:

Reducing energy use by continuing to convert lighting to LED and transitioning 10-15% of the university's vehicle fleet to hybrid/electric. To support this initiative, an electric vehicle charging station implementation plan will be developed.

NMU and Sustainability

Campus Energy Master Plan and Carbon Neutrality by 2050 Plan ***(continued)***

Optimizing infrastructure by renovating Harden Hall with more energy efficient systems and allowing for the demolition of Gries Hall which supports the strategy of right-sizing campus. Additional facilities that are planned for demolition per the Campus Master Plan include Lee, Spooner and Spalding Hall.

Investing in Renewable Energy projects include the opportunity to install a rooftop solar PV system on the new WellBeing Center and potentially partnering with the Marquette Board of Light and Power on a utility scale solar PV system.

Regarding renewable energy, the university will study the enhancements necessary to improve the efficiency of operating the existing combined heat and power plant on biomass after 2027 in order to bring the operational costs closer to that of burning natural gas.
The fifth strategy, increasing carbon sequestration, includes expanding from pre-consumer composting to post-consumer composting in the university's dining operations and expanding the no-mow areas on the main campus from 9% to 15% or from 18 to 31 acres.

To reach 50% carbon emissions reduction to 16,000 tonnes/year by 2040, the university will continue with energy saving projects, building system upgrades and renovations, solar PV system installations and potentially an expansion of the CHP system at the Ripley Plant.

To reach carbon neutrality by 2050 or less than 5,000 tonnes/year will depend on what was previously implemented and what future technology has been developed.

The draft Carbon Neutrality Plan will be shared with various campus constituency groups for feedback during the Fall 2023 semester. The final carbon neutrality report will be submitted to the President and Executive Council with plans to submit to the Board of Trustees in December 2023.

The draft carbon neutrality plan should be thought of as an opportunity plan that identifies potential initiatives to be considered as funding opportunities become available.

NMU and Sustainability

Photovoltaic Solar System

The university has entered into a contract for the installation of a 16.5 kW photovoltaic solar system installation at 1400 Presque Isle Avenue. The solar system will be a ground mount system installed in the green space to the east of the building and will be highly visible driving north on Third Street. The building is the home of the Sustainability Hub for Innovation & Environment (SHINE). As part of the hub, a solar installation will not only support the electrical needs of the building but will also provide a hands-on active demonstration for the campus community to learn and observe from. This solar installation supports the NMU's goal to become carbon neutral by 2050 and is supported by the students' green funds.

Hybrid Vehicles

The university has begun to replace its transportation fleet with hybrid vehicles in support of its carbon neutrality goal. In 2021, the Police Department acquired a hybrid police car. With each new vehicle bid, hybrid and electric vehicle options are included. To date, delivery issues have impacted the acquisition process.

Facility Efficiency/Right Size Campus

The university has classified and quantified all of its existing space and compared its spatial distribution with similar institutions based on the Society of College and University Planning (SCUP) Facilities Inventory report. This effort allowed the university to benchmark its space inventory against national averages by comparing total square footage by type (classroom, laboratory, office, etc.) against total enrollment. In addition a formal evaluation of facility use (space utilization) was conducted in 2011. The evaluation illustrated NMU's utilization between 8 a.m. and 5 p.m. averaged 22 hours per week which was low compared to the national average of 28-32 hours/week.

This lower-than-average utilization rate and the space inventory data is now used to continually evaluate and repurpose underutilized spaces instead of building new space; better utilizing the university's existing facilities. Over the last ten years, the university has demolished underutilized and inefficient facilities such as the former Summit and Center St. apartment buildings, three of the four Quad I residence halls, Carey Hall, West Hall, Jamrich Hall and 25% of Jacobetti Complex totaling over 481,000 square feet.

NMU and Sustainability

Building Design

The University has recently developed and adopted sustainable design standards for all capital projects that consider, evaluate and apply criteria from five broad categories: building and land utilization, building systems performance and efficiency; operations and maintenance needs, utility requirements and total cost of ownership. This criteria will not only ensure NMU capital projects qualify for LEED certification, they will ensure each project is designed and constructed in a way that is most beneficial to the university for the life of a building and reduce the university's carbon footprint.

The university has achieved LEED Green Building certification for the following projects:
- LEED Certified: Meyland Hall, Magers-Meyland Lobby, Hunt-Van Antwerp Lobby, Jamrich Hall
- LEED Silver: Van Antwerp and Hunt Hall renovations, The Woods

Grounds Maintenance

Northern Michigan University adopted a "No Mow" program. Under this program, the campus grounds are routinely evaluated to determined areas where the use of mechanical mowing can be eliminated. These areas are signed to explain the project and left to natural regeneration. The program has been well received and will continue.

Recycling/Composting

A "single sort" recycling program has been in place since 2007 making first-line recycling efforts easier for students, faculty, and staff. Batteries, fluorescent lamps, computer components, waste oil, and antifreeze are products that are also recycled by the university. All building renovation and construction projects require participants to record tonnage of recycled metal, masonry, cardboard, and organic building materials. This information is essential to the LEED certification process. Since October 2017, fifteen buildings have adopted the new trash/recycling process. This process has trash/recycling "pods" placed in strategic locations throughout the building where occupants can empty their recycled materials. The intent of this is to make occupants more conscious of what is being recycled.

Dining Services has been partnering with a local company to divert food waste from the university for use in creating compost. About two cubic yards of pre-consumer compost have been sent to the facility every week that included coffee grounds, eggshells, vegetable trimmings and other forms of food waste created before any interaction with the consumer.

The goal for NMU Dining is to upgrade the program to include post-consumer compostable items such as the to-go sushi trays from Temaki and the single-use utensils, paper plates, napkins and dip cups. A new compost trailer has been purchased by the local partner through a grant and located outside of Northern Lights Dining for waste collection and transportation to their composting site.

NMU and Sustainability

Community Awareness

Sustainability and conservation efforts are a university goal. In Fall 2016, a university Sustainability Advisory Council (SAC) was formed to help guide the campus community into becoming a greener place to work and live. Since their formation, the council has accomplished much including hosting Zero Waste Challenges during NMU basketball and hockey games and completing the Association for the Advancement of Sustainability in Higher Education's intensive Sustainability Tracking Assessment and Rating System inventory – or STARS inventory every three years. NMU's STAR's rating in 2020 was silver advanced from bronze in 2017. In 2023, NMU received another silver rating, just 4.8 points short of gold. The rating system measures institutions' sustainability performance and factors in academics and research, operations, administration/planning and engagement.

In 2017, the council developed a Sustainability Master Plan 2020, with goals in five main categories: institutionalize sustainability, cultivate sustainability leadership, invest in energy innovations, promote sustainable transportation, purchase local foods and support local farms. An update to the master plan was produced by students in the environmental justice class and supported by the Sustainability Advisory Council. The proposed updated plan included recommendations to strive for carbon neutrality, improve waste and recycling, promote fresh water, promote education and awareness and build local partnerships. In 2021, the council prepared an annual report of its accomplishments and recommended support of the proposed updated master plan to the NMU President.

To streamline NMU's sustainability-related committees, the Sustainability Advisory Council was dissolved in January 2023 since a number of committees addressed sustainability-related issues on campus and drew from the same pool of members often overlapping in responsibilities and focus. These committees include: the President's Sustainability Advisory Council (SAC), Interim Strategic Plan Sustainability Steering Committee, the Carbon Neutrality Task Force, and dozens of faculty and staff involved in the development of SHINE. The SAC members were invited to join either the Interim Strategic Plan Sustainability Steering Committee or the SHINE advisory board.

NMU and Sustainability

Green Fund

Students voted for the establishment of a Green Fund, an optional $5 fee, charged each semester to support campus-wide sustainability initiatives. The 2020-2021 academic year was the first year the campus Green Fund went into effect. The student group, NMU EcoReps, invites students, staff, faculty and community members (working individually or in small teams) to submit proposals for Green Fund initiatives. Projects can range from student awareness programs to behavior-changing campaigns to infrastructure upgrades or installations (e.g., demonstration solar garden, composting innovation, tree planting, etc.), transportation, energy efficiency, upcycling and waste management. Proposal submissions include an estimated project budget that addresses the actual cost to implement the idea, potential cost savings, environmental impacts, and any other financial information necessary to consider the long-term impact of the proposed idea on NMU's campus. These proposals are forwarded by the EcoReps to the Sustainability Advisory Council for review and submission to the university administration for funding consideration through the Green Fund.

Five projects were awarded green funds in 2022 to advance sustainability on campus including a PV solar array on Fair Avenue, rain garden, clover lawn on the former West Hall site, Dining Services composting initiative and a beekeeping program. In 2023, the projects that were awarded green funds include biodiversity lawn, clothing donation bins and clothing swap supplies, Food Pantry refrigerator/freezer, Ripley Heating Plant brine tank irrigation and a power strip give away.

Facilities Assessment

NMU Physical Plant Overview

- 67 Buildings
  - 3.5 million Gross Square Feet
- 868 acres
  - 357 acres on main campus
  - 142 acres – English Property
  - 160 acres - Longyear Forest
  - 206 acres – South Marquette
  - 3 acres – FROST Property
- 3.6 miles of roadway
- 13.95 miles of sidewalk

Facilities Condition Cost Analysis by Priority Class For all State Buildings

Building	1 - 3 Years	4 - 7 Years	8 - 10 Years	Grand Total
Art & Design	$421,404	$743,178	$487,374	$1,651,956
BEAR Center			$50,000	$50,000
Berry Events Center	$319,082	$1,482,318	$564,116	$2,365,515
Butler Building	$35,274	$67,317		$102,591
C.B. Hedgcock			$1,168,621	$1,168,621
Campus Wide	$4,093,029	$3,512,595	$3,066,957	$10,672,581
Cohodas Hall	$2,562,081	$5,323,919	$8,722,922	$16,608,921
Dome/PEIF Link	$67,317		$32,312	$99,629
Forest A. Roberts Theatre	$1,933,341	$2,875,777	$203,297	$5,012,415
Gries Hall	$1,207,665	$2,551,310	$4,714,875	$8,473,850
Harden Hall	$7,256,760	$7,208,604	$10,230,820	$24,696,185
Harden/Science Link	$13,463	$22,888		$36,351
Harry D. Lee Hall	$6,078,715			$6,078,715
Health Center (Former)	$113,092	$188,487	$197,912	$499,491
Jacobetti Complex	$1,279,021	$1,420,106	$455,823	$3,154,950
Jacobetti Storage	$36,620	$19,118	$77,831	$133,570
John X. Jamrich Hall			$535,842	$535,842
McClintock Building	$891,276	$1,029,948	$2,088,170	$4,009,394
NC/Gries Link			$83,473	$83,473
P.E.I.F.	$20,194,405	$8,461,771	$770,105	$29,426,281
PEIF/BEC Link	$118,478		$67,317	$185,795
Ripley Heating Plant		$39,044	$529,111	$568,155
Services Building	$675,024	$230,224	$2,028,931	$2,934,179
Superior Dome	$40,390	$6,555,318	$6,082,747	$12,678,455
The Science Building	$47,122	$516,994	$1,658,688	$2,222,804
Thomas Fine Arts	$774,144	$1,408,269	$1,280,367	$3,462,781
Weston Hall	$115,785	$457,065	$1,790,165	$2,363,015
Whitman Hall		$111,893	$1,700,425	$1,812,318
Grand Total	$48,273,487	$44,226,144	$48,588,201	$141,087,832

Facilities Condition Cost Analysis by Priority Class For all Auxiliary Buildings

Building	1 - 3 Years	4 - 7 Years	8 - 10 Years	Grand Total
Center Apartments	$1,459,600	$926,450	$1,709,849	$4,095,899
Hunt Hall	$189,834	$360,819	$1,184,777	$1,735,429
Lincoln Apartments	$1,332,874	$2,446,296	$6,094,834	$9,874,004
Lincoln Street Laundry Building	$1,346	$2,693	$71,356	$75,395
Magers Hall	$311,004	$333,892	$1,270,943	$1,915,839
Meyland Hall	$436,213	$336,584	$1,052,836	$1,825,634
Northern Center	$3,330,840	$2,119,905	$2,700,112	$8,150,857
Norwood Apartments	$2,131,446	$2,617,281	$892,622	$5,641,348
Quad I Common Area	$141,365	$908,778	$654,320	$1,704,464
Quad II Common Area	$5,650,579	$2,747,875	$655,666	$9,054,121
Spalding Hall	$13,459,338		$150,790	$13,610,128
Spooner Hall	$5,660,004	$1,657,342	$1,918,531	$9,235,877
Van Antwerp Hall	$176,370	$438,906	$1,060,914	$1,676,190
Wilkinson		$250,015		$250,015
Woodland Park Apartments	$641,164	$1,750,239	$556,037	$2,947,441
Grand Total	$34,921,979	$16,897,074	$19,973,589	$71,792,641

Facility Assessment Summary

Building	Service Area	2023-2024 Replacement Cost	Year Constructed	Construction Type	Gross Square Footage	Net Square Footage	Use Code	Standards
1020 Wright Street - Fab Shop	Academic/Admin	$516,043			4,000	4,000	ST	1
1020 Wright Street - Forensic Anthropology Research Facility	Academic/Admin	$615,618			3,400		AD	1
1020 Wright Street - Storage	Academic/Admin	$412,835			3,200	2,900	ST	1
1400 Presque Isle	Academic/Admin	$486,723			4,762			1
1422 Presque Isle - TeMaki	Univeristy Center	$1,513,325	1972		6,000	4,256	RS	1
1500 Wilkinson Avenue	Housing	$1,165,260	1952	F	4,623	2,742	RS	1
1716 Presque Isle Building - Commercial Rental	University Center	$1,588,990	1960	FR	6,300	6,300	RS	1
1804 Tracy Avenue - Rental	University Center	$130,108	1954	FR	2,230	2,230	RS	1
Art & Design	Academic/Admin	$30,227,084	1996	FR	101,428	83,550	CL	1
BEAR Center	Academic/Admin	$2,500,000	1959 / 2022	FR	6,028		RS	1
Berry Events Center	Intercollegiate Athletics/Rec.	$43,575,714	1999	FR	133,060	75,740	CG	1
Bus Garage - 1901 Enterprise	Academic/Admin	$319,948		ST	2,480	2,437	ST	1
Butler Building	Academic/Admin	$823,089	1950	FR	6,380	6,411	ST	1
C.B. Hedgcock	Academic/Admin	$38,232,727	1958 /2005	M	116,745	99,210	AD	1
Center Street Apartments	Housing	$9,985,444	1967	M	38,700		RS	1
Cohodas Hall	Academic/Admin	$31,294,277	1975	FR	105,009	92,376	AD	1
Dome Storage	Intercollegiate Athletics/Rec.	$703,695	1998		2,800	2,592	ST	1
Dome/PEIF Link	Intercollegiate Athletics/Rec.	$820,109	1991	NC	2,760	2,466	BC	1
Dow Storage	Intercollegiate Athletics/Rec.	$334,396	2002		1,728	1,728	ST	1
Forest Roberts Theatre	Academic/Admin	$9,150,257	1964	FR	30,704	22,510	TH	1
Gries Hall	Academic/Admin	$20,906,305	1961	FR	58,226	48,564	AD	1,2
Harden Hall	Academic/Admin	$59,239,755	1969	FR	198,781	175,246	CL,LB,SU	1
Harden/The Science Building Link	Academic/Admin	$2,435,824	1996	NC	6,784	5,376	BC	1
Health Center (Former)	Academic/Admin	-	1961 / 2001		7,838	7,038	AD	
Hedgcock/TFA Link	Academic/Admin	$937,259	2004		3,145	2,977	BC	1
Hunt Hall	Housing	$16,398,577	1967 / 2008	FR	63,555	50,349	RS	1
Jacobetti Complex	Academic/Admin	$49,850,000	1980 / 2023	FR	166,977	159,268	CL	1
Jacobetti Storage	Academic/Admin	$1,810,442	1988	ST	6,075	5,820	ST	1
John X. Jamrich Hall	Academic/Admin	$37,908,775	2014	FR	133,000	117,575	CH	1
Lee Hall	Academic/Admin	$15,262,327	1949	M	42,507	36,395	AD	1
Lincoln Street Apartments	Housing	$21,488,060	1980	F	84,336	65,122	RS	1
Magers Hall	Housing	$16,146,746	1966 / 2005	FR	62,579	50,794	AD	1
McClintock Building	Academic/Admin	$9,500,830	1964	M	33,575	32,382	CH	1
Meyland Hall	Housing	$16,435,214	1966 / 2006	FR	63,697	58,849	RS	1
Microwave Link (Stl) Morgan Mead	Academic/Admin	$193,517	1972	FR	1,000	1,000	PP	1
NC/Gries Link	Academic/Admin	$908,648	1995	NC	3,049	2,740	BC	1
Northern Center	University Center	$46,120,016	1959 / 1996	NC	155,982	139,421	AD,SU,FS	1
Norwood Street Apartments	Housing	$9,065,338	1967	M	35,134	33,324	RS	1
P.E.I.F.	Intercollegiate Athletics/Rec.	$58,825,904	1976	FR	179,627	161,298	CG	1
PEIF/Berry Events Center Link	Intercollegiate Athletics/Rec.	$3,007,569	1999	NC	10,092	8,936	BC	1
Quad I Common Area	Housing	$22,269,780	1964	FR	74,727	72,473	FS	1
Quad II Common Area	Housing	$24,123,435	1966	FR	80,947	70,156	RS	1
Ripley Heating Plant	Academic/Admin	$35,820,680	1965 / 2013	FR	35,190	27,634	PP	1
Salt Barn	Academic/Admin	$574,872	1996	F	4,456	4,115	ST	1
Services Building	Academic/Admin	$28,021,772	1996	M	94,028	91,225	PP	1
Spalding Hall	Housing	$14,436,062	1964	FR	55,929	48,078	RS	1
Spooner Hall	Housing	$14,226,290	1957	FR	55,136	38,637	RS	1
Storage Building	Academic/Admin	$56,118	1998	ST	3,760	3,760	ST	1
Superior Dome	Intercollegiate Athletics/Rec.	$79,714,623	1991	F	251,436	213,296	CG	1
The Wellbeing Center	Academic/Admin	$7,700,000	2023	FR	12,787		AD	1
The Woods - Birch East	Housing	$16,262,719	2017		64,734		RS	1
The Woods - Birch West	Housing	$16,234,833	2018		60,623		RS	1
The Woods - Cedar East	Housing	$14,692,822	2018		58,485		RS	1
The Woods - Cedar West	Housing	$13,936,638	2017		55,475		RS	1
The Woods - Maple East	Housing	$14,263,731	2018		56,777		RS	1
The Woods - Maple West	Housing	$14,225,797	2018		56,636		RS	1
Thomas Fine Arts Building	Academic/Admin	$26,847,294	1964	FR	90,087	64,217	CH	1
Transmitter Site-Ely Township	Academic/Admin	$386,453	1972	FR	1,997		PP	1
Van Antwerp Hall	Housing	$16,417,411	1967 / 2007	FR	63,628	53,481	RS	1
The Science Building	Academic/Admin	$58,578,581	1966	FR	159,319	138,241	CL	1,4
Weston Hall	Academic/Admin	$45,813,062	2000	FR	124,600	109,538	CL,CH	1,3
Whitman Hall	Academic/Admin	$10,698,745	1953 / 2003		35,900	31,000	CH,AD	1
Woodland Park Apartments	Housing	$27,092,289	2006		105,000	94,757	RS	1

Use Codes:
AD Administrative
AT Athletics
BC Building Connector
CG Classroom/Gym
CH Classroom/Lecture
CL Classroom Laboratory
FS Food Service
LB Library
PP Physical Plant
RS Residential
ST Storage
SU Student Union
TH Theater
UI Utility Infrastructure
HS Hardscape

Required Standards:
1. Typical Building/ Construction Codes
2. Animal Welfare Act
3. Nuclear Regulatory Commission
4. Accreditation Standards
American Speech, Language, Hearing Association

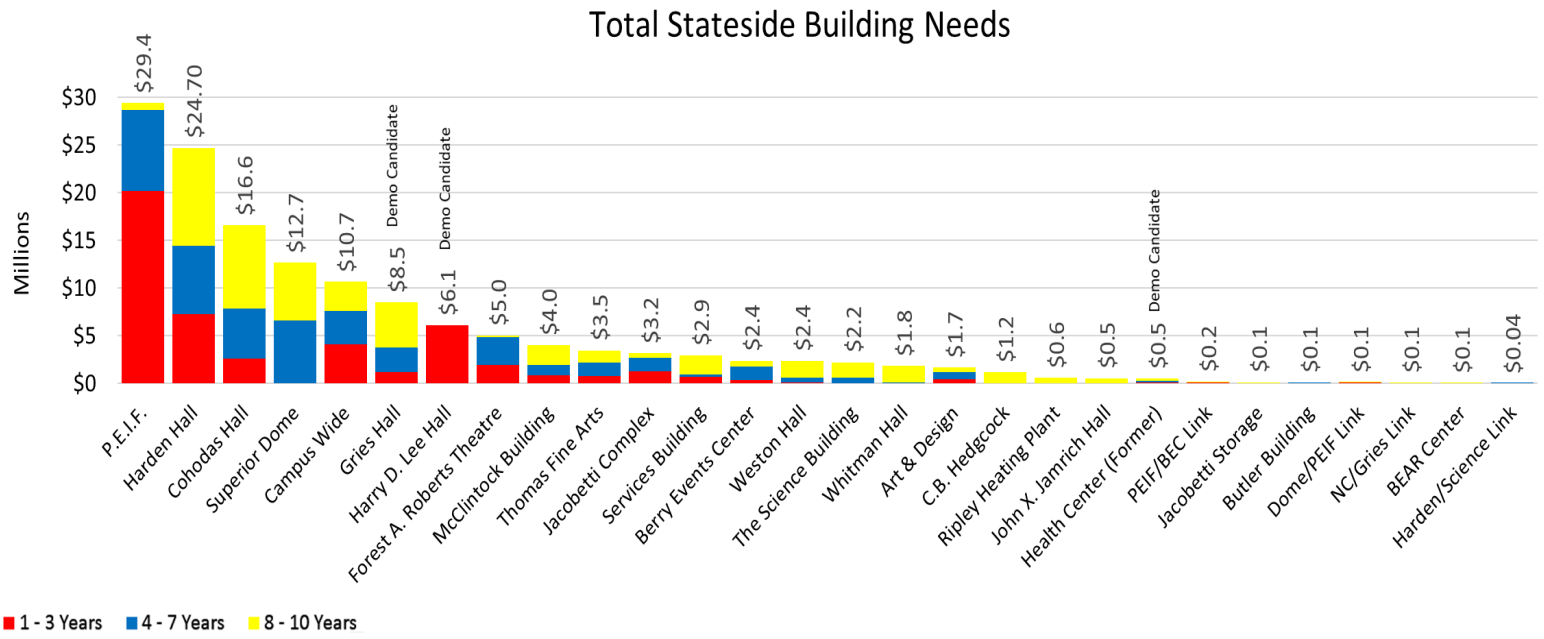
Facility Assessment Summary (Continued)

Building	Cooling	Electrical	Exterior Shell	Grounds	Heating	HVAC	Interior Shell	Mechanical	New Construction	Plumbing	Safety/Code	Grand Total
Art & Design	$44,429		$551,998	$39,044	$154,829	$298,887	$456,408	$100,975		$5,385		$1,651,956
BEAR Center			$50,000									$50,000
Berry Events Center	$74,049	$94,244	$872,427			$201,951	$927,627	$94,244		$100,975		$2,365,515
Butler Building		$14,810	$2,962								$84,819	$102,591
C.B. Hedgcock	$33,658						$1,126,885			$8,078		$1,168,621
Campus Wide		$1,346,338	$1,346,338	$4,200,894			$1,346,338			$2,432,674		$10,672,581
Center Apartments	$8,078	$797,032	$543,920	$5,385	$642,373		$460,448			$1,456,907	$181,756	$4,095,899
Cohodas Hall	$187,141	$2,356,091	$2,334,550	$24,234	$60,585	$6,379,447	$1,820,249	$102,322		$2,527,076	$817,227	$16,608,921
Dome/PEIF Link		$18,849	$71,356		$9,424							$99,629
Forest A. Roberts Theatre		$456,408	$152,136	$24,234	$45,775	$1,571,176	$1,140,348			$787,608	$834,729	$5,012,415
Gries Hall	$184,448	$2,448,988	$1,077,070	$16,156	$75,395	$323,121	$996,290	$145,404		$2,065,282	$1,141,694	$8,473,850
Harden Hall	$249,072	$3,948,828	$157,068	$4,039	$2,870,392	$6,636,845	$2,435,525	$282,731		$5,116,083	$2,995,601	$24,696,185
Harden/Science Link		$22,888					$13,463					$36,351
Harry D. Lee Hall							$6,078,715					$6,078,715
Health Center (Former)		$60,585		$5,385		$57,893	$168,292	$30,966		$118,478	$57,893	$499,491
Hunt Hall	$84,819	$106,361			$13,463	$114,439	$822,612			$368,897	$224,838	$1,735,429
Jacobetti Complex		$432,731	$148,278	$6,732	$560,000	$1,650,273	$200,000	$86,166		$10,771	$60,000	$3,154,950
Jacobetti Storage			$19,118	$37,441			$40,390				$36,620	$133,570
John X. Jamrich Hall							$529,111			$6,732		$535,842
Lincoln Apartments		$2,792,304	$1,532,096		$1,192,855	$511,608	$628,740			$2,290,120	$926,280	$9,874,004
Lincoln Street Laundry Building		$33,658	$13,463							$28,273		$75,395
Magers Hall	$84,819	$105,014			$140,019	$114,439	$821,266			$428,135	$222,146	$1,915,839
McClintock Building		$581,618	$634,125		$475,257	$900,700	$537,189	$2,693		$837,422	$40,390	$4,009,394
Meyland Hall	$84,819	$107,707			$402,555	$107,707	$822,612			$75,395	$224,838	$1,825,634
NC/Gries Link			$33,658				$41,736				$8,078	$83,473
Northern Center	$67,317	$1,728,762	$220,799		$68,150	$418,711	$552,832	$316,389		$4,172,172	$605,724	$8,150,857
Norwood Apartments		$1,809,478	$1,081,109	$16,156	$700,289		$545,267			$1,297,870	$191,180	$5,641,348
P.E.I.F.	$222,146	$446,984	$1,791,976			$1,097,922	$2,131,291	$71,356	$15,561,000	$8,065,909	$37,697	$29,426,281
PEIF/BEC Link			$26,927				$67,317	$83,473			$8,078	$185,795
Quad I Common Area	$107,707	$292,155	$425,443		$106,361	$80,780	$464,487	$10,771		$88,858	$127,902	$1,704,464
Quad II Common Area	$100,975	$1,791,976	$476,604		$100,975	$4,121,140	$588,350	$60,585		$1,678,883	$134,634	$9,054,121
Ripley Heating Plant	$20,195		$508,916			$20,195				$18,849		$568,155
Services Building	$88,858		$1,132,779	$32,312	$161,561	$693,364	$768,759	$56,546				$2,934,179
Spalding Hall		$94,244					$13,246,617				$269,268	$13,610,128
Spooner Hall	$35,005	$407,940	$864,349	$21,541	$888,583	$2,716,910	$1,642,532	$20,195		$2,295,506	$343,316	$9,235,877
Superior Dome	$53,854	$1,822,941	$564,116	$2,692,675		$3,500,478	$1,918,524	$113,092		$1,569,830	$442,945	$12,678,455
The Science Building			$650,281			$47,122	$1,318,065	$51,161		$156,175		$2,222,804
Thomas Fine Arts		$94,244	$297,541	$4,039	$9,424	$263,882	$605,852	$90,205		$1,323,450	$774,144	$3,462,781
Van Antwerp Hall	$84,819	$107,707			$161,561	$114,439	$822,612			$75,395	$309,658	$1,676,190
Weston Hall	$47,122		$565,462			$621,544	$990,215			$138,673		$2,363,015
Whitman Hall	$67,317		$1,230,553			$111,893	$350,048			$52,507		$1,812,318
Wilkinson		$91,551	$50,084	$56,546		$3,231	$35,678			$12,925		$250,015
Woodland Park Apartments	$71,356	$600,467	$70,010		$467,487	$317,736	$605,852			$188,487	$626,047	$2,947,441
Grand Total	$2,002,004	$25,012,902	$19,497,509	$7,186,815	$9,307,314	$32,997,832	$48,068,540	$1,719,273	$15,561,000	$39,799,780	$11,727,504	$212,880,473

Facility Assessment Summary (Continued)

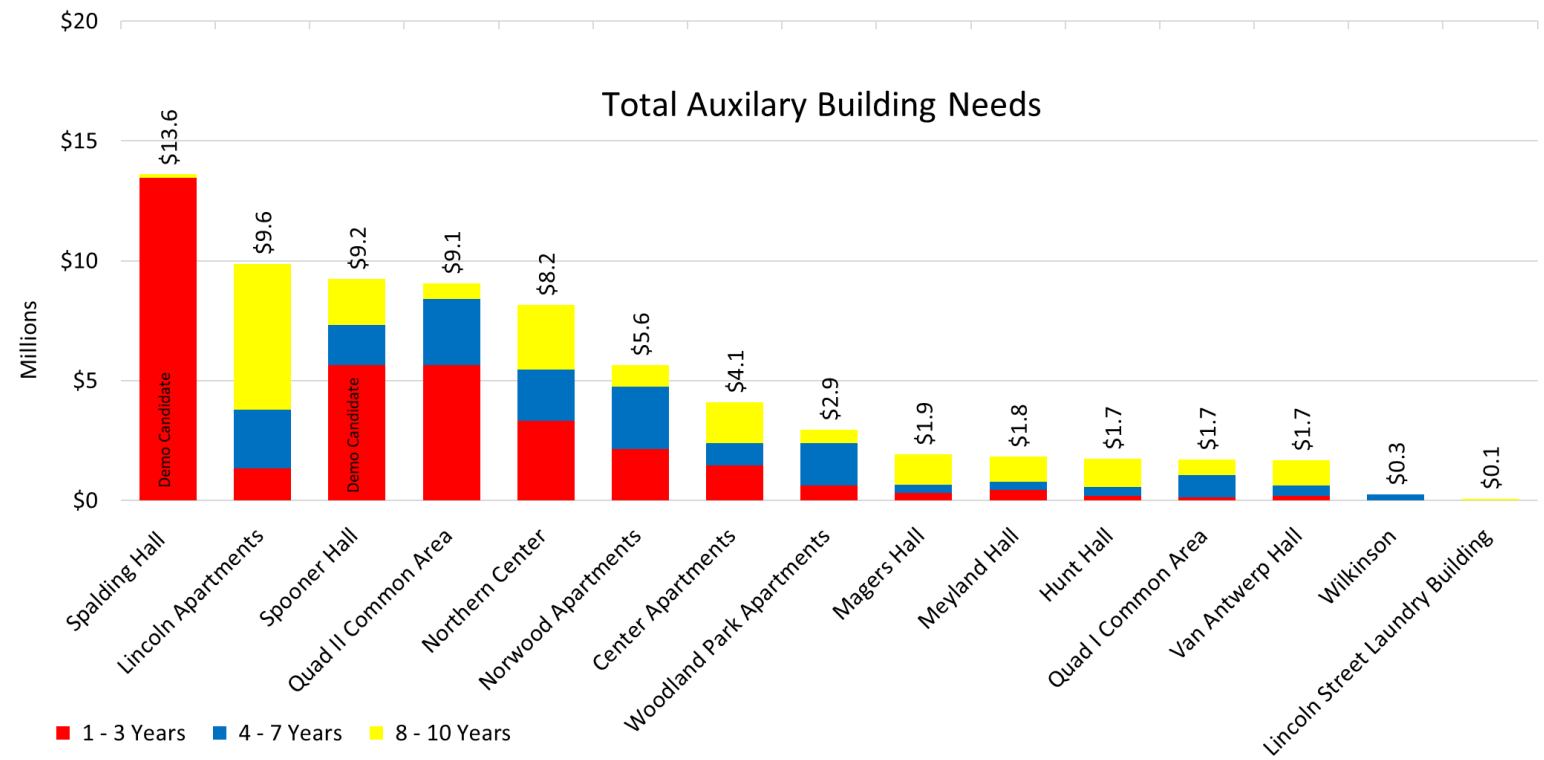
Stateside Building Needs Over 10 Years

Project List as of September 1, 2023



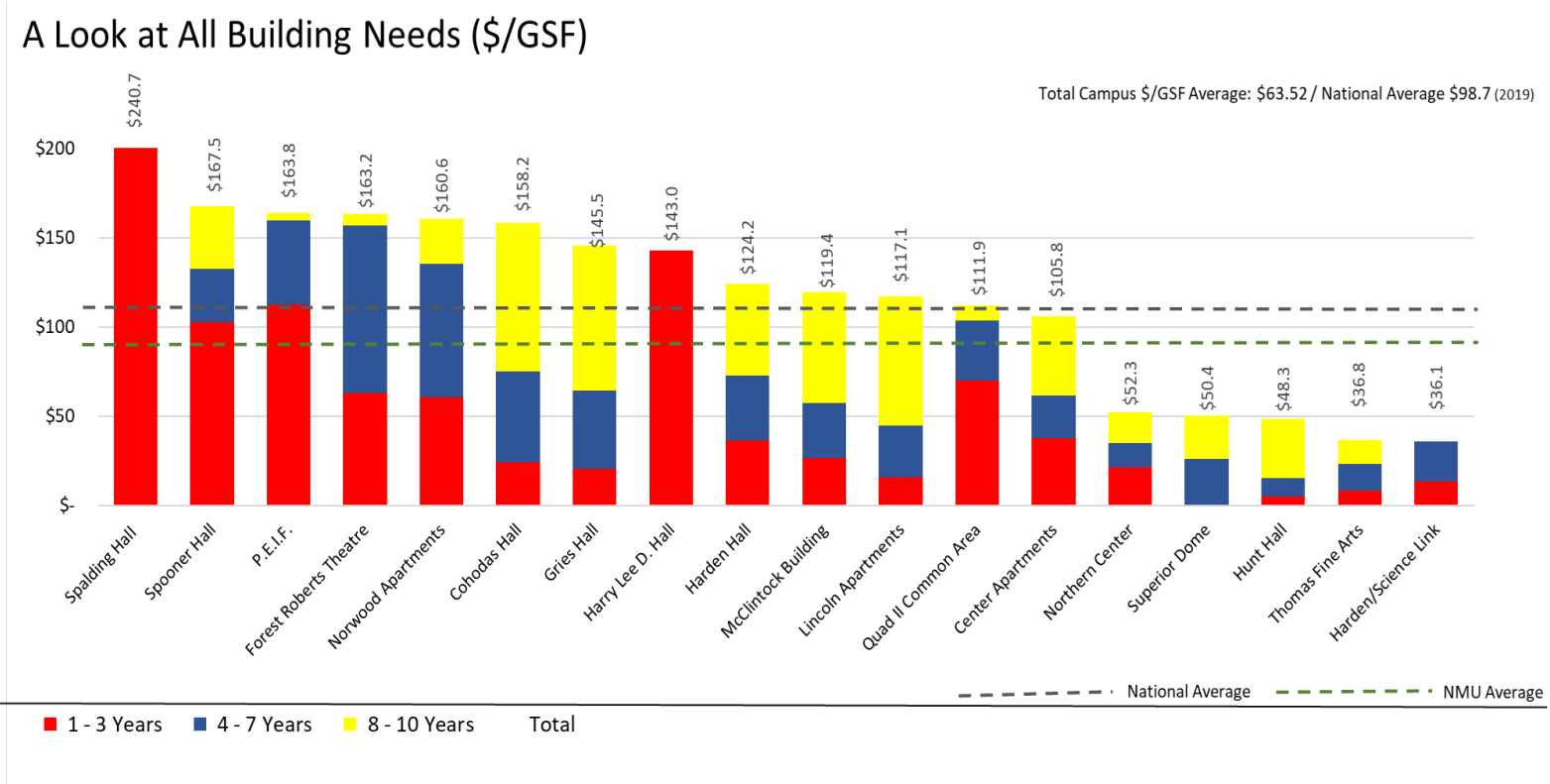
Auxilary Building Needs Over 10 Years

Project List as of September 1, 2023

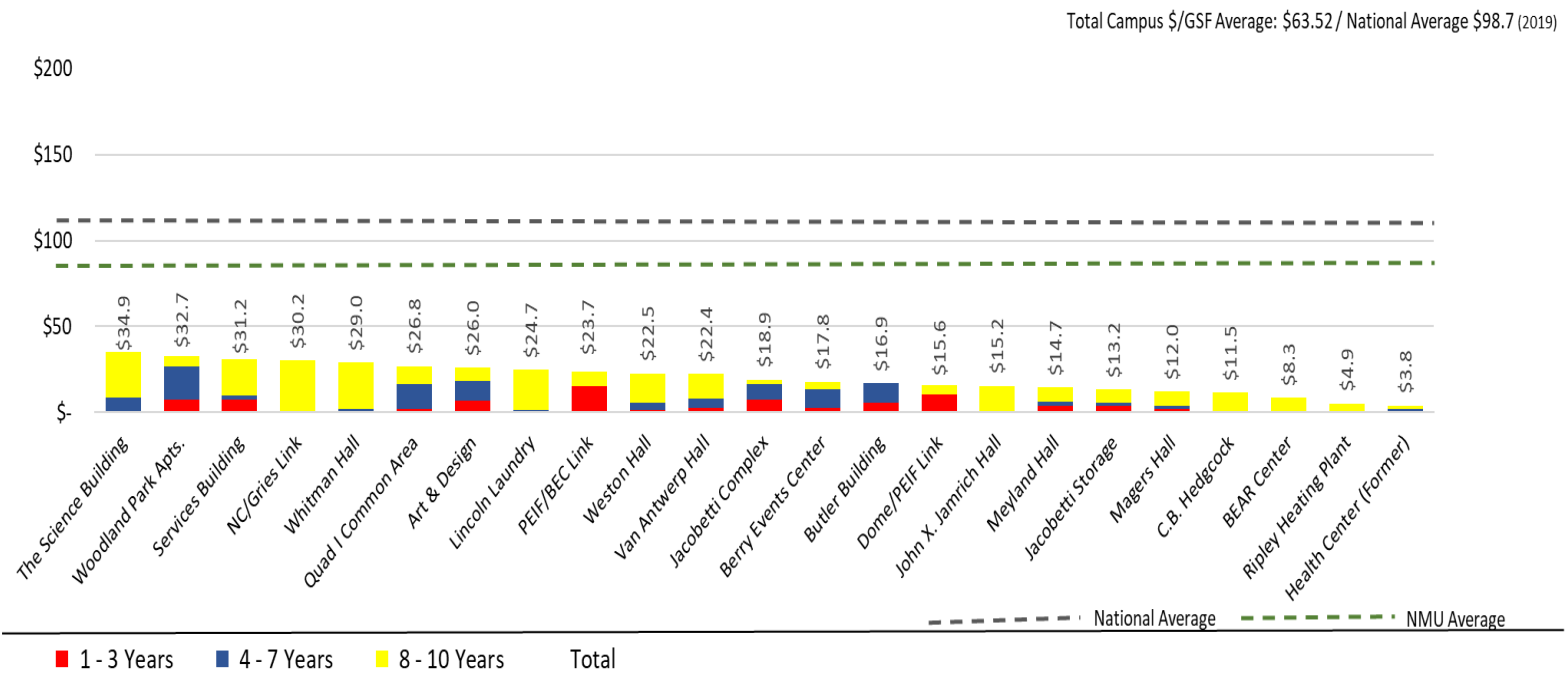


Facility Assessment Summary (Continued)

A Look at All Building Needs ($/GSF)

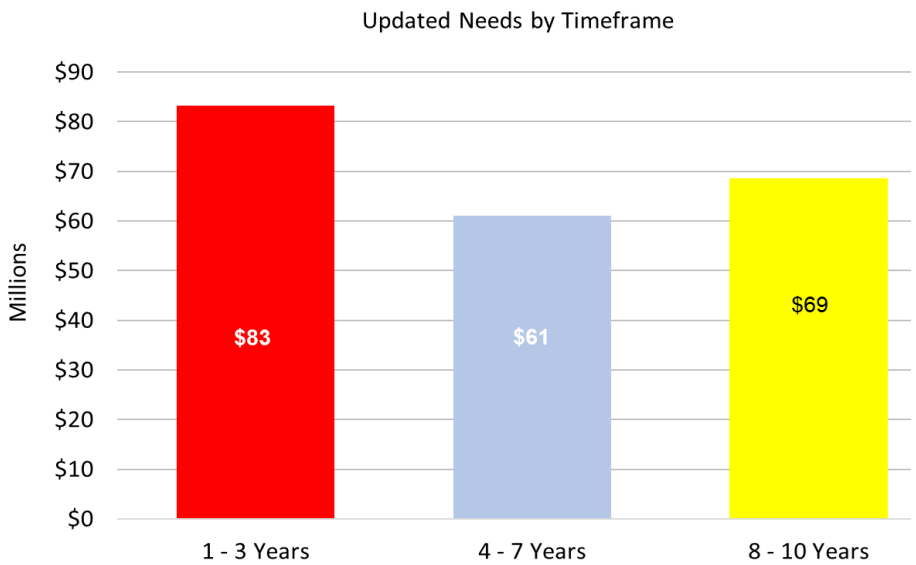


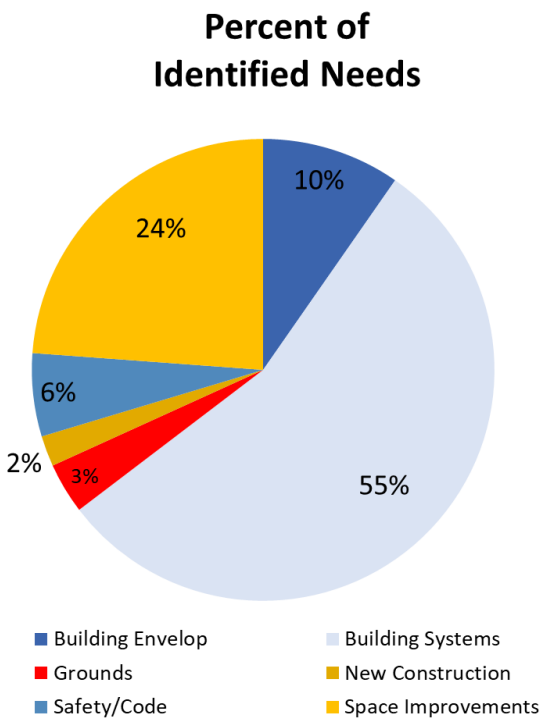
A Look at All Building Needs ($/GSF)



Facility Assessment Summary (Continued)

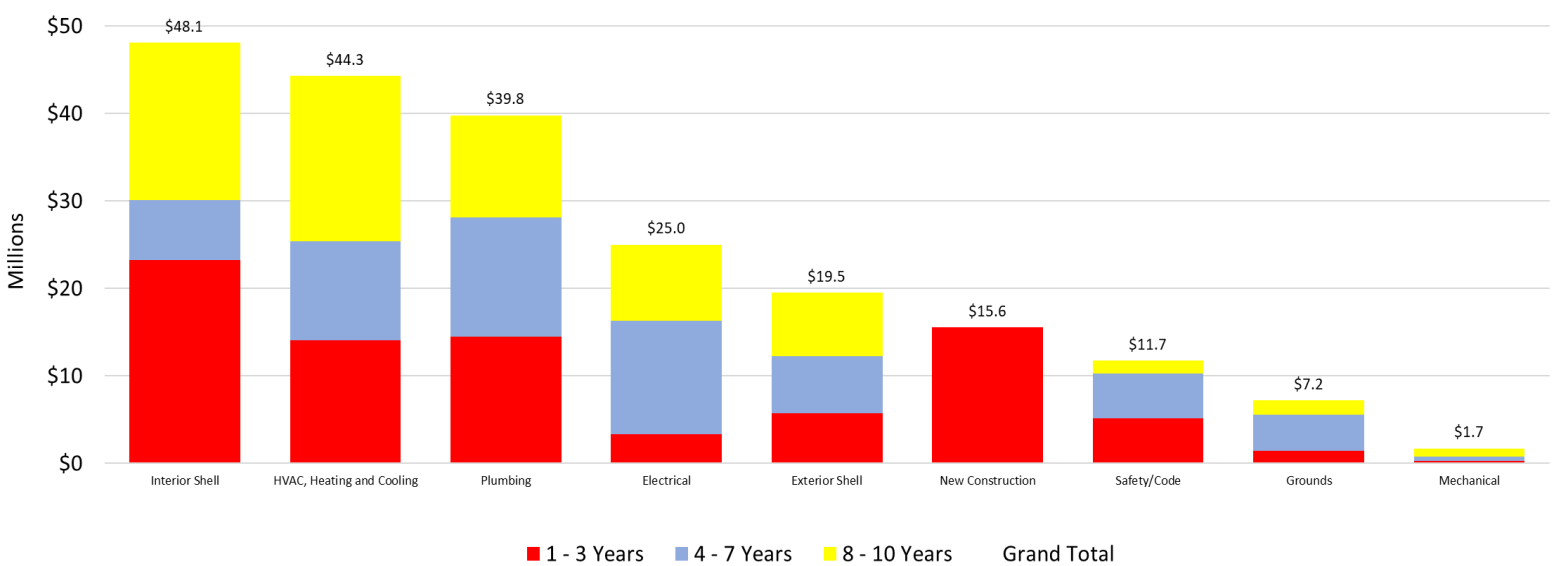
10 Year Needs Time Frame





Identified Needs By System

Time Frames A, B, C only



The total needs noted above does not include some of the residential and storage buildings included on page 60

Facility Assessment

Long-Term Maintenance

Since September 2022, Northern has addressed long-term maintenance needs of $8.3 million pertaining to state buildings, auxiliary buildings, utility infrastructure, security, and hardscape. Capital renewal projects address long term maintenance and space utilization. Examples of some of this past year's projects include, but are not limited to, the following:

Capital Renewal Projects* $25.3 million (spent since 9/22 on design and construction)**:**

- BEAR Center Renovation
- Berry Event Center Hockey Locker Room Renovation
- Career and Engineering Tech Facility
- Cosmetology & Hospitality Management Relocation to Northern Center
- Harden Hall Library Renovations
- Vandament Arena Renovations

Education Access Network (EAN) $3.4 million (spent since 9/22):

- Network Infrastructure Upgrades

Maintenance Projects:

- Athletic Projects
- Berry Events Center Infrastructure Upgrades
- Campus Interior Finishes (flooring, painting, doors, etc.)
- Energy Management System Upgrades
- Exterior LED Lighting Upgrades
- Hazardous Material Storage & Ventilation
- House Demolitions -Tracy Avenue and Presque Isle Avenue
- Housing Fire Alarm Replacement
- Housing Maintenance – Various
- Lincoln St. Apartments Roof & Siding Replacement
- Mechanical / Electrical / Plumbing Infrastructure Upgrades
- Meyland Hall LED Lighting Upgrade
- Parking Lot & Sidewalk Repairs Across Campus
- PEIF Emergency Generator Replacement
- PEIF Pool Repairs & Upgrades
- Quad I Parking Lot 16 (south half) Resurfacing
- Security System Cameras
- Services Building Roof Replacement (Phase II)
- Utility Infrastructure Upgrades
- Wayfinding/Building Sign Replacement
- West Hall Demolition
- Weston Hall Phoenix Controls Upgrades
- Westside Apartment Renovations
- WNMU – TV Set & Electrical Upgrades
- Women's Wrestling Locker Room Renovation

**When buildings are renovated, long-term maintenance projects are incorporated whenever possible.*

Facility Assessment

Space Utilization Initiatives

NMU uses a number of policies and tools to optimize course scheduling and evaluate/improve classroom, laboratory and building utilization. These policies and tools include design guidelines for classroom and laboratories as well as a formal scheduling guidelines that all academic departments are required to follow. These guidelines are designed to ensure classroom and laboratory utilization is optimized throughout the day/week.

Space Report

In 2014, NMU established a classroom utilization target for all general use classrooms of 63%. In addition to the new utilization target, the University has worked to reduce and eliminate department controlled classrooms. With the completion of the Career Tech and Engineering Technology Facility capital outlay project, eleven department controlled classrooms were eliminated and replaced with seven general use classrooms.

Below is a summary of *General Use Classroom Utilization* by building for Fall 2023 (Mon./Fri., 10 a.m. - 3 p.m.).

Building	# of General Use Classrooms	Average Room Utilization %	Average Seat Utilization %
Gries Hall	1	57	56
Harden Hall	4	59	63
John X. Jamrich Hall	24	76	64
Jacobetti Complex	7	55	52
McClintock Building	7	72	63
Russell Thomas Fine Arts	6	62	62
The Woods	1	80	69
The Science Building	15	72	71
Weston Hall	2	77	54
Whitman Hall	2	53	59
Total	69	70%	63%

Utilization rates represent only credit classes formally scheduled by the Registrar's Office. It does not reflect events or activities scheduled by other departments or student organizations.

Space Distribution

In 2019, NMU completed a comprehensive Campus Master Plan Update. This included an evaluation of all existing space assignments and utilization. This evaluation was done for both academic and administrative functions with the intent of identifying both opportunities to improve space utilization and potential redistribution.

Assessment of Campus Utilities System

Water

NMU has approximately 78,000 linear feet of water lines on campus and tries to update aging water mains during new construction, as able. Seven City master water meters are installed around the university to simplify reading the university's usage. Sub-meters are installed on university buildings to monitor individual building use, verify the City's billing statements and help detect water loss. During summer 2012, 800 feet of new 10-inch water main was installed to serve both the Jamrich Hall Replacement Project and the Learning Resource Center. During summer 2014, 335 feet of new water main was installed around the McClintock building to replace an old municipal main that ran under the building's foundation. During summer 2016, 1,900 feet of water main was replaced and relocated as part of NMU's new residence hall project. Also, approximately 2,000 feet of 3-inch water main has been abandoned with the demolition of 801/821 Center and the Summit Street Apartments. During summer 2020, 200 feet of water main was installed by directional boring to re-feed an abandoned fire hydrant at the 1600 Lincoln Street Apartment complex.

Steam

Campus buildings are supplied steam from the Ripley Heating Plant. The underground steam distribution system has approximately 14,000 feet of insulated steam and condensate lines. The majority of the lines are over 25 years old. The Ripley Plant has two 70,000 lbs/hr gas boilers installed in 2006 and a combined heat and power plant constructed in 2013. The CHP plant has a 42,000 lb/hr wood fired boiler along with a 750 kW steam turbine generator. The generator can meet about 17% of the campus electrical load. A gas burner was added to the CHP boiler in summer 2018 to increase fuel options. In summer 2019, 230 feet of 4" underground condensate line was replaced in Lot 22. In summer 2020, improvements were made to the steam and condensate piping and its support system in the tunnel to the Jacobetti Complex. Four expansion joints were removed and two new ones were installed centrally in this piping run. In 2022, approximately 150' of steam and condensate line was removed between the Northern Center and West Hall.

Assessment of Campus Utilities System

Electric

The majority of campus is supplied power from the Marquette Board of Light and Power through distribution in the Ripley Heating Plant. Over 61,000 feet of high voltage cable distributes power underground from the plant to campus buildings. The majority of the underground feeders are nearly 20 years old. The main electrical distribution in the Ripley Plant was installed in 2006. In 2019, the 1960-vintage 15kV switchgear and transformers in the Northern Center were replaced. This summer, the southeast underground electrical loop was modified with the demolition of West Hall. The existing 15 kV loop switches were salvaged and placed into storage along with the building transformer.

With over 600 exterior light poles on campus, a phased approach to replacing the metal halide light fixtures with new LED fixtures has begun. Two hundred and sixty (260) fixtures have been replaced to date.

Gas

All gas mains on campus are owned by the SEMCO gas company. NMU is responsible for all laterals. There is a approximately 49,000 linear feet of gas line on campus. In 2017, a new primary service was installed to serve The Woods residence hall complex. The new service feeds five high-efficiency boilers providing both heating and domestic hot water. In 2022, a new gas line was installed by SEMCO to the yurt and northeast corner of the PEIF as part of the emergency generator replacement project.

Phone

The existing Avaya G450's were installed in 2017. The systems are AC power and connected to emergency generators for continued operation during emergency situations. The core of the phone system, basically the central processing point of the phone switch, was upgraded in 2019. The 2017 and 2019 upgrades virtualized all servers within the phone system. Instead of physical servers, all components of the phone system run on VMWARE systems. Both the core and cabinet components of the phone system are considered to be in very good condition. As yearly maintenance costs are exponentially rising and Avaya's longevity as a small business service provider is uncertain, replacement options are being researched. While the phone system had remote options for work at home users, this has been significantly scaled up to accommodate COVID-19. Remote phone options including softphone clients and apps will continue to be investigated as needed.

Existing campus phone lines (19,629 feet) were installed in 1985 by ATT Technologies. These lines are aging and many have been dug up and damaged. The replacement of these cables is being done on a consistent basis through ongoing renovation and construction projects, as renovation and construction allows. The buried lines are fiber optic and 24-gauge copper twisted pair. The existing fiber optic ring provides a redundant path between the main server rooms on campus.

Assessment of Campus Utilities System

Storm

On campus, there is approximately 55,300 linear feet of storm sewer, with the majority of the university's storm run-off being directed to the city's system. A portion of the city's storm water is directed through university storm pipes entering campus from the southwest and exiting to the northeast. Design for all new construction tries to address storm water run-off with the use of retention ponds and ground infiltration.

In 2008, as part of the Hunt Hall renovation project, as with the 2007 Van Antwerp Project, the university reduced the amount of the rain water run-off entering the city storm water system by adding hipped roofs to the facility and shedding rain water onto a grassed, landscaped area. This reduced the water entering the city storm system by approximately 400,000 gallons annually. During summer 2016, 4,900 lineal feet of storm sewer was relocated and replaced as part of NMU's new residence hall project.

Sanitary

There are 43,332 feet of sanitary sewer lines on campus. Aging sanitary sewer lines are updated with new construction, as permitted. During the summer of 2015, approximately 210 feet of original sanitary sewer piping was replaced serving the Forest Roberts Theatre.

Roadways (3.6 miles)

Improvements:

During summer 2015, approximately 3,200 feet of roadway around the Jacobetti Complex was reconstructed. This reconstruction was funded, in part, by the Michigan Institutional Roadway (MIR) program administered through the Michigan Department of Transportation. During fall 2015, a new 200-foot access drive was constructed to the Sports and Recreation Complex to improve vehicle ingress and egress to the site. During summer 2017, 1,300 feet of on-campus roads were reconstructed at the Sports and Athletics Campus and in the Academic Core of campus.

Conditions:

Because of the northern proximity of NMU and the harsh winter climate, the campus roadway structures endure severe exposure and subsequent deterioration and damage as a result of the operation of snow-clearing equipment. It can be anticipated that significant amounts of asphalt resurfacing will be required in order to maintain the roadways.

Areas Requiring Maintenance:

It is expected that additional sections of the campus' asphalt road network will have to be replaced as a result of normal wear and the harsh winter environment. At least one-half of all campus roadways will need to be repaired and resurfaced within the next 10 years. Along with the replacement of the road surface, a significant amount of roadside concrete curb and gutter will also have to be replaced and/or repaired. In 2011, the university maintenance staff evaluated all campus roadways using the State of Michigan Phaser system to prioritize all roadway repairs. Based on this survey, a long-term repair schedule with cost estimates has been developed for roadway rehabilitation.

Assessment of Campus Infrastructure

Parking (6,769 spaces total)

Improvements:
Current parking lot conditions vary on campus and construction type ranges from paved parking with curb and gutter to unimproved gravel lots. Because of the northern climate, significant amounts of snowfall occur on campus each year. The campus hardscape structures endure more severe exposure and subsequent deterioration and damage as a result of the operation of snow-clearing equipment. To prioritize maintenance, university staff evaluates all campus parking lots annually to prioritize complete reconstruction and routine maintenance. Annual reconstruction projects are noted below:

2018 – Lots 6, 10, 11 and 14 (Resident Lots)
2019 – Lot 8 (General Use)
2020 – Lot 4 and 5 (Resident Lots)
2022 – North Half of Lot 16 (Resident Lot)
2023 – South Half of Lot 16 (Resident Lot)

Sidewalk
There are approximately 14 miles of sidewalk on campus. All new sidewalks are reinforced concrete, and designed 10 feet wide to accommodate service vehicles and snow removal traffic. There are still a number of walks that do not meet the existing campus standard or are badly deteriorated and in need of replacement. Some sidewalks on campus do not meet current ADA or MBFD guidelines. There are also several areas that currently are not paved, which require a finished surface in order for the maintenance crews to be able to keep those walks clear of snow in the winter.

Several sections of the concrete sidewalk around the campus have cracked, resulting in heaving or sunken sidewalk sections, causing uneven settlement at the joints or crack lines. These areas are beginning to become minor trip hazards and are showing signs of deterioration associated with snow plowing, freeze/thaw cycling, and water infiltration.

The campus standard for sidewalks is a 10-foot wide concrete walk. The concrete surface is preferred over asphalt for the durability when scraping snow and ice in the winter months. Within the next two to five years, existing asphalt sidewalks on campus will need to be reconstructed with the campus-standard width geometry and materials so the snow plows can access these walks for clearing and maintaining. The existing walk from Lee Hall east to Waldo Street for accessing the Berry Events Center/Physical Education Instructional Facility/Superior Dome area is planned for replacement with concrete. In 2018, approximately 2,700 square feet of sidewalk was replaced at The Woods and Northern Lights Dining. In 2019, approximately 7,000 square feet of new or replacement sidewalk was installed as part of the Northern Center renovation project.

Assessment of Campus Infrastructure

Over the next six to ten years, it is expected that additional sections of the campus' concrete sidewalk network will have cracked, resulting in heaving or sunken sidewalk sections causing uneven settlement at the joints. These areas will become trip hazards as a result of the deterioration associated with snow plowing, freeze/thaw cycling, and water infiltration. It is expected that at least one-half of all sidewalks on campus will need to be replaced over the next decade.

Assessment of Campus Infrastructure

Network

Over the next five years, we will continue to upgrade network capacity, increase core routing capacity, upgrade core switching infrastructure, and add and upgrade wireless access as necessary. Each individual building now has either 802.11ax (also known as WiFi6), WiFi6e, with just a few still having 802.11ac/ac wav2. With the continued development of WiFi6e and WiFi7 standards being set, we will continue to upgrade buildings with advanced WiFi to improve speed and capacity.

The network core major routing points are all connected at 100 gbps with buildings connected at 10gbps or 40gbps. The University is now connected to its Internet provider at 100gbps, which is an increase of 80gbp over the 20gbps connection in 2021. The backup connection to the Internet still sits at 20gbps and is slated for upgrade in the first half of 2024. All four major routers have been replaced over the last 36 months, with the fourth router, the Harden Hall router, being replaced in the spring of 2023.

The primary wireless controllers for both Resnet and Main campus were upgraded to a C9800-40 unit during the summer of 2021 and summer of 2022, allowing for more wireless capacity and newer access points in those areas. The controllers were upgraded to HA, or high availability, in the summer of 2023 for more resilience.

In December 2021, the primary campus firewall was upgraded from a Palo Alto 5250 to a Palo Alto 5450. This increases firewall capacity from 22gbps to 100gbps. The introduction of the Palo Alto PA series has greatly improved our internet border security, placing almost all of campus behind the protection of this unit. Beyond firewall protection, the PA-5450 allows for mitigation of external attacks and rogue client detection. The older PA-5250 are being re-used in a HA setup to create several internal firewall segments. This aligns with our security policy of zero trust. This PA-5250 setup will also allow us to retire the older and smaller Cisco ASA5515, 5525, 5545, and 5555 firewall units. A backup PA-5450 was added to Cohodas Hall in Q2 2022 to add redundancy. This unit exists at the backup Merit 20gbps connection. A third unit was added solely for the new EAN core and will replace and augment the functions of the NMUCLC/EAN 6807 router.

In addition to the campus network, NMU LTE broadband wireless covers the City of Marquette, and surrounding cities where many faculty, staff, and students live. LTE network coverage has been expanded across the Upper Peninsula with most of 73 new sites completed to meet the needs of the entire educational community. Any university, community college, or K-12 student that lives in the Upper Peninsula and resides in an area covered by NMU LTE network can purchase service to access the educational services provided by their educational institution. A complete upgrade to the core was completed in early 2023. Much of the RAN will also be upgraded per the Rip and Replace requirements of Huawei equipment by the FCC and Federal Government. This RAN upgrade is currently in progress as of Fall 2023.

Assessment of Campus Infrastructure

Technology Infrastructure

The original multimode fiber between buildings, while still installed, is used very seldom for fire control and network, but its use and future is limited. No further upgrades will include multimode fiber, and in some cases, it will be removed if the pathway is needed to enhance the single mode fiber pathways. Continued fiber plant infrastructure upgrade has increased the amount of single mode fiber available to each building to between 12 and 48 strands, although some legacy buildings still have only four strands of single mode. Each individual building is wired internally with Category 5, 5e, 6, or 6a cable, depending on when the cable was installed.

For all new construction, remodeling, or networking redesign, data, fiber, wiring cable, and wireless access points will be installed as follows: Buildings will be connected with an increased number of strands of single-mode fiber to facilitate 10, 40 and 100 Gigabit Ethernet (no less than 12 strands and up to 48 strands) data wiring cable will be Cat 6a or better quality, and wireless access points will be WiFi6.

The wiring infrastructure, both copper and fiber, is in good condition with a few noted exceptions.

- The landscaping phase of Northern Center construction caused major damage to both the NMU copper tie from Cohodas Hall to Harden, Lee, Spooner Halls and Art & Design. It should be noted that due to this damage and because of the age of the building, should any renovation be done to Lee Hall, both new copper phone lines and fiber optic cabling will be necessary.
- The copper line serving the apartments west of Lincoln Avenue has been damaged and spliced nearly a dozen times over the last 20 years by various construction projects. Fiber has been installed along with Category 6 wire to each apartment to serve their network and phone needs.
- With the demolition of the Summit apartments, the wire has been abandoned in place from the first pedestal on the east side of Tracy Avenue. Any construction in this area will also require installation of new copper and fiber.
- The Temaki and SHINE Building were minimally wired and if those buildings are to remain a part of campus this will need to be addressed with the installation of additional fiber and copper to those buildings.
- In order for Forest Roberts Theatre to move forward with IP based audio visual services, the space will need some significant wiring upgrades and additions and its own IT equipment room. Plans are being drawn up by the Theatre department for IT and Facilities to review as the first step for upgrading the space. Some temporary fiber has been installed to facilitate broadcasts in the interim.
- Spalding and Gries Halls will need fiber and copper upgrades in the next two years in order to continue to have functional IT.
- Services Building former BEAR Center Wing exceeds distance limitations from current IT rooms. A new IT room will be needed in any future renovation and depending on the needs of any future tenant.

Assessment of Campus Infrastructure

Technology Infrastructure (continued)

- New single mode fiber is being installed to the new BEAR Center and WellBeing Center.
- As options are explored for IP phone system solutions, some buildings with less than Category 6 wiring may need to be upgraded including Cohodas Hall, Harden Hall, McClintock Building, PEIF, parts of Thomas Fine Arts and all older residence halls. Softphone client systems are being researched to eliminate the need for additional wire.

Building Bonds

All bonds issued by the University are General Revenue Bonds. The interest on Revenue Bonds are primarily payable from General University Revenue. Total General Revenue Bonds payable are summarized as follows:

Fiscal Year	Principal	Interest	Total
2024	$ 5,615,000	$ 3,977,907	$ 9,592,907
2025	5,785,000	3,707,237	9,492,237
2026	5,450,000	3,438,590	8,888,590
2027	5,280,000	3,181,990	8,461,990
2028	5,510,000	2,923,728	8,433,728
Total Five Years	27,640,000	17,229,452	44,869,452
Thereafter			
2029-2033	26,565,000	10,455,234	37,020,234
2034-2038	16,120,000	5,205,988	21,325,988
2039-2043	10,945,000	2,488,859	13,433,859
2044-2046	5,760,000	414,338	6,174,338
Deferred re-offering premium	11,754,584		
Total	$ 98,784,584		

Buildings currently obligated to the State Building Authority and lease terms are as follows:

Glen T. Seaborg Science Complex Renovation and Addition
Phase 1 100% obligated Expires 35 years from March 1, 2001, unless earlier terminated
Phase 2 100% obligated Expires 35 years from November 1, 2001, unless earlier terminated

Fine and Practical Arts Project – Art and Design and Russell Thomas Fine Arts
100% Obligated Expires 35 years from November 1, 2005, unless earlier terminated

Student Services Building Project
100% Obligated Expires 35 years from November 1, 2005, unless earlier terminated

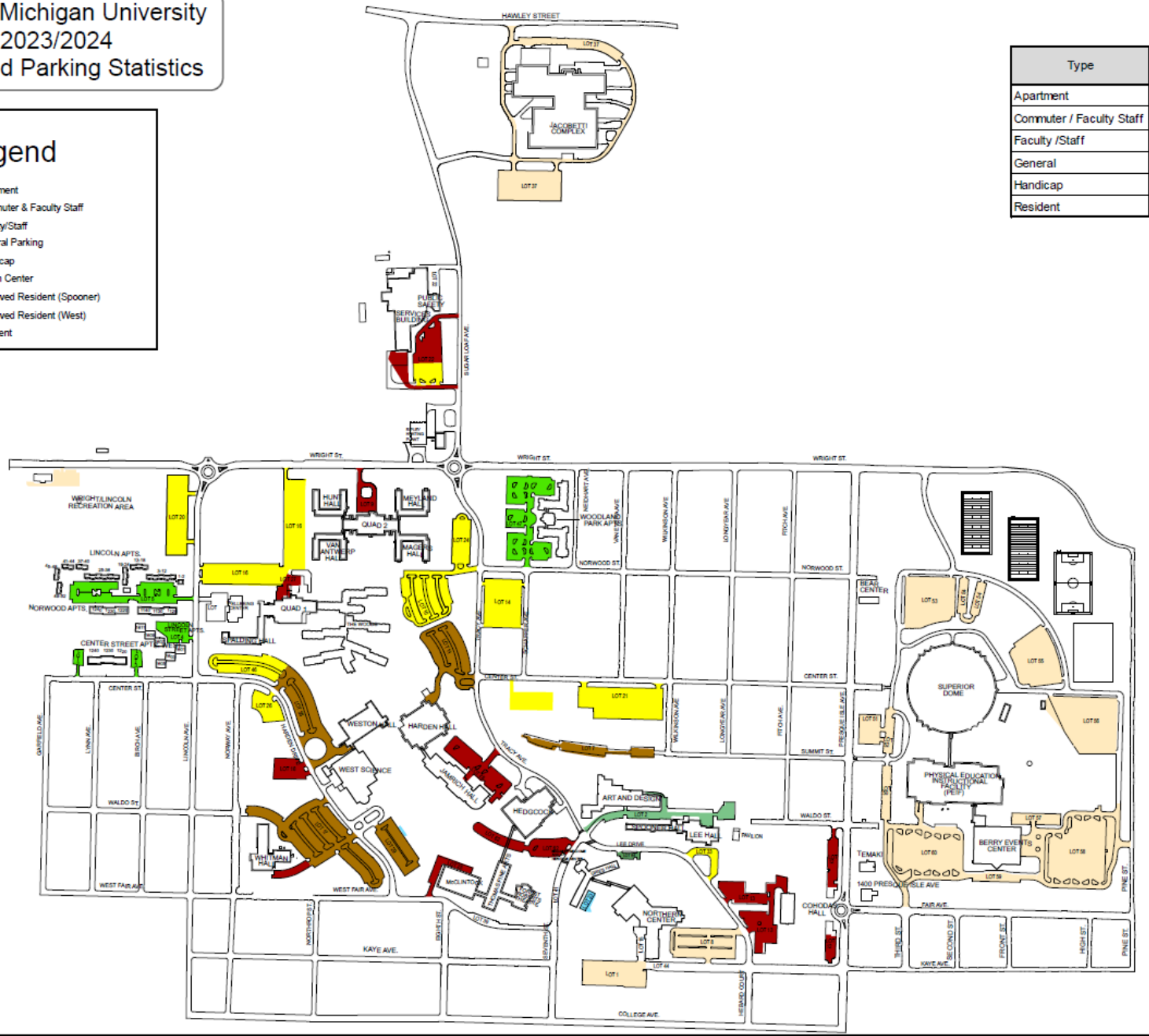
John X. Jamrich Hall
100% Obligated Expires 35 years August 31, 2015, unless earlier terminated

Northern Michigan University
2023/2024
Road and Parking Statistics

Legend

- Apartment
- Commuter & Faculty Staff
- Faculty/Staff
- General Parking
- Handicap
- Health Center
- Reserved Resident (Spooner)
- Reserved Resident (West)
- Resident

Type	Total
Apartment	436
Commuter / Faculty Staff	703
Faculty /Staff	784
General	3,810
Handicap	7
Resident	1,227
	6,967



Engineering and Planning
Northern Michigan University
Updated 09/28/2023

NORTHERN MICHIGAN UNIVERSITY

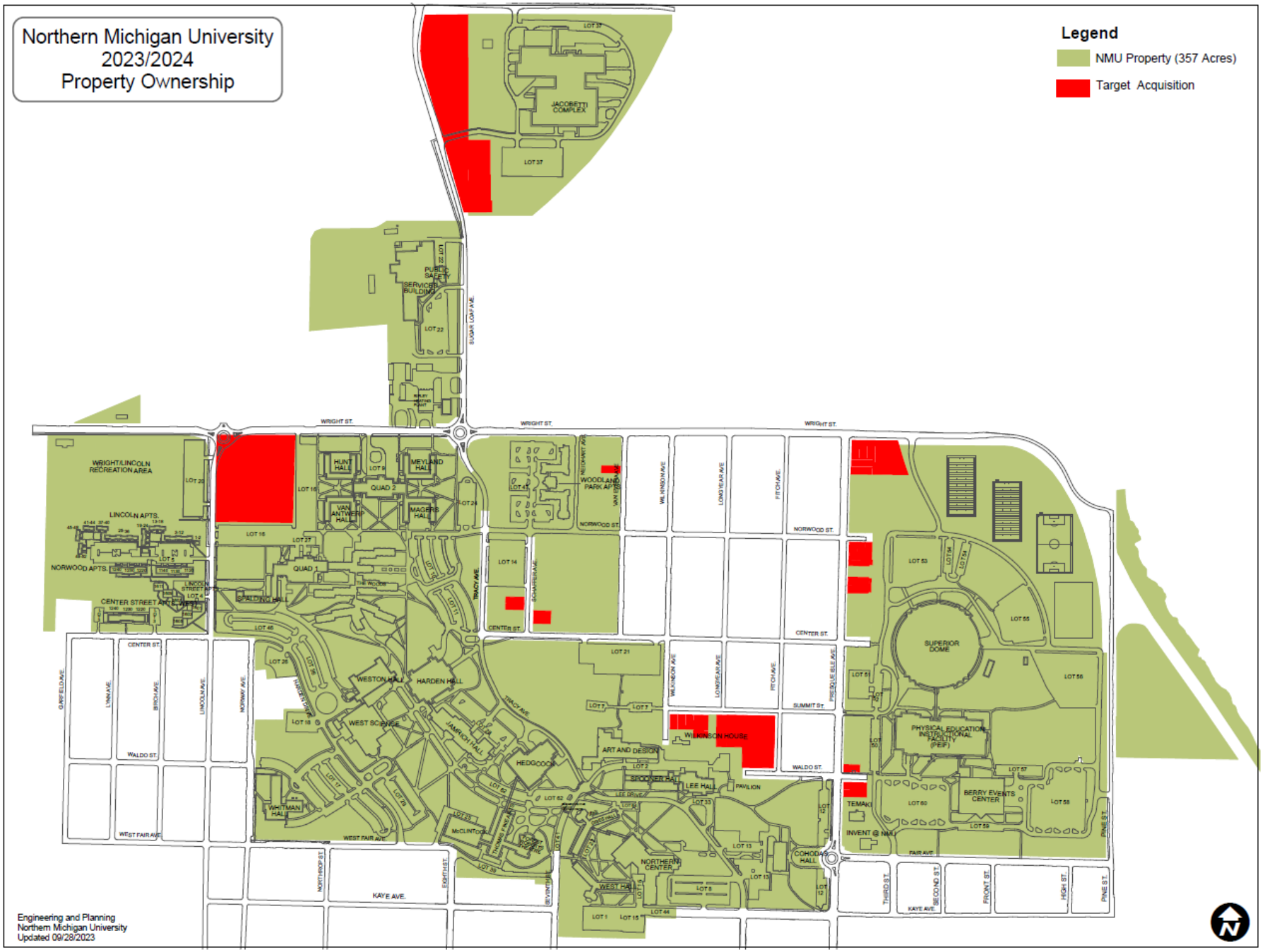
NORTHERN MICHIGAN UNIVERSITY

ASSESSMENT OF UNIVERSITY LAND

University Land

The University owns 868 acres comprised of 357 acres on the main campus, 160 acres known as the Longyear Forest in Marquette Township, 206 acres near Mount Marquette in south Marquette, 142 acres in Chocolay Township known as the English property and three acres of FROST property.

The accompanying map illustrates the property owned (main campus) by NMU, as well as property within the NMU boundaries that the university will need to acquire to fulfill future expansion plans. These properties are currently under private ownership as either commercial or residential use.



NORTHERN MICHIGAN UNIVERSITY

Section V

Facilities Implementation Plan

Introduction

The foundation of any facilities implementation plan is a well developed, comprehensive Master Plan. In 2019, the university completed a comprehensive update of their existing Campus Master Plan. The 2019 Campus Master Plan represents a new vision that aligns the university's academic mission, strategic plan, and physical planning goals into a single document which will help guide the future development of the campus. The Campus Master Plan builds upon many of the bold initiatives of the 2015 Strategic Plan, creating a new vision that is achievable yet flexible to accommodate future challenges. The master plan provides a 10-15 year framework for campus facilities and infrastructure that includes recommendations for building opportunities and additions, building demolition candidates, pedestrian and open space enhancements, roadway realignments, and new or reconfigured parking facilities. Master Plan projects will be pursued dependent upon available funding from a combination of donors, state funding, and university resources.

Other criteria that determines the capital project priority ranking are the condition of building and grounds operational systems; the appearance of the physical plant as it affects recruitment; compliance with safety, building, and accessibility codes; opportunities for energy savings and carbon footprint reduction; comfort of building occupants; and opportunities provided through donors, government funding, grants, and joint ventures with other nonprofits or private sector entities.

Fiscal Year 2025 Capital Outlay Project Priority

Northern Enterprise Center (College of Business)

Project Budget: $19,100,000

The Northern Enterprise Center (College of Business Building Addition) project at Northern Michigan University (NMU) is an exciting facility initiative designed to create a thriving hub for the business, cyber security, and entrepreneurship programs. With a budget of $19.1 million, this project represents NMU's top priority, as it aims to catalyze the College of Business' continued growth and provide students with a collaborative, high-tech learning environment that aligns with Michigan's Hot 50 Jobs.

The project has been driven by the impressive growth of the College of Business, which is now NMU's largest program by major and one of its fastest-growing, having grown by 8.3% over the past two years. By relocating the College of Business to the central academic mall, the project will foster continued program growth by helping meet the space needs for the College's new and high-demand programs including cyber security, sustainable businesses and enterprise creation, financial management, and human resource management which grew by 57% from 2021 to 2022 and another 46% from 2022 to 2023. It will also assist in creating greater interdisciplinary collaboration and provide the tools to ensure student success. The project also enhances retention efforts by bringing faculty offices closer to students for access outside the classroom and integrates the College in the same facility as NMU's student advisers and first-generation student services.

The facility will provide a new, high-tech learning environment for students to master skills in programs such as cyber security and business analytics as well as develop the soft skills critical to future success - effective communication, ability to analyze complex problems, make sound/ethical decisions, and work as a team. Additionally, the project aims to cater to non-traditional and first-generation college students, contributing to a more prosperous and vibrant community in line with NMU's mission as a catalyst for regional economic development.

Project Goals

- Create a new 30,000-square-foot (20,000 new-square-feet), state-of-the-art teaching, business-creation, and innovation center, including active and distance learning classrooms, content creation space, and a cyber security laboratory.

- Repurpose 14,000 underutilized square feet of space in the C.B. Hedgcock Building, providing more efficient building use and, by utilizing newly adopted design standards, creating 33% more efficient spaces than traditional design practices.

- Centralizes two remotely located academic programs to NMU's academic mall, which is a goal of the university's Campus Master Plan enhancing student learning and collaboration with faculty, their peers, and community business leaders.

Fiscal Year 2025 Capital Outlay Project Priority

Northern Enterprise Center (College of Business)

Project Goals (continued):

- Enhances retention efforts by bringing faculty offices closer to students in the center of campus for greater student access outside the classroom and integrates them in in the same facility as NMU's student advisers and first-generation student services.
- Increase opportunities for multidisciplinary collaboration and strengthening programs and student learning.
- Meet facility demand for high-growth programs – combined growth in the past year of 57% in Cyber Security, Financial Management, Human Resources Management, and Sustainable Businesses and Enterprise Creation.
- Enhance collaboration between faculty, students, and the entrepreneur community, and stimulate research in business administration, entrepreneurship, and marketing.
- Complete a 2008 campus initiative to eliminate over 225,000 gross square feet of underutilized/unadaptable building space resulting in an annual operating savings of $1.27 million.
- Physically link new COBBA facility to John X Jamrich Hall (2014 Capital Outlay Project) completing the connection of all academic buildings in the core of campus greatly improving student access during northern Michigan's harsh winters.
- Stimulate the local construction workforce and employ between 100 and 140 trade workers over a 24-month period.

Summary

Fiscal Year 2025 Capital Outlay Project Priority

Project	*Total Project Cost (in thousands)*
Northern Enterprise Center (College of Business)	$19,100

NORTHERN MICHIGAN UNIVERSITY

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Institution Name:	Northern Michigan University
Project Title:	*Northern Enterprise Center (College of Business)*
Project Focus:	☒Academic ☐Research ☒Administrative/Support
Type of Project:	☒Renovation ☒Addition ☐New Construction
Program Focus of Occupants:	*General Classrooms, Laboratories and Academic Office Space*
Approximate Square Footage:	*34,000*
Total Estimated Cost:	*$19,100,000*
Estimated Duration of Project:	24 Months

Is the Five-Year Plan posted on the institution's public internet site?	Yes☒	No ☐
Is the requested project included in the Five-Year Capital Outlay Plan?	Yes☒	No ☐
Is the requested project focused on a single, stand-alone facility?	Yes☒	No ☐

Describe the project purpose:

The Northern Enterprise Center (College of Business Building Addition) project at Northern Michigan University (NMU) is an exciting facility initiative designed to create a thriving hub for the business, cyber security, and entrepreneurship programs. With a budget of $19.1 million, this project represents NMU's top priority, as it aims to catalyze the College of Business' continued growth and provide students with a collaborative, high-tech learning environment that aligns with Michigan's Hot 50 Jobs.

The project has been driven by the impressive growth of the College of Business, which is now NMU's largest program by major and one of its fastest-growing, having grown by 8.3% over the past two years. By relocating the College of Business to the central academic mall, the project will foster continued program growth by helping meet the space needs for the College's new and high-demand programs including cyber security, sustainable businesses and enterprise creation, financial management, and human resource management which grew by 57% from 2021 to 2022 and another 46% from 2022 to 2023. It will also assist in creating greater interdisciplinary collaboration and provide the tools to ensure student success. The project also enhances retention efforts by bringing faculty offices closer to students for access outside the classroom and integrates the College in the same facility as NMU's student advisers and first-generation student services.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

Instructional Impact
The facility will provide a new, high-tech learning environment for students to master skills in programs such as cyber security and business analytics as well as develop the soft skills critical to future success - effective communication, ability to analyze complex problems, make sound/ethical decisions, and work as a team. Additionally, the project aims to cater to non-traditional and first-generation college students, contributing to a more prosperous and vibrant community in line with NMU's mission as a catalyst for regional economic development.

Campus Planning Impact
The Northern Enterprise Center (College of Business Building Addition) project achieves three goals in the NMU's Campus Master Plan – relocating all remaining academics to the core of campus; minimizing new construction and demolishing underutilized facilities, greatly reducing the campus' overall square footage; and completing the physical link between the buildings within the academic mall improving student access during northern Michigan's harsh winters.

Regional Impact
The Northern Enterprise Center (College of Business Building Addition) project will strengthen connections with rural and regional communities and businesses, making it a launch-pad for new ventures. It will serve as a primary resource for businesses, entrepreneurs, and townships throughout the Upper Peninsula for education, internships, training, and business planning. More than 25% of College of Business students have internships with businesses, local governments, and associations in the Upper Peninsula. Providing space that is easily accessible and promotes greater collaboration between education, businesses, and economic development agencies is critical for building the region's future workforce.

Project Goals

- Create a new 30,000 square-foot state-of-the-art teaching, business-creation, and innovation center to include active and distance learning classrooms, content creation space, and a cyber security laboratory.
- Relocate the Department of Military Science to adapted 4,000 square foot space within the existing complex.
- Meet facility demand for high-growth programs – combined growth in the past year of 46% in Cyber Security, Financial Management, Human Resources Management, and Sustainable Businesses and Enterprise Creation.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

- Enhance retention efforts by bringing faculty offices closer to students in the center of campus for greater student access outside the classroom and integrates them in in the same facility as NMU's student advisers and first-generation student services.
- Enhance collaboration between faculty, students, and the entrepreneur community, and stimulate research in business administration, entrepreneurship, and marketing.
- Increase opportunities for multidisciplinary collaboration and strengthening programs and student learning.
- Centralizes two remotely located academic programs to NMU's academic mall, which is a goal of the university's Campus Master Plan enhancing student learning and collaboration with faculty, their peers, and community business leaders.
- Repurpose ***14,000*** underutilized square feet of space in the C.B. Hedgcock Building, providing more efficient building use and, by utilizing newly adopted design standards, creating 33% more efficient spaces than traditional design practices.
- Help facilitate a 2008 campus initiative to eliminate over 225,000 gross square feet of underutilized/unadaptable building space resulting in an annual operating savings of $1.27 million and supporting NMU's goal of reducing carbon emissions by 25% by 2030 and achieving carbon neutrality by 2050.
- Physically link the new facility to John X Jamrich Hall (2014 Capital Outlay Project) completing the connection of all academic buildings in the core of campus greatly improving student access during northern Michigan's harsh winters.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

Describe the scope of the project:

The Northern Enterprise Center will create a new 30,000 square foot (sf) center (20,000 sf building addition and 10,000 sf adapted space) with state-of-the-art teaching, business-creation, and innovation space to include:

- New high-flex/high-tech classrooms.
- New Cyber Security and Content Creation Labs to develop resume and social media content, record presentation content, and interview room for both on-site and remote interviews.
- High-tech conference rooms for engaging business partners, community leaders, and economic development organizations.
- Dedicated informal learning spaces/student collaboration rooms; flexible spaces for face-to-face meetings between students or for student/faculty/business collaboration.
- Pre-function and presentation space for events, seminars, and guest speakers.
- A physical link between John X. Jamrich Hall and the new center enabling students to traverse the entire academic mall indoors, improving student access to facilities during the U.P.'s harsh winter months.
- Centralizes academic programs in the academic mall and facilitates NMU's Campus Master Plan initiative to reduce facilities gross square feet (GSF) by 225,000 GSF, reducing the university's carbon footprint and producing $1.27 million annual operational savings.

Concept Drawing

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

1. How does the project support Michigan's talent enhancement, job creation, and economic growth initiatives on a local, regional and/or statewide basis?

The project will support, enhance, and catalyze the College of Business' continued growth by providing students with a collaborative, high-tech learning environment that aligns with Michigan's Hot 50 Jobs. Since 2021, the College of Business has increased first major enrollment by 8.3% with a total of 741 majors. This project will help sustain this growth as well as meet the facility demand for the College's high-growth programs including a 35% increase in Cyber Security/Defense, a 58% increase in Sustainable Business/Enterprise Creation and a 67% increase in Human Resources Management.

It will improve the instruction tools to train many of the students that remain in the region after graduation. The College has placed over 175 interns regionally supporting both businesses and student learning; many receive offers for full-time employment and stay in the area upon graduation. Upon graduation nearly 90% of program graduates move onto full-time employment earning between $42,000 and $72,000, wages comparable to Michigan's median income level, in rural environments according to alumni surveys. The realization of a new Northern Enterprise Center, through this capital outlay request, will enable NMU to expand these opportunities, increase economic growth and, most importantly, significantly enhance the learning and growth opportunities for our students – the future business leaders for our region and State of Michigan.

This bold, multi-faceted approach will make the Northern Enterprise Center an epicenter of forward-looking education and entrepreneurship. By powering both academic excellence and business development, and by promoting perpetual innovation, the NEC will become the driving force behind a sustained economic renaissance for the Upper Peninsula and surrounding areas. Specific opportunities created by this new facility that serve regional economic growth include:

- Serving as a functioning "collaboratory" that brings together intellectual capital and educational programming into a state-of-the-art center. Within this dynamic setting, students and faculty will learn, research, and interact directly with business owners, investors, developers, entrepreneurs, and economic development organizations to foster innovation, test boundary-breaking ideas, and launch new ventures.

- Facilitating success for existing and future businesses by serving as a central location for entrepreneurial education, training, activities, business development, capital investment, and technology transfer in the central U.P.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

- Giving students increased access to on-campus internships, mentorships, consulting projects, part-time jobs, and active learning experiences that reinforce classroom instruction and prepare them to excel in their future business-related careers.

- Providing faculty and student with the facilities and advanced technology (Hyflex) to enhance the distance/online learning so vital for connecting constituents across the entire Upper Peninsula, including the most rural areas.

- Supporting entrepreneurs, start-ups, and established businesses and agencies with an array of essential educational and training resources and services—from financing to coaching, and from business launch boot camps to market assessments.

- Better serving a large number non-traditional, first generation college students, who are place bound by virtue of family or economics and, by placing these graduates in their local area, helps strengthen the regional economy.

- Serving as THE place for innovative exchanges, knowledge sharing, and development of effective and strategic business practices. This will begin with the launch of the Information Assurance/Cyber Defense Center of Academic Excellence (CAE). As the only CAE in Michigan north of Grand Rapids, the Center will provide academic training and experiential learning focused on strengthening information security, assessing organizational risk, and mitigating informational breeches.

In addition, this project will provide economic benefit to Marquette and the surrounding counties s for approximately two years and is estimated to employ a total of 100 to 140 trades workers and result in over 51,000 labor hours for local trades workers.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

2. How does the project enhance the core academic, development of critical skill degrees, and/or research mission of the institution?

The College of Business is housed in a building that was constructed in 1975 and utilizes instructional labs that have had little update since being built in 1969. Because of the age of these existing facilities, the classrooms and labs lack many of the amenities of modern instructional spaces. The new facility will correct these shortcomings and enhance the core academic mission by providing a new, high-tech learning environment for NMU's students to master skills in programs such as cyber security and business analytics as well as develop the soft skills critical to future success - effective communication, ability to analyze complex problems, make sound/ethical decisions, and work as a team. The project will create an environment that maximizes interaction with businesses and industry, keeps students up to date with the latest trends and practices, and promotes innovation and entrepreneurship, ultimately benefiting the regional economy.

New spaces having a direct impact on student learning and high tech/high demand programs include:

- New high-flex classrooms enabling faculty to delivery instruction both in person and remote simultaneously enabling NMU to expand our instructional reach.
- New state-of-the-art Cyber Security and Content Creation Labs providing proper instruction spaces and tools for student learning.
- High-tech conference rooms for engaging with business partners, community leaders, and economic development organizations.
- Dedicated informal learning spaces/student collaboration rooms providing the opportunity for face-to-face meetings between students or for student/faculty/business collaboration.
- Pre-function and presentation space for events, seminars, and guest speakers enabling guest speakers, symposiums of student lead presentations.

Not only does this project support the continued growth of NMU's fastest-growing academic programs, it enhances retention efforts, achieves a final piece of the university's campus master plan goal of centralizing all remaining academic programs to the core of campus, and enables the demolition of an outdated residence hall that was adapted for academic department offices.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

3. How does the project support investment in or adaptive re-purposing of existing facilities and infrastructure?

This project will repurpose 14,000 underutilized square feet located in the C.B. Hedgcock Building for College of Business and Department of Military Science. This repurposed space will be designed using NMU's newly adopted space standards, creating 33% more efficient spaces than areas currently occupied by both programs. By adapting existing space for these two programs, NMU will vacate and demolish a 58,000 square feet residence hall that was built in 1961 and adapted in the mid 1990s for academic and instructional use.

4. Does the project address or mitigate any current health/safety deficiencies relative to existing facilities? If yes, please explain.

Some of the spaces currently occupied by the programs being relocated with this project are housed in buildings with antiquated HVAC system and do not meet current mechanical or ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineer) standards. The new center will provide a teaching and learning environment for faculty, students and area business community members that will meet and/or exceed current health and safety codes.

5. How does the institution measure utilization of its existing facilities, and how does it compare relative to established benchmarks for educational facilities? How does the project help to improve the utilization of existing space and infrastructure, or conversely how does the current utilization support the need for additional space and infrastructure?

A. *Utilization Measurement:*
Northern Michigan University recognizes that our buildings are our largest physical asset and the efficient utilization of these spaces is essential to the success of the university. As such, NMU has taken a very aggressive approach to evaluating and improving space utilization. In 2011, NMU commissioned, completed and adopted the recommendation of a comprehensive classroom study. By formally adopting these guidelines the university has been able to meet new programmatic space needs within its existing campus footprint. This has been accomplished through the implementation of space scheduling and optimization software allowing NMU to continually track space utilization. These reports identify opportunities for scheduling improvement by academic departments and are provided and reviewed by all academic deans and department heads. Current average classroom utilization Monday through Friday is 71%, exceeding the University's adopted standard. Utilization increases substantially to 84% for the same time period Monday through Thursday.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

B. *Comparative Utilization Data*:

In 2019, as part of the Campus Master Plan update, the university classified all of its existing space based on the *U.S. Department of Education's National Center for Education Statistics Post Secondary Education Facilities Inventory and Classification Manual* and then benchmarked its spatial distribution with the *Society of College and University Planning Campus Facilities Inventory*. This effort allowed the university to benchmark its space inventory against national averages by comparing total square footage by type (classroom, laboratory, office, etc.) against total enrollment.

In addition to space distribution, the University continually evaluates space utilization. Since 2011, the University has established a target utilization rate for all classroom space between 62% to 72% based on 45 available hours per week. Space utilization targets are evaluated with every new space request to help identify opportunities to re-purpose underutilized space in lieu of building new. Since the adoption of these standards, NMU has been able to increase instructional space utilization, in some buildings in excess of 80%, while accommodating new program needs through the adaptive reuse of existing space

C. *Project Improvement on Space/Infrastructure Utilization*:

The new center will directly enhance instructional delivery for faculty and students occupying this center, and will compliment the active learning classroom facility, John X. Jamrich Hall. The new center will improve space utilization by relocating faculty from old, large offices into modern office suites that support both open work areas and efficient private office. These offices will be on average 33% more efficient than existing. By adapting existing space in C.B Hedgcock, NMU will vacate and demolish a 58,000 square feet residence hall that was built in 1961 and adapted in the mid 1990s for academic and instructional use.

6. How does the institution intend to integrate sustainable design principles to enhance the efficiency and operations of the facility?

This project will be designed and constructed consistence with NMU's newly created sustainable design principles developed as part of the university's commitment to carbon neutrality. This criteria will not only ensure NMU capital projects qualify for LEED certification, it will ensure each project is designed and constructed in a way that is most beneficial to the university for the life of a building and reduce the university's carbon footprint. This commitment emphasizes increased space efficiencies of up to 33% for certain building uses and incorporating specific building technologies to include high, energy efficiency systems, new LED lighting, rooftop solar (producing up to 25% of the electrical load) and exploring renewable building material to include the incorporation of mass timber. The project is also part of a much broader goal of right-sizing the entire campus and reducing overall campus square footage by 225,000 by 2030.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

7. Are matching resources currently available for the project? If yes, what is the source of the match resources? If no, identify the intended source and the estimated timeline for securing said resources?

Yes, from the NMU Foundation, industry contributions, and capital bonding.

8. If authorized for construction, the state typically provides a maximum of 75% of the total cost for university projects and 50% of the total cost for community college projects. Does the institution intend to commit additional resources that would reduce the state share from the amounts indicated? If so, by what amount?

Yes, the university will match an additional five percent (5%) which will reduce the State's share to seventy percent (70%) or $13,370,000.

9. Will the completed project increase operating costs to the institution? If yes, please indicate an estimate cost (annually, and over a five-year period) and indicate whether the institution has identified available funds to support the additional cost.

No, although this project will adapt 14,000 square feet (sf) of existing space and add 20,000 sf of new space it will enable the demolition of a 58,000 sf obsolete facility. This will reduce on campus square footage by 38,000. The estimated savings for this reduction is $190,000 annually and a five-year cost savings of $950,000.

10. What impact, if any, will the project have on tuition costs?

The project will have no impact on tuition.

11. If this project is not authorized, what are the impacts to the institution and its students?

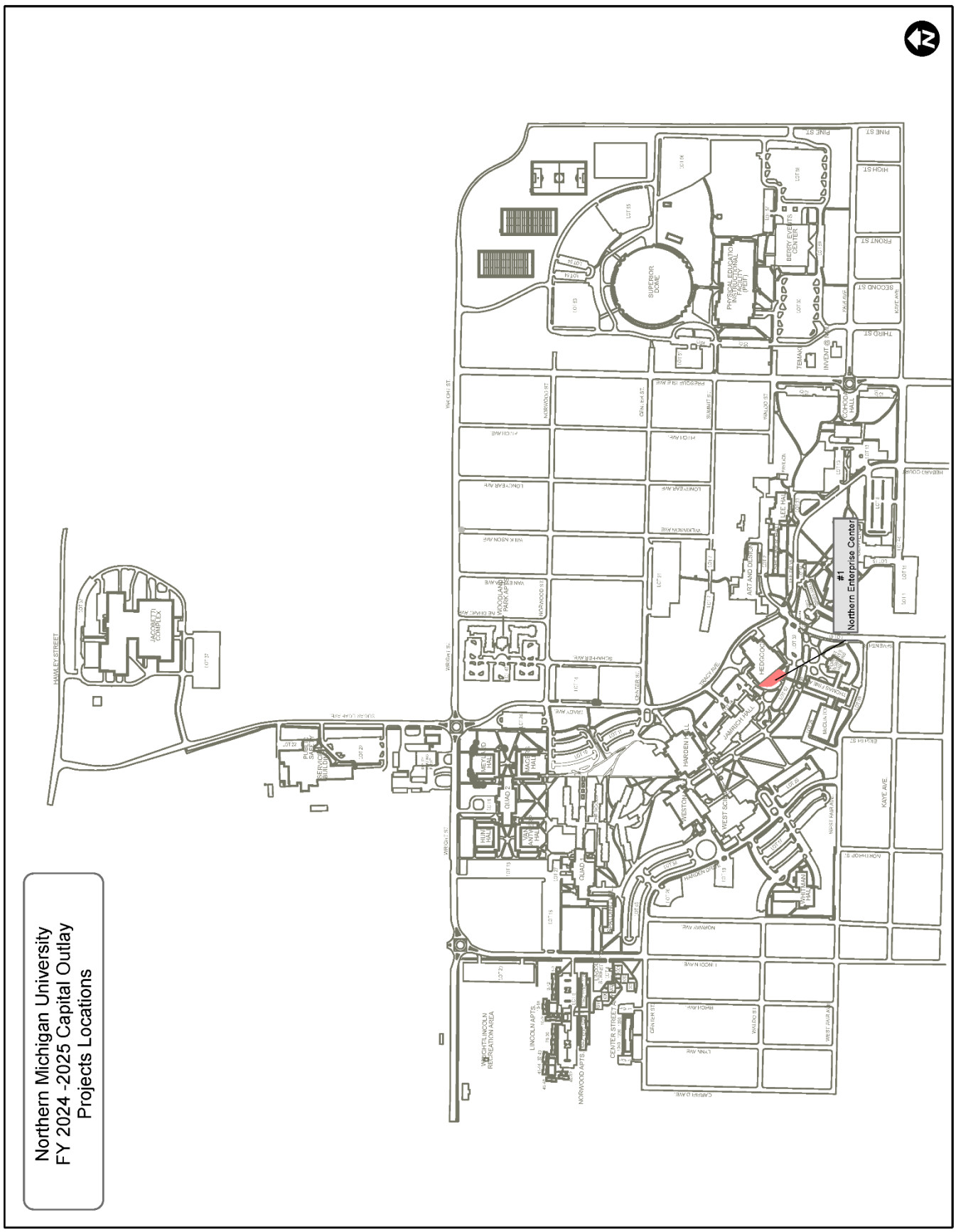
Northern Michigan University seeks to provide the best academic experience for its students, faculty and region. Without authorization, an opportunity for collaboration and interest will be missed. If state funding is not authorized for this project, the potential gains in academic synergy as described in question 12 below would be lost.

FISCAL YEAR 2025
CAPITAL OUTLAY PROJECT REQUEST

Northern Enterprise Center (College of Business) *(continued)*

12. What alternatives to this project were considered? Why is the requested project preferable to those alternatives?

A renovation and addition onto the McClintock Building was considered. However, with the update to the university's Campus Master Plan in 2019, the McClintock Building location did not provide the level of synergy between academic programs that could be achieved with the new center located in the academic mall. The renovation of the McClintock Building wasn't sufficient to meet the needs of the university, its programs or goals for the College of Business and related departments. Furthermore, a state-of-the-art center built with sustainable practices aligns with the core values of the university.



Northern Michigan University
FY 2024 -2025 Capital Outlay
Projects Locations

Status of "In-Progress" State Building Authority Projects

Career Tech and Engineering Technology Facility Project

- **Project Total Cost: $28,564,000**
- **Public Act 618 of 2018 Planning/Public Act 257 of 2020 Construction Authorization Approval**
- **Substantial Completion August 2023**

The Career Tech and Engineering Technology Facility project modernized the existing teaching and learning facility to support innovation. This facility and its labs were designed and equipped to provide students in STEM and technical programs the required tools to be successful in industrial, engineering and service related fields that are critical to support the economic growth of the region and state. Through this capital outlay project, Northern Michigan University (NMU) revitalized existing classrooms, laboratories and underutilized public areas into vibrant, modern high-tech teaching spaces for future engineers and technical career professionals. Based on the university's expertise in collaborative learning design and incorporating technology into instruction, NMU has delivered a facility that not only is considered "cutting edge" by today's standards, helping to produce highly skilled and employable graduates, it is also a facility adaptable to change with future technologies. This facility will educate Michigan's up-and-coming workforce, maintain the talent of our existing workers, address regional and state workforce needs, and develop new and innovative products all helping to drive Michigan's economic growth.

University Projects
Completed – November 1, 2022 to November 1, 2023
With a Total Cost between $500,000 – $1,000,000

Magers and Meyland Hall Fire Alarm System Replacement

The existing fire alarm systems in Magers and Meyland Hall were replaced this summer in as part of a three-phase project to upgrade the systems in the housing facilities to increase reliability and incorporate mass notification. The construction was completed in August 2023 for a budget of $680,000 that was funded by housing reserves.

University Projects
Planned – November 1, 2023 to November 1, 2024
With a Total Cost over $1,000,000

Elizabeth and Edgar L. Harden Hall Renovation

The Harden Hall Library renovation in the academic mall will redevelop its program space to create a vibrant library and resource center that is more welcoming and user friendly for faculty, staff, and students. More collaborative and quiet study spaces will be provided along with incorporating more technology. The renovation will upgrade the furnishings and shelving, improve lighting and electrical systems, improve access to library public/technical services and co-locate Archives and the Beaumier U.P. Heritage Center. An emerging technologies area will provide students opportunities to experience virtual reality and create podcasts and other digital recordings. All on-campus tutoring centers will be co-located to create a Learning Commons for the sciences, math, language and writing labs. Classrooms will be relocated to the Third Floor creating the opportunity for student-experience space on the First Floor. A partial Fourth Floor will be constructed for four academic departments which will allow for the vacation and demolition of Gries Hall. Construction will begin in January 2024 and be completed by winter 2026. The project budget for the Harden Hall Library renovation is $32.7 million.

Vandament Arena Renovation

Vandament Arena will be renovated to incorporate basketball and volleyball. Vandament Arena currently is designed to serve as a single-use volleyball arena with a game court in the center. NMU men's and women's basketball teams currently play their GLIAC games in the Berry Event Center, which also serves as an ice arena for NMU hockey. To facilitate hockey and basketball within the Berry Event Center, insulated panels and a portable basketball court need to be installed over the ice for basketball and then removed for hockey. This conversion process is labor intensive. With this project, the Vandament Arena will be modified to host the GLIAC basketball games. The renovation will create a more intimate venue and greater spectator experience with approximately 1,600 seats in a bowl-like setting. Having basketball and volleyball share the Vandament Arena does not require flooring conversions and will eliminate the flooring conversion process required in the Berry Event Center. The revised space assignments will reduce building and portable equipment maintenance. The project budget is $2.8 million and construction will begin in December 2023 with an expected completion by August 2024. The project will be funded by operational savings resulting from eliminating the current flooring conversion process in the Berry Event Center.

University Projects
Planned – November 1, 2023 to November 1, 2024
With a Total Cost over $1,000,000

Natural Science Research and Teaching Lab Addition

Lab space is in short supply in Weston Hall and The Science Building. Recruitment of new faculty is difficult due to the lack of research lab space. Expanded scheduling is required to accommodate all the biology and chemistry classes in the teaching labs. This project would construct an addition onto the Science Complex to increase the number of wet labs for both teaching and faculty research. The project budget of $11.7 million that will be funded by capital reserves and bonding. Construction will begin in May 2024 and be completed in August 2025.

Superior Dome Artificial Turf Replacement

The Superior Dome artificial turf has reached the end of its useful life and will be replaced to improve player safety and increase the reliability of the retraction system in the summer 2024. The project budget is $2.0 million that will be funded by long term maintenance funds.

Maintenance Projects
2025 to 2029
With a Total Cost Over $1,000,000

As a result of the Facility Condition Analysis, the following project has been identified: (note: no projects over $1.0 million planned)

	2025	2026	2027	2028	2029	Total
Fire Alarm Mass Notification - Housing *(includes last of three phase project)*	$805,000					$805,000
Total	$805,000	$0	$0	$0	$0	$805,000

Maintenance Projects
2025 to 2029
With a Total Cost Over $1,000,000

Project Descriptions

1) Fire Alarm/Mass Notification-Housing Facilities. The existing Simplex fire alarm systems installed in the Housing facilities are in need of replacement to meet the new university standard that includes mass notification. The Edwards fire alarm system is the new standard on campus. The new system incorporates the NFPA Part 12 recommendations for mass notification within campus facilities. This replacement project focuses on replacing the Simplex system in the four Quad II residence halls and Woodland Park apartments. The system was replaced in Magers and Meyland Halls over the past summer. The plan is to replace the systems in Hunt and Van Antwerp Halls in summer 2024 for $725,000 and Woodland Park Apartments in summer 2025 for $805,000. The existing system will be removed in Spalding and Spooner residence halls when each hall is demolished. All of the new Edwards fire alarm and detection systems tie back to Public Safety Dispatch and have mass notification incorporated.

Long-Term Infrastructure Maintenance Projects 2024 With a Total Cost Less than $1,000,000

As a result of the Facility Condition Analysis, the following projects have been identified:

Long-Term Infrastructure Maintenance for 2024

Each year the university provides base budget and auxiliary funds to address long-term infrastructure maintenance projects. These specific projects are selected based on the condition of building and grounds operational systems; the appearance of the physical plant as it affects recruitment; compliance with safety, building, and accessibility codes; opportunities for energy savings and carbon footprint reduction; comfort of building occupants; and opportunities provided through donors, government funding, grants, and joint ventures with other nonprofits or private sector entities. The projects for 2024 are indicated on the following page.

Long-Term Infrastructure Maintenance Projects – 2024
With a Total Cost Less than $1,000,000

2024 Long Term Maintenance List	General Fund Budget	Auxiliary Fund Budget	Total Project Budget
Academic, Administrative and Recreation Buildings			
(Art & Design, Berry Events Center, C.B. Hedgcock, Cohodas Hall,			
Fine Arts Complex, Harden Hall, Weston Hall, PEIF, Superior Dome,			
The Science Building, Whitman Hall, other campus buildings)			
Interior Finishes Upgrades			
Interior Finish Upgrades	$215,000		
Interior Finishes Subtotal	**$215,000**		
Mechanical/Plumbing System Upgrades			
Fume Hood Controls Upgrades	$70,000		
Research Labs Chiller	$175,000		
Academic Mall Chilled Water Loop Upgrades	$150,000		
Art & Design Chiller Replacement	$420,000		
PEIF Chiller Replacement	$300,000		
Mechanical/Plumbing System Upgrades Subtotal	**$1,115,000**		
Building Envelope Upgrades			
Window Replacement	$150,000		
Building Envelope Upgrades Subtotal	**$150,000**		
Hardscape Infrastructure Upgrades			
(Concrete, Asphalt, Irrigation, Landscaping, etc.)			
Parking Lot Upgrade	$200,000		
Hardscape Infrastructure Upgrades Subtotal	**$200,000**		
Capital Projects Matching Funds (2nd of 4 years)	**$200,000**		
Total General Fund Projects	**$1,880,000**		**$1,880,000**
Auxiliary Services Buildings			
(Northern Center/Dining Services/Northern Lights Dining)			
Interior/Exterior Upgrades		$25,000	
Equipment Replacement		$230,000	
Total Auxiliary Services Projects		**$255,000**	**$255,000**
Residence Life/Housing Buildings			
(Apartments)			
Interior/Exterior Upgrades		$125,000	
(Residence Halls)			
Infrastructure Maintenance/Replacement		$915,000	
Total Residence Life/Housing Projects		**$1,040,000**	**$1,040,000**
Total Budget	**$1,880,000**	**$1,295,000**	**$3,175,000**

Future University Projects

The 2019 Campus Master Plan for Northern Michigan University (NMU) identifies growth opportunities, spatial efficiencies, land utilization, and community/business partnerships. Below is a brief description of various initiatives that are either included in the plan specifically or support the theme of the plan. The plan was divided into three districts, Academic, Residential and Athletic. The proposed projects for each district are explained as follows.

Academic District

Northern Enterprise Center

A new Northern Enterprise Center will provide a state-of-the-art home for the NMU College of Business with new classrooms, laboratories, event and informal learning spaces. The new center will be located in the academic core of campus providing opportunities for students to interact with faculty and local business professionals.

Cohodas Hall Redevelopment

The redevelopment of the programs currently in Cohodas Hall would allow for the creation of a rural technology and business center to support EAN and other administrative operations with reliable and energy efficient infrastructure and a more welcoming atmosphere for occupants and campus visitors.

Gries Hall Demolition

The Health Center located on the first floor of Gries Hall has been relocated to a new facility adjacent to Quad I and the academic departments in the south wing will be accommodated in the renovated Harden Hall. These relocations will permit Gries Hall to be demolished.

Performing Arts Complex

Project will create a vibrant learning and performing arts complex to serve as a new campus and community asset. The new facility will serve the academic performing arts program and include classrooms and a dance studio. The complex will be accessible and include a large theatre and Black Box theatre to support university and community productions of all kinds including plays, musicals and events.

Student Union

Project will create a “One Stop Shop” for student activities within the academic mall. An inviting student gathering and study space would front the academic mall and be accessible to the flow of both resident and commuter students traversing campus.

Future University Projects

Residential District

Future Student Housing Projects

With the completion of The Woods and renovation of the Quad II residence halls, the university is reviewing other housing complexes. Both condition and capacity of the existing residence halls and apartments will be considered to meet the future needs of undergraduate and graduate students. Possibilities include renovating or replacing some or all of the remaining residence halls and the aging apartment complexes. The 2019 Campus Master Plan proposes replacing Spooner Hall with new apartments.

Northern Lights Dining Facility Phase II

The project will complete the build out of the café in the east lobby and create a private dining room and upgrade finishes in the west lobby to improve the dining experience.

Spalding Hall Demolition

Spalding Hall is nearing the end of its useful life and demolition of the over 55-year-old residence hall is planned when possible.

Spooner and Lee Hall Demolition

Spooner Hall is nearing the end of its useful life and demolition of the over 65-year-old residence hall is planned when its no longer needed. Lee Hall is connected to Spooner Hall and is the oldest building on campus at 73 years old. The vacant facility continues to deteriorate and is planned to be demolished.

Athletic District

Sports and Recreation Complex Renovation

The university will work with the community on this multi-year project to create a community recreation destination by renovating the Superior Dome, Physical Education Instructional Facility (PEIF) and Berry Event Center. The PEIF renovation would include an addition for an enlarged natatorium and cross country ski team locker rooms. The Vandament Arena is being renovated to accommodate both volleyball and basketball. The Berry Event Center would be updated with space on the site for a future second sheet of ice. Facility upgrades would be included for the Superior Dome. A new indoor soccer facility north of the Dome could provide both practice and competitive soccer venues and track and field activities in a more flexible four-season facility. An indoor tennis facility east of the Berry Event Center has been identified to accommodate student intramural, recreational and community needs. Site improvements would also be made to athletics fields, surrounding parking lots and to realign sidewalks and pedestrian entry plazas with Third Street.

Future University Projects

Wayfinding

One of the initiatives identified in the 2008 Campus Master Plan is to develop and implement a comprehensive wayfinding and signage system. This project is intended to provide a design for a comprehensive wayfinding system that clearly identifies existing campus entries and orients/directs both vehicular traffic and pedestrians (students, faculty/staff, and visitors) to facilities and amenities at Northern Michigan University.

Between 2009 and 2015, NMU installed new campus trail blazers directing visitors to the University, new ground mount gateway signs at the primary entry points to campus, boundary makers clearly identifying the perimeter of campus, two digital marquee signs and five new building identifier signs.

During 2016 and 2018, the remainder of the NMU's building identifier signs and pedestrian kiosk signs, along the primary walking route throughout campus, were replaced and/or installed.

In 2019, several vehicle guide signs were installed along Tracy Avenue. The remaining phase of this project includes parking lot designator signs, vehicle guide signs and additional campus entry signs associated with roadway work being undertaken by the City of Marquette.

Wildcat Way / Campus Mobility Improvements

The project would create a more pedestrian and bike friendly campus by reconfiguring the roadways and parking lots on the south side of campus. This would include potentially closing 7th Street, and connecting Kaye Avenue to Fair Street. Parking lot improvements would include removing parking on the interior of campus and relocating to the perimeter. Bike and pedestrian trails would be constructed from the perimeter lots to the academic mall. Wildcat Way was proposed in the 2019 Campus Master Plan as extending the center sidewalk spine north and west, connecting the residence halls and apartments west of Lincoln Avenue into the academic mall. Wildcat Way would also be extended to the south and east to connect the academic mall to the recreation complex, Third Street and Lake Superior.

NORTHERN MICHIGAN UNIVERSITY

1401 Presque Isle Avenue
Marquette, Michigan 49855-5321
Web site: www.nmu.edu
906-227-2200

Written by:
Mr. R. Gavin Leach, Vice President for Finance and Administration
Ms. Kathy A. Richards, Associate Vice President for Engineering and Planning/Facilities
Mr. James S. Thams, Director, Facilities and Campus Planning
Mr. Matt Franti, Senior Director, Budget and Finance

Illustrated and Edited by:
Ms. Debra L. DeMattia, Executive Administrative Specialist/FOIA Coordinator, Office of the Vice President for Finance and Administration