



NORTHERN MICHIGAN UNIVERSITY



October 2020

FIVE-YEAR FACILITIES MASTER PLAN

Updated 10/29/2020



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NORTHERN MICHIGAN UNIVERSITY

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.

DISTINCTLY NORTHERN
— CORE VALUES —



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.



NORTHERN MICHIGAN UNIVERSITY

Section II

Instructional Programming



Strategic Direction: Investing in Innovation

NMU has built an outstanding reputation on providing high-quality academic programs in a high-tech learning environment while never losing sight of its hallmark for personalized attention. Since 2014 and the beginning of Dr. Fritz Erickson's presidency, a dynamic strategic plan and strategic implementation process have been developed, highlighting these characteristics.

Northern's first strategic planning step was to identify its core values upon which a new strategic plan would be built. Seven core values have been identified by NMU stakeholders as defining Northern Michigan University: community, opportunity, rigor, environment, inclusion, connection and innovation.

The core values set the foundation for Northern's new strategic plan titled, "Investing in Innovation: The vision and courage to lead transformational change," which was developed through campus-wide discussions with NMU stakeholders and approved by the NMU Board of Trustees in December 2015. The plan includes four focus areas and four strategic outcomes. The focus areas are: academic excellence, student success, domestic and global outreach and engagement, and investment in innovation. The NMU community believes taking the identified focus areas to the next level of excellence will achieve four strategic and desired outcomes:

Enhancing prestige and distinction – in ways that ensure Northern is known for its teaching, experiential learning, scholarship, mentoring and service.

Establishing new and responsive approaches – for programs, services, technology and ways of operating.

Expanded partnerships – with alumni, friends, communities, businesses, government agencies, schools, colleges and universities, in and across academic disciplines and with people here and around the world.

Growing enrollment – strengthening NMU's on-campus student body while increasing efforts regarding new student populations such as online, off-campus, underrepresented, international and nontraditional.

The "Investing in Innovation" strategic plan was designed to be multi-year and multi-layered in a way that provides continuing relevance through the years. Dr. Erickson was adamant that NMU not create a document that would "sit on our bookshelves collecting dust." He said it needed to be a plan that was referenced often to help Northern in its long and short-term decisions. The plan is flexible in how it accommodates identified goals at the campus-wide level, but also those for individual colleges, schools, departments, centers, and other units of the University. It also allows for easy replacement of goals and objectives that have been achieved.

Since creating the "Investing in Innovation" strategic plan, Northern has worked diligently on the depth of its strategic planning work, completing the following strategic planning initiatives:



Strategic Direction: Investing in Innovation

- Developed an initial Goals and Objectives Implementation Plan for “Investing in Innovation” with 21 strategic core value efforts, most of which have been achieved and replaced with new initiatives
- Created the Programs Incentive Fund (PIF), which awarded \$1 million in funding to research and implement innovative investments on proposals made to transform and improve academic programs and student services. A second PIF is being developed.
- Rewrote the University mission and vision statements.
- Developed a new campus master plan for the physical campus.
- Begun work on identifying priorities for a comprehensive capital fundraising campaign.
- Completed a major Strategic Resource Allocation (SRA) project, which reviewed more than 500 academic and service programs at Northern to evaluate their relevancy to the 21st century student, as well as their efficiency and return on University investment.
- From the SRA, NMU developed a set of 13 service and 13 academic Transformation Initiatives (which replaced many of the completed goals and objectives of the initial Strategic Implementation Plan).
- Developed a set of Enrollment and Retention Initiatives in which the NMU Board of Trustees approved a \$5 million investment in December 2019.

The data-driven Strategic Resource Allocation (SRA) project was a critical step in Northern’s ongoing strategic planning process. Two faculty-staff task forces reviewed each program and created a set of recommendations as to whether a program should receive additional university resources, keep its current level, lower resources, be transformed to operate in a new manner, or be considered for phase out or elimination. Implementation of the accepted recommendations began in Fiscal Year 2019 and continued into Fiscal Year 2020.

The new Enrollment and Retention Initiatives that were developed in Fiscal Year 2020 and are now being implemented in the current year, include a series of initiatives designed to deliver innovative academic programs and essential new services to the Upper Peninsula. The initiatives include:

- Creation of a new Center for Rural Health, affiliated with the Michigan Center for Rural Health
- Development of a center for innovation transformational education using the design-thinking process
- Expanded cybersecurity curriculum
- Enhancement of student success and retention efforts, including implementation of a predictive analytics program, expanded career services, focus on student engagement in campus activities, and new embedded student success specialists to aid students in navigating the collegiate experience.
- Increased support for graduate enrollment and also in AIM North, a program to enhance diversity
- The addition of four varsity sports: men’s and women’s Alpine skiing, co-ed eSports competitive video gaming, and women’s wrestling.

The goal of all of the ongoing strategic planning is transformational change – ideas that will honor the historical hallmarks that have made Northern a strong and effective institution of higher education for 121 years while rethinking what’s possible in education delivery for a university of its size, geographic location and mission.



Academic Programs

Baccalaureate Degree Programs

Major

Accounting

Anthropology

Concentrations

General Anthropology

Sociocultural Anthropology

Archaeology

Applied Exercise Science and Health

Applied Workplace Leadership (Non-Teaching/Online)

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

Biochemistry

Biology

Concentrations

Botany

Ecology

General Biology

Microbiology

Physiology

Zoology

Business Analytics

Chemistry (ACS Certified)

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

Computer Science

Construction Management

Criminal Justice

Dance

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

Concentrations

Cognitive Impairments

Emotional Impairment

Embedded Systems

English

Entrepreneurship

Environmental Science

Concentrations

Natural Resources

Pollution Control and Remediation

Renewable Energy Technologies

Water Resources



Academic Programs

Baccalaureate Degree Programs *(continued)*

Major

Environmental Studies and Sustainability

Financial Management

Fisheries and Wildlife Management

Concentrations

Enforcement

Fisheries

Wildlife

Forensic Biochemistry

French

Geographic Information Science & Technology (GIST)

German Studies

History

Hospitality Management

Individually Created Programs

(ICP)/Individualized Studies

Industrial Technologies

Information Assurance/Cyber Defense

Insurance and Risk Management

Integrated Science Major with Biology Minor (Option I)

Integrated Science Major with Chemistry Minor (Option II)

Integrated Science Major with Earth Science Minor
(Option III)

Integrated Science Major with Physics Minor (Option IV)

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

Alternative Energies

CNC Technology

Manufacturing Engineering Technology

Mechanical Engineering Design

Mechatronics

Medicinal Plant Chemistry

Concentrations

Bio-Analytical

Entrepreneurial

Mobile and Web App-Development

Multi-media Journalism

Multi-media Production

Music

Music with Elective Studies in an
Outside Field

Musical Theatre

Native American Studies

Neuroscience

Concentrations

Cellular and Molecular

Behavioral and Cognitive

Nursing

Outdoor Recreation Leadership & Mgmt

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



Academic Programs

Baccalaureate Degree Programs (*continued*)

Major

Pre-Law
Pre-Medical
Pre-Optometry
Pre-Pharmacy
Pre-Physical Therapy
Pre-Physician Assistant
Pre-Veterinary
Psychology
 Concentrations
 Brain and Behavior
 Developmental Psychology
 Interdisciplinary Psychology
 Mental Health / Pre-Clinical Psychology
 Social / Personality Psychology
Psychology/Behavior Analysis
Public Relations
 Concentrations
 Environmental Public Relations
 General Public Relations
 Sport 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 Mathematics
Secondary Education Music
 Concentrations
 Choral
 Instrumental
Secondary Education Physics
Secondary Education Political Science (*currently not accepting students*)
Secondary Education Social Studies
Secondary Education Spanish
Secondary Education Special Education
 Concentrations
 Cognitive Impairments
 Emotional Impairment
Ski Area Business Management
Social Media Design Management
Social Work
Sociology
Spanish
Speech, Language and Hearing Sciences
Sports Science
Theatre and Entertainment Arts
 Concentrations
 Design and Technology
 Performance
Theatre Technology and Design



Academic Programs

Associate Degree Programs

Major

Art and Design
Automotive Service Technology
Aviation Maintenance Technology (*currently not accepting students*)
Building Technology
Climate Control Technology
Clinical Laboratory Technology
Concentrations
 Clinical Laboratory Technician
 Science Technician
Computer Numerical Control Technology
Criminal Justice
Electrical Technology
Concentrations
 Electrical Power Technician
 General Electronics Technology
 Industrial Electrical Technology
Engineering Design
General Business
General Studies
Health Information Processing (*currently not accepting students*)
Hospitality Management
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
Welding Technology



Academic Programs

Certificate Programs

Advanced Law Enforcement
Applied Workplace Leadership (Non-Teaching/Online)
Assistant Behavior Analyst (*currently not accepting students*)
Automotive Maintenance
Automotive Service Technology
Concentrations
 Automotive Technician
 Mobile Equipment Technician
Aviation Maintenance Technology (*currently not accepting students*)
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
Industrial Maintenance
Local Corrections
Manicure
Manufacturing Production Technician
Medical Laboratory Assistant
Office Services (*currently not accepting students*)
Post-Baccalaureate Paralegal
Practical Nursing
Welding
Wildland Firefighting (*currently not accepting students*)

Certifications

Certification in American Indian Education
Chinese Certification
French Certification
German Certification
Russian Certification
Spanish Certification
Teaching English to Speakers of Other Lang. (TESOL) Certification



Academic Programs

Graduate Programs

Certificate

Health Informatics
Teaching English to Speakers of Other Languages (TESOL)

Doctorate

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

Education Specialist

Administration and Supervision

Certification and Professional/Personal Development Programs for Educators

Standard
Professional
Administrator: K-12 Principal

Post-Baccalaureate (Non-degree)

Education Certification
Elementary Provisional Certificate
Paralegal
Secondary Provisional Certificate

Masters

Applied Behavior Analysis
Arts and Sciences
Athletic Training
Biology
Biology/Biochemistry (discontinued F2017)
Business Administration
Clinical Molecular Genetics - Track 1:
Clinical Molecular Genetics
Concentrations
Human Genetics
Infectious Disease

Masters (continued)

Clinical Molecular Genetics - Track 2: Clinical Molecular Laboratory Education Track
Criminal Justice (currently suspended)
Creative Writing
Early Childhood Education
Educational Administration: Administration and Supervision
Educational Administration: American Indian Education
English
Concentrations
Literature
Pedagogy
Theatre
Writing
Educational Instruction
Exercise Science
Higher Education and Student Affairs (Discontinued Fall 2020)
Integrated Biosciences
Learning Disabilities
Mathematics
Postsecondary Biology Education
Psychological Science
Public Administration
Reading K-8
Reading Specialist K-12
Social Work
Concentrations
Clinical
Policy, Planning and Administration
4+1 Master of 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
Journalism
Mathematics
Physics
Political Science (*currently not accepting students*)
Spanish

Non-Education Minors

Accounting
Actuarial Sciences
Anthropology
Applied Ethics
Applied Workplace Leadership (Non-Teaching/Online)
Art and Design
Art History
Automotive Service Technology
Biology
Business Administration
Business Foundations (MBA Prep)
Chemistry
Citizenship Studies
Clinical Exercise Science
Clinical Laboratory Techniques

Non-Education Minors (*continued*)

CNC Technology
Communication Studies
Community Health
Computer Science
Construction Systems
Contracted Minor (Engineering Technology)
Criminal Justice
Dance
Deaf Studies
Earth Science
Earth, Environmental, and Geographical Sciences Cluster
Economics
Electronic Journalism
Electronics
Elementary Education Early Childhood
Elementary Education French
Elementary Education German
Elementary Education Integrated Science
Elementary Education Language Arts
Elementary Education Mathematics
Elementary Education Reading
Elementary Education Spanish
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 Service Management



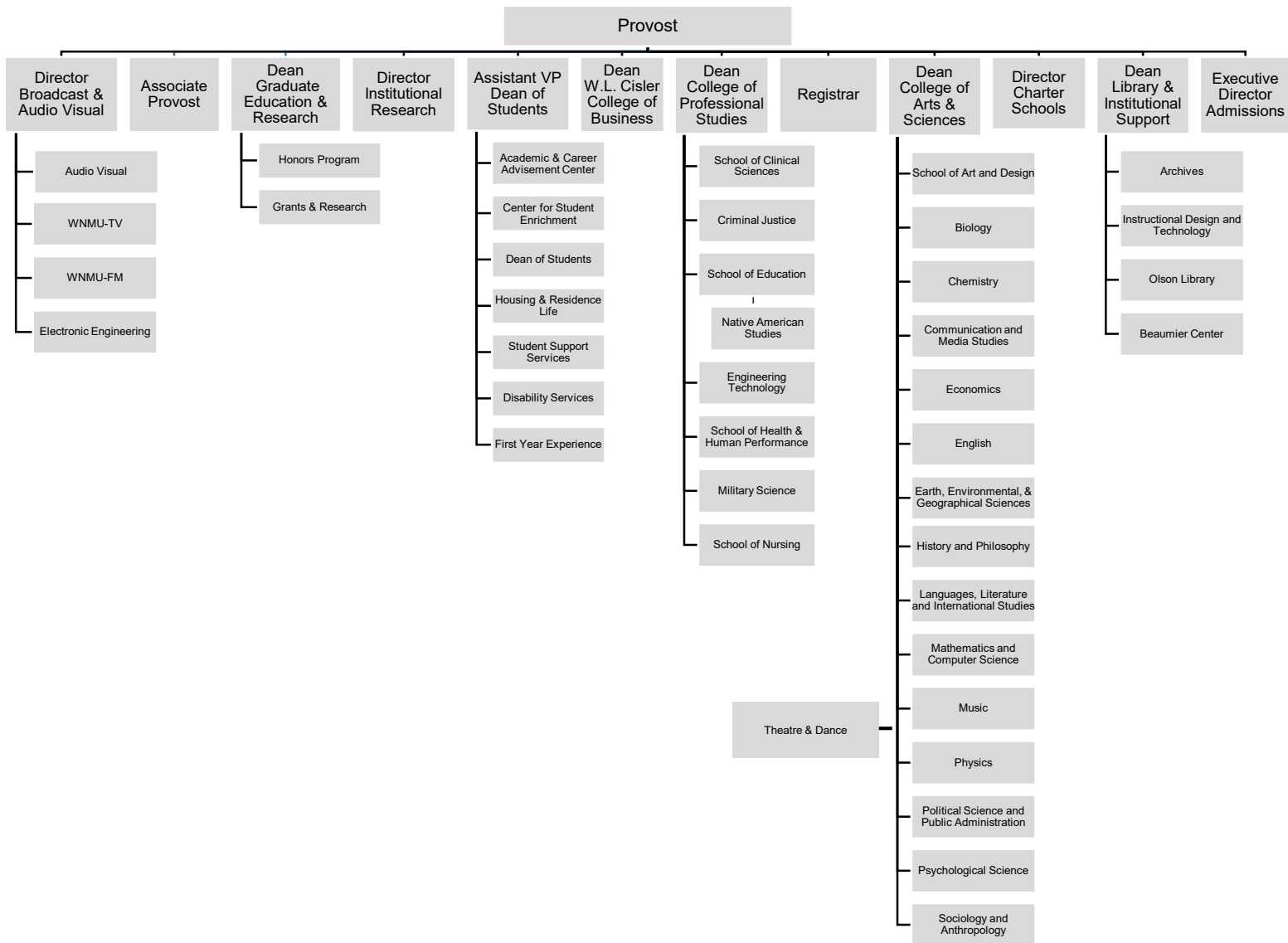
Academic Programs

Non-Education Minors (*continued*)

Human Behavior Cluster
Human Biology
Human Services
Industrial Electrical Technology
Industrial Maintenance
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 Production
Music
Native American Community Services (NACS)
Native American Studies
Nutrition
Office Services (*currently not accepting students*)
Outdoor Recreation
Philosophy
Physical Education - Coaching
Physics
Political Science
Pre-Law
Pre-Professional Science
Psychology
Public Administration
Public History
Public Relations
Religious Studies
Renewable Energies
Research Analyst
Secondary Education Biology
Secondary Education Chemistry
Secondary Education Earth Science (*currently not accepting students*)
Secondary Education Economics (*currently not accepting students*)
Secondary Education English
Secondary Education French
Secondary Education Geography (*currently not accepting students*)
Secondary Education German
Secondary Education History
Secondary Education Journalism (*currently not accepting students*)
Secondary Education Mathematics
Secondary Education Physics
Secondary Education Political Science (*currently not accepting students*)
Secondary Education Spanish
Social Service
Sociology
Spanish
Speech, Language, and Hearing Sciences
Sport and Fitness Management
Sport Performance and Fitness Leadership
Sports Science Cluster
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
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 the Division of 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 continues to be part of the contractual agreement with our largest faculty union, the AAUP. This underscores the commitment of our faculty to continue to excel at teaching and learning. Additionally, as part of the university's accreditation process, primarily the Academic Quality Improvement Program (AQIP), an Action Project on campus-wide assessment of student learning was completed. This has produced outstanding opportunities for NMU faculty and staff to identify and measure student learning outcomes for all students on campus. Through the Division of 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 SARA. Of note, the Higher Learning Commission notified us that AQIP is phasing out and our institution will move to the Open Pathways system of institutional effectiveness and continuous improvement.

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 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, requiring all students to participate in our first year experience program and centralized advising for all new students.

Several new programs have been approved and include: Master's of Science in Nursing, Master's in Business in Computer Science, and Master's in Business Administration (a 4+1 program); Bachelor's of Music, Bachelor's of Fine Arts in Theatre, Technology & Design, and a Bachelor's of Arts in Dance, Associate's degrees in Welding and Indoor Agriculture, and a Cyber Defense certificate.

Highlights include continued full cohorts of students in the Master's of Social Work (MSW) program and continued growth of the Master's of Athletic Training. Both programs have done extensive work for accreditation, programming, and recruiting. The new programs resulted from close collaboration between faculty and administration and reflect our commitment to innovative high-quality programs.

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.



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 and academic service learning programs.
- Emphasize academic service learning courses in the curriculum.
- 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 and retention software (STARFISH).



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
- Develop and refine our global campus that provides reliable, convenient access to online courses and other essential student services
- Use the new Jamrich academic building as a model to examine existing classrooms and other learning spaces to create the highest quality learning environments, and to advance the application of new pedagogies and technologies



Instructional Programming

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

Outreach and Engagement

Partnership, collaboration, and service within our communities are among the university's core values and strategic objectives as a regional 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 Center for Rural Community and Economic Development, Director of Corporate Engagement, 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.
- 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.
- Implement 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.
- Continued development and community engagement with the recently instituted 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.



Instructional Programming

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

Outreach and Engagement *(continued)*

- 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.
- 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's degree program in Indoor Agriculture and non-degree online credentials pertaining to cannabis careers. A new academic program focused on skill development for plant wellness operations is in development. The university has cultivated and continues to grow partnerships with industry leaders and the scientific community in the growth and development of these programs.
- Reconstitute the university's approach to strategic engagement with business, community, and institutional leaders in the Marquette community and throughout the Upper Peninsula region. 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.



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 over 7,010 notebook computers distributed, 882 to faculty and staff, and 6,128 distributed to students as part of the students' 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 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 the nation's largest, self-deployed, educational LTE network covering significant portions of the 12,764 square miles of rugged terrain in Michigan's rural Upper Peninsula. NMU offers its educational broadband service throughout Michigan's Upper Peninsula over an eight-GSA region, primarily in areas where commercial broadband is unavailable and currently covers 105 rural communities.

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 a 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 on-line link takes students directly to degree and non-degree programs, offering them a "one stop shop" for on-line learning. The University's EAN provides critical broadband access to over 7,000 K-12 families and community members, 9,000 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 utilization 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 our 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 work force that is among the nation's most technologically advanced and leadership oriented.

The university continues to focus on 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 a switch to Internet Protocol (IP)-based studio-to-transmitter (STL) links. Coincidental to this change, WNMU will be installing the infrastructure allowing the station to migrate to American Television Standards Committee (ATSC) 3.0 broadcasts in approximately five years. This digital conversion initiative directly impact 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.

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 three of this three-year 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 improve repair and maintenance services handled by the AV staff. When complete, classroom AV systems will feature document cameras, wireless laptop display support and the ability incorporate legacy audio and video content as well as streaming media from the web.



Community Presence

Intercollegiate Athletics and Recreational 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, men's and women's soccer, lacrosse, cross country, track and field, and hosts high school football regular season games, as well as many MHSAA football playoff games. Approximately 300,000 people pass through the Superior Dome annually. The National Training Site weightlifting and Greco-Roman wrestling programs also operate from the Superior Dome. The Noquemanon Ski Marathon, high school track and field meets, youth soccer and softball tournaments, local non-profit fundraising events, Michigan Special Olympics, Pump Up the Dome, and K-8 school field day programs 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. 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 seventeen (17) NCAA intercollegiate men's and women's sports. Approximately 420 student-athletes compete in varsity intercollegiate athletics annually. An average of 120 visiting athletic 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 60 Greco-Roman wrestling and weightlifting student-athletes training at the NTS.



**NATIONAL TRAINING SITE
NORTHERN MICHIGAN UNIVERSITY**



Community Presence Activities



NORTHERN INITIATIVES

Prosperity. That's Our Business

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 most of its 28 years, NI has been on campus, currently residing at the Jacobetti Complex.

NI began to support the building of a more diverse and resilient Upper Peninsula economy. NI has made 778 loans that total \$44M in the U.P. and of that total 308 loans were made in Marquette County totaling \$17.5M.

In 2008, they expanded from 15 counties to 51 including the five border counties of Wisconsin and 31 lower Michigan counties. During 2017, they did a second expansion and now cover 73 Michigan counties.

NI works to fill market gaps with one-third of its 1,174 loans made supporting start-up businesses and currently 50% of 2019 customers are serving diverse customers: minorities, women, LGBT, and veterans. NI business customers have used \$71M in loans to create 2,133 jobs and retain another 3,366. NI is ranked nationally in the top 15 of the Small Business Administration's (SBA), Micro-lenders, and Community Advantage lenders.

NMU students are a key piece of Northern Initiatives' work with small businesses. Typically, six or more NMU students work at NI supporting lenders with credit analysis and business coaches by designing websites, doing social media campaigns or market research for small business customers. NI coaches and the students cover this large and diverse customer base through the practice of blended learning, using the NI customer portal, *Initiate*. The *Initiate* portal is the creation of 4 NMU (11 in total) alums who work for NI. It has been licensed to 8 Community Development Financial Institutions who are using it to apply knowledge-building to customers in 31 states.

The standard for NI's work has been to work with borrowers on "money and know how" needs to support their launch or growth. Another element of the knowledge building work is its affiliation with the Michigan Manufacturing Technology Center to provide top and bottom line services (web sites, cyber-security support, lean, quality and process improvement) in support of UP manufacturers.



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 also 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 other 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

Community College and Meeting Needs of Business and Industry (continued)

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 a seven-city area surrounding NMU. WiMAX technology was retired in 2016 and has been replaced with faster, more robust, LTE service that serves 87 U.P. rural communities. More than 11,000+ NMU students and thousands of additional K-12 and personal/professional development students (over 7,000 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 and Northeastern Wisconsin as the University continues construction of LTE broadband sites across a geographic service area roughly the size of four New England states. Licensed by the Federal Communications Commission (FCC) to serve 6 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. When the U.P. project is completed, this LTE network will consist of 64 transmitter facilities and provide broadband to 114 rural communities. As a result, 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 three 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, will permit 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 the 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. 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 5-year 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, 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 is acquiring an “ESPN-3” certified mobile production unit that offers enhanced cameras, audio mixing and instant replay capability. Along with these new DTV 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 leans into its responsibility as regional comprehensive university 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 1,100 faculty and staff. In fiscal year 2019-20, NMU's annual payroll was \$99M and the university purchased \$41M in supplies and services and \$7M in utilities, most of which was purchased locally. Additionally, \$170M 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 87 communities now being served by Northern's Educational Access Network (EAN) is \$8.7M, according to the Michigan Council of Advisory Network standards.

Invent@NMU and the Innovate Marquette SmartZone

Consistent with Northern's strategic mission to "Invest in Innovation," 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 683 clients with their ideas, commercializing 14 new products, applying for 15 patents, 4 of which have been issued, facilitating one licensing agreement, and bringing 13 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 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 assists the inventor/entrepreneur control the organizational expenses that in many cases pose a difficult barrier and may prevent the inventor from getting 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 reach a successful product launch. NMU received a \$1.15 million grant from the Michigan Economic Development Corporation (MEDC) to implement a collaborative operating agreement involving Invent@NMU and the Innovate Marquette SmartZone. Both entities have developed distinct approaches toward the common goal of promoting regional economic development by supporting entrepreneurs and building the community's entrepreneurial ecosystem. The grant-funded partnership enables them to continue that work collectively and more efficiently from one location, enhancing the services provided to inventors, innovators, and entrepreneurs.

The university's partnership with the Innovate Marquette SmartZone has matured to collaboration on other initiatives to build the community's entrepreneurial ecosystem and advance digital economic opportunity. Examples include the SmartZone'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 20 member communities of the Rural Innovation Initiative. These partnerships have led to joint grant partnership proposals to the U.S. Economic Development Administration 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. The university's President and Director of Corporate Engagement both serve on the Board of Directors for the SmartZone, which provides for seamless communication and collaboration.



Economic Impact / Partnerships With Business and Industry

Corporate and Institutional Engagement

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 (e.g., foundations). This is 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 programs, and alignment with on-campus recruiting programs and alumni networks), 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, 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.

Center for Rural Community and Economic Development

The Center for Rural Community and Economic Development at Northern Michigan University combines research, public service, education, and training to enhance economic development and improve the quality of life in the Upper Peninsula and surrounding region. The center is the university's economic development portal, where community, industry, or government access the expertise of the university. The center serves as a clearinghouse for information on rural issues, coordinates rural research, and works with state agencies, local governments, business, and industry on issues of importance to rural communities.

The Center Director and a graduate assistant recently began working with the Central U.P. Planning and Development Regional Commission and several regional economic development agencies on the "Triple Threat Project". The project aims to develop an economic resiliency strategy in the wake of the idling of the Empire Mine and future disruptions from the closure of the Presque Isle Power Plant and expected end life of the Eagle Mine. The team will assess the impacts from multiple perspectives, then propose a recovery strategy and collaborative action plan among ecosystem partners. The Center is also collaborating with Continuing Education and Workforce Development in support of the Defense Industry Growth Initiative, a \$125,000 grant to identify and assist with capacity building of regional companies interested in entering certain industry sectors by providing goods and services to Defense and Homeland Security. Past work of the center included work with several local committees in support of the previous Governor's Project Empire initiative designed to assist the communities of Negaunee and Ishpeming after the idling of the Empire Mine.



Economic Impact / Partnerships With Business and Industry

Partnerships with Business and Industry

The College of Technology and Occupational Sciences (CTOS) includes many of the one and two-year career-technical programs that naturally lend themselves to industry partnerships to meet the needs of existing businesses, emerging industries as well as working adults and the public schools. 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's Eagle Mine and 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. Most of the CTOS programs have active advisory groups made up of leaders and experts within their respective industries.

In addition to the CTOS, the Engineering Technology department houses mechanical and electrical engineering programs that play a critical role in the workforce development needs of regional industry. Their industry partners include a diverse list of companies such as Able Medical Devices (a J.M. Longyear, LLC company), RTI Surgical, Cliffs Natural Resources, Argonics Engineered Polyurethane, and Team Tech Motor Sports.

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 Cliffs Natural Resources, Inc., Lundin Eagle Mine, Potlatch, Graymont, RTI Surgical, and WE Energies.

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 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.



Economic Impact / Partnerships With Business and Industry

Partnerships with Business and Industry (continued)

Additionally, internships are also sponsored by major construction firms across the nation such as Whiting-Turner, Mortenson, Michels Corporation, and Power Construction. 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.

In 2019, the NMU College of Business and the Corporate Engagement Office 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. 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.-



Economic Impact / Partnerships With Business and Industry

Partnership with UP Health System – Marquette

The School of Clinical Sciences collaborates with UP Health System – Marquette for specialized training of our students 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.

Cliffs Natural Resources, Inc.

A number of departments and programs within the College of Technology and Occupational Sciences, as well as Engineering Technology, work closely with Cliffs Natural Resources, Inc. (Cliffs) 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 Cliffs views the technical programs at NMU as virtually a sole source provider of entry-level technical talent to their mining/processing operations. Additionally, Continuing Education and Workforce Development has provided many hours of non-credit customized training and craft testing for Cliffs employees for many years.



Economic Impact / Partnerships With Business and Industry

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.

Lundin 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.

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.



Economic Impact / Partnerships With Business and Industry

RTI 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.

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.



Economic Impact / Partnerships With Business and Industry

Cybersecurity Cluster Growth *(continued)*

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.

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.



Economic Impact / Partnerships With Business and Industry

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:

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.

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.



Economic Impact / Partnerships With Business and Industry

Professional Education (continued)

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.

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.

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. This program was 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.



Section III

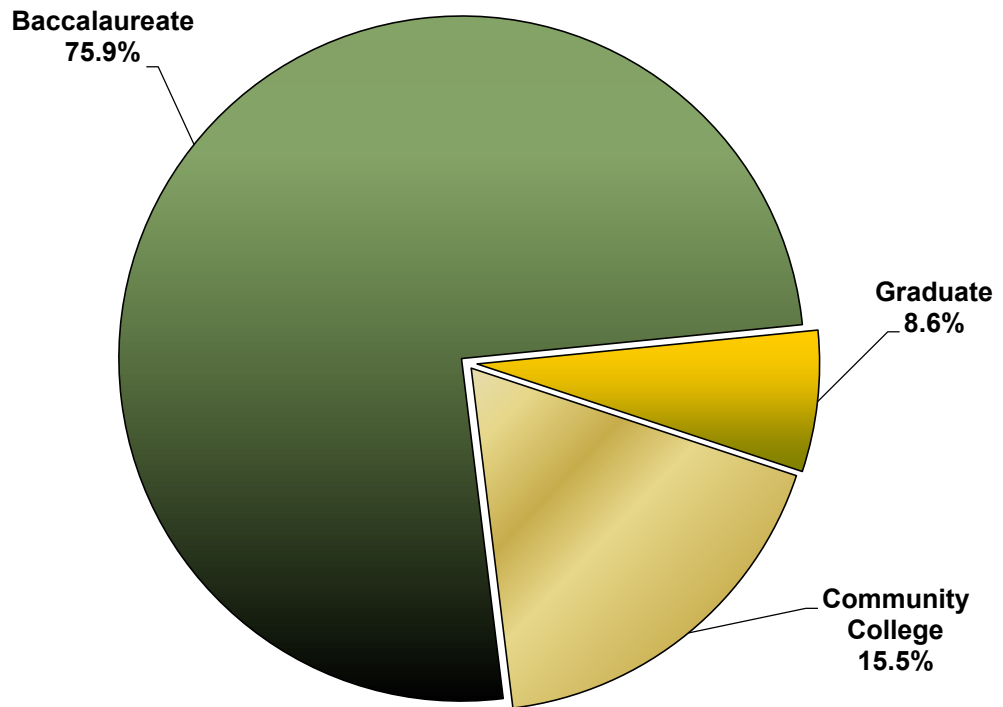
Enrollment and Staffing



Enrollment

Headcount

Fall 2020 (n = 7,368 – 10th Day of Class)



Average age

- Undergraduates: 22.1
- Graduates: 34.3
- Overall: 23.1

Other student statistics

- At least one student from:
 - 82 of 83 Michigan counties
 - 50 different states
 - 35 different countries

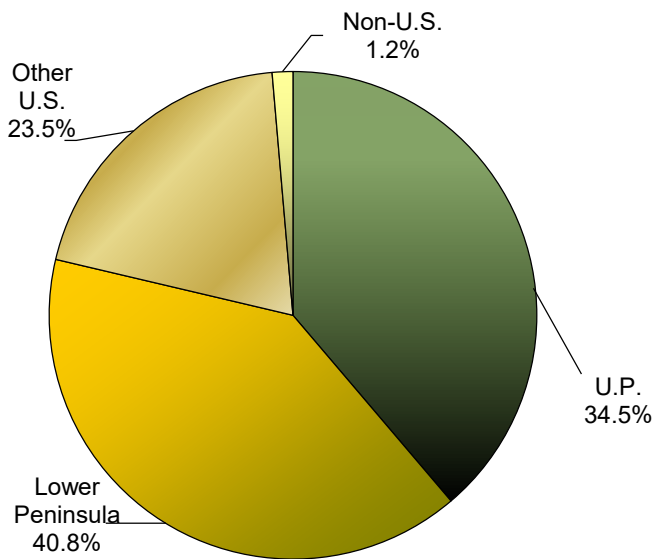


Enrollment

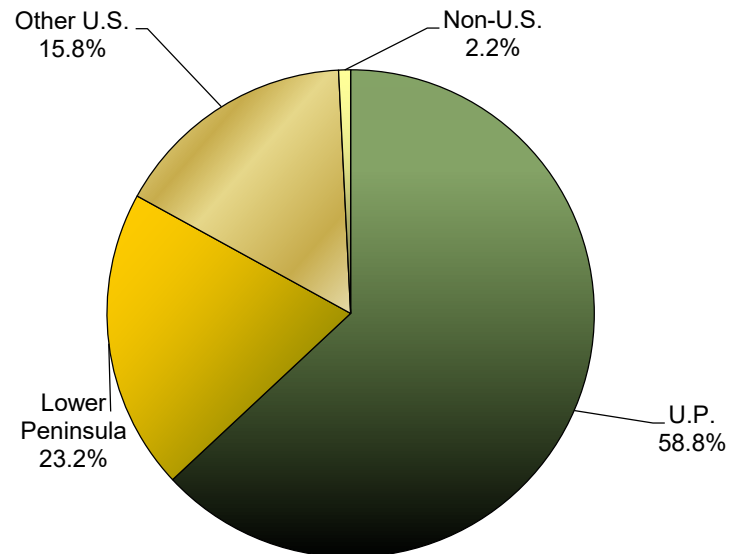
Recruiting Region

Fall 2020 (n = 7,368 – 10th Day of Class)

Undergraduate (n = 6,734)



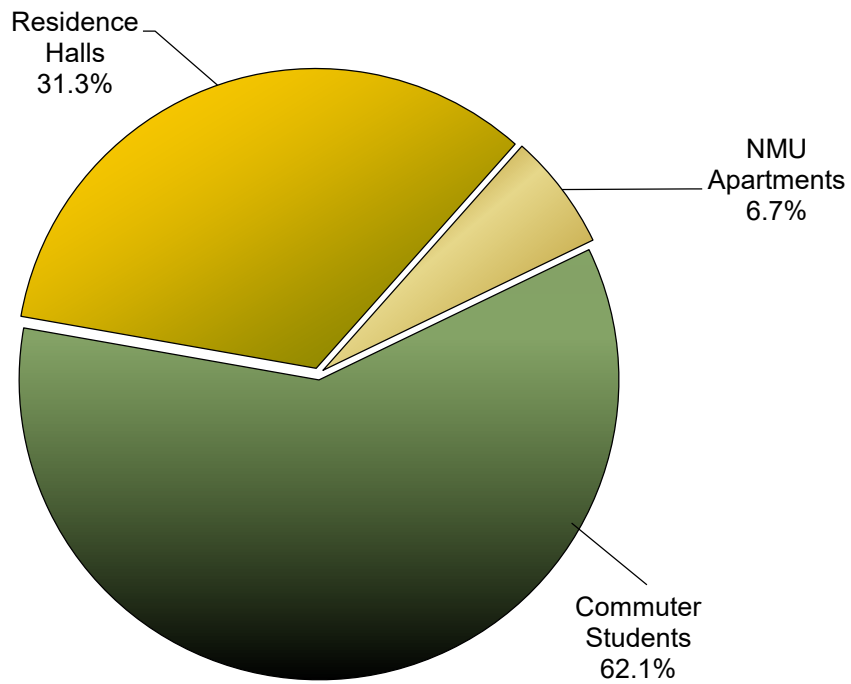
Graduate (n = 634)





Enrollment

Where NMU Students Live Fall 2020 (n = 7,368 – 10th Day of Class)

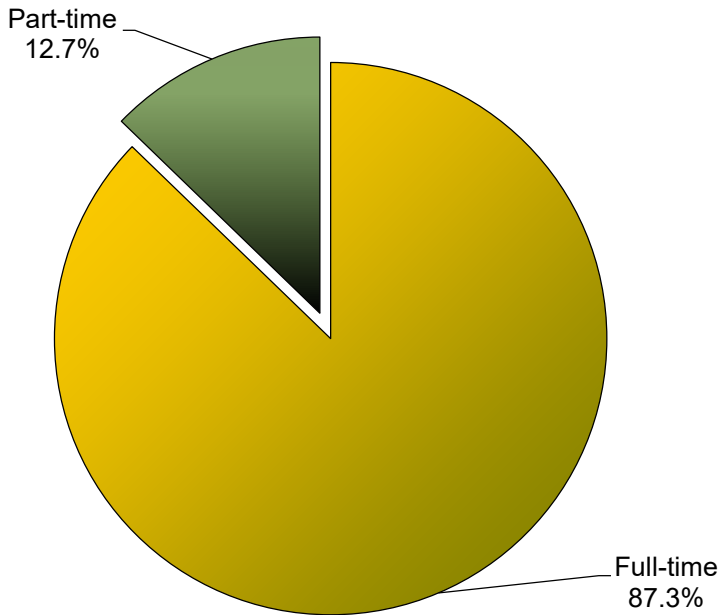




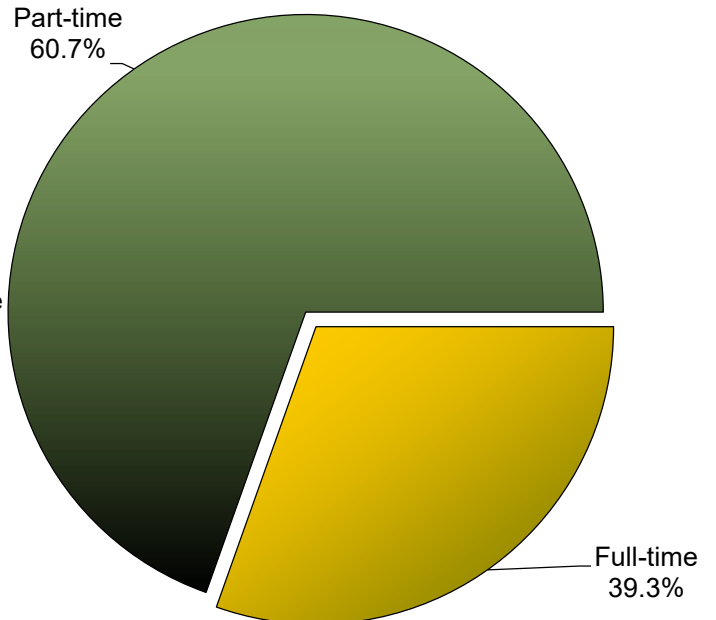
Enrollment

Full-time/Part-time Status Fall 2020 (n = 7,368 – 10th Day of Class)

Undergraduate (n = 6,734)



Graduate (n = 634)

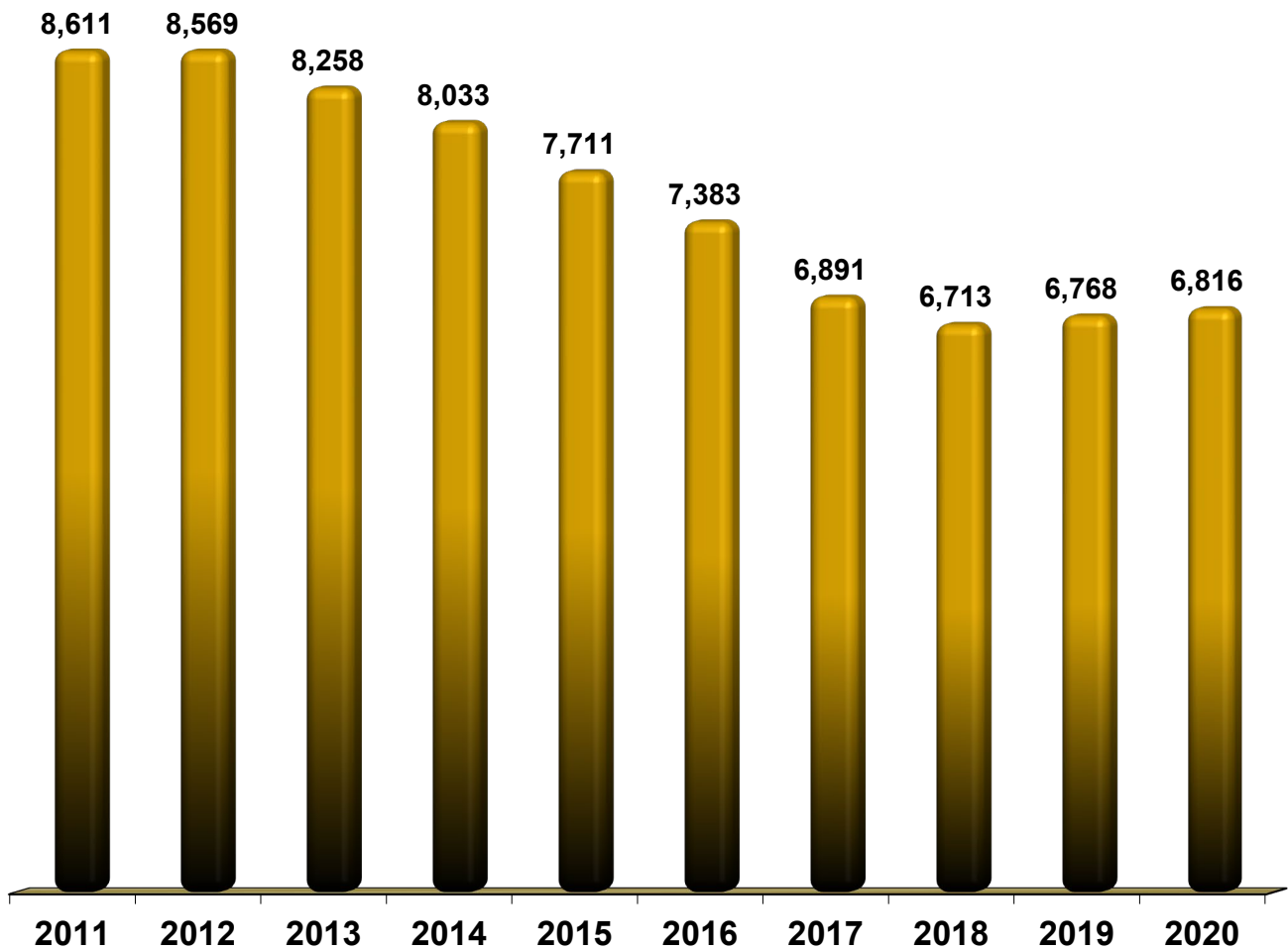




Enrollment

Full Year Equated Student Change

NMU FYES

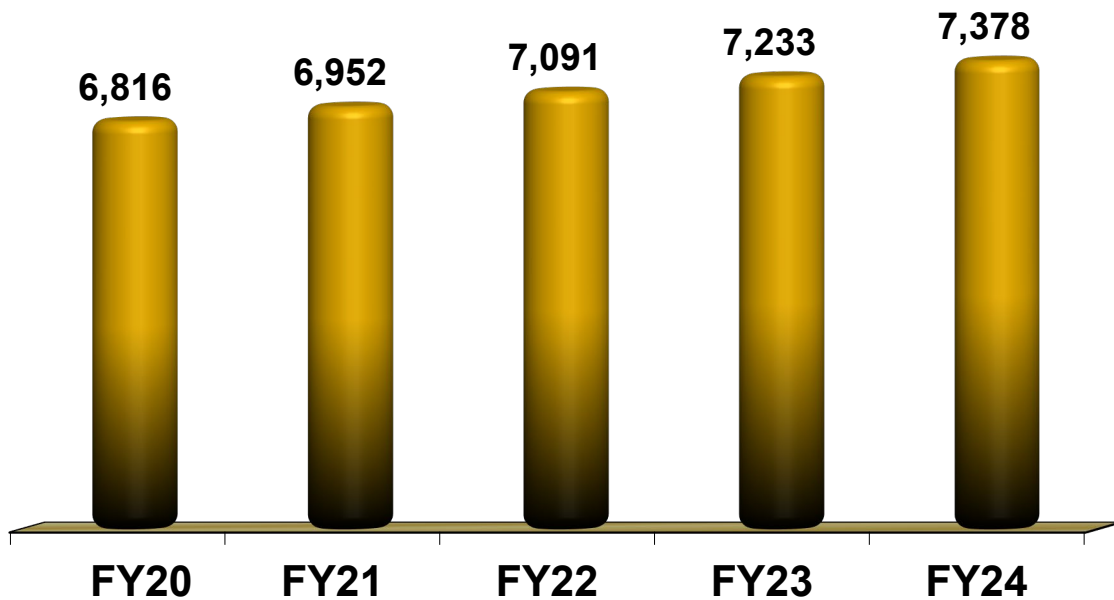




Enrollment

Full Year Equated Student Change (FYES)

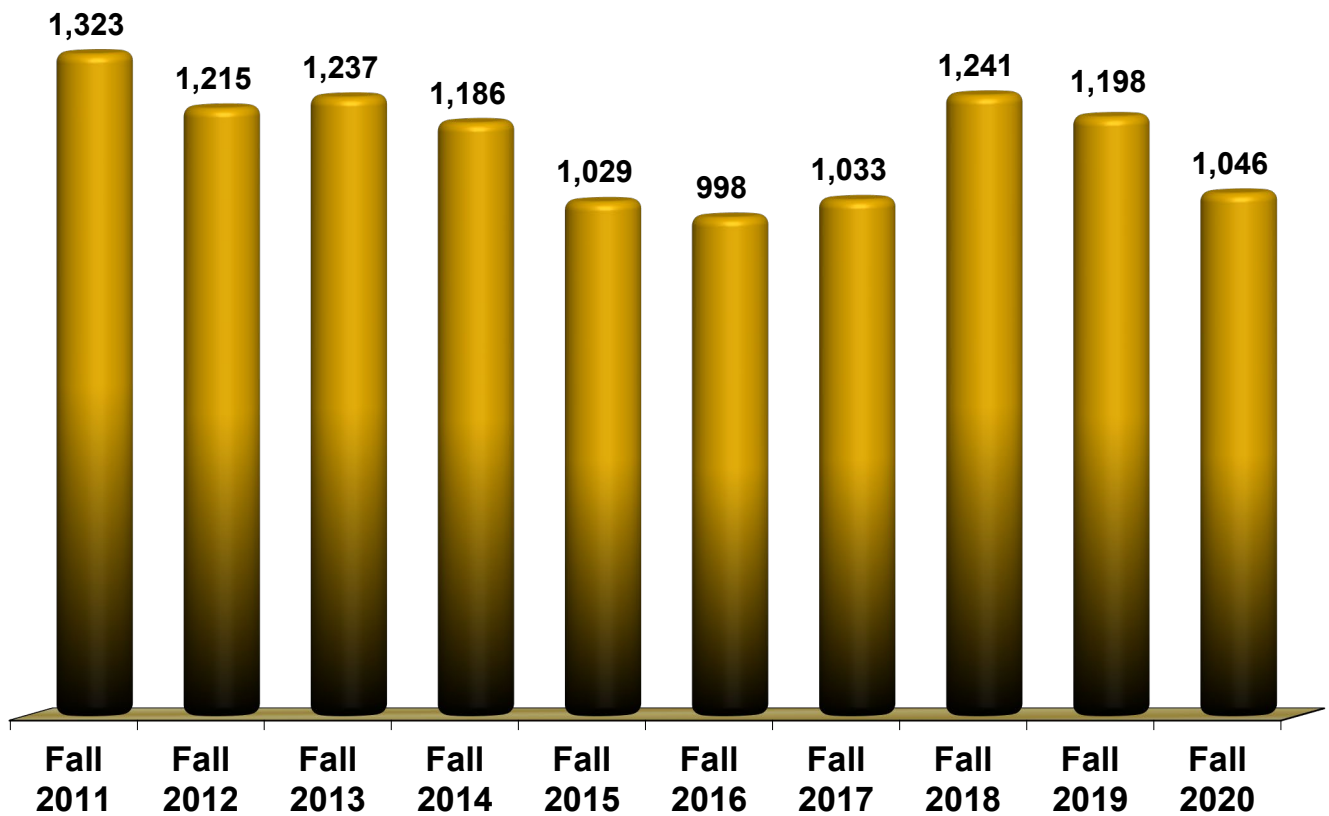
5 Year Projection





Enrollment

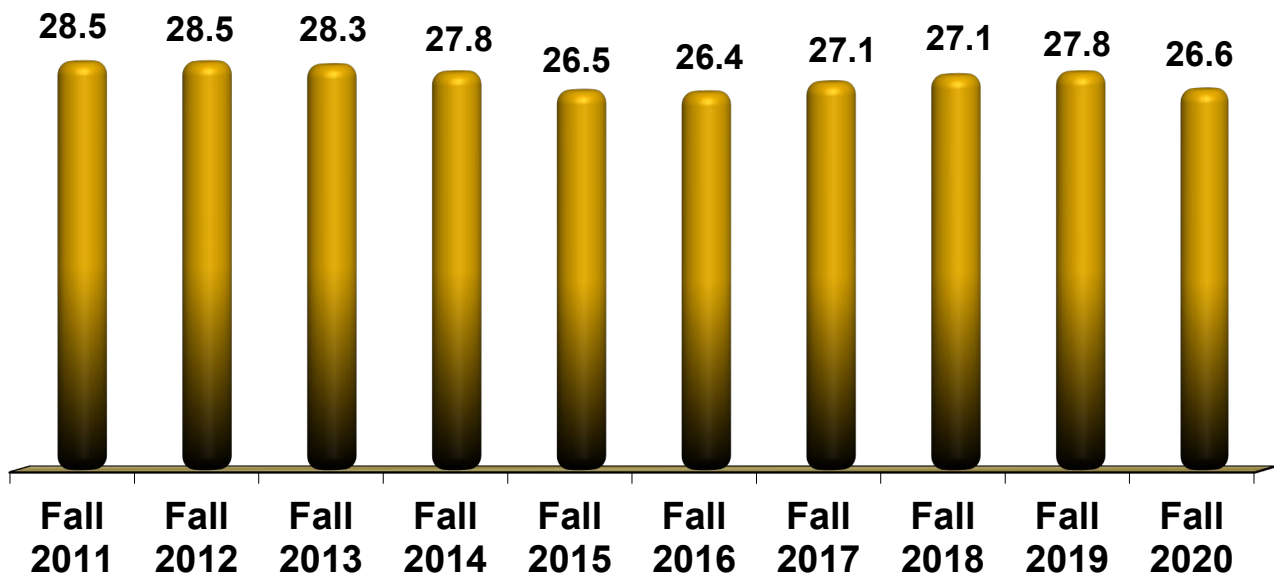
Baccalaureate First-Time, Full-Time New Freshmen





Enrollment

Average Lecture Class Size and Projected Average Class Size

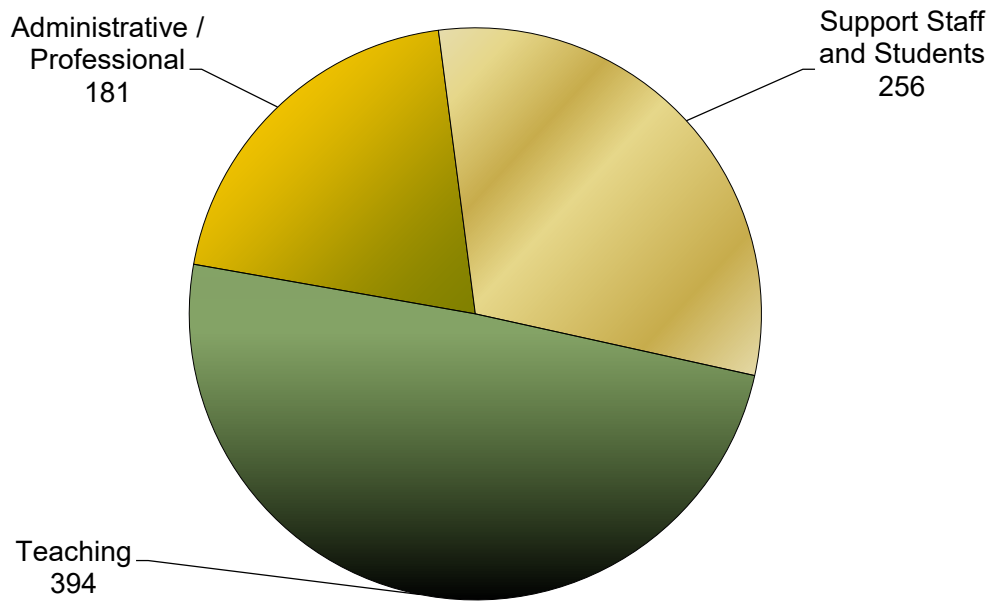




The HEIDI database information will not be finalized until November 15, 2020. The numbers below will be updated upon its completion.

Staffing

2018-2019 Full-Time Equivalent By Employee Category



Staff FTE

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Instructional Staff	438	433	435	411	392	393	394	394	396	402	409
Administrative/Professional Staff	166	177	173	174	172	177	181	181	181	182	182
Support Staff	262	268	272	262	256	250	256	256	256	257	258

Student (FYES) - to - Staff Ratios

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Instructional Staff	18.85	18.55	17.73	17.96	17.58	17.08	17.18	17.52	17.78	17.87	17.91
Administrative/Professional Staff	49.75	45.37	44.57	42.43	40.06	37.93	37.39	38.14	38.90	39.46	40.25
Support Staff and Students	31.52	29.97	28.35	28.18	26.92	26.85	26.44	26.96	27.50	27.95	28.40



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

Northern Michigan University has embraced sustainability efforts to help reduce its environmental impact on the planet by reducing the use of fossil fuels, conserving resources, and reducing waste – a philosophy NMU has followed for over 30 years. Expanding efforts include: using green energy, continually improving facility management systems, following LEED® design and building practices to achieve Green Building certification and changing operational and product selection policies to improve recycling and conservation efforts. By following these philosophies, NMU has been able to achieve substantial cost reductions.

Energy

Sustainability and conservation efforts are goals of the university. To improve these efforts, the Facilities Department has produced a Sustainability website displaying recent energy and utility consumption in an effort to keep the campus community informed of utility consumption, as well as provide tips on how everyone can assist with the university's energy saving commitment.

To better understand utility usage, NMU continues to monitor and replace its utility meters as necessary to provide reliable data to improve budget development, billing accuracy, and energy saving analysis. The data has been used to determine projects that would result in utility savings and have a return on investment such as the installation of variable frequency drives on mechanical equipment, steam trap replacement, boiler replacements, LED lamp installations, water conservation improvements, installation of new facility management systems, etc. The energy savings, operational savings, and cost avoidance achieved from the improvement measures have been over \$600,000 for a return on investment over a period of 12 years or less, using a 5% interest rate. The university has also received energy incentive rebates on these projects.

The Facilities staff continues to review building systems and determine energy saving improvements. In July 2017, 312 metal halide field light fixtures were replaced with 136 LED fixtures in the Superior Dome. The energy savings along with the utility company rebate provided for a six-year payback. Currently, the primary focus is replacing 4-foot fluorescent lamps with LED lamps in spaces that have long hours of operation such as the library, gyms, ice arena, corridors and replacing parking lot lighting with LED fixtures.

Facility Efficiency

The university has classified and quantified all of its existing space and compared its spatial distribution with similar institutions based on the Society of University and College 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.



NMU and Sustainability

Building Design

LEED® Green Building certification is being sought on capital projects through the specification of "green" building materials, wise management of materials during construction through reduction, reuse and recycling of construction and packaging materials, and design of efficient systems that require less energy and use natural resources. The overall goal is to reduce operating costs, provide a healthier environment for building occupants, and conserve energy. The university has achieved LEED Green Building certification for the renovations of Meyland Hall, Magers-Meyland Lobby, and the Hunt-Van Antwerp Lobby, along with LEED Green Building Silver certification on Van Antwerp Hall and Hunt Hall renovations. These coveted awards were among the first in the Midwest under the LEED certification system and speak to the university's continued commitment to sustainability. Jamrich Hall achieved a LEED Certified endorsement in 2014. As a further commitment, two NMU staff members have attained the status of LEED Accredited Professional to help guide building design efforts. The Woods, a four-story, six-building residence hall complex was completed in August 2018. This project has achieved LEED Silver Certification.

Facility Operations

Building Services has made a conscious effort to improve its impact on the natural environment and provide a cleaner and healthier environment for building occupants. Several of these initiatives are listed below:

- No-Touch Cleaning systems are used in the restrooms. This is a multipurpose system that helps eliminate unnecessary equipment and prevents employees from contacting cleaning chemicals.
- Backpack vacuums are certified by the Carpet and Rug Institute's green label utilizing HEPA filters which reduce pollutants in buildings.
- Premium walk-off matting are installed at building entrances reducing pollutants being tracked into buildings.
- Window washing machines are used that employ the reverse osmosis deionizing technology. The machines produce mineral free water, which cleans windows spot free without the use of cleaning agents.
- Aqueous Ozone is used to clean all surfaces replacing 95% of the chemical cleaners previously used in buildings. This has reduced an estimated 500 gallon bottles annually from being recycled or entering the landfill, on-site chemical inventory costs, and reduces training costs for employees. This was expanded to the sports and recreation facilities as well as the Northern Center and Northern Lights Dining in summer 2019.
- EcoSmart paper towel – 50% post-consumer fiber and 100% recycled fiber. This product is GreenSeal and EcoLogo certified.
- Use of EcoSmart Compact Coreless toilet paper – 20% post-consumer recycled fiber. Utilizes 95% less packaging in their products.
- All hand soap is GreenSeal certified.



NMU and Sustainability

Recycling

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, 15 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.

Grounds Maintenance

Northern Michigan University adopted a “No Mow” program. Under this program, the campus grounds are routinely evaluated to determine 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.

Community Awareness

Sustainability and conservation efforts are a university goal. In Fall 2016, a university Sustainability Advisory Council was formed to help guide the campus community into becoming a greener place to work and live. The Council accomplished much their first year including hosting their first annual Zero Waste Challenge during the NMU vs. MTU men’s and women’s basketball game in January 2017. They then conducted a Zero Waste Hockey game on December 1, 2017 and February 1, 2019. In 2019, the Council again completed the Association for the Advancement of Sustainability in Higher Education’s intensive Sustainability Tracking Assessment and Rating System inventory – or the STARS inventory – and elevated Northern’s previous bronze status to silver. Finally, the Council developed a Sustainability Master Plan with goals in following five main categories. The Council’s accomplishments to date in each area are listed below.

1. Institutionalize Sustainability

- Developed a proposal to create a Center for Sustainability.

2. Cultivate Sustainability Leadership

Initiated the Student EcoReps Program and worked with them to coordinate several campus sustainability events including:

- Zero Waste Hockey game diverted 93% of waste from the landfill and was facilitated by 33 volunteers.
- Hosted 11 educational workshops for students and community members based on the three pillars of sustainability.



NMU and Sustainability

- Held sustainability week: March 25 - 30, 2019 consisting of 8 events.
 - Held Green Fund ballot (76% of voters supported a \$5 opt-out green fee).
 - Created an EcoReps application process and welcomed 25 new EcoReps into Cohort #2 for Fall 2019.
3. Invest in Energy Innovations
 - Launched the “Turn Down the Lights Campaign.” Saved approximately 5,600 kilowatt hours (\$700) over five days. If implemented year round, savings would equate to approximately \$36,000/year.
 4. Promote Sustainable Transportation
 - Worked with the City of Marquette Planning Commission on an Active Transportation Plan that would provide safer cycling corridors between campus and downtown.
 - Helped plan a campus trailhead near The Woods.
 5. Purchase Local Foods. Support Local Farms.
 - Increased our local purchasing with Superior Angus, BSB Farms and The North Farm and exceeded our 10% local purchasing goal..
 - Partnered with the newly created Food Recovery Network student group to recover and locally donate 1,042 pounds of food between November 30, 2017, and April 13, 2018. This food was donated to Room at the Inn.
 - Conducted a food waste audit in the dining halls.
 - Expanded the small plate concept to both dining halls in Fall 2018. This practice reduced food waste amounts in both locations.
 - Added a local partnership with Superior Culture Kombucha.

The group’s outstanding work supports the university’s core value of protecting the environment and being a university of sustainability.



Facilities Assessment

NMU Physical Plant Overview

- ▶ 63 Buildings
 - ▶ 3.58 million Gross Square Feet
- ▶ 867 acres
 - ▼ 356 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	\$ 338,510	\$ 596,988	\$ 391,503	\$ 1,327,001
Berry Events Center	\$ 7,069,766	\$ 1,244,807	\$ 453,149	\$ 8,767,721
Butler Building	\$ 28,335	\$ 54,075		\$ 82,410
C.B. Hedgcock			\$ 938,742	\$ 938,742
Campus Wide	\$ 3,196,090	\$ 2,958,984	\$ 2,463,657	\$ 8,618,731
Cohodas Hall	\$ 2,058,095	\$ 4,311,941	\$ 7,007,039	\$ 13,377,074
Dome/PEIF Link	\$ 54,075		\$ 25,956	\$ 80,031
Forest A. Roberts Theatre	\$ 1,553,034	\$ 2,310,084	\$ 163,307	\$ 4,026,425
Gries Hall	\$ 970,106	\$ 2,049,443	\$ 3,787,413	\$ 6,806,961
Harden Hall	\$ 5,829,285	\$ 6,026,835	\$ 8,218,319	\$ 20,074,438
Harden/West Science Link	\$ 10,815	\$ 18,386		\$ 29,201
Harry D. Lee Hall	\$ 4,882,973			\$ 4,882,973
Health Center	\$ 90,846	\$ 151,410	\$ 158,981	\$ 401,237
Jacobetti Complex	\$ 4,150,797	\$ 3,660,878	\$ 800,310	\$ 8,611,985
Jacobetti Storage	\$ 29,417	\$ 15,357	\$ 62,521	\$ 107,295
John X. Jamrich Hall			\$ 430,437	\$ 430,437
Kaye House		\$ 51,479	\$ 2,704	\$ 54,183
McClintock Building	\$ 715,953	\$ 827,348	\$ 1,677,407	\$ 3,220,707
NC/Gries Link			\$ 67,053	\$ 67,053
P.E.I.F.	\$ 8,129,636	\$ 6,797,259	\$ 618,618	\$ 15,545,512
PEIF/BEC Link	\$ 95,172		\$ 54,075	\$ 149,247
Ripley Heating Plant		\$ 43,260	\$ 425,030	\$ 468,290
Services Building	\$ 1,140,983	\$ 184,937	\$ 1,629,821	\$ 2,955,740
Superior Dome	\$ 32,445	\$ 5,265,824	\$ 4,912,173	\$ 10,210,442
Thomas Fine Arts	\$ 621,863	\$ 1,702,281	\$ 1,028,507	\$ 3,352,650
West Science Building	\$ 37,853	\$ 415,296	\$ 1,332,408	\$ 1,785,557
Weston Hall	\$ 93,009	\$ 373,118	\$ 1,495,715	\$ 1,961,841
Whitman Hall		\$ 99,498	\$ 1,463,270	\$ 1,562,768
Grand Total	\$ 41,129,054	\$ 39,159,484	\$ 39,608,109	\$ 119,896,646



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	\$ 1,355,120	\$ 725,687	\$ 1,373,505	\$ 3,454,311
Hunt Hall	\$ 152,492	\$ 457,475	\$ 951,720	\$ 1,561,686
Lincoln Apartments	\$ 1,070,685	\$ 2,419,316	\$ 4,580,153	\$ 8,070,153
Lincoln Street Laundry Building	\$ 1,082	\$ 2,163	\$ 57,320	\$ 60,564
Magers Hall	\$ 249,827	\$ 500,735	\$ 1,020,936	\$ 1,771,497
Meyland Hall	\$ 350,406	\$ 608,885	\$ 845,733	\$ 1,805,024
Northern Center	\$ 3,345,131	\$ 1,674,935	\$ 2,142,761	\$ 7,162,826
Norwood Apartments	\$ 1,808,268	\$ 2,102,436	\$ 717,035	\$ 4,627,739
Quad I Common Area	\$ 113,558	\$ 730,013	\$ 525,609	\$ 1,369,179
Quad II Common Area	\$ 4,539,056	\$ 2,207,342	\$ 526,691	\$ 7,273,088
Spalding Hall	\$ 10,811,756		\$ 121,128	\$10,932,884
Spooner Hall	\$ 4,762,926	\$ 1,331,327	\$ 1,541,138	\$ 7,635,390
Van Antwerp Hall	\$ 141,677	\$ 520,202	\$ 852,222	\$ 1,514,100
West Hall	\$ 10,837,712			\$10,837,712
Wilkinson		\$ 200,835		\$ 200,835
Woodland Park Apartments	\$ 515,041	\$ 1,405,950	\$ 446,660	\$ 2,367,651
Grand Total	\$ 40,054,733	\$14,887,296	\$15,702,608	\$70,644,636



Facility Assessment Summary

Building	Service Area	2020-2021 Replacement Cost	Year Constructed	Construction Type	Gross Square Footage	Net Square Footage	Use Code	Standards
1020 Wright Street - Fab Shop	Academic/Admin	490,755			4,000	4,000	ST	1
1020 Wright Street - Forensic Anthropology Research Facility	Academic/Admin	585,451			3,400		AD	1
1020 Wright Street - Storage	Academic/Admin	392,605			3,200	2,900	ST	1
1400 Presque Isle - Invent	Academic/Admin	462,872			4,762			1
1422 Presque Isle - TeMaki	Univeristy Center	1,338,425	1972		6,000	4,256	RS	1
1500 Wilkinson Avenue	Housing	1,030,587	1952	F	4,623	2,742	RS	1
1716 Presque Isle Building - Commercial Rental	Univeristy Center	1,405,346	1960	FR	6,300	6,300	RS	1
1804 Tracy Avenue - Rental	Univeristy Center	123,732	1954	FR	2,230	2,230	RS	1
1835 Van Evera	Academic/Admin	125,640	1964	FR	2,280	2,280	RS	1
Art & Design	Academic/Admin	28,745,849	1996	FR	101,428	83,550	CL	1
Berry Events Center	Intercollegiate Athletics/Rec.	37,710,718	1999	FR	133,060	75,740	CG	1
Bus Garage - 1901 Enterprise	Academic/Admin	304,269		ST	2,480	2,437	ST	1
Butler Building	Academic/Admin	782,754	1950	FR	6,380	6,411	ST	1
C.B. Hedgcock	Academic/Admin	33,086,862	1958 /2005	M	116,745	99,210	AD	1
Campus Security		-						
Center Street Apartments	Housing	9,496,121	1967	M	38,700		RS	1
Cohodas Hall	Academic/Admin	29,760,746	1975	FR	105,009	92,376	AD	1
Dome Storage	Intercollegiate Athletics/Rec.	515,294	1998		2,800	2,592	ST	1
Dome/PEIF Link	Intercollegiate Athletics/Rec.	779,921	1991	NC	2,760	2,466	BC	1
Dow Storage	Intercollegiate Athletics/Rec.	318,009	2002		1,728	1,728	ST	1
Forest Roberts Theatre	Academic/Admin	8,701,862	1964	FR	30,704	22,510	TH	1
Gries Hall	Academic/Admin	16,501,912	1961	FR	58,226	48,564	AD	1,2
Harden Hall	Academic/Admin	56,336,796	1969	FR	198,781	175,246	CL, LB, SU	1
Harden/West Science Link	Academic/Admin	1,922,662	1996	NC	6,784	5,376	BC	1
Hardscape		-						
Health Center	Academic/Admin	-	1961 / 2001		7,838	7,038	AD	
Hedgcock/TFA Link	Academic/Admin	891,329	2004		3,145	2,977	BC	1
Hunt Hall	Housing	15,594,988	1967 / 2008	FR	63,555	50,349	RS	1
Jacobetti Complex	Academic/Admin	59,283,708	1980	FR	209,179	193,817	CL	1
Jacobetti Storage	Academic/Admin	1,721,724	1988	ST	6,075	5,820	ST	1
John X. Jamrich Hall	Academic/Admin	33,527,532	2014	FR	133,000	117,575	CH	1
Kaye House	Academic/Admin	2,506,841	1980	FR	8,173	6,599	RS	1
Lee Hall	Academic/Admin	12,046,968	1949	M	42,507	36,395	AD	1
Lincoln Street Apartments	Housing	19,469,392	1980	F	84,336	65,122	RS	1
Magers Hall	Housing	15,355,498	1966 / 2005	FR	62,579	50,794	AD	1
McClintock Building	Academic/Admin	8,193,000	1964	M	33,575	32,382	CH	1
Meyland Hall	Housing	15,629,830	1966 / 2006	FR	63,697	58,849	RS	1
Microwave Link (Stl) Morgan Mead	Academic/Admin	184,034	1972	FR	1,000	1,000	PP	1
NC/Gries Link	Academic/Admin	864,121	1995	NC	3,049	2,740	BC	1
Northern Center	Univeristy Center	42,310,000	1959 / 1996	NC	155,982	133,362	AD, SU, FS	1
Norwood Street Apartments	Housing	8,398,000	1967	M	35,134	33,324	RS	1
P.E.I.F.	Intercollegiate Athletics/Rec.	50,908,336	1976	FR	179,627	161,298	CG	1
PEIF/Berry Events Center Link	Intercollegiate Athletics/Rec.	2,860,187	1999	NC	10,092	8,936	BC	1
Quad I Common Area	Housing	21,178,481	1964	FR	74,727	72,473	FS	1
Quad II Common Area	Housing	22,941,301	1966	FR	80,947	70,156	RS	1
Ripley Heating Plant	Academic/Admin	34,065,339	1965 / 2013	FR	35,190	27,634	PP	1
Salt Barn	Academic/Admin	546,702	1996	F	4,456	4,115	ST	1
Services Building	Academic/Admin	26,595,000	1996	M	94,028	91,225	PP	1
Spalding Hall	Housing	13,728,643	1964	FR	55,929	48,078	RS	1
Spooner Hall	Housing	13,529,151	1957	FR	55,136	38,637	RS	1
Storage Building	Academic/Admin	53,368	1998	ST	3,760	3,760	ST	1
Superior Dome	Intercollegiate Athletics/Rec.	71,259,823	1991	F	251,436	213,296	CG	1
The Woods - Birch East	Housing	15,465,788	2017		64,734		RS	1
The Woods - Birch West	Housing	15,439,269	2018		60,623		RS	1
The Woods - Cedar East	Housing	13,972,821	2018		58,485		RS	1
The Woods - Cedar West	Housing	13,253,693	2017		55,475		RS	1
The Woods - Maple East	Housing	13,564,758	2018		56,777		RS	1
The Woods - Maple West	Housing	13,528,682	2018		56,636		RS	1
Thomas Fine Arts Building	Academic/Admin	25,531,681	1964	FR	90,087	64,217	CH	1
Transmitter Site-Ely Township	Academic/Admin	367,515	1972	FR	1,997		PP	1
Utility Infrastructure								
Van Antwerp Hall	Housing	15,612,899	1967 / 2007	FR	63,628	53,481	RS	1
West Hall	Housing	14,243,692	1960	FR	58,048	49,594	RS	1
West Science Building	Academic/Admin	55,708,022	1966	FR	159,319	138,241	CL	1,4
Weston Hall	Academic/Admin	43,568,058	2000	FR	124,600	109,538	CL, CH	1,3
Whitman Hall	Academic/Admin	9,917,000	1953 / 2003		35,900	31,000	CH, AD	1
Woodland Park Apartments	Housing	25,764,670	2006		105,000	94,757	RS	1

Deferred Maintenance total has been updated based on comprehensive Facilities Condition Assessment completed summer 2018.

- 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)

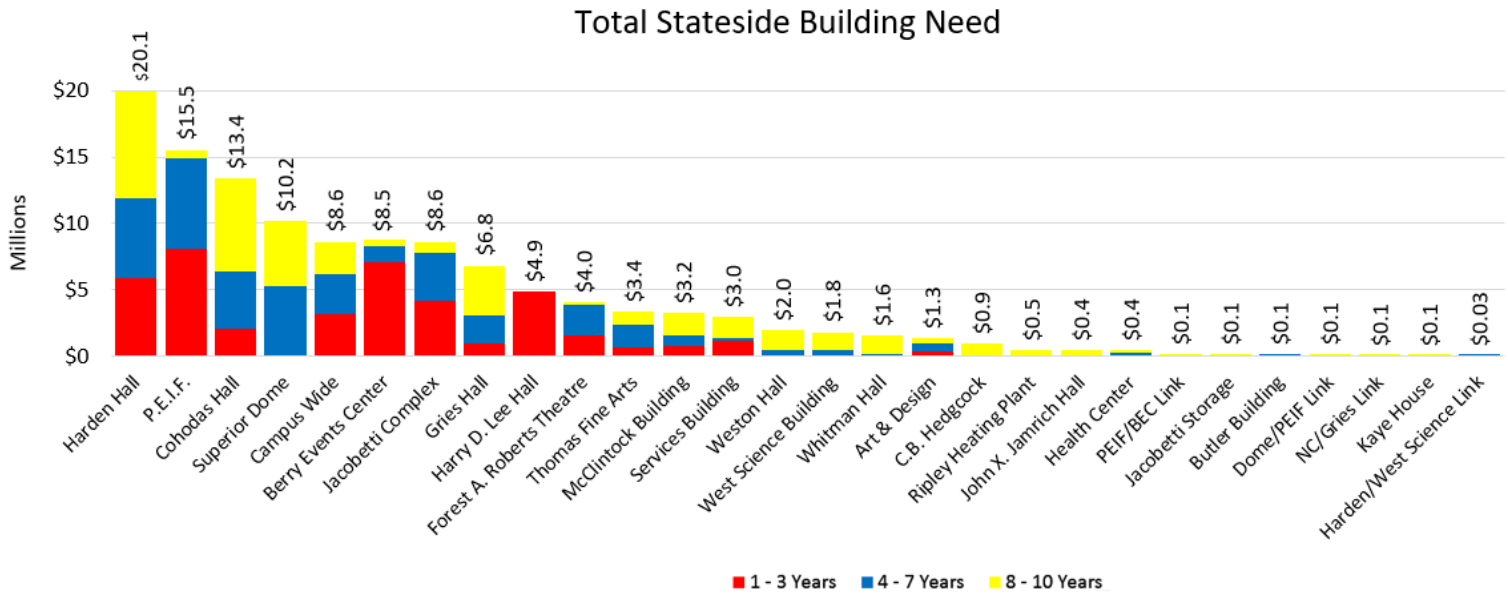
Building	IT	Cooling	Electrical	Exterior Shell	Grounds	Heating	HVAC	Interior Shell	Mechanical	New Construction	Plumbing	Safety/Code	Grand Total
Art & Design		\$35,690	\$443,415	\$31,364	\$124,373	\$240,093	\$81,113	\$366,629	\$81,113		\$4,326		\$1,327,001
Berry Events Center		\$6,872,933	\$75,705	\$700,812		\$162,225	\$75,705	\$799,229			\$81,113		\$6,767,721
Butler Building		\$27,038	\$11,897	\$2,379				\$905,216			\$6,489	\$68,135	\$82,410
C.B. Hedgcock			\$1,081,500	\$3,386,434				\$1,081,500			\$1,987,797		\$936,742
Campus Wide		\$6,489	\$640,248	\$436,926	\$4,326	\$698,649		\$369,873			\$1,151,798	\$146,003	\$6,618,731
Center Apartments		\$150,329	\$1,892,625	\$19,467	\$48,668	\$5,159,837		\$1,462,188			\$2,029,976	\$656,471	\$3,454,311
Cohodas Hall			\$15,141	\$57,320		\$7,571							\$13,377,074
Dome/PEIF Link			\$366,629	\$122,210	\$19,467	\$36,771	\$1,262,111	\$916,031			\$632,678	\$670,530	\$80,031
Forest A. Roberts Theatre		\$148,166	\$1,967,249	\$865,200	\$12,978	\$60,564	\$259,560	\$800,310	\$116,802		\$1,659,021	\$917,112	\$4,026,425
Giles Hall		\$200,078	\$3,284,516	\$245,136	\$3,245	\$2,305,758	\$5,336,121	\$1,956,434	\$227,115		\$4,109,700	\$2,406,338	\$6,806,961
Harden Hall			\$18,386					\$10,815					\$20,074,438
Harden/West Science Link								\$4,882,973					\$29,201
Harry D. Lee Hall								\$135,188	\$24,875		\$95,172	\$46,505	\$4,882,973
Health Center		\$68,135	\$253,071	\$4,326	\$10,815	\$91,928	\$46,505	\$660,797	\$296,331		\$2,541,525	\$180,611	\$4,882,973
Hunt Hall			\$776,517	\$146,003	\$5,408	\$638,085	\$2,253,846	\$2,059,176	\$69,216				\$1,561,686
Jacobetti Complex				\$15,357	\$30,076			\$425,030			\$5,408		\$1,072,995
Jacobetti Storage								\$425,030					\$1,072,995
John X. Jamrich Hall								\$39,367					\$430,437
Kaye House			\$12,113	\$1,082			\$1,622	\$39,367					\$54,183
Lincoln Apartments			\$2,243,031	\$1,369,179		\$958,209	\$410,970	\$505,061			\$1,839,632	\$744,072	\$6,070,153
Lincoln Street Laundry Building			\$27,038	\$10,815							\$22,712		\$60,564
Magers Hall		\$88,135	\$248,745		\$112,476	\$91,928	\$91,928	\$659,715			\$343,917	\$246,582	\$1,771,497
McClintock Building			\$467,208	\$509,387	\$381,770	\$723,524	\$431,519	\$2,163			\$672,693	\$32,445	\$3,220,707
Meyland Hall		\$88,135	\$356,895		\$323,369	\$86,520	\$660,797	\$33,527			\$60,564	\$248,745	\$1,805,024
NCJ/Gires Link			\$27,038					\$33,527				\$6,489	\$67,053
Northern Center		\$54,075	\$1,388,698	\$787,538	\$658,634	\$54,745	\$336,347	\$444,085	\$254,153		\$3,356,616	\$486,572	\$7,162,826
Norwood Apartments			\$1,453,536	\$868,445	\$12,978			\$438,008			\$1,042,566	\$153,573	\$4,627,739
P.E.I.F.		\$178,448	\$434,763	\$1,439,477			\$887,912	\$1,712,046	\$57,320	\$4,326,000	\$6,479,267	\$30,282	\$15,545,512
PEIF/BEC Link			\$21,630					\$54,075	\$67,053			\$6,489	\$149,247
Quad I Common Area		\$86,520	\$234,686	\$34,1754	\$85,439	\$64,890	\$64,890	\$373,118	\$8,652		\$71,379	\$102,743	\$1,369,179
Quad II Common Area		\$81,113	\$1,439,477	\$382,851	\$81,113	\$3,310,472	\$472,616	\$48,668			\$1,348,631	\$108,150	\$7,273,088
Ripley Heating Plant		\$16,223	\$408,807		\$11,897	\$16,223		\$617,537			\$15,141		\$468,290
Services Building		\$71,379	\$1,508,693	\$25,956	\$129,780	\$556,973	\$556,973	\$10,640,879	\$45,423				\$2,955,740
Spalding Hall			\$75,705					\$10,640,879				\$216,300	\$10,932,884
Spooner Hall		\$28,119	\$227,695	\$694,323	\$713,790	\$2,398,767	\$2,398,767	\$1,319,430	\$16,223		\$1,843,958	\$275,763	\$7,635,390
Superior Dome		\$43,260	\$1,464,351	\$453,149	\$2,163,000	\$2,811,900	\$2,811,900	\$1,567,094	\$90,846		\$1,261,029	\$355,814	\$10,210,442
Thomas Fine Arts		\$68,135	\$254,153	\$239,012	\$3,245	\$578,603	\$211,974	\$486,675	\$72,461		\$1,063,115	\$621,863	\$3,352,650
Van Antwerp Hall					\$129,780	\$129,780	\$91,928	\$660,797			\$60,564	\$248,745	\$1,514,100
West Hall								\$10,751,192				\$86,520	\$10,837,712
West Science Building			\$522,365				\$37,853	\$1,058,789	\$41,097		\$125,454		\$1,785,557
Weston Hall		\$37,853	\$454,230				\$556,973	\$801,392			\$111,395		\$1,961,841
Whitman Hall		\$54,075		\$988,491	\$97,335			\$99,498			\$42,179		\$1,562,768
Wilkinson			\$73,542	\$40,232	\$45,423	\$2,596	\$2,596	\$28,660			\$10,382		\$200,835
Woodland Park Apartments		\$57,320	\$482,349	\$56,238	\$375,528	\$255,234	\$255,234	\$486,675			\$151,410	\$502,898	\$2,367,651
Grand Total		\$8,421,641	\$21,491,836	\$17,116,309	\$5,784,995	\$8,623,716	\$27,766,323	\$51,388,065	\$1,381,076	\$4,326,000	\$34,523,931	\$9,717,391	\$190,541,282



Facility Assessment Summary (Continued)

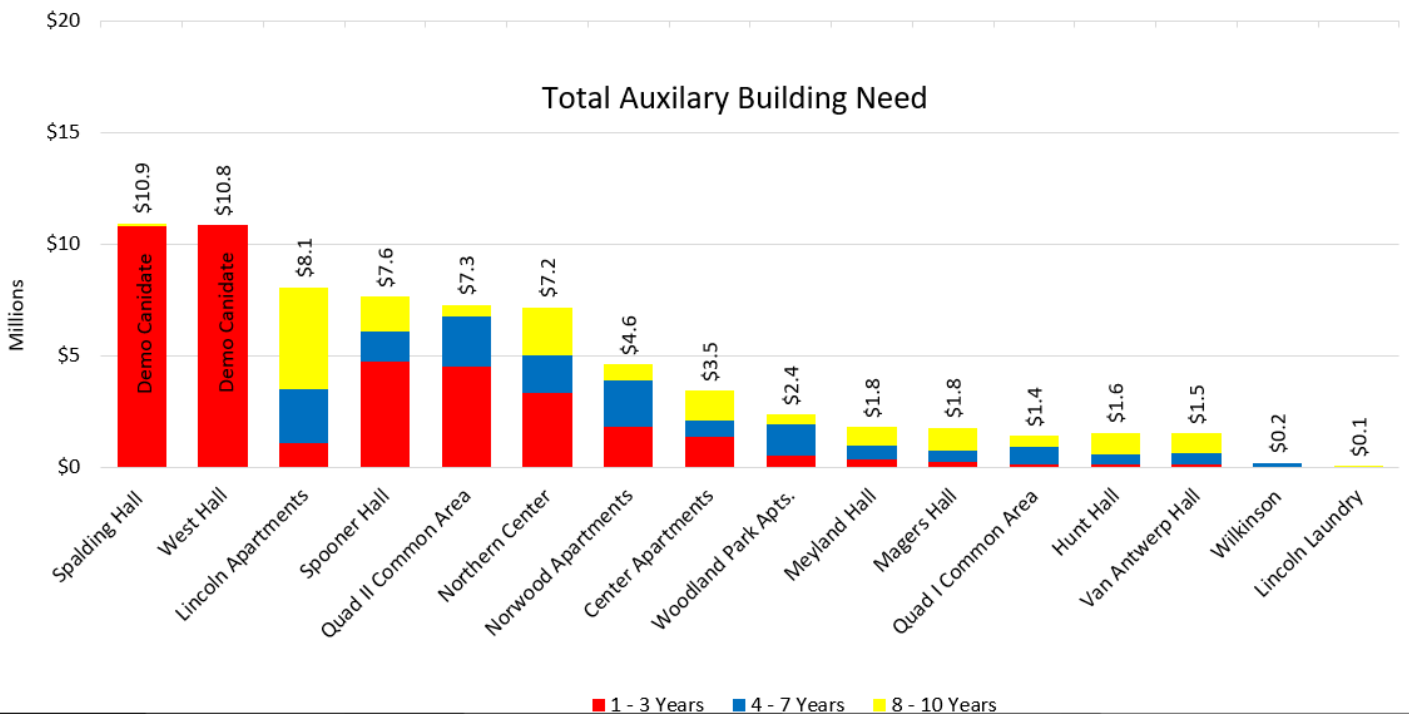
Stateside Building Needs Over 10 Years

Project List as of September 4, 2020



Auxiliary Building Needs Over 10 Years

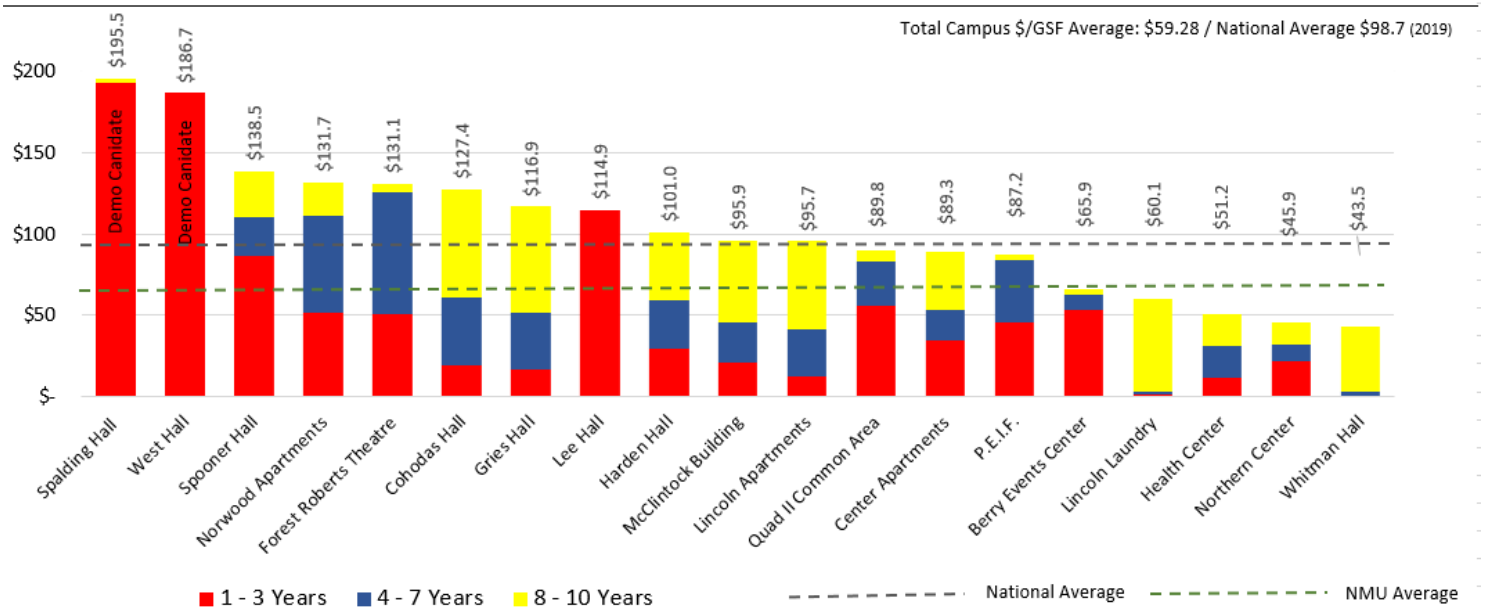
Project List as of September 4, 2020



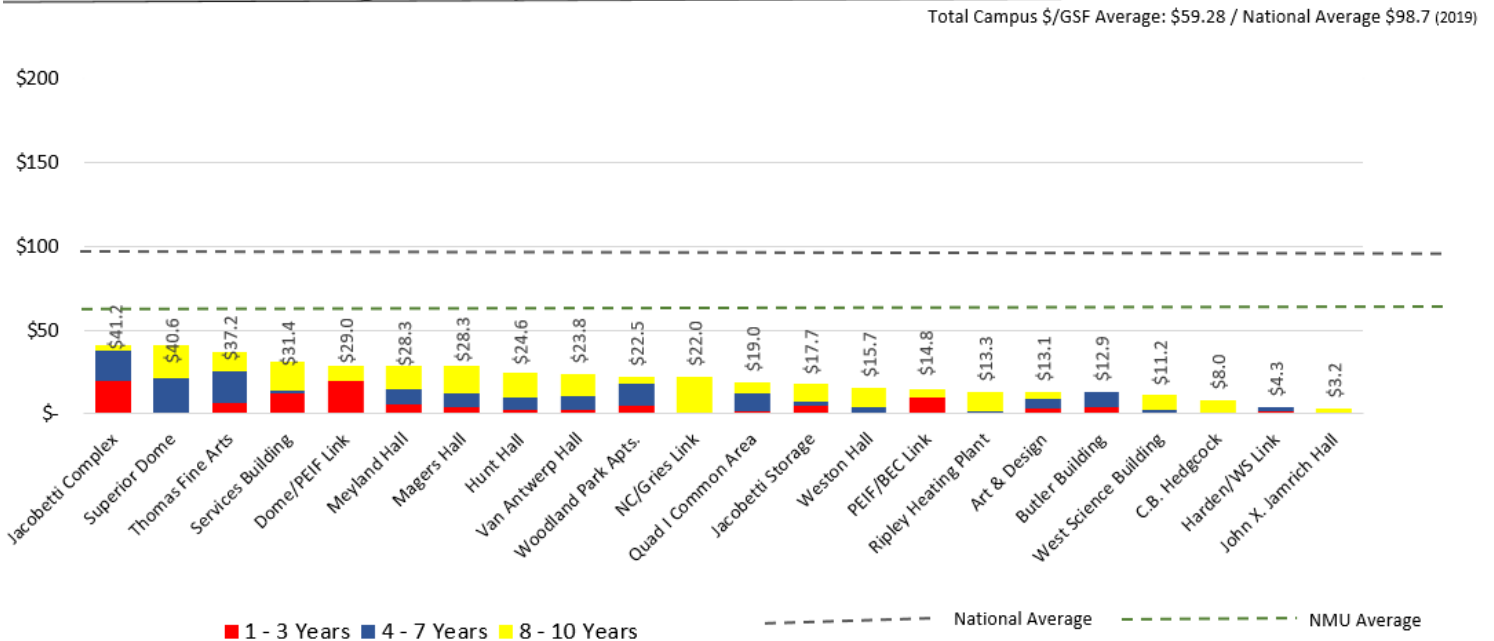


Facility Assessment Summary (Continued)

A Look at All Building Needs (\$/GSF)



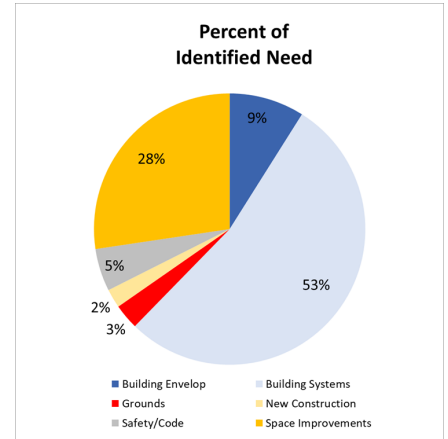
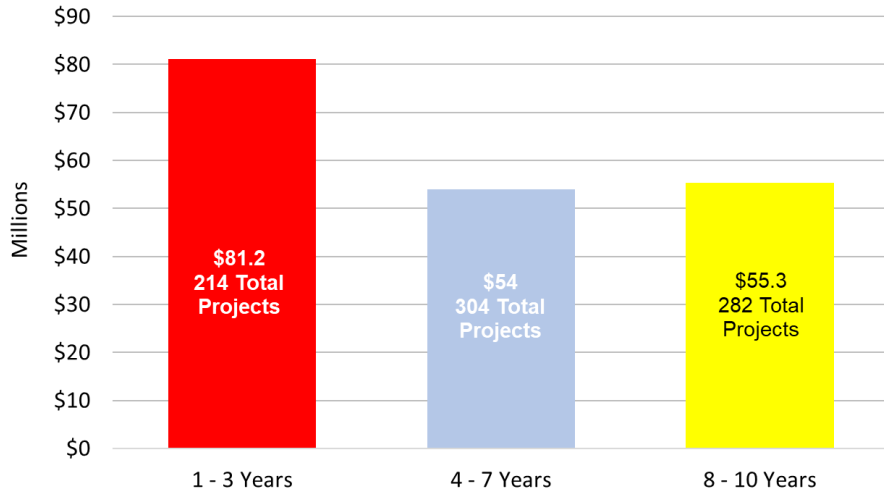
A Look at All Building Needs (\$/GSF)





Facility Assessment Summary (Continued) 10 Year Need Time Frame

Updated Needs by Timeframe

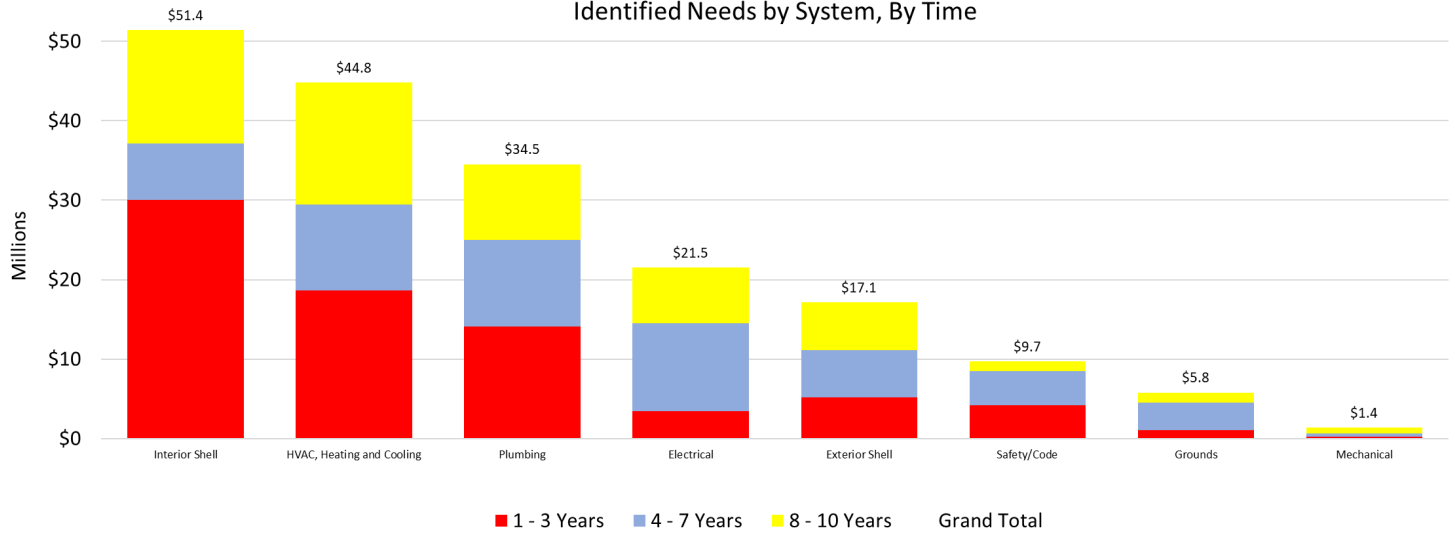


The total need noted above does not include some of the residential and storage buildings included on page 60

Identified Needs By System

Time Frames A, B, C only

Identified Needs by System, By Time





Facility Assessment

Long-Term Maintenance

Since September 2019, Northern has addressed long-term maintenance needs of \$11.8 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* (*spent since 9/19 on construction*):

- *Northern Center Renovations \$6.1 million*

Maintenance Projects:

- *Art & Design Mechanical System Upgrades*
- *Berry Event Center Spirit Store & Concourse Renovations*
- *Berry Event Center Office Renovation*
- *Campus Irrigation System Extension & Upgrades*
- *Campus Network Infrastructure Upgrades*
- *ESPORTS Lab – Harden Hall*
- *Exterior LED Lighting Upgrades – Southwest Campus*
- *Fine Arts Complex Energy Management System Replacement*
- *Harden Hall Window Replacement*
- *Help Desk Renovations*
- *Lincoln St. Parking Lots (No. 4 & 5)*
- *Mechanical / Electrical / Plumbing Infrastructure Upgrades*
- *Medicinal Plant Growth Lab*
- *Northern Center Parking Lot Resurfacing & Landscaping*
- *Parking Lot & Sidewalk Repairs Across Campus*
- *PEIF Elevator Modernization*
- *PEIF Exterior Façade Upgrade*
- *Quad I Complex Roof Replacement*
- *Retention Initiatives – Various Office Renovations*
- *Security System Cameras*
- *Services Building Archives HVAC Improvements*
- *Steam Condensate Line Replacement – Lot 22 and Lot 37*
- *Student Art Gallery Relocation*
- *Tennis Court Resurfacing*
- *Wayfinding/Building Sign Replacement*
- *Weston Hall Phoenix Controls Upgrades*
- *Woodland Apartment Boiler Replacement*

* 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 both room and building utilization. These policies include a formal set of scheduling guidelines that every academic department is required to follow. These guidelines are designed to ensure classroom utilization is optimized throughout the day/week.

Space Report

Due to the 2020 COVID-19 pandemic, NMU Police Department and Facilities staff surveyed all campus classrooms and labs prior to the start of the fall semester. Based on the surveys, classroom capacities were adjusted and engineered controls installed to ensure CDC social distancing requirements were achieved. These measures included barriers placed at free standing and fixed desks, the removal of excess furniture in select classrooms, and the installation of instructor barriers at the front of classrooms. The results enabled NMU to conduct in classroom instruction in all academic classrooms. Despite these measures, not all courses could be accommodated in person which is reflected in the a lower than average utilization rate noted below.

Below is a summary of General Use Classroom Utilization by building for Fall 2020 (Monday/Friday – 10 a.m. - 3 p.m.)

Building	# of General Use Classrooms	Average Room Utilization %	Average Seat Utilization %
Elizabeth and Edgar L. Harden Hall	4	54%	71%
John X. Jamrich Hall	24	57%	62%
Luther S. West Science Building	15	55%	63%
Weston Hall	2	29%	36%
Russell Thomas Fine Arts	6	41%	79%
The Woods	1	67%	56%
Wayne B. McClintock Building	7	58%	66%
Whitman Hall	2	27%	67%
Total	61	53%	64%

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 through 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 20 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.





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 15 years old. The main electrical distribution in the Ripley Plant was installed in 2006. This summer the 1960-vintage 15kV switchgear and transformers in the Northern Center were replaced.

With over 600 exterior light poles on campus, a phased approach to replacing the metal halide light fixtures with new LED fixtures has begun. One hundred seventy five (175) 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 total of 48,943 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.

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. Options are being investigated for running the virtual components on the campus Nutanix HA cluster. Both the core and cabinet components of the phone system are considered to be in very good condition. While the phone system had remote options for work at home users, this has recently been significantly scaled up to accommodate the current COVID-19 situation. Remote phone options 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.

<i>Utility System</i>	<i>Need Year</i>	<i>Estimated Cost</i>
Water System	4	\$ 192,275
Steam Distribution	3	\$ 2,562,465
Storm Drain Mains	5	\$ 73,900
Sanitary Sewer Mains	2	\$ 192,275
Utility System Total		\$ 3,020,915



Assessment of Campus Infrastructure

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 as been developed for roadway rehabilitation.

Parking (6,700 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.

During summer 2018, major reconstruction was completed to residential parking lots 6, 10, 11, and 14 serving both residence hall students and faculty/staff/commuters. During summer 2019, parking lot 8 was completely reconstructed as part of the Northern Center Renovation project. During summer 2020, parking lots 4 and 5 were milled and resurfaced and all damaged curb was replaced. Total area resurfaced was 91,000 square feet.



Assessment of Campus Infrastructure

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.

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, the university 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 802.11ac, 802.11ac wave2, or 802.11ax(WiFi 6), WiFi throughout the building. Efforts will be made to retire the 802.11ac wave1 and replace it with 802.11ax.

The network core major routing points are all connected at 40gbps with most buildings connected at 10gbps. By summer 2021, the university's Internet connection with Merit will also be a 40gbps connection or better. All three of the major core routers will need to be replaced within five years. The first such upgrade is in progress and due to be completed by December 2020. The upgrade will allow us to interconnect routing points at 100gbps and building connection to at least 40gbps. The core Wireless controllers (three of them as of this writing) will need to be replaced within five years as well. The first replacement is expected in Q2/Q3 of 2021, with the other two to follow within two years. This will allow for higher speeds and more density of wireless users.

The introduction of the Palo Alto PA-5520, sometimes referred to as the F1 appliance has greatly expanded the university's security abilities and abilities to protect internal clients and servers from external attack. Although, only in phase 2 of testing, it needs to be fully operational by Q1 2021. A second and perhaps a third PA-5520 (or equivalent) will be required to add redundancy to the university's security build. The PA-5520 may replace the LTE/CLC router. The retirement of the smaller Cisco ASA units will likely follow the continued buildout of the PA-5520.

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 64 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. This expansion will be complete by the end of 2020. A complete upgrade to the core of the LTE network and endpoints to a 5G like solution is in contemplation with a decision likely coming by the end of 2020.



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 Gigabit Ethernet (no less than 12 strands and up to 48 strands) data wiring cable will be Category 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 latest landscaping phase of Northern Center construction caused major damage to both the NMU copper tie from Cohodas to Harden, Lee, Spooner 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 Invent@NMU 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.
- The PEIF has very limited room for growth and poor inside infrastructure. Cabling paths are difficult, full and in some cases non-existent. The IT rooms are small, in poor locations, and with terrible climate control. There is a minimum count of single mode fiber to the building but it is not distributed to the IT rooms.
- 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.
- Spalding Hall will need fiber and copper upgrades in the next five years in order to continue to have functional IT.
- Services Building Bear Center Wing exceeds distance limitations from current IT rooms. A new IT room will be needed in any future renovation. The South end of the Northern Center has the same distance limitations.



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
2021	\$ 5,430,000	\$ 3,457,455	\$ 8,887,455
2022	4,820,000	3,223,881	8,043,881
2023	4,945,000	3,004,225	7,949,225
2024	5,175,000	2,774,807	7,949,807
2025	5,315,000	2,534,537	7,849,537
Total Five Years	25,685,000	14,994,905	40,679,905
Thereafter			
2026-2030	25,170,000	9,350,155	34,520,155
2031-2035	18,020,000	4,072,559	22,092,559
2036-2040	6,155,000	1,240,336	7,395,336
2041-2044	3,355,000	310,163	3,665,163
Deferred charge on refunding, net	(1,955,211)		
Deferred re-offering premium	6,638,919		
Total	\$ 83,068,708		

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 2020/2021 Road and Parking Statistics

Type	Total
Apartment	270
Commuter	451
Commuter & Faculty Staff	510
Faculty/Staff	568
Faculty/Staff & Resident	243
General Parking	3,083
General Parking & Resident	23
Handicap	13
Health Center	9
Resident	1,140
Resident & Apartment	206
Service Entry	12
Street Parking - Faculty Only	89
Street Parking - General	35

Legend

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





NORTHERN MICHIGAN UNIVERSITY

ASSESSMENT OF UNIVERSITY LAND

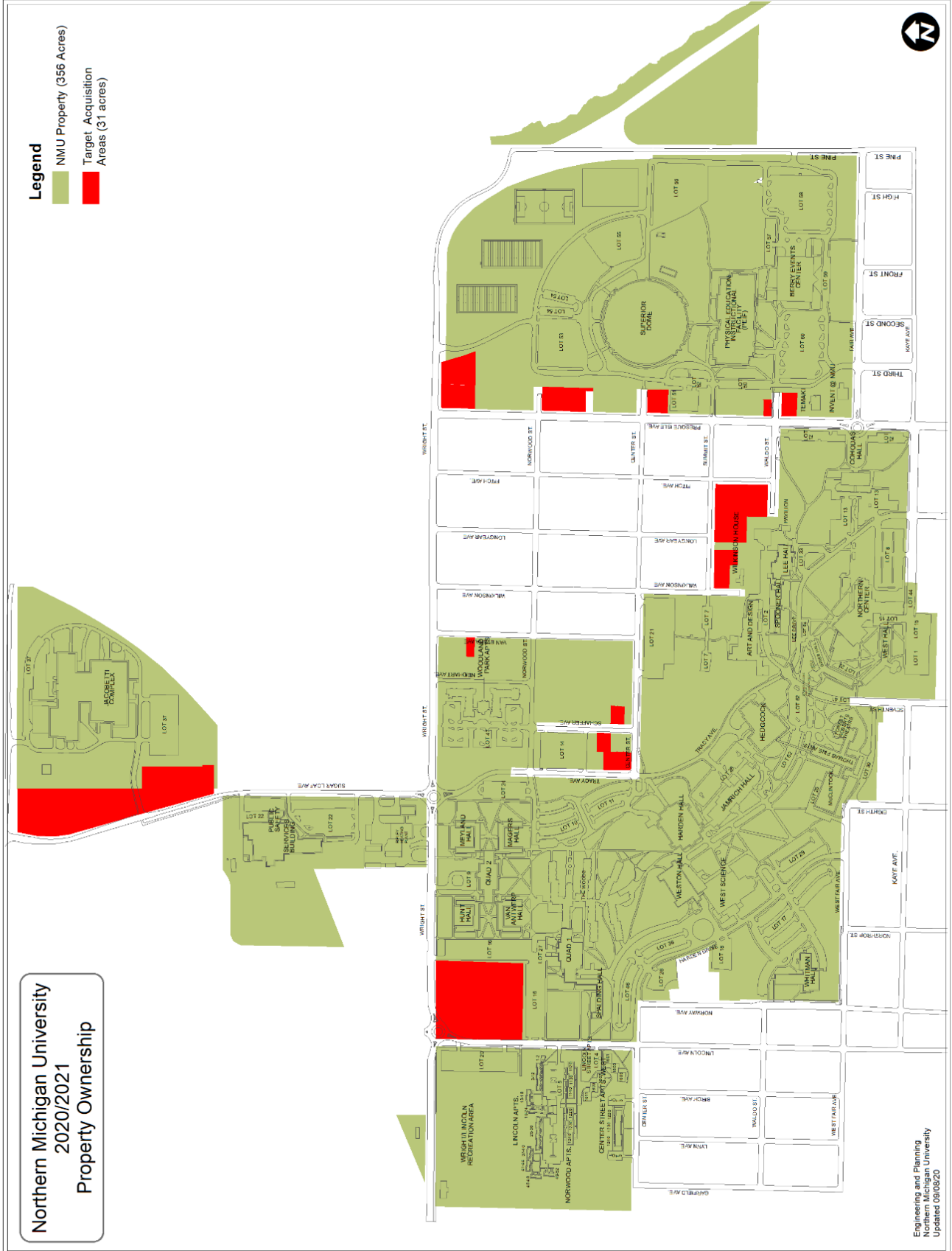


University Land

The University owns 867 acres comprised of 356 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; comfort of building occupants; and opportunities provided through donors, government funding, grants, and joint ventures with other nonprofits or private sector entities.



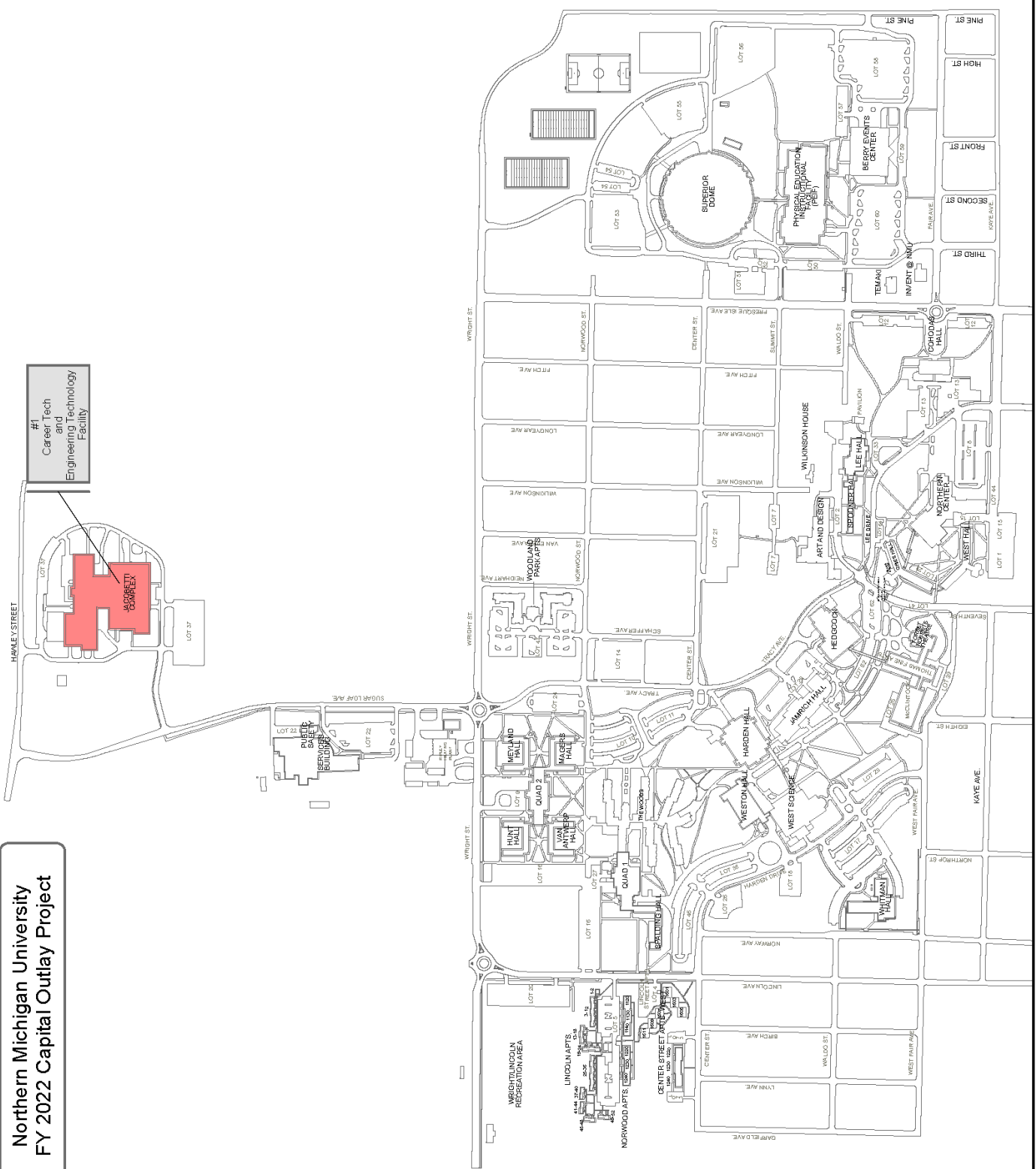


Fiscal Year 2022 Capital Outlay Project Priority

Career Tech and Engineering Technology Facility *(Authorized for Planning in PA 618 of 2018)*

Project Budget: \$28,564,000

The university has developed a new strategic plan that is focused on transforming the university through innovation and investment and the Career Tech and Engineering Technology Facility is key in support of that effort. The modern facility will support NMU's nationally recognized faculty and academic programs critical to the state's economic growth. This facility and its labs will be 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 request, new classrooms, laboratories and public areas will be 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 will deliver a facility that will not only be considered "cutting edge" by today's standards, helping to produce highly skilled and employable graduates, it will also deliver a facility adaptable to change with future technologies. One example of the cutting edge technology would be the ability to deliver "virtual reality" (VR) instruction for introductory course work in programs such as welding. VR instruction opportunities may further be expanded by combining new building technologies with NMU's Educational Access Network (EAN) providing NMU the ability to deliver select instruction to rural areas. This project will also facilitate manufacturing design support through collaboration between Michigan entrepreneurs and the talents of our students to help to develop new products for industry using appropriately equipped maker spaces and laboratories. When complete, 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.



Northern Michigan University
FY 2022 Capital Outlay Project

#1
Career Tech
and
Engineering Technology
Facility



Status of “In-Progress” State Building Authority Projects

Career Tech and Engineering Technology Facility Project

Total Cost: \$28,564,000

(Public Act 618 of 2018 Planning Authorization Approval)

Career Tech and Engineering Technology Facility project has been authorized for planning per Public Act 618 of 2018. A professionally prepared program statement and schematic plans were submitted for consideration of construction funding in Fiscal Year 2022 Executive Budget.

Construction Authorization for the NMU Career Tech and Engineering Technology Project was among the line-item vetoes issued by the Governor on March 31, 2020, in an effort to direct additional financial resources to the COVID-19 pandemic in the state of Michigan.

This project is on hold until construction authorization is received.



**University Projects
Completed – November 1, 2019 to November 1, 2020
With a Total Cost between \$500,000 – \$1,000,000**

No projects to report.



**Maintenance Projects
2022 to 2026
With a Total Cost Over \$1,000,000**

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

	2022	2023	2024	2025	2026	Total
Fire Alarm Mass Notification - Housing				\$1,058,000		\$1,058,000
Berry Event Center Ice Making System		\$6,100,000				\$6,100,000
Superior Dome Turf			\$2,000,000			\$2,000,000
Total		\$6,100,000	\$2,000,000	\$1,058,000	\$0	\$9,158,000



Maintenance Projects 2022 to 2026 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 will replace the Simplex system in the four Quad II residence halls, Spooner Hall, and Woodland Park apartments for \$1.058 million. The existing system will be removed in Spalding and West 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.
- 2) Berry Event Center Ice Making System Replacement. The existing ice making system is over 35 years old and contains R22 refrigerant that is being phased out of production. The new system will be either ammonia or CO2. A new equipment room will be constructed to house the new system and the existing room will provide additional storage space.
- 3) Superior Dome Turf Replacement. The existing turf was installed in 2008 and will need to be replaced in the next three to four years due to wear and tear.



Long-Term Infrastructure Maintenance Projects 2021 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 2021

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; 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 2021 are indicated on the following page.



Long-Term Infrastructure Maintenance Projects – 2021 With a Total Cost Less than \$1,000,000

2021 Long Term Maintenance List	General Fund Budget	Auxiliary Fund Budget	Total Project Budget
Academic, Administrative and Recreation Buildings			
<i>(Art & Design, Berry Events Center, Cohodas Hall, Harden Hall, Weston Hall, PEIF, Superior Dome, West Science, Whitman Hall, other campus buildings)</i>			
<u>Interior Finishes Upgrades</u>			
Flooring Replacement	\$75,000		
Elevator Upgrades	\$150,000		
Roof Replacement	\$200,000		
Miscellaneous	\$100,000		
Interior Finishes Subtotal	\$525,000		
<u>Mechanical/Plumbing System Upgrades</u>			
Phoenix Controls Upgrades	\$50,000		
Miscellaneous	\$94,500		
Mechanical/Plumbing System Upgrades Subtotal	\$144,500		
<u>Electrical System Upgrades</u>			
Primary Switchgear Replacement	\$125,000		
Interior & Exterior LED Lighting Replacement	\$60,000		
Miscellaneous	\$50,000		
Electrical System Upgrades Subtotal	\$235,000		
<u>Building Envelope Upgrades</u>			
Exterior Door Replacement	\$55,000		
Miscellaneous	\$100,000		
Building Envelope Upgrades Subtotal	\$155,000		
<u>Hardscape Infrastructure Upgrades</u>			
<i>(Concrete, Asphalt, Irrigation, Landscaping, etc.)</i>			
Parking Lot Resurfacing	\$100,000		
Miscellaneous	\$75,000		
Hardscape Infrastructure Upgrades Subtotal	\$175,000		
<u>Utility Infrastructure Upgrades</u>			
<i>(Water, Sanitary, Storm, Steam, Electric, Gas, Telecom, etc.)</i>			
Steam and Condensate Line Improvements	\$400,000		
Miscellaneous	\$75,000		
Utility Infrastructure Upgrades Subtotal	\$475,000		
Total General Fund Projects	\$1,709,500		\$1,709,500
Auxiliary Services Buildings			
<i>(Northern Center/Dining Services/Northern Lights Dining)</i>			
Equipment Replacement		\$190,000	
Interior/Exterior Upgrades		\$160,000	
Total Auxiliary Services Projects		\$350,000	\$350,000
Residence Life/Housing Buildings			
<i>(Quad II Residence Halls/Woodland Park)</i>			
Infrastructure Maintenance/Replacement		\$358,000	
Total Residence Life/Housing Projects		\$358,000	\$358,000
Total Budget	\$1,709,500	\$708,000	\$2,417,500



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

Business Innovation Center

A new business innovation 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 facility will be located in the academic core of campus with an outdoor patio providing a –venue for presentations, formal and informal gatherings.

Career Tech and Engineering Technology Facility

A modern facility for the university's technology programs will include classrooms, laboratories and public areas that will be vibrant, modern, high-tech teaching spaces that promote collaboration amongst faculty and students.

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.

Elizabeth and Edgar L. Harden Hall Capital Project

Project will redevelop the program space within Harden Hall to create a vibrant library and resource center that is more welcoming and user friendly for faculty, staff and students. The library will include more collaboration space, quiet study space and incorporate more technology. Classroom space will be provided adjacent to state-of-the-art radio and TV studios to allow academic programs access to live labs. The project will also include space to accommodate for the relocation of academic departments currently located in Gries Hall.

Gries Hall Demolition

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



Future University Projects

Life Sciences Research Center

Lab space is in short supply in Weston Hall and West 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.

Northern Center Completion

The 2019 Campus Master Plan proposes reinforcing the Northern Center as the front door and public face of the university. This project would renovate the balance of the facility not included in the 2019 renovation specifically the west wing. The first floor will be renovated to accommodate the Cosmetology program and the second floor will house the Hospitality Management program; both to be relocated from the Jacobetti Complex. Also, the building infrastructure serving those spaces would be replaced.

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. A connector is planned from The Woods to Quad II that includes a lodge type space on the north side and a resident student micro health clinic. Additional indoor fitness, wellness and group exercise activities along with outdoor seasonal ice rink are proposed for Quad II to create a recreational hub for the residential district.

Housing & Residence Life Offices/Health Center Relocation

The Housing and Residence Life Department offices will be relocated from C.B. Hedgcock to the Quad I west lobby area to be closer to the students they serve. An addition will be constructed adjacent to this lobby for a new Health and Wellness Center. The new center will allow the current Health Center to be co-located with the Counseling Center. This change will enable the east wing of Gries Hall to be demolished increasing space efficiency and reducing facility operation costs.

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 has reached the end of its useful life and demolition of the over 50-year-old residence hall is planned to accommodate the new Health and Wellness Center.

Athletic District

Sports and Recreation Complex Renovations

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 and Berry Event Center. The PEIF renovation would include an addition for a new pool and cross country ski team locker rooms. The existing natatorium could be reconfigured as a multipurpose activity space. A new ice arena would be constructed with a connector to the shared space attached to the Berry Event Center. The Berry Event Center would be renovated to serve as a basketball venue. Space on the site would be allotted 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 core. Wildcat Way would also be extended to the south and east to connect the academic core to the recreation complex, Third Street and Lake Superior.



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