



Northern Michigan University



Five-Year Facilities Master Plan
November 2013



Table of Contents

Section I – University Mission

Mission and Vision 4

Section II – Instructional Programming

Strategic Direction: Road Map to 2015..... 6

Academic Programs 11

Academic Affairs Division Organizational Chart 18

Existing Academic Programs and Projected Programming Changes..... 19

Initiatives / Academic Program Needs with Impact on Facilities..... 25

Community Presence Activities 27

Economic Impact / Partnerships with Business and Industry 32

Section III – Enrollment and Staffing

Enrollment – Fall 2013

Headcount..... 39

Recruiting Region 40

Where Students Live..... 41

Full-time / Part-time Status..... 42

Full Year Equated Student (FYES) Change..... 43

Freshmen Change 45

Class Size 46

Staffing

FTE by Employee Category 47



Table of Contents

Section IV – Facility Assessment

Facility Overview

Introduction	49
NMU and Sustainability	50
Physical Plant Overview	54
Facilities Condition Cost Analysis by Priority Class – State Buildings	55
Facilities Condition Cost Analysis by Priority Class – Auxiliary Buildings	56
Facility Assessment Summary	57
Long-Term Maintenance and Space Utilization Initiatives	58
Assessment of Campus Utilities System	61
Assessment of Campus Infrastructure	64
Building Bonds	68
Map – Road and Parking Statistics	69

Assessment of University Land

University Land	71
Map – Facilities Statistics	72

Section V – Facilities Implementation Plan

Introduction	74
FY 2015 Capital Outlay Project Priorities	75
Summary – Outlay Project Priorities	76
Outlay Project Priority – #1	77
Outlay Project Priority – #2	84
Outlay Project Priority – #3	88
Map – Project Outlay Request Locations – Learning Resource Center, PEIF, Forest Roberts Theatre, McClintock, Sam M. Cohodas Hall	93
Status of “In-Progress” State Building Authority Projects	94
University Projects – Completed	95
University Projects – Planned	96
Maintenance Projects	97
Future University Projects	102



Northern Michigan University

Section I Mission

Five-Year Capital Outlay Plan



Mission Statement

Northern Michigan University challenges its students and employees to think independently and critically, develop lifelong learning habits, acquire career skills, embrace diversity and become productive citizens in the regional and global community.

September 2008

Vision Statement

Northern Michigan University will become the university of choice in the Midwest for students seeking a quality academic program with individualized attention in a high-tech learning environment.



Northern Michigan University

Section II Instructional Programming

Five-Year Capital Outlay Plan



Strategic Directions: Road Map to 2015

NMU's success has enabled us to understand more fully the strengths and distinctive features that will define NMU's future. The heritage of being a high-touch, high-tech, high-quality campus that is both affordable and accessible must remain an important part of our value system. In order to sustain our uniqueness and differentiate NMU from other universities, we must be clear about our priorities and direction. Three unique themes will frame our Road Map to 2015 and beyond.

Information technologies are the critical signature of an NMU degree. The laptop culture, enhanced by new wireless technologies and portable devices, places NMU far ahead of and distinct from our competitors. Our capability to blend this expertise with digital television and public broadcasting increases both the capacity and the quality of NMU. Our instructional and technical reach becomes planetary rather than regional.

International opportunities also will become a critical feature for NMU. Students demand it, employers seek it, and a relevant education cannot exclude it. Beyond study abroad, our curriculum, our faculty, our student body, and our thinking must reflect the realities of an interconnected, world community. We are in a unique position to distinguish all NMU majors with significant and meaningful international experiences.

NMU's location in the Upper Peninsula is a unique asset and, as one, must become a prominent feature of our portfolio of academic programs and our research agenda. Lake Superior and the neighboring landscapes offer resources that attract students, faculty, and staff and enhance a high-quality university experience. How we choose to brand and distinguish our degrees will depend, in large part, upon our creative use of this most prominent resource.

Against these three distinctive brushstrokes lie specific strategies that are the foundation of the Road Map to 2015 and Beyond. The Road Map is comprised of four broad elements that each have specific goals and priorities. Each is relevant to faculty, staff, and students' sense of engagement with the campus; with who we are and where we're going. More importantly, the Road Map will capture how we're going to get there.



Strategic Directions: Road Map to 2015

The Four Strategic Elements are:

Innovation:

The university experience is predicated on a blend of a number of intellectual and organizational enterprises. Northern must reinvigorate the standards and processes that will sustain successful programs, create new ones, eliminate programs with declining enrollment, and reflect the creativity of campus talents. The curriculum must remain relevant and meaningful, and our teaching must be contemporary and effective.

- An academic curriculum that balances successful programs with new offerings at the undergraduate and graduate level to meet the needs of students, as well as improve student career opportunities after graduation
- A new professional development program for faculty and staff that rewards innovative practices and encourages interdisciplinary and interdepartmental collaboration
- A growing portfolio of corporate collaborations that exploit NMU's technical expertise, enhance academic programs, and facilitate global engagement for students and faculty ,both on campus and abroad
- Develop the financial resources to support innovation and student success





Northern Michigan University

Strategic Directions: Road Map to 2015

Meaningful Lives:

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 develop those programs and employ those practices that maximize the opportunity for all students to succeed in their university experience and to lead a productive, meaningful life.

- A Liberal Studies Program that provides students with the abilities and knowledge necessary for lifelong learning and effective citizenship in a challenging and rapidly changing world
- Develop a new academic advising system that integrates the advising assets of academic departments and student services to contribute to a new, effective retention management network – similar to our enrollment management network
- Integrate the highest possible level of information technology skills and competencies throughout the University





Northern Michigan University

Strategic Directions: Road Map to 2015

Campus Attributes:

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, academic programs and other campus operations represent the human capital of the University community. Both are instrumental in sustaining the university's collective efforts to maintain a standard of excellent practice, manage costs, and achieve the institutional mission.

- Utilize the Campus Master Plan and related initiatives to continue to build and develop a greener and more learner-centered campus
- Enhance processes throughout campus operations to guide the use of resources and inform resource allocation
- Enhance the portfolio of academic programs, research, and other activities that leverage the University's location in the Upper Peninsula of Michigan
- Be a model community for sustainable education and practices





Strategic Directions: Road Map to 2015

Community Engagement:

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.

- Include all units of the campus in the process of community engagement; that is, collaborations between the University and its larger communities (local, state, regional, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity
- Increase faculty, staff, and student involvement in the Superior Edge program, academic service learning, and other community engagement and leadership development initiatives
- Put into action a commitment to be an inclusive community where differences are recognized as assets of the institution, respected attributes of the person, and a valuable part of the university experience
- Increase collaboration with local communities, schools, governments, development groups, and other partners to enhance community and economic development in the Upper Peninsula





Academic Programs

Baccalaureate Degree Programs

Major

Accounting
Accounting/Computer Information Systems
Accounting/Corporate Finance
Art and Design - BS, BA, or BFA
Art and Design
Concentrations
Ceramics
Computer Art
Digital Cinema
Drawing/Painting
Furniture Design
Graphic Communication
Human-Centered Design
Illustration
Jewelry, Metalsmithing, and Blacksmithing
Photography
Printmaking
Sculpture
Woodworking
Art and Design Education
Art History
Athletic Training
Biochemistry
Biology
Biology/Ecology
Biology/Microbiology
Biology/Physiology

Business Computer Information Systems
Concentrations
Networking
Systems Analysis
End –User Training
Web Development
Chemistry (ACS Certified)
Clinical Health Science
Concentrations
Radiography
Respiratory Therapy
Surgical Technology
Clinical Laboratory Science
Concentrations
Anatomic Pathology
Clinical Systems Analysts
Diagnostic Genetics
Laboratory Medicine
Microbiology
Science Technologist
Communication Studies
Community Health Education
Computer Science
Construction Management
Criminal Justice
Early Childhood
Earth Science
Economics
Electronics Engineering Technology
Elementary Education (2 minors)



Academic Programs

Baccalaureate Degree Programs (continued)

Major

Elementary Education Integrated Science
Elementary Education Language Arts
Elementary Education Mathematics
Elementary Education Social Studies
Elementary Education Special Education
English
English/Writing
Entrepreneurship
Environmental Science
Environmental Studies and Sustainability
Finance
Finance and Risk Management
Concentrations
Corporate Finance
Personal Financial Planning
Risk Management and Insurance
Fisheries and Wildlife Management
Forensic Biochemistry
French
Geomatics
German Studies
Concentration
Business in German Culture
History
Hospitality Management
Individualized Studies
Industrial Technology
Integrated Science
International Studies

Liberal Arts and Sciences
Loss Prevention Management
Management
Management of Health and Fitness
Marketing
Mathematics
Concentrations
General Mathematics
Actuarial Sciences
Mechanical Engineering Technology
Concentrations
Alternative Energies
Computer Numerical Control
Technology
Industrial Electrical Technology
Industrial Technologies
Mechanical Engineering Design
Media Production and New Technology
Multi-media Journalism
Music
Concentrations
Choral
Instrumental
Network Computing
Nursing
Outdoor Recreation Leadership and
Management
Philosophy
Physical Education Coaching
Physics



Academic Programs

Baccalaureate Degree Programs (*continued*)

Major

Political Science
Pre-Architecture
Pre-Chiropractic
Pre-Dental
Pre-Engineering
Pre-Law
Pre-Medicine
Pre-Optometry
Pre-Pharmacy
Pre-Physical Therapy
Pre-Physician
Pre-Veterinary
Psychology
Psychology/Behavior Analysis
Psychology/Graduate School Preparation
Public Administration
Public Relations
Secondary Education Biology
Secondary Education Chemistry
Secondary Education Earth Science
Secondary Education Economics
Secondary Education English
Secondary Education French
Secondary Education Geography
Secondary Education History
Secondary Education Industrial Technology
Secondary Education Integrated Science
Secondary Education Mathematics
Secondary Education Music
Secondary Education Physical Education
Secondary Education Physics
Secondary Education Political Science
Secondary Education Social Studies
Secondary Education Spanish
Secondary Education Special Education
Ski Area Business Management
Social Work
Sociology
Sociology in Liberal Arts
Spanish
Speech, Language and Hearing Sciences
Sports Science
Technical Communications
Theatre
Zoology



Academic Programs

Associate Degree Programs

Major

Art and Design
Automotive Service Technology
Aviation Maintenance Technology
Building Technology
Climate Control Technology
Clinical Laboratory Technology
 Clinical Laboratory Technician
 Science Technician
Computer Information Systems
Computer Numerical Control Technology
Criminal Justice
Electrical Technology
 Industrial Electronic Technology
 Electrical Power Technician
 General Electronics Technology
Engineering Design
Food Service Management
General Business
General University Studies
 Concentrations
 Computer Science
 Earth Science
 Environmental Studies
 Geomatics
 Mathematics
 Media Studies
 Native American Studies
 Sustainability
 Theatre and Entertainment Arts
 Wildland Firefighting
Health Information Processing
Industrial Maintenance

Law Enforcement
Liberal Arts/Sciences
Office Information Assistant
Radiography
Respiratory Therapy
Surgical Technology

Certificate Programs

Aviation Maintenance Technology
Automotive Service
Clinical Assistant
Computer Numerical Control Technician
Cosmetology
Geographic Information Systems
Heating, Ventilation, Air
 Conditioning/Refrigeration
Industrial Maintenance
Office Services
Practical Nursing
Welding
Wildland Firefighting

Diploma Programs

Advanced Law Enforcement
Electrical Line Technician

Certifications

Cosmetology Instructor
Police Academy



Academic Programs

Graduate Programs

Biology
Biochemistry - Biology
Business Administration
Creative Writing
Criminal Justice
English
Exercise Science
Family Nurse Practitioner
Individualized Studies
Nursing
Psychology
Psychology Training and Human Performance Improvement

(Certificates)

Facilitating Training
Family Nurse Practitioner
Performance Improvement
Teaching English to Speakers of Other Languages

Education

Administration and Supervision
American Indian Educations Administration and Supervision
Educational Instruction
Reading K – 8
Reading Specialist K – 12
Learning Disabilities
Education Certificates
 State Professional Education
Certificate, Elementary
 State Professional Education
Certification and Professional / Personal Development Programs for Educators
Public Administration
 Community Planning
 General Administration
 Personnel and Labor Relations
 State and Local Administration
Public Management

Post-Baccalaureate Programs

Elementary Provisional Certificate
Secondary Provisional Certificate



Academic Programs

Elementary Education Minors

French
Geography
German
History
Integrated Science
Language Arts
Mathematics
Physical Education
Reading
Spanish

Secondary Education Minors

Biology Education
Chemistry Education
Earth Science Education
Economics Education
English Education
French Education
Geography Education
German Education
Health Education
History Education
Journalism
Mathematics Education
Physical Education
Physics Education
Political Science Education
Spanish Education

Non-Education Minors

Accounting
Actuarial Sciences
Alternative Energies
Anthropology
Applied Ethics
Art and Design
Art History
Automotive Service Technician
Biology
Business Administration
Chemistry
Child Care Services
Clinical Laboratory Techniques
CNC Technology
Communication Studies
Computer Information Systems
Computer Science
Construction Systems
Contracted Minor
Criminal Justice
Dance
Earth Science
Earth, Environmental, and Geographical
Science Cluster
Electronic Journalism
Economics
Electronics
Emergency Medical Services
Engineering Design
English
Entrepreneurship
Environmental Studies



Academic Programs

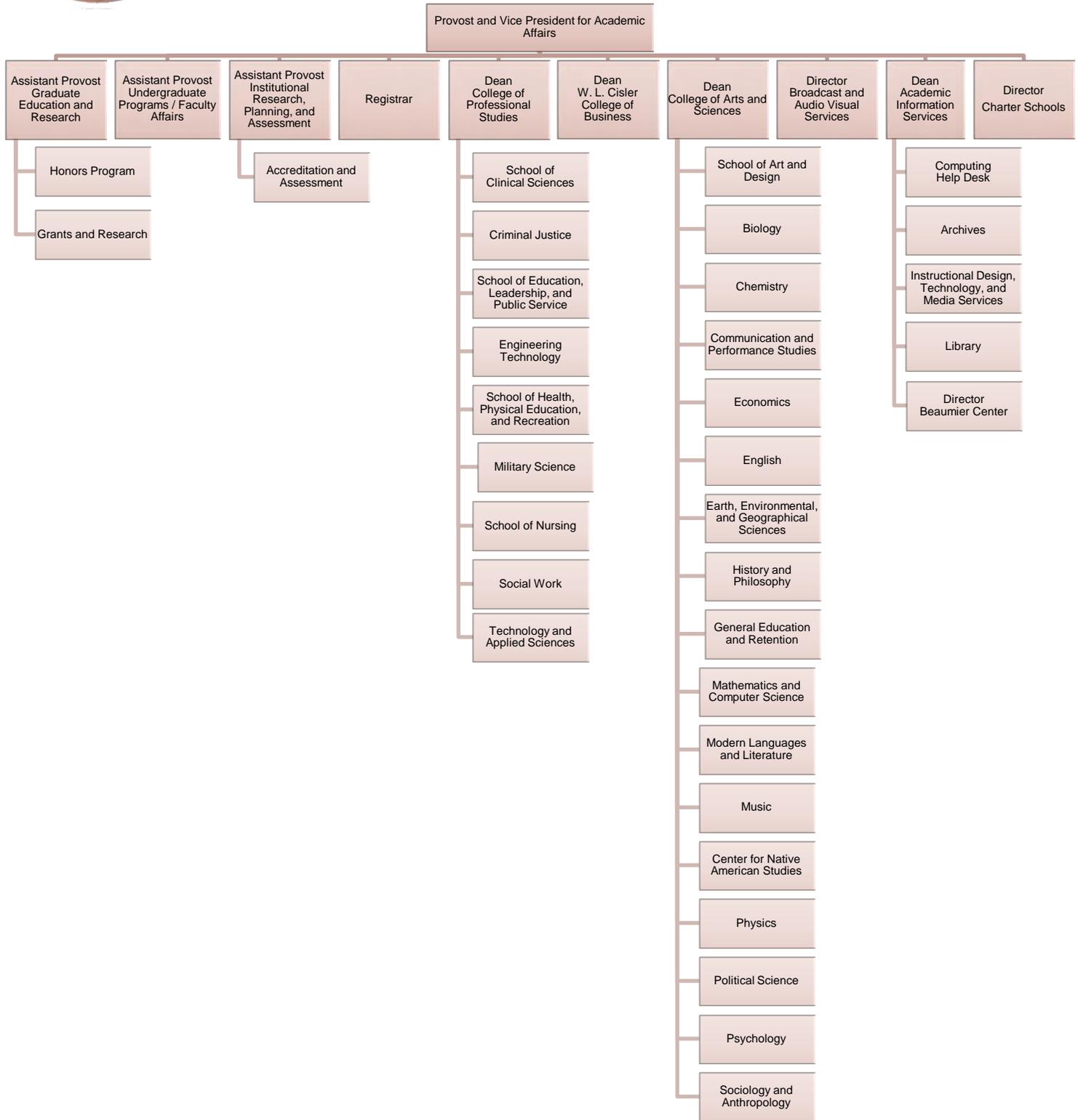
Non-Education Minors (*continued*)

Film Studies
Finance
French
Gender Studies
German
Geomatics
Gerontology
Group Science
Health Education Cluster
Health and Nutrition
Heating, Ventilation, Air Conditioning
History
Hospitality Service Management
Human Behavior Cluster
Human Biology
Human Services
Industrial Electrical Technology
Industrial Maintenance Technology
International Studies
Concentrations
Global
Asian
Interpretation and Outdoor Education
Journalism
Latin American Studies
Management
Marketing
Mathematics
Media Production and Technology
Media Studies
Military Science
Music

Native American Studies
Office Services
Outdoor Leadership
Outdoor Recreation
Outdoor Recreation Leadership
Management Cluster
Philosophy
Physical Education/Coaching
Physics
Political Science
Concentrations
General Political Science
International
Pre-Law
Pre-Law
Public History
Psychology
Public Administration
Public History
Public Relations
Religious Studies
Research Analyst
Social Services
Sociology
Spanish
Speech, Language, and Hearing Sciences
Sports Science Cluster
Sustainability
Theatre and Entertainment Arts
Welding
Wildland Firefighting
Writing



Northern Michigan University



Five-Year Capital Outlay Plan



Instructional Programming

Existing Academic Programs and Projected Programming Changes

Northern Michigan University's (NMU) vision is to be the comprehensive university of choice in the Midwest where students receive individualized attention in a high tech learning environment. Northern has experienced continued success in our efforts to grow enrollment. For fall 2012, we are projected to have a final enrollment of 9,250 students, which is near the highest level in Northern's 110-year-history. This continued success in enrollment has come despite a declining enrollment in Upper Peninsula K-12 schools. Northern is continuing to attract more students from outside the Upper Peninsula with more than 60% of our new freshmen coming from the Lower Peninsula or outside the state, which has a positive impact on the local, regional, and state economy. The local newspaper has noted that "Growth at the university is great news for NMU and the local economy, and it's also a challenge." They also noted that the enrollment growth is "surprising, given the declining sizes of graduating classes around the Upper Peninsula." The continued declining size of the K-12 population in the Upper Peninsula is a significant challenge to the institution and our geographic location.

NMU's Roadmap to 2015 Strategic Plan includes many new program initiatives that will be implemented on an opportunity and strategic basis over the next several years. The projected programming changes that would have specific structural considerations are listed below:

Element 1: Innovation

The university experience is predicated on a blend of a number of intellectual and organizational enterprises. Northern must reinvigorate the standards and processes that will sustain successful programs, create new ones, eliminate programs with declining enrollment, and reflect the creativity of campus talents. The curriculum must remain relevant and meaningful, and our teaching must be contemporary and effective.



Instructional Programming

Existing Academic Programs and Projected Programming Changes (continued)

An academic curriculum that balances successful programs with new offerings at the undergraduate and graduate level to meet the needs of students, as well as improve student career opportunities after graduation.

Priorities include:

- Integrate global engagement and diversity learning experiences throughout the academic curriculum.
- Continue implementation of the faculty-mix model and faculty enhancement positions.
- Explore and act upon opportunities to expand programs in nursing and allied health to meet the growing demand for professionals in health care and related fields.
- 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.

A growing portfolio of corporate collaborations that exploit NMU's technical expertise, enhance academic programs and facilitate global engagement for students and faculty both on campus and abroad.

Priorities include:

- 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.



Instructional Programming

Existing Academic Programs and Projected Programming Changes (continued)

Element 2: Meaningful Lives

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 develop those programs and employ those practices that maximize the opportunity for all students to succeed in their university experience and to lead a productive, meaningful life.

Integrate the highest possible level of information technology skills and competencies throughout the university.

Priorities include:

- Create an enhanced infrastructure that will continually expand the availability and variety of new technological tools and services for NMU students, faculty and staff
- Develop a "virtual" campus that provides reliable, convenient access to online courses and other essential student services

Element 3: Campus Attributes

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, academic programs and other campus operations represent the human capital of the university community. Both are instrumental in sustaining the university's collective efforts to maintain a standard of excellent practice, manage costs and achieve the institutional mission.



Instructional Programming

Existing Academic Programs and Projected Programming Changes (continued)

Utilize the Campus Master Plan and related initiatives to continue to build and develop a greener and more learner-centered campus.

Priorities include:

- Establish strategies and a communication plan for implementation of the Campus Master Plan that ensures the highest possible level of input from the NMU and local communities as financially feasible components of the plan are implemented
- Examine classroom and other learning spaces to create the highest quality learning environments, and to advance the application of new pedagogies and technologies
- Continue campus discussions regarding the "library of the future" to identify state-of-the-art facilities, collections, technology and collaborations that will meet current and emerging instructional and research needs, and that will support the goals and priorities of the Road Map

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

Priorities include:

- Consolidate NMU's several environmental science efforts into a cohesive whole that will take full advantage of educational and research opportunities unique to the natural environment of the Upper Peninsula to best attract and serve students and faculty
- Work to enhance opportunities, funding and events that strengthen and increase current university areas that focus on the Upper Peninsula—Center for Native American Studies, Center for Upper Peninsula Studies, Beaumier Heritage Center and NMU and Central Upper Peninsula Archives
- Create a task force to examine expanding or adding programs that take advantage of U.P. assets and that would be unique to the region or nation, including such assets as the environment, local geography, recreation, rural demographics and lifestyle and weather
- Provide seed funding for faculty-student research projects focused on the U.P. region



Instructional Programming

Existing Academic Programs and Projected Programming Changes (continued)

Element 4: Community Engagement

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.

Increase faculty, staff and student involvement in the Superior Edge program, academic service learning and other community engagement and leadership development initiatives.

Priorities include:

- Develop a resource plan for the Superior Edge and academic service learning programs to ensure optimal growth.
- Significantly increase the number of NMU students who participate in the Superior Edge, academic service learning and other leadership development opportunities
- Improve the alignment of the curriculum with the Superior Edge and academic service learning initiatives
- Implement strategies to assist students to more effectively communicate the skills and competencies developed through their achievements in community engagement



Instructional Programming

Existing Academic Programs and Projected Programming Changes (continued)

Increase collaboration with local communities, schools, governments, development groups and other partners to enhance community and economic development in the Upper Peninsula.

Priorities include:

- Establish a team of NMU faculty, under the auspices of the Sam M. Cohodas Scholar, who conduct and publish applied research that supports community and economic development across the Upper Peninsula
- Continue to increase and whenever possible promote a culture of openness and access through regularly scheduled community/campus forums, high-quality publications and the effective use of communication technologies
- Explore the feasibility of collaborating with existing community development organizations, units of government and the private sector to establish a high-tech economic development center on the NMU campus
- Explore the feasibility of collaborating with the state, U.P. universities and private alternative energy companies to make the Upper Peninsula a nationally recognized alternative energy and technology corridor



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 9,500 notebook computers 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 and WWAN) networking and are replaced on a three-year cycle. Wireless 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. The University has expanded the wireless network to provide community-wide access using WiMAX technology that has provided wireless access from campus directly to more than 6,300 students that live off campus in the Marquette area and surrounding cities. The existing off-campus WiMAX network will be replaced by a new LTE technology based network over the next 4 years. Northern is a leader in the development and utilization of web-based or web-enhanced courses. The University has more than 2,200 course sections developed utilizing Web-based software, and more than 86 percent of our students are enrolled in at least one or more web-based or web-enhanced courses. NMU is a recognized leader (as noted by *Computerworld Magazine*) 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 has completed construction of a solid bio-mass fuel facility that would generate steam and electricity for most of the buildings on campus. The University is committed to the use of wood, a renewable resource, as the primary fuel for this combined heat and power project. This project will provide the opportunity for academic research for various departments.



Initiatives / Academic Program Needs with Impact on Facilities

Instructional Programming: *(continued)*

The University's public radio and television stations will continue their transition to digital broadcasting. The television station has completed three phases of its digital conversion; upgrading its technical core, master control, transmission and studio control room systems that allows the station to produce, program and switch multiple digital program streams. The addition of a new HD cameras in 2012 allows staff and students to produce programs in a high definition format. All of the digital conversion initiatives directly impact the station's ability to offer instructional course content to area residents and K-12 schools. Specifically, WNMU-TV uses its new digital television production capacity to program two standard definition and one high definition channels. These channels allow more specialized programming to be aired at various times throughout the day. In addition, WNMU is continuing with development of a partnership with Superior Healthcare Partners to offer health-related programs designed to enhance patient education for both in-hospital and at-home care.

The initiatives noted above, and the projected programming changes identified in NMU's Roadmap to 2015 Elements, Goals, and Priorities, 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.

NMU received a National Science Foundation grant to enhance and expand active learning with science, technology, engineering, and mathematics (STEM) disciplines. Renovating an existing classroom into a technology-rich active learning space provided the venue for faculty to adopt pedagogical strategies focused on active learning and to conduct research on the use of these pedagogies within the STEM disciplines.



Community Presence Activities

Intercollegiate Athletics and Recreational Sports Facilities

NMU athletic and recreational facilities serve as a regional events center for the entire Upper Peninsula. A number of recreational and leisure programs are offered within the facilities for the community and include ongoing walking programs, recreational programming for children, adults, and youth sports camps. Youth programs in hockey, basketball, volleyball, swimming/diving, soccer 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 major tourist destination for visitors in our area. Approximately 280,000 people pass through the Superior Dome turnstiles on an annual basis. The Superior Dome is home to Northern Michigan University football and track and field and hosts high school football regular season games, as well as many MHSAA football playoff games. The MHSAA state championship 8-man football game is held at the Superior Dome annually. The USOEC weightlifting and Greco-Roman wrestling programs operate from the Superior Dome. Marquette County Youth Football Dome Day, high school track and field meets, NMU and youth soccer tournaments, Lacrosse, local non-profit fundraising events, Michigan Special Olympics, and K-8 school field day programs are several examples of other activities taking place in the Superior Dome. 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, Boat, Sport and Recreational Vehicle Show, Marquette County New Car Show, and the U.P. Builders Show are all examples of trade shows and conferences hosted in the Superior Dome. NMU Commencement activities are held in the Superior Dome each December and May.

The Berry Events Center is home to Northern Michigan University hockey, and men's and women's basketball. Nearly 115,000 fans and spectators pass through its doors annually. The facility hosts many junior hockey tournaments, NMU men's and women's club hockey games, as well as figure skating programs. The Berry Events Center also plays host to concerts, lectures, and conferences. NMU students use the facility for activity and classroom academic coursework.

The Physical Education Instructional Facility (PEIF Building) is home to Northern Michigan University volleyball and swimming teams. Men's and women's basketball team practices are held in the PEIF. 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 daily (year round). The PEIF is a comprehensive, indoor recreation facility that contains instructional activity venues and classrooms for NMU students.



Community Presence Activities

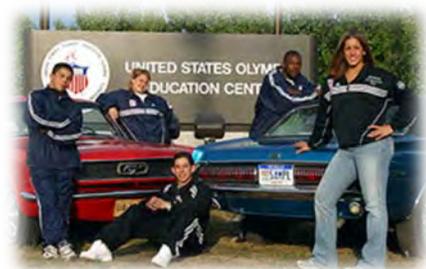


Intercollegiate Athletics

Northern Michigan University offers thirteen (13) intercollegiate men's and women's sports. Approximately 320 student athletes compete in NCAA events annually, with an average of 90 contests held in Marquette County. An average of 110 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.

U.S. Olympic Education Center

NMU is home to the nation's only United States Olympic Education Center. The Center provides Olympic-aspiring 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 USOEC. More than 400 of these athletes have made Olympic teams earning 57 Olympic medals, along with college degrees. Currently, there are over 60 Greco-Roman wrestling and weightlifting athletes training at the USOEC that are also full-time students at NMU.





Community Presence Activities

Northern Initiatives



NORTHERN INITIATIVES
is a non-profit
community development
corporation

NMU invests annually in Northern Initiatives (NI), a non-profit economic development corporation is housed on the NMU campus at the Jacobetti Complex. NI serves 51 rural counties; its original fifteen Upper Peninsula counties, thirty-one counties in the northern Lower Peninsula, and the five Wisconsin counties that border the Upper Peninsula. NI provides assistance to small business entrepreneurs, aiding them to fill capital, information, and market access gaps that characterize enterprises that are often remote, isolated, and sometimes seasonal in nature. NI provides business development services to over 200 companies annually and since 1994 has loaned over \$40,000,000 through approximately 700 loans, with nearly half of those loans going to start-up enterprises. These “micro” borrowers can take advantage of Northern Initiatives’ Business Advancement Center. Through the Center, Northern Michigan University students work with NI staff to offer small business loan customers credit analysis, market research, and e-commerce solutions. NI is affiliated with the Michigan Manufacturing Technology Centers and annually works with around 100 manufacturers and small businesses supporting them with consultations, training, or technical assistance. It also works on regional sustainability projects that offer small businesses the ability to reach larger markets. Its current examples are the Great Waters, www.greatwaters.net and the Wilds of Michigan, www.wildsofmichigan.com, directed at developing and growing nature and cultural tourism markets.

Community College and Meeting Needs of Business and Industry

NMU serves the community college role 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 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 with schools provide experience with all class-levels in public, private, and charter educational settings. To further the value of these experiences, NMU has extended its wireless signal to student teachers in K–12 schools.



Community Presence Activities

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

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 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

To provide 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 and developed with content experts from within the University and surrounding areas and are designed specifically to assist students in learning about possible career and higher education choices that are available after graduation. 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. A key component of the University's technology portfolio has been the deployment of a carrier-grade WiMAX wireless network that now encompasses a seven-city area surrounding NMU. Serving the communities of Marquette, Marquette Township, Harvey, Sawyer, Gwinn, Ishpeming, Big Bay, and Negaunee, more than 6,300 students use the WiMAX network to manage course related activities and research, including bandwidth intensive applications such as streaming media, video conferencing, and large data file transfers. Through its use of web-based network services and WiMAX, NMU has enabled easier access to K-12 course content and student services, reduced travel costs for administrators and school board members engaging in professional training activities, and provided new methods for remotely monitoring student teachers assigned to area schools.



Community Presence Activities

Public Broadcasting

NMU's public radio and television stations continue with their transition to digital broadcasting. WNMU-FM remains the only 100,000 watt radio station in Upper Michigan to offer digital broadcasting and recently upgraded an older, analog microwave studio to transmitter link that now permits the transmission of multiple program channels. The station also successfully relicensed station operations through the FCC and was able to reach new audiences through restored translator services to the communities of Escanaba and Stephenson. Currently, the station is upgrading its main production facilities to digital and is installing new automation systems that will increase efficiencies and provide greater on-air reliability.

By the end of 2009, WNMU-TV completed its transition to full digital broadcasting, finalizing the installation of a new microwave link, digital transmitter and antenna system, and master control system. In 2011, the station completed its studio conversion project, upgrading control room facilities with HD, digital video, and audio switching. The station currently has embarked on a new project to transfer its main channel to HD broadcasting and replace all studio-to-transmitter links with new microwave services that use IP technology. These changes, when complete will offer higher quality programming to viewers, improve station reliability and offer enhanced capabilities to the University's information technology (IT) systems.

NMU intends to use 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. Digital television and radio broadcasts will also have the capability to support broadband data that will benefit instruction and public safety services alike. WNMU has been designated as the primary emergency alert facility for the Central Upper Peninsula Region and provides 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. Along with its new DTV production capabilities, WNMU-TV and FM are exploring manufacturer certification programs that will provide broadcasting students with 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

Northern Michigan University (NMU) has a significant impact on the economy of the Upper Peninsula (UP). According to an economic study completed in July 2012, the total impact that NMU has on economic activity in the U.P. is in excess of \$311 million. The study indicated that NMU has an impact on more than 4,500 jobs, which represents one of every 33 jobs in the U.P., and one of every six in Marquette County.

Partnerships with Business and Industry

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., L'Anse Manufacturing, Pioneer Surgical Technologies, WE Energies, Louisiana-Pacific Newberry and Rio Tinto.

Internships for NMU students with business, industry, and service providers are critical to quality employment preparations. Among NMU's most well-known internship sponsors are American Express Financial Advisors, General Motors, Hudson's Corporation, Dendreon, Mayo Clinic, Marquette General Health Systems, Marshfield Clinic, Michigan State Police, Michigan DNR, Northwestern Mutual Life, Six Flags Great America, State Farm Insurance, the U.S. Marshall Service, and Wal-Mart. Additionally, internships are also sponsored by major construction firms across the nation such as Whiting-Turner, Mortenson, Michels Corporation, and Power Construction.

Partnership with Marquette General Hospital – Duke LifePoint (MGH)

The School of Clinical Sciences collaborates with MGH for specialized training of our students in the clinical science programs. NMU offers majors in Radiography, Respiratory Therapy, Surgical Technology, Laboratory Sciences, 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 MGH throughout the year.

The School of Nursing will place approximately 150 student nurses in the BSN program and 40 students in the practical nursing program in a variety of clinical settings during the school year, most of whom are placed at MGH for, at least, a portion of their training.

NMU's partnership with MGH helps to meet the need for certified and licensed health professionals in the region and nationally. The U.S. Bureau of Labor Statistics anticipates an increased need for graduates of each of these programs through 2018 due to our aging population.



Economic Impact / Partnerships With Business and Industry

Center for Innovation and Industrial Technologies

Cliffs Natural Resources, Inc.

The School of Technology and Applied Sciences works closely with Cliffs Natural Resources, Inc. (Cliffs) to prepare entry level technical employees for both the Tilden and Empire mining/processing operations. Associate degree programs in Electrical Technology and Industrial Maintenance, along with baccalaureate degree programs in Mechanical Engineering Technology, Industrial Technology, and Electronics 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.

Cliffs is committed to continuing their partnership with Northern Michigan University by leasing additional space within the Jacobetti Complex in order to provide state-of-the-art training for their employees. NMU Continuing Education and Workforce Development facilitates these training events by coordinating the training agenda and often securing training expertise.

Cliffs further relies on NMU to provide on-going factor testing and skill upgrade training for existing workers. This testing and training requires working labs equipped with the industry's highest technology manufacturing and processing components. The company partners closely to assist NMU in acquiring much of the needed lab equipment. This level of cooperation is dependent on, and evidence of, a close working relationship between academics and industry.

American Eagle Airlines (AMR)

An excellent working relationship exists between the NMU Technology and Occupational Sciences Department and the AMR Sawyer Maintenance facility resulting in 30-50% of the students graduating in the NM Aviation Maintenance program being hired by AMR.



Economic Impact / Partnerships With Business and Industry

Regional Organized Labor Unions

Apprentice training for five area trade unions is located in the Jacobetti Complex at NMU. The Local 7 Sheet Metal Workers, Local 8 Iron Workers, Local 1070 Electrical Workers in addition to the Local 506 Plumbers and Pipefitters, have all located their regional training base to the Jacobetti Complex.

The Operating Engineers Local 324, located in Howell, Michigan, has chosen NMU as its regional training center for their annual January session. Thirteen different units of instruction are offered, ranging from asbestos and hazardous material awareness to welding certifications.

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

The NMU student group of the Society for Automotive Engineers partnered with TeamTech Motor Sports to build baja vehicles -which compete in student competitions across the Midwest.

RTI Surgical

A close working relationship continues between NMU and RTI Surgical (formerly Pioneer Surgical Technology), a Marquette-based designer and manufacturer of orthopedic implants. Entry level production employees are prepared in a one-year CNC program offered by NMU in the Jacobetti Complex, along with seminars at the nearby Pioneer facility. Other ongoing cooperative programs between NMU and Pioneer Surgical include undergraduate internships and continuing education seminars for Pioneer employees offered by NMU faculty.

Electrical Line Partnership

A joint venture between Northern Michigan University, The Lake Superior Community Partnership, Michigan Works, 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.



Economic Impact / Partnerships With Business and Industry

Northern Initiatives (NI) and Marquette Food Co-Op

A collaborative initiative between NI, The Marquette Food Co-op, and NMU that involves the production of fruits and vegetables in a controlled environmentally green structure. This project will provide 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 continues to develop and improve upon various local, state and national relationships that provide business professionals, general industry and the public with quality education and training.

Workforce Training

The University provides a variety of non-credit training opportunities and customized training for business and industry. While Cliffs Natural Resources, Michigan Operations continues to be our primary customer, the University works with other regional companies such as American Airlines, WE Energy, Bacco Construction, and Rio Tinto Eagle Mine to assist with their training needs.

Natural Resources

In 2012, to meet the expected future demand in the U.P. Mining Industry, NMU became certified to deliver Mine Safety and Health Administration (MSHA) training for surface mine operations.

NMU provides Cliffs with on-going factor (Craft) testing and skill upgrade training for existing workers. This testing and training requires working labs equipped with the industry's highest technology manufacturing and processing components. The company partners closely to assist NMU in acquiring much of the needed lab equipment and in 2012 provided a current fleet pickup to upgrade the auto mechanic test. This level of cooperation is dependent on, and evidence of, a close working relationship between the University and industry.

Cliffs is committed to continuing their partnership with Northern Michigan University by leasing additional space within the Jacobetti Complex in order to provide state-of-the-art training for their employees. NMU facilitates these training events by often coordinating the training agenda and securing training expertise.

The University is recognized nationally and as a result has a relationship with three mining operations in Wyoming and Colorado operated by Cloud Peak Energy to provide expertise in setting up a hands-on craft testing program similar to the factor testing developed for Cliffs.



Economic Impact / Partnerships With Business and Industry

Professional Education

The University 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 for, 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 CE provides the following:

Educators – The 900-level program offers for-credit 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 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 – Northern Michigan University 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 – Northern Michigan University 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 to over twenty other approved states. These courses are used by appraisers to retain their individual appraiser licenses.

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



Economic Impact / Partnerships With Business and Industry

Personal Enrichment

Northern Center for Lifelong Learning (NCLL) is an organization that 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. Member-directed, self-supporting, and nonprofit, it is affiliated with Northern Michigan University and the Elderhostel Institute Network. With the Elderhostel Institute Network (Road Scholar), NMU provides one of the more than 8,000 learning adventures in all 50 states and more than 90 countries abroad. Road Scholar offers in-depth and behind-the-scenes learning experiences for almost every interest and ability: history, culture, nature, music, outdoor activities such as walking and biking, individual skills, crafts, study cruises. The NMU Road Scholar program focuses on the history of the Great Lakes and Mining in the Upper Peninsula.

Northern Michigan University is one of 14 state sponsored regional training agencies providing motorcycle safety training funded through a grant from the Michigan Department of State. New riders with little or no experience seeking a license endorsement enroll in this course. If successful, riders receive a completion waiver that is good for one year for the riding skills portion of the state motorcycle endorsement test.

Center for Rural Community and Economic Development

The University's portal, where community, industry, or government can go to connect with a question or need that would benefit from expertise or assistance from within the university.

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.



Northern Michigan University

Section III Enrollment and Staffing

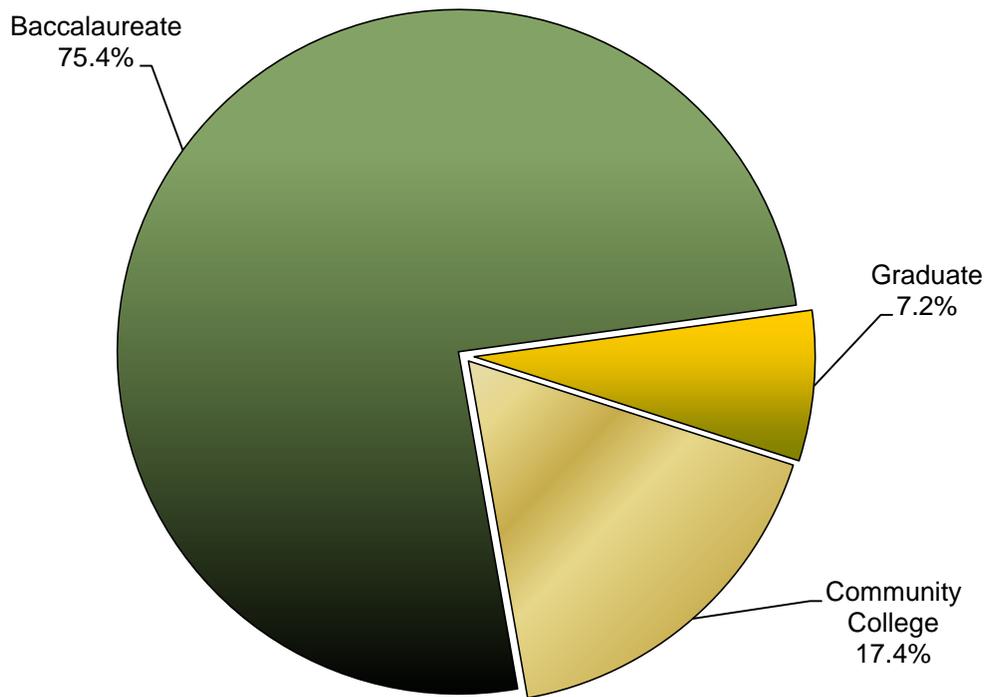
Five-Year Capital Outlay Plan



Enrollment

Headcount

Fall 2013 (n = 8,879 – 10th Day of Class)



Average age

- ▶ Undergraduates: 22.9
- ▶ Graduates: 38.4
- ▶ Overall: 24.0

Other student statistics

- ▶ At least one student from:
 - ▶ 83 of 83 Michigan counties
 - ▶ 49 different states
 - ▶ 33 different countries



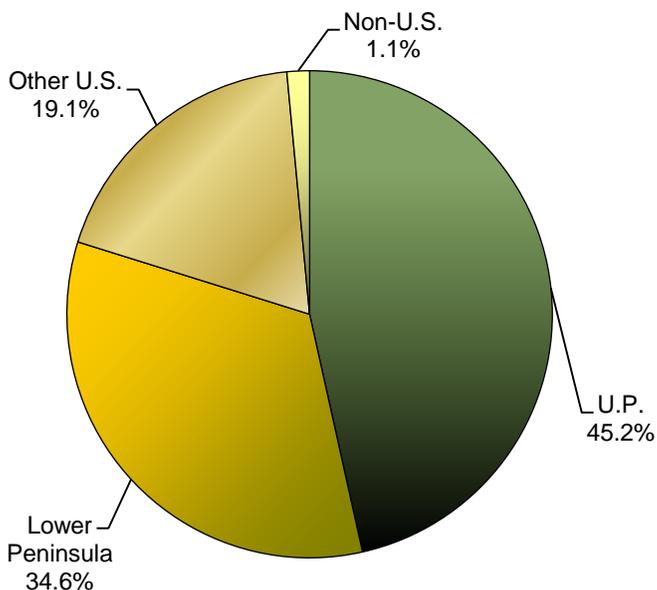
Enrollment

Recruiting Region

Fall 2013 (n = 8,879 – 10th Day of Class)

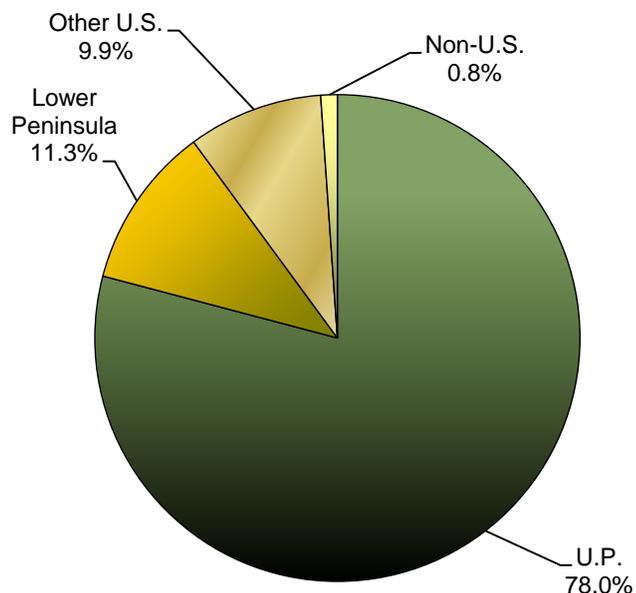
Undergraduate

(n = 8,233)



Graduate

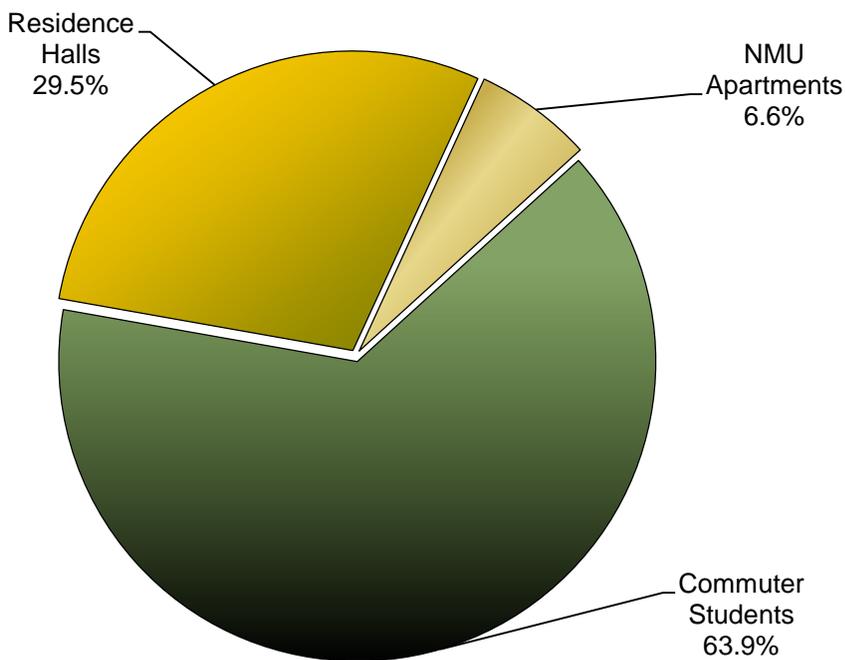
(n = 646)





Enrollment

Where NMU Students Live Fall 2013 (n = 8,879 – 10th Day of Class)

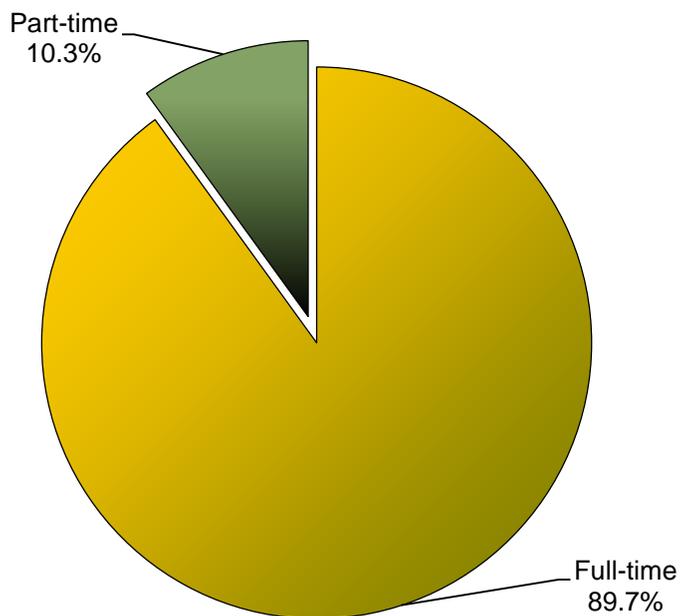




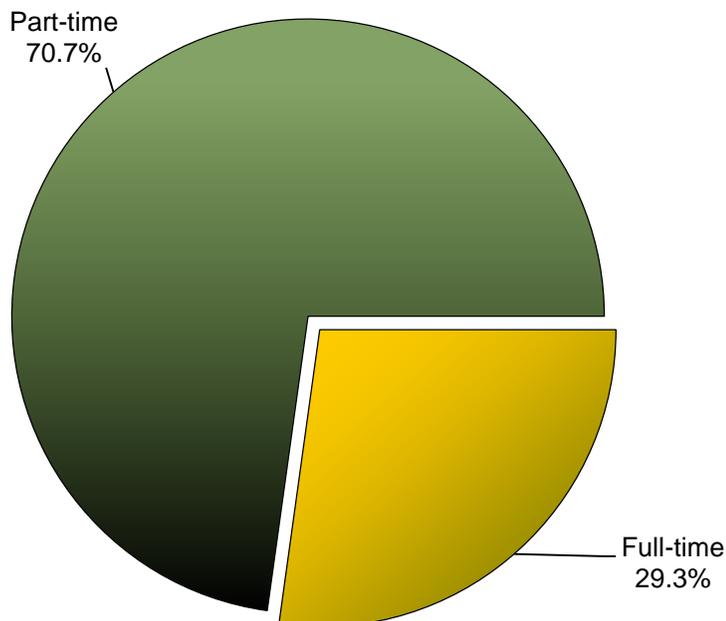
Enrollment

Full-time/Part-time Status Fall 2013 (n = 8,879 – 10th Day of Class)

Undergraduate (n = 8,233)



Graduate (n = 646)



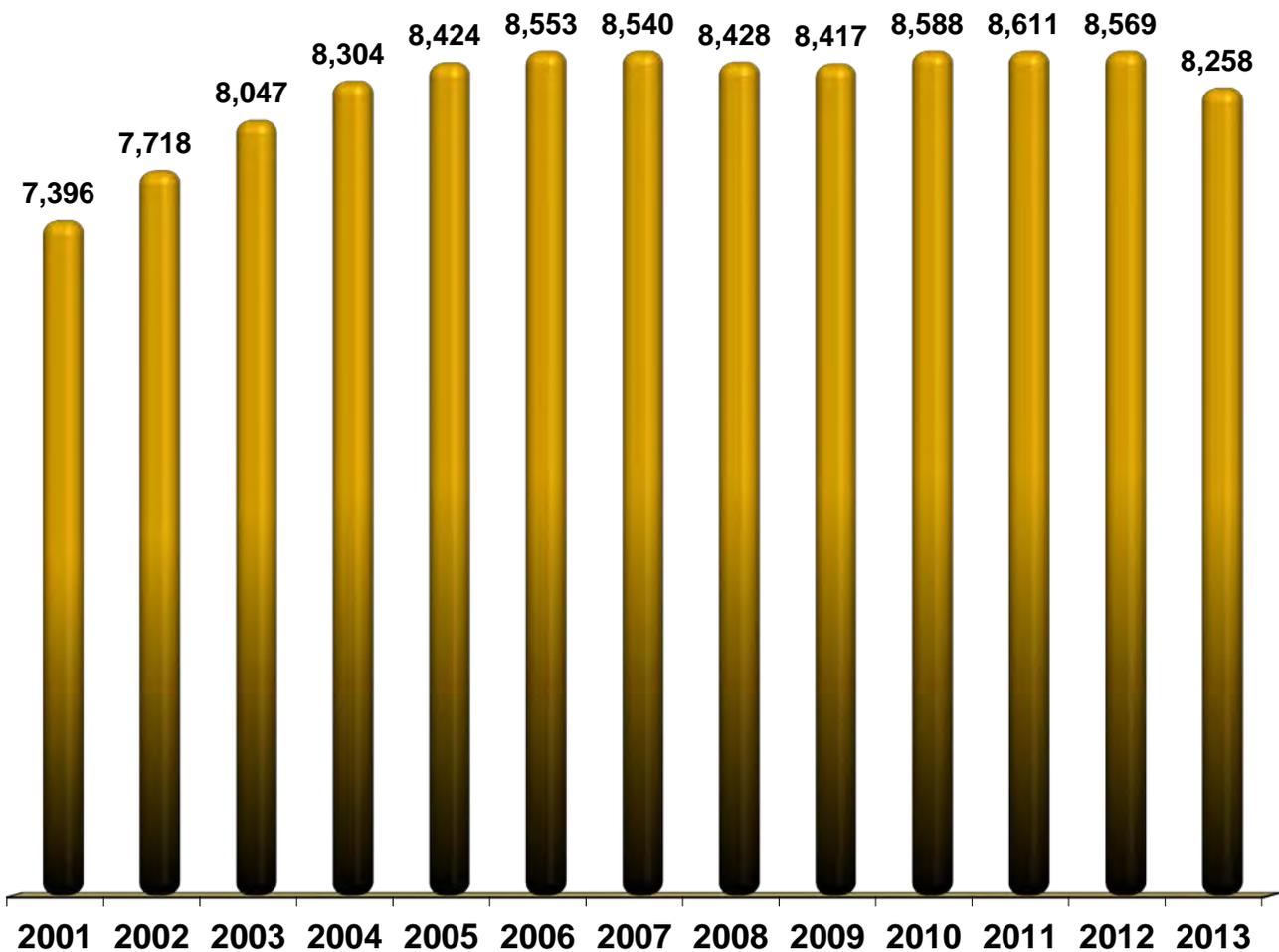


Enrollment

Full Year Equated Student Change

- FYES decreased slightly in FY2013
 - ▲ Overall increase of 15.8% since 2000

NMU FYES

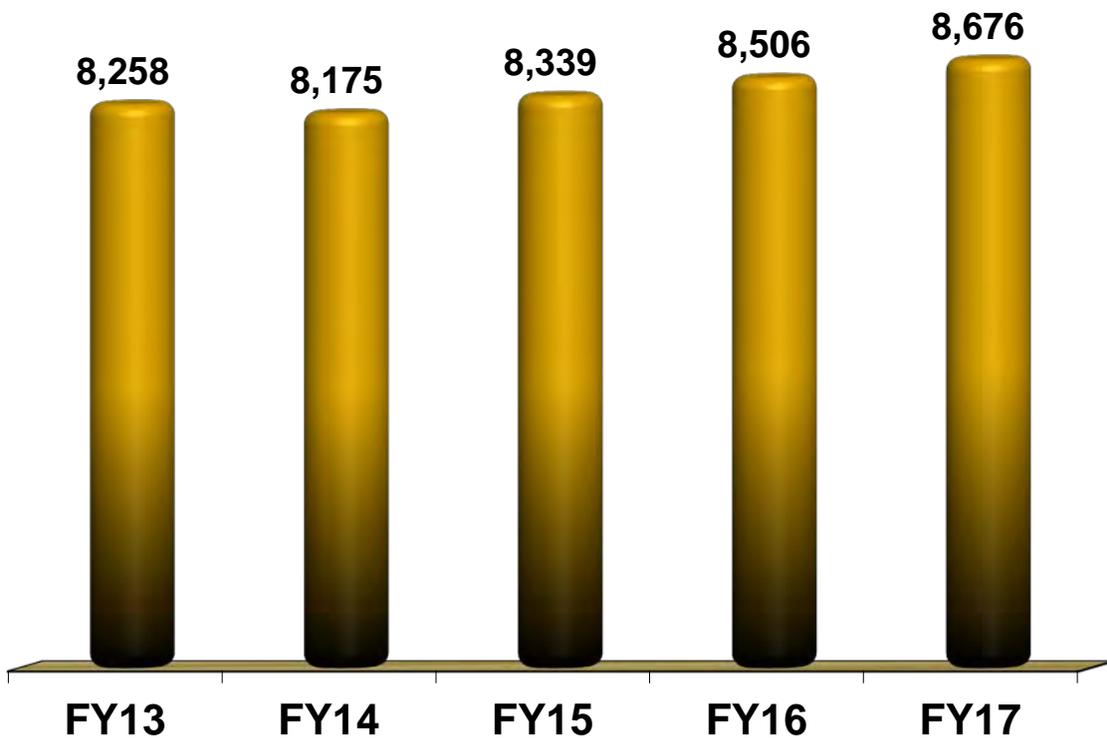




Enrollment

Full Year Equated Student Change (FYES)

5 Year Projection

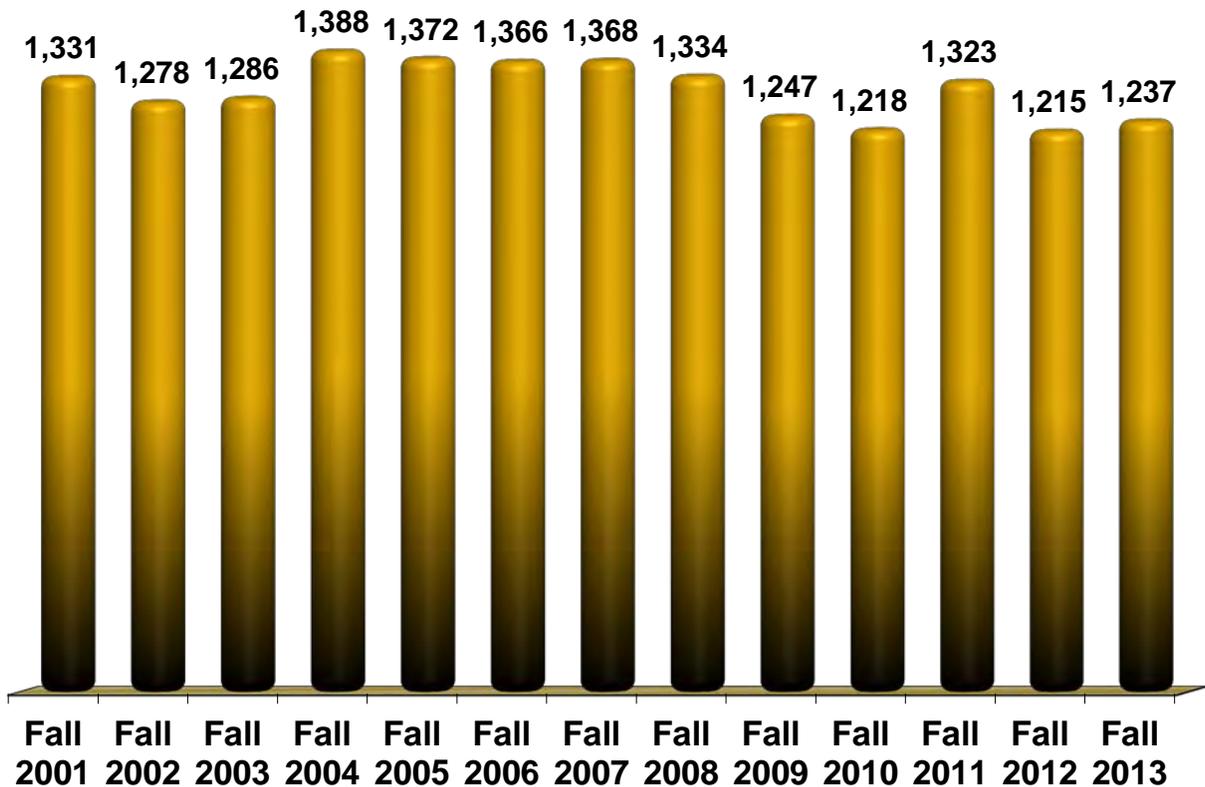




Enrollment

Baccalaureate First-Time, Full-Time New Freshmen

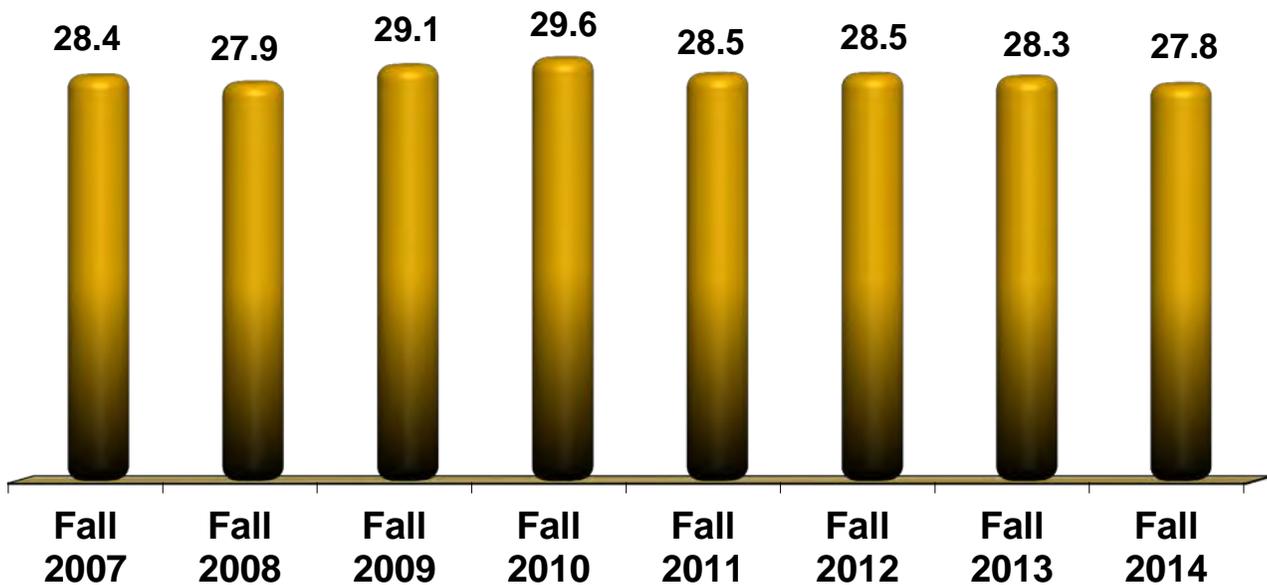
- ▶ Fall 2013 Freshman Class will increase by 2% compared to prior year number
- ▶ Fall 2013 Freshman Class is comparable to the Fall 2009 cohorts





Enrollment

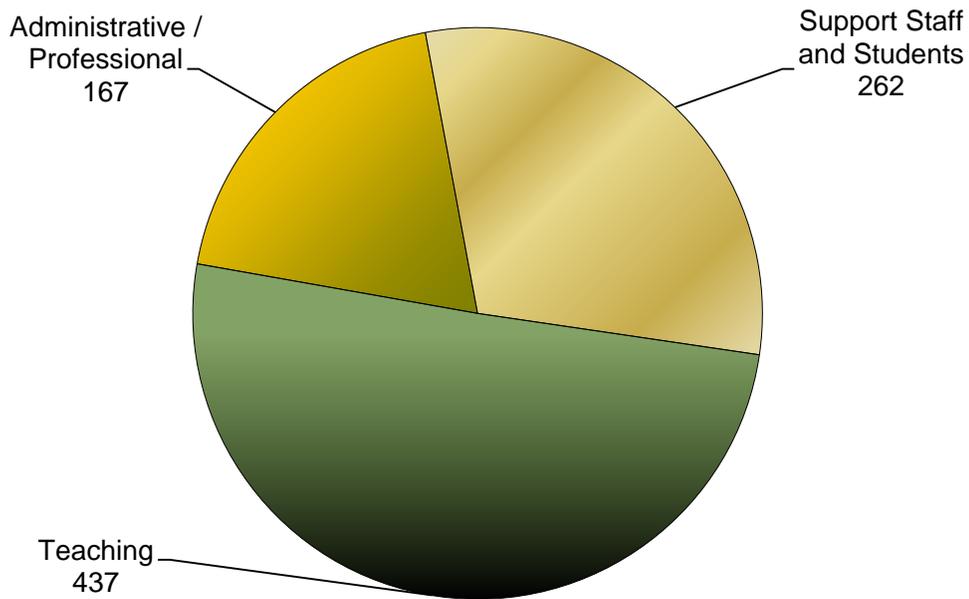
Average Lecture Class Size and Projected Average Class Size





Staffing

2012-2013 Full-Time Equivalent By Employee Category



Staff FTE

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
Teaching (Instructional Staff)	402	408	416	417	423	428	438	440	443	446	449
Administrative/Professional Staff	161	163	167	172	170	172	166	166	166	166	166
Service Staff and Students	277	287	271	267	262	258	262	262	262	262	262

Student (FYES) - to - Staff Ratios

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
Teaching (Instructional Staff)	21.24	20.65	20.25	20.58	20.35	20.02	18.85	18.58	18.82	19.07	19.32
Administrative/Professional Staff	53.03	51.55	50.37	49.98	50.62	49.81	49.75	49.25	50.23	51.24	52.27
Service Staff and Students	30.82	29.37	31.10	32.20	32.85	33.21	31.52	31.20	31.83	32.47	33.11



Northern Michigan University

Section IV Facility Assessment

Five-Year Capital Outlay Plan



Northern Michigan University

Introduction

In 2001, the University contracted to develop a comprehensive Facility Condition Analysis, or benchmark, for the existing condition of all campus buildings and hardscape. These reports identified maintenance needs and associated costs and divided them into categories based on priority, system type, and facility type. Each year, the Facilities Department staff updates these reports to ensure current maintenance needs are identified and projected costs are kept current.

The Facility Condition Analysis reports are used to prioritize, budget, and plan yearly maintenance projects to be completed by both internal departments and external contractors.





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, the University is in the process of enhancing its utility meters to provide reliable data to improve budget development, billing accuracy, and energy saving analysis. In the spring of 2009, an energy consultant was contracted to broadly survey each stateside building. This report provided estimates on construction cost with resultant projected savings and return on investment. Several projects have been implemented, such as the installation of variable frequency drives on fans and feed water pumps at the Ripley Heating Plant, campus-wide steam trap replacement, and WiMAX power reduction in residence halls, along with multiple boiler replacements in campus apartments. The University has applied for energy incentive rebates on several of these projects.

In the spring of 2010, an energy services company was contracted with to conduct an energy audit and conditions assessment of the Jacobetti Complex and the University Center buildings. The two facilities presented a significant opportunity for savings through HVAC and lighting upgrades, water conservation improvements, and installation of a new



NMU and Sustainability

facility management systems to provide optimal control during occupied and unoccupied times. Phase I improvements were completed in fall 2010 and significant energy reduction has been observed. The consultant has been retained to measure and verify the savings each year since completion.

Phase II of this project focused on ten of the highest utility consuming buildings on campus. The energy services company again performed comprehensive energy conservation audits, determined the energy consumption and operational characteristics of the facilities, and identified the facility improvement measures (FIMs), procedures, and other services that could be implemented in order to reduce NMU's energy and other operating costs for the facilities. Construction began in the spring of 2011 and was completed in August 2012. The energy savings, operational savings, and cost avoidance achieved from the improvement measures in both phases are approximately \$600,000 for a return on investment over a period of 12 years or less, using a 5% interest rate. The performance of the FIMs, services, and reduced energy consumption will be guaranteed by the energy services company.

The University has evaluated Phase III and plans to replace the facility management system in the Superior Dome in 2014 as well as perform some lighting replacements within the Superior Dome to capture additional energy savings.

A new biomass fueled cogeneration combined heat and power (CHP) plant was completed in 2013 as part of a campus energy optimization project. The university is moving away from burning fossil fuels with the new plant burning wood chips with natural gas as a backup fuel. The new plant will be capable of meeting 87% of the thermal needs on campus as well as producing approximately 16% of the university's electrical load through the use of a steam turbine generator. Other optimization improvements include the interconnection of the New Science Facility chiller to the Learning Resource Center chilled water system and the replacement of the existing absorption chillers in Cohodas Hall and the Jacobetti Complex with right sized ones that closer meet the load requirements of each building.

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. Data compiled from the university scheduling/utilization reports was evaluated both internally and by an outside consultant. The evaluation illustrated NMU's utilization between 8:00 am and 5:00 pm averaged 22 hours per week which was low compared to the national



NMU and Sustainability

average of 28-32 hours/week. This lower than average utilization rate and the space inventory data from 2008 are now used to evaluate new space requests and identify opportunities to re-purpose underutilized space in lieu of building new.

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 of 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. As further commitment, two NMU staff members have attained the status of LEED Accredited Professional to help guide building design efforts.

Recycling

Since 1992, the university has diverted more than 12,000 tons of material from the landfill through its recycling program. In 2007, this effort was expanded to include used batteries, along with a "single sort" program, to make first-line recycling efforts easier for students, faculty, and staff. Fluorescent lamps, computer components, waste oil, and antifreeze are products that are also recycled by the university. The university's housing operations have instituted an extensive sustainability and recycling program within its residence halls that has been well embraced by students. The battery recycling program has expanded through an agreement with the county landfill that utilizes a hammer-mill to pulverize the household batteries and recycle the material as it is separated.

All building renovation and construction projects require participants to record tonnage of recycled metal, cardboard, and organic building materials. This information is essential to the LEED certification process.

Product Selection/Operational Policies

NMU is examining the products it purchases as part of its sustainability effort. The use of biodegradable "spudware," cutlery manufactured from 80% potato starch and 20% soy oil, drink containers made from corn starch that biodegrade 60 days after use, and recycled paper napkins, plates, and cups have all been implemented in the university's dining halls. Also, a food pulper was



NMU and Sustainability

installed in one of the dining halls to reduce food waste volume. This waste product can be composted and the University has been in discussion with the Marquette County Landfill, which has built a certified composting site to accept the waste product. Dining Services has changed operational policies to going trayless within campus dining halls to help reduce waste. The university also utilizes green cleaning products for most of its applications. In 2010, the NMU Golf Course began using soy biobased products for its operation which include multi-purpose grease, lubricants, coolants and penetrating oils. They are also testing RePLAY, a soy-based asphalt preservation agent on cart paths.

Community Awareness

Sustainability and conservation efforts are a university goal and to improve community awareness, the Facilities Department has produced a Sustainability website displaying recent energy and utility consumption, along with tips to help conserve energy. Additionally, the university has a representative that serves on the City of Marquette's "Sustainable Communities Committee."



Facilities Assessment

◆ NMU Physical Plant Overview

- ▶ 63 Buildings
 - ▼ 3.4 million square feet
- ▶ 685 acres
 - ▼ 359 acres on main campus
 - ▼ 120 acres - Longyear Forest
 - ▼ 206 acres - near Mount Marquette
- ▶ 3.6 miles of roadway
- ▶ 13.95 miles of sidewalk





Facilities Condition Cost Analysis by Priority Class For all State Buildings

<i>Building</i>	<i>Immediate</i>	<i>Year One</i>	<i>Year Two to Five</i>	<i>Year Six to Ten</i>	<i>Total</i>
Ada B. Vielmetti Health Center		\$ 6,084.67	\$ 63,375.07	\$ 88,744.61	\$ 158,204.35
Art And Design North		\$ 127,029	\$ 6,290	\$ 887,344	\$ 1,020,663
Berry Center Link			\$ 3,262	\$ 43,829	\$ 47,091
Bus Garage			\$ 18,801	\$ 3,756	\$ 22,557
Butler Building		\$ 18,271	\$ 43,248		\$ 61,518
Dome / PEIF Link			\$ 258	\$ 20,187	\$ 20,444
Events Center	\$ 175,758		\$ 17,328	\$ 530,502	\$ 723,588
Forest Roberts Theatre		\$ 758,404	\$ 753,889	\$ 592,416	\$ 2,104,709
Glenn T. Seaborg Science Complex	\$ 3,270	\$ 47,304	\$ 90,912	\$ 1,012,241	\$ 1,153,727
Harry D. Lee Hall	\$ 138,970	\$ 336,528	\$ 4,601,961	\$ 206,930	\$ 5,284,389
CB Hedgcock			\$ 72,961	\$ 511,195	\$ 584,156
Jacobetti Center		\$ 786,692	\$ 276,767	\$ 3,270,978	\$ 4,334,438
Jacobetti Storage		\$ 22,560	\$ 4,501	\$ 59,629	\$ 86,690
John X. Jamrich Hall	\$ 39,411	\$ 562,944	\$ 7,351,191	\$ 3,152,925	\$ 11,106,472
Kaye House (President's House)			\$ 41,030	\$ 41,852	\$ 82,882
Learning Resource Center	\$ 117,658	\$ 1,152,115	\$ 11,367,495	\$ 2,811,622	\$ 15,448,890
LRC/West Science Link		\$ 12,050	\$ 8,263	\$ 22,490	\$ 42,802
Luther S. West Science Building				\$ 1,206,613	\$ 1,206,613
McClintock Building		\$ 406,047	\$ 549,583	\$ 505,164	\$ 1,460,794
Physical Education Instruction Facility		\$ 2,137,056	\$ 2,207,319	\$ 1,713,768	\$ 6,058,143
Ripley Heating Plant		\$ 4,155	\$ 42,088	\$ 38,005	\$ 84,249
Sam M. Cohodas Hall	\$ 11,206	\$ 54,439	\$ 3,168,567	\$ 4,284,698	\$ 7,518,909
Services Building			\$ 126,168	\$ 263,492	\$ 389,660
Superior Dome			\$ 1,645,948	\$ 1,689,570	\$ 3,335,517
Thomas Fine Arts				\$ 32,845	\$ 32,845
UC/Gries Hall		\$ 22,763		\$ 83,309	\$ 106,072
Walter F. Gries Hall		\$ 41,764	\$ 343,504	\$ 696,525	\$ 1,081,792
Campus Security			\$ 458,895		\$ 458,895
Hardscape			\$ 170,469	\$ 1,098,228	\$ 1,268,697
Utility Infrastructure	\$ 210,128	\$ 110,442	\$ 24,132,296	\$ 381,692	\$ 24,834,558
	\$ 696,401	\$ 6,512,225	\$ 57,566,371	\$ 25,250,548	\$ 90,119,966



Facilities Condition Cost Analysis by Priority Class For all Auxiliary Buildings

<i>Building</i>	<i>Immediate</i>	<i>Year One</i>	<i>Year Two to Five</i>	<i>Year Six to Ten</i>	<i>Total</i>
Center Street Apartments	\$61,056	\$490,034	\$5,253,279	\$678,963	\$6,483,332
Charles C. Spooner Residence Hall	\$67,281		\$5,945,671	\$336,104	\$6,349,056
Don H. Bottum University Center	\$151,816	\$78,306	\$13,688,823	\$2,443,174	\$16,362,119
Gant Hall	\$31,851		\$5,518,757	\$1,527,976	\$7,078,584
Halverson Hall	\$177,856		\$5,043,732	\$1,537,972	\$6,759,560
Lincoln Street Apartments	\$126,708	\$443,200	\$4,867,765	\$1,314,070	\$6,751,743
Lucian F. Hunt Residence Hall			\$218,883		\$218,883
Magers Hall		\$7,974		\$269,597	\$277,571
Maude L. Van Antwerp Residence Hall			\$8,988	\$226,393	\$235,381
Norwood Street Apartments	\$55,127	\$875,000	\$3,855,653	\$132,365	\$4,918,145
Payne Hall	\$188,001		\$5,048,215	\$1,536,068	\$6,772,284
Quad 1 Service	\$13,318		\$224,143	\$157,974	\$395,435
Quad 2	\$86,360	\$834,792	\$3,693,107	\$559,736	\$5,173,995
Spalding Hall	\$75,177		\$5,219,546	\$1,533,716	\$6,828,439
Summit Street Apartments			\$8,570,325		\$8,570,325
Wilbur D. West Residence Hall	\$32,559		\$7,221,617	\$444,211	\$7,698,387
Wilkinson House			\$254,249		\$254,249
	\$1,067,109	\$2,729,307	\$74,632,752	\$12,698,319	\$91,127,487

Facility Assessment Summary

Building Number	Building	2012-2013 Replacement Cost	Year Constructed	Construction Type	Gross Square Footage	Net Square Footage	Use Code	Standards	Accessibility	Electrical	Exterior	Fire	Health	HVAC	Interior	Plumbing	Security	Site	Maintenance Project Total	
2	Sam M. Cohodas Hall	13,263,242	1975	FR	105,009	92,376	AD	1	\$353,770	\$148,124	\$1,693,918	\$501,594		\$3,956,062	\$849,964			\$15,477	\$7,518,909	
6	Storage Building	47,429	1998	ST	3,760	3,760	ST	1												
7	Harry D. Lee Hall	7,543,816	1949	M	42,507	36,395	AD	1	\$942,843	\$669,571	\$457,799	\$401,921		\$1,173,471	\$930,719	\$692,432		\$15,633	\$5,284,389	
9	C.B. Hedgcock	12,240,984	1958	M	116,745	99,210	AD	1			\$72,962				\$511,194				\$584,156	
10	Forest A. Roberts Theatre	3,359,249	1964	FR	30,704	22,510	TH	1	\$91,713	\$456,808	\$385,684	\$301,597		\$717,720	\$96,958	\$38,707		\$15,522	\$2,104,709	
11	R. Thomas Fine Arts Building	12,839,513	1964	FR	90,087	64,217	CH	1			\$32,845	\$0							\$32,845	
12	W. B. McClintock Industrial Arts Building	6,149,215	1964	M	33,575	32,382	CH	1	\$46,693	\$95,805	\$53,508	\$310,242		\$549,583	\$344,581	\$39,570		\$20,812	\$1,460,794	
13	L.S. West Science Building	20,206,120	1966	FR	159,319	138,241	CL	1,4						\$25,350	\$1,114,355	\$66,908			\$1,206,613	
	LRC/West Science Link	94,007	1996	NC	6,784	5,376	BC	1	\$9,342			\$12,050			\$21,410				\$42,802	
14	E.L. Harden Learning Resource Center	25,512,053	1969	FR	198,781	175,246	CL, LB, SU	1	\$99,681	\$2,095,456	\$1,052,606	\$1,615,465		\$4,988,894	\$2,186,921	\$3,405,347		\$4,520	\$15,448,890	
15	John X. Jamrich Hall	10,127,604	1969	FR	98,936	88,485	CH	1	\$202,695	\$2,114,430	\$1,050,446	\$544,640		\$3,402,254	\$1,452,726	\$2,309,622		\$29,658	\$11,106,471	
	Jamrich/West Science Link	58,755	2001	NC	2,760	2,330	BC	1												
17	Vielmetti Health Center	-	1961	FR	7,838	7,038	AD	1	\$56,207	\$0		\$12,803			\$85,756			\$3,438	\$158,204	
18	Phys. Ed. Instruction Facility	18,027,498	1976	FR	179,627	161,298	CG	1	\$65,981	\$999,838	\$723,773	\$105,138	\$10,565	\$357,694	\$1,311,294	\$2,483,860			\$6,058,143	
48	Whitman Hall	3,698,479			35,900	31,000	CH, AD	1												
58	Hedgcock/TFA Link	218,199	2004		3,145	2,977	BC	1												
90	Woodland Park Apartments	12,465,033	2006		105,000	94,757	RS	1												
19	D. J. Jacobetti Vocational Skill Center	24,333,893	1980	FR	209,179	193,817	CL	1	\$524,589	\$0	\$647,099	\$739,137		\$1,025,151	\$1,034,432	\$225,976		\$138,053	\$4,334,437	
20	Berry Events Center	11,985,860	1999	FR	133,060	75,740	CG	1			\$17,328	\$651		\$416,025	\$289,584				\$723,588	
	PEIF/Berry Events Center Link	94,007	1999	NC	10,092	8,936	BC	1	\$3,262						\$43,829				\$47,091	
21	Superior Dome	28,761,299	1991	F	251,436	213,296	CG	1	\$30,099	\$1,512,398	\$220,219			\$129,121	\$1,344,143	\$95,987		\$3,550	\$3,335,517	
	Dome/PEIF Link	58,755	1991	NC	2,760	2,466	BC	1	\$257	\$11,940	\$2,557			\$5,690					\$20,444	
22	New Science Facility	25,962,078	2000	FR	124,600	109,538	CL, CH	1,3			\$84,970	\$47,304			\$1,012,241			\$9,212	\$1,153,727	
23	Jacobetti Storage	118,599	1988	ST	6,075	5,820	ST	1	\$948		\$12,224	\$22,560			\$25,740			\$25,218	\$86,690	
25	M.K. Magers Residence Hall	8,509,775	1966	FR	62,579	50,794	AD	1	\$7,974		\$50,714				\$218,883				\$277,571	
40	Art & Design North	19,227,465	1996	FR	101,428	83,550	CL	1	\$16,929	\$67,554	\$422,346	\$59,998		\$136,665	\$291,826	\$11,754		\$13,591	\$1,020,663	
42	Ripley Heating Plant	13,703,341	1965 / 2013	FR	35,190	27,634	PP	1		\$8,885	\$54,115			\$10,156		\$11,093			\$84,249	
43	Butler Building	172,950	1950	FR	6,380	6,411	ST	1		\$9,565	\$1,878	\$50,075							\$61,518	
46	Services Building	11,234,347	1996	M	94,028	91,225	PP	1		\$41,271	\$29,809				\$310,274	\$8,306			\$389,660	
47	Bus Garage - 1901 Enterprise	73,392		ST	2,480	2,437	ST	1			\$3,757			\$12,913	\$4,500	\$1,387			\$22,557	
51	C.C. Spooner Hall	4,697,350	1957	FR	55,136	38,637	RS	1	\$1,657,617	\$832,989	\$113,828	\$67,281		\$1,520,234	\$496,549	\$1,591,709	\$24,927	\$43,922	\$6,349,056	
52	Kaye House-Official Residence	627,388	1980	FR	8,173	6,599	RS	1	\$0	\$50,219				\$1,259	\$31,402				\$82,880	
	Summit Street Apartments	6,325,874	1958	M	55,363	41,452	RS	1		\$683,944	\$119,318			\$1,011,029	\$3,431,408	\$2,799,298	\$525,328		\$8,570,325	
62	W.D. West Residence Hall	3,560,068	1960	FR	58,048	49,594	RS	1	\$1,856,519	\$928,268	\$356,316	\$32,558		\$1,604,111	\$977,072	\$1,860,450	\$31,615	\$51,478	\$7,698,387	
63	Don H. Bottum University Center	20,390,456	1996	NC	148,686	133,362	AD, SU, FS	1	\$485,655	\$2,250,468	\$2,058,681	\$230,122	\$442,575	\$4,496,230	\$3,773,697	\$2,607,421		\$17,270	\$16,362,119	
64	W.F. Gries Hall	10,017,532	1961	FR	58,226	48,564	AD	1,2	\$202,565		\$149,071	\$45,229		\$20,455	\$619,440	\$742		\$44,290	\$1,081,792	
	UC/Gries Link	94,007	1995	NC	3,049	2,740	BC	1	\$31,414		\$21,890	\$22,763			\$30,005				\$106,072	
65	L.O. Gant Residence Hall	5,019,026	1964	FR	55,929	48,078	RS	1	\$1,903,508	\$924,948	\$284,118	\$21,706		\$1,471,459	\$808,597	\$1,594,869	\$35,871	\$33,508	\$7,078,584	
66	G.A. Spalding Residence Hall	5,019,026	1964	FR	55,949	48,204	RS	1	\$1,501,123	\$925,253	\$454,215	\$75,177		\$1,472,009	\$736,088	\$1,595,195	\$35,871	\$33,508	\$6,828,439	
67	Quad I Common Area	11,574,696	1964	FR	74,727	72,473	FS	1	\$108,490	\$115,654	\$157,974	\$13,317							\$395,435	
68	L. Payne Residence Hall	4,911,408	1965	FR	55,929	48,161	RS	1	\$1,511,268	\$924,948	\$288,849	\$177,856		\$1,471,459	\$736,088	\$1,594,869	\$33,439	\$33,508	\$6,772,284	
69	L.H. Halverson Residence Hall	4,911,408	1965	FR	55,949	48,049	RS	1	\$1,501,122	\$925,253	\$293,947	\$177,856		\$1,472,009	\$724,798	\$1,595,195	\$35,871	\$33,509	\$6,759,560	
70	G.C. Meyland Residence Hall	8,577,151	1966	FR	63,697	58,849	RS	1												
72	Quad II Common Area	6,657,960	1966	FR	80,947	70,156	RS	1	\$125,016	\$726,151	\$324,987	\$463,494		\$2,680,614	\$809,014	\$44,719			\$5,173,995	
73	L.F. Hunt Residence Hall	8,766,698	1967 / 2008	FR	63,555	50,349	RS	1							\$218,883				\$218,883	
74	M.L. Vanantwerp Residence Hall	8,766,698	1967 / 2007	FR	63,628	53,481	RS	1	\$8,988						\$226,393				\$235,381	
75	Center Street Apartments	3,501,339	1967	M	39,194	30,488	RS	1	\$732,757	\$1,209,865	\$646,361	\$517,878		\$957,655	\$991,754	\$1,359,908	\$43,775	\$23,379	\$6,483,332	
77	Norwood Street Apartments	3,387,892	1967	M	35,134	33,324	RS	1	\$650,946	\$929,305	\$341,273	\$404,702		\$816,432	\$661,506	\$1,070,206	\$43,775		\$4,918,145	
82A	Lincoln Street Apartments	8,543,471	1980	F	84,336	65,122	RS	1	\$2,019,701	\$1,226,423	\$11,919	\$534,571		\$396,803	\$886,677	\$1,542,168	\$0	\$133,481	\$6,751,743	
90	Microwave Link (Stl) Morgan Mead	129,087	1972	FR	1,000	1,000	PP	1												
91	Microwave Link (Stl)-Palmer	6,390		M	-	-	PP	1												
92	Transmitter Site-Ely Township	2,301,018	1972	FR	1,997		PP	1												
93	1500 Wilkinson Avenue	117,637	1952	F	4,623	2,742	RS	1	\$109,292	\$58,608	\$26,332				\$15,584	\$8,256		\$36,177	\$254,249	
	1422 Presque Isle	759,710	1972		6,000	4,256	RS	1												
	1716 Presque Isle Building	211,515	1960	FR	6,300	6,300	RS	1												
	1716 Schaffer	-	1940	FR	700	664	RS	1												
	300 Waldo	130,714	1909 / 2003	FR	1,648	1,648	RS	1												
	2075 Sugarloaf	101,842		FR	2,575	2,575	RS	1												
	1804 Tracy Avenue	-	1954	FR	2,230	2,230	RS	1												
	Dome Storgae	100,154	1998		2,800	2,592	ST	1												
	Salt Barn	58,755	1996	F	4,456	4,115	ST	1												\$0
31	1020 Wright Street - Industrial Piping	424,521			3,466	5,341	AD	1												
32	1020 Wright Street - Fab Shop	135,763			4,000	4,000	ST	1												
33	1020 Wright Street - Storage	62,318			3,200	3,200	ST	1												
34	1020 Wright Street - Storage	56,476			3,200	2,900	ST	1												
35	1020 Wright Street - Storage	28,043			1,442	1,707	ST	1												
41	Dow Storage	100,154	2002		1,728	1,728	ST	1												
	Hardscape								\$14,591											
	Campus Security															\$44,062		\$1,210,044	\$1,268,697	
	Utility Infrastructure										\$285,548			\$206,585		\$24,342,425	\$458,895		\$24,834,558	
									\$16,873,555	\$20,943,941	\$13,005,184	\$7,509,685	\$453,140	\$36,505,092	\$29,656,285	\$53,042,441	\$1,269,367	\$1,988,758	\$181,247,448	

Deferred Maintenance total has been updated based on project completed in 2012 and remaining projects adjusted by 2.4% for inflation.

Use Code:

- 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
- CS Campus Security

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

Long-Term Maintenance

Since September 2012, Northern has completed \$5.5 million of long-term maintenance for state buildings, auxiliary buildings, utility infrastructure, security, and hardscape. Examples of some of this past year's projects include, but are not limited to, the following:

- *Apartment Renovations 2013*
- *Door Access and Security System Replacement in Thirteen Buildings*
- *Existing Heating Plant Upgrades*
- *Jacobetti Complex Chiller Replacement*
- *Jacobetti Complex Auto Lab and Main Corridor Painting*
- *Kaye House Renovations*
- *Lincoln Avenue Apartment Boiler Replacement 2013*
- *Magers, Meyland, Spooner Hall Generators*
- *Mechanical System Condition Analysis Repairs-13 buildings*
- *New Science Data Room Relocation*
- *Physical Education Instructional Facility (PEIF) Pool Filtration System and Main Condensate Receiver Replacement*
- *PEIF Roof Replacement*
- *Quad I Marketplace Loading Dock Addition*
- *Summit Street Water Line Replacement Project*
- *West Science Lecture Hall Seating Reconditioning*

When buildings are renovated, long term maintenance projects are incorporated whenever possible. This fiscal year, general fund monies totaling \$1,709,500 have been allocated to address long term maintenance items.

Space Utilization Initiatives

NMU's room scheduling/utilization software by CollegeNet (R25) has been utilized since the fall 2007 semester for majority of all class scheduling. This tool allows the university to optimize course scheduling and evaluate/improve both room and building utilization.

To help direct the utilization of space on campus, the university has established a Space Utilization Committee. This committee helps identify space deficiencies, provide the administration with space utilization information, and develop recommendations to effectively manage campus facilities. During the fall of 2009, the committee recommended the adoption of priority and consolidation scheduling.



Facility Assessment

Space Utilization Initiatives (continued)

This effort requires close coordination between the Registrar's office and the Facilities Department to concentrate evening and weekend courses to select buildings or select areas within buildings allowing heating, cooling, and lighting systems to be turned off or down reducing energy/operational costs. NMU successfully implemented this scheduling practice during the Winter 2010 semester and each subsequent semester with positive results.

As part of the Jamrich Hall Replacement Project, NMU reviewed classroom and seat utilization for all campus classroom. The results showed approximately 77% of course offerings had an enrollment of 40 or less; while only 28% of the classroom stock had a matching capacity. This indicated that, despite good classroom utilization of 70% (average) for General Use Classrooms between 10:00 a.m. and 3:00 p.m., room capacity was not being maximized. As a result of the evaluation, the new Jamrich Hall will be constructed with fewer large lecture halls and more smaller 30 and 40 seat classrooms which is more appropriately aligned with the current classroom demand. This will help facilitate a reduction of total on-campus square footage and increase space efficiency.



Facility Assessment

Space Report

Space Utilization reports for general use facilities have been developed; however, these reports reflect formally scheduled classes only. Events such as open lab hours are not reflected in the current reports, reducing the reported classroom utilization rates.

Below is a summary of *General Use Classroom Utilization* by building for fall 2013 (Monday/Friday - 10:00am – 3:00pm)

Building	# of Classrooms	Average Room Utilization %	Average Seat Utilization %
Edgar L. Harden Learning Resources	2	65	77
John X. Jamrich Hall	32	68	57
Luther S. West Science Building	14	77	61
New Science Facility	4	76	65
Russell Thomas Fine Arts	6	70	59
Walter F. Gries Hall	3	68	67
Wayne B. McClintock Building	6	58	47
Whitman Hall	2	86	58

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

Space Distribution

To help develop many of the building initiatives outlined in the Campus Master Plan, the University classified all of its existing space and then compared the spatial distributions with similar institutions to identify opportunities for expansion or the repurposing of existing space to improve space utilization. This benchmarking of existing space, and comparing it with peer institutions, identified space deficiencies: study/library space and general use/student union space. This data supports the need voiced by students and staff, and reaffirms many of the future building opportunities identified in the Campus Master Plan and those identified in Section V of this plan.



Assessment of Campus Utilities System

Water

NMU has 79,247 linear feet of water lines on campus and tries to update aging water mains during new construction, as permitted. Since 1996, 4,718 feet of water main has been replaced or installed in conjunction with various projects. Also, NMU, in cooperation with the City of Marquette, installed seven master water meters around the university to simplify and ease the reading required for university usage. In addition to these meters, the university calibrates and maintains all building meters and compares the readings to the master meters to verify the City's billing statements and help detect water loss. During the summer of 2012, 800' of new 10" water main was installed to serve both the Jamrich Hall Replacement Project and the Learning Resource Center.

Steam

In 1996, NMU completed a major update to its aging main steam distribution system. A total of 27,078 linear feet of un-insulated line was replaced with 13,236 feet of new insulated steam and condensate lines, servicing all major academic buildings on campus. In addition, during the 2000 fiscal year, approximately 500 feet of new line was installed to service the campus apartments on the east portion of campus. NMU installed 875 feet of new steam line servicing the Quad I and 175 feet servicing West Hall during the 2002-2003 fiscal year.

Recent upgrades to the Ripley Heating Plant include the replacement of one 30,000 lbs/hr and one 70,000 lbs/hr boiler with two new 70,000 lbs/hr units. These boilers were operational fall of 2006.

On August 1, 2013, a new combined heat and power plant was completed and fully operational. The wood fired boiler produces steam to supply existing campus heating, cooling, and domestic hot water loads and to produce electricity via a new steam turbine generator. Also, approximately 240 feet of new steam and condensate lines were installed to serve the new Jamrich Hall.





Assessment of Campus Utilities System

Electric

During 2003, the university installed approximately 61,000 feet of high voltage cable to update the primary conductors, replaced three oil-filled loop switches, and all existing 15KV switchgear had new fault indicators and fuses installed.

In 2006, the university replaced the original 40 year old electric switchgear in the Ripley Heating Plant that serves the majority of buildings on campus. The change has increased system reliability, provided capacity to split the campus electrical distribution loops to meet future expansions, and provided better coordination with utility protection.

In 2012, the underground high voltage cables were replaced from the Quad I central area to each of its four attached residence halls.

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.

Phone

Existing campus phone lines (19,629 feet) were installed in 1985 by ATT Technologies. The buried lines are fiber optic and 24 gauge copper twisted pair. The current plant system is considered to be in very good condition with existing infrastructure for a fiber optic ring to provide a redundant path between the main server rooms on campus.

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.



Assessment of Campus Utilities System

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 2004 construction season, a section of aging sewer pipe and three new sanitary manholes serving the new Student Services Center, the newly renovated Thomas Fine Arts building, and the new Art and Design addition were replaced/installed to help alleviate an existing maintenance problem of an aging line, and to allow access to an inaccessible section of pipe. During the summer of 2013, point repairs were made along 400' of 6" sanitary sewer to correct root infiltration by the Center Street apartments. Also, in the same location approximately 115 feet of 6" sewer was slipped lined from 1220 Center Street apartments to the City of Marquette sewer system.

<i>Utility System</i>	<i>Need Year</i>	<i>Estimated Cost</i>
Water System	4	\$ 188,320
Steam Distribution	3	\$ 2,509,760
Storm Drain Mains	5	\$ 72,380
Sanitary Sewer Mains	2	\$ 188,320
Utility System Total		\$ 2,958,780



Assessment of Campus Infrastructure

Roadways (3.6 miles)

Improvements:

In 2012, a number of road improvements were undertaken by the university. Fair Avenue from Eighth Street to Seventh Street was reconstructed and all damaged curb along Seventh Street was replaced. In addition, damaged asphalt along the curb of Tracy Avenue from Seventh Street to Lot 28 was removed and replaced to eliminate cracking.

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 ten 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.



Assessment of Campus Infrastructure

Parking (6,875+ spaces total)

Improvements:

Current parking lot conditions vary on campus and construction type range from paved parking with curb and gutter to unimproved gravel lots. During the 2004 construction season, Lots 28 and 62 were re-constructed to serve the newly renovated Hedgcock Building, Learning Resources Center, and the Fine Arts complex. These two parking lots have been dedicated to faculty and staff to reduce vehicle turnover and help eliminate vehicular and pedestrian conflicts in the core of campus. During the summer of 2012, parking Lot 52 was milled and resurfaced with a new 1 ½" wear course. Asphalt repairs were also made in Lot 8, 12 and 50 and, as a preventive measure, crack sealing was performed in Lot 8, 13, 17, 22 and 58.

During the fall of 2012, parking lot 29 was constructed in association with the Jamrich Hall Replacement project to replace the space displaced with the new building.

During the fall of 2013, the Kaye House asphalt driveway/parking area was removed and resurfaced; approximately 4,000 square feet.

Conditions:

Because of the northern proximity of the university, significant amounts of snowfall occur on campus each year. As a result of the harsh winter climate, the campus hardscape structures endure more severe exposure and subsequent deterioration and damage as a result of the operation of snow clearing equipment. The streets and sidewalks are cleared of snow and ice before classes begin each morning. With the average annual snowfall generally being above 150 inches, the clearing of snow from sidewalks and streets are a top priority of the campus operations staff. In 2011, the university maintenance staff evaluated all campus parking lots using the State of Michigan Phaser system to prioritize parking lot repairs. Based on this survey, a long term repair schedule with cost estimates as been developed for parking lot rehabilitation.

Lot #12 (Cohodas) is in the worst condition, followed by Lot #14 (Tracy Avenue).



Assessment of Campus Infrastructure

Sidewalk

There is 13.95 miles of sidewalk on campus. All new sidewalks are reinforced concrete, and designed 10 feet wide to accommodate service vehicles and snow removal traffic. In 2010, 1,370' of 10-foot wide sidewalk between Lot 11 and 36 and between West Hall and the University Center was replaced. 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. During the summer of 2013, approximately 600 square feet of sidewalk was replaced near Lee Hall.



Assessment of Campus Infrastructure

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

Network

Over the next six to ten years, as new buildings are added, existing buildings are remodeled, or if there is a need for increased networking performance, data, fiber strands, wiring cable, and wireless access points will be replaced. The majority of the campus currently has 4 single-mode fiber strands and 12-60 multi-mode fiber strands connecting each building, depending on its data requirements. In turn, each individual building is wired internally with Cat 5, Cat 5e, or Cat 6 cable, depending on when the cable was installed; and each individual building also has 802.11 abgn wireless access points 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, data wiring cable will be Cat 6 or better quality, and wireless access points will be 802.11abgn.

In addition to the 802.11abgn wireless access points, 802.16e Mobile WiMAX base stations will be added, as needed, to ensure adequate outdoor and mobile access to the NMU network throughout the campus, the surrounding City of Marquette, and cities surrounding Marquette where students, faculty, and staff live. WiMAX network coverage will also be expanded to meet the needs of the university community that live outside the City of Marquette within the NMU WiMAX GSA (Geographic Service Areas), a 35 mile radius of the city.



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:

<i>Fiscal Year</i>	<i>Principal</i>	<i>Interest</i>	<i>Total</i>
2014	4,255,000	4,749,869	9,004,869
2015	4,515,000	4,576,531	9,091,531
2016	4,600,000	4,389,556	8,989,556
2017	4,830,000	4,172,706	9,002,706
2018	4,440,000	3,928,956	8,368,956
Total Five Years	\$22,640,000	\$21,817,618	\$44,457,618
Thereafter			
2019-2023	24,570,000	16,151,475	40,721,475
2024-2028	24,165,000	10,543,013	34,708,013
2029-2033	21,810,000	4,960,931	26,770,931
2034-2038	9,600,000	1,036,753	10,636,753
2039	595,000	14,875	609,875
Total	\$103,380,000	\$54,524,665	\$157,904,665
Less: Deferred amount refunding, net	(3,768,043)		
Less: Unamortized re-offering premium	2,700,866		
Total	<u>\$102,312,823</u>		

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

Heating Plant Addition/Services Building

- 100% obligated Expires 35 years from February 1, 1997 unless earlier terminated

Fine and Practical Arts Project – Art and Design North 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

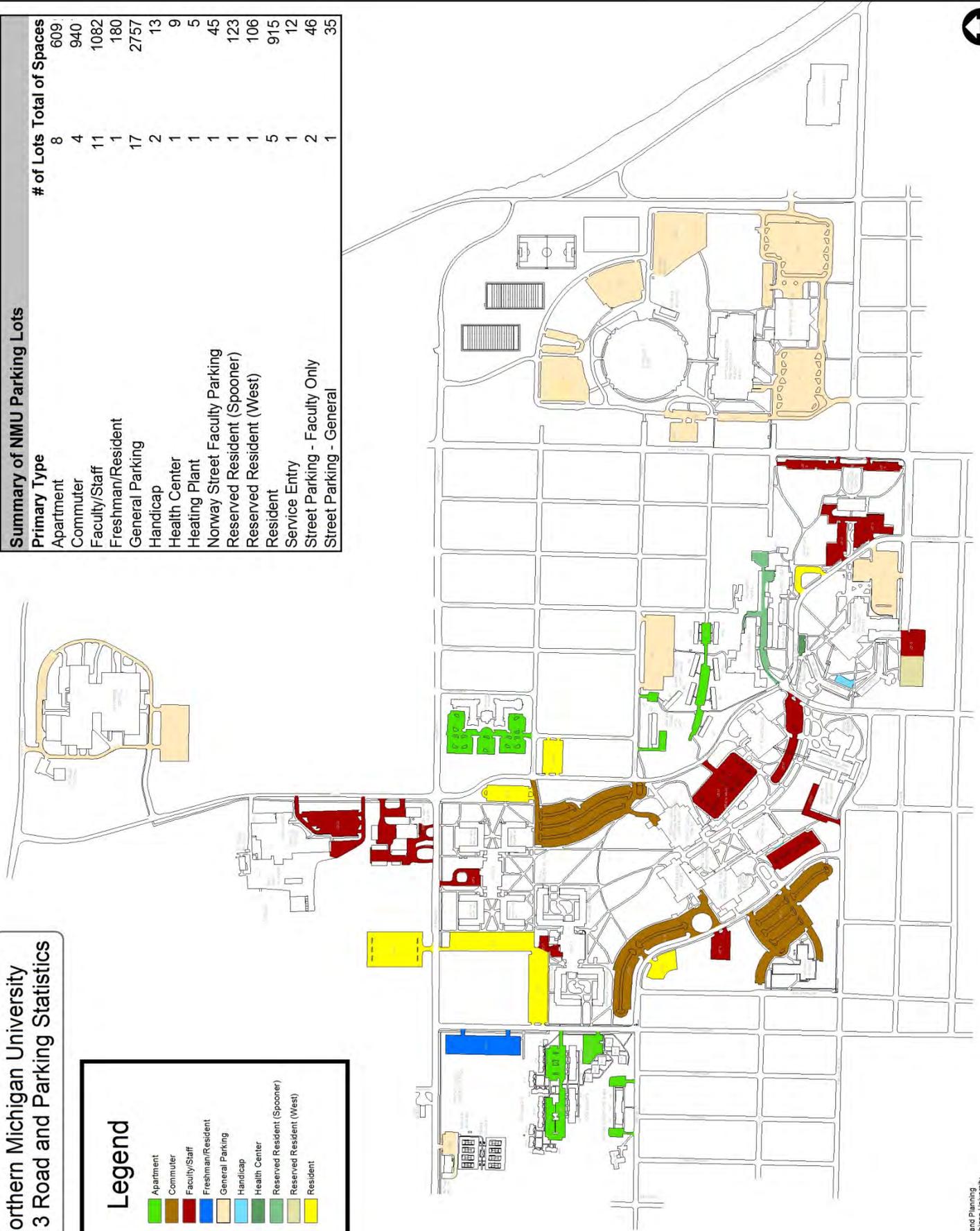
Northern Michigan University 2013 Road and Parking Statistics

Legend

Apartment	Green
Commuter	Yellow
Faculty/Staff	Red
Freshman/Resident	Blue
General Parking	Orange
Handicap	Light Blue
Health Center	Light Green
Reserved Resident (Spoonier)	Dark Green
Reserved Resident (West)	Light Yellow
Resident	Yellow

Summary of NMU Parking Lots

Primary Type	# of Lots	Total of Spaces
Apartment	8	609
Commuter	4	940
Faculty/Staff	11	1082
Freshman/Resident	1	180
General Parking	17	2757
Handicap	2	13
Health Center	1	9
Heating Plant	1	5
Norway Street Faculty Parking	1	45
Reserved Resident (Spoonier)	1	123
Reserved Resident (West)	1	106
Resident	5	915
Service Entry	1	12
Street Parking - Faculty Only	2	46
Street Parking - General	1	35





Northern Michigan University

Assessment of University Land

Five-Year Capital Outlay Plan



Northern Michigan University

University Land

The University owns 685 acres comprised of 359 acres on the main campus, 120 acres known as the Longyear Forest in Marquette Township, and 206 acres near Mount Marquette in south Marquette. 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

Five-Year Capital Outlay Plan



Northern Michigan University

Introduction

Northern Michigan University (NMU) is one of the oldest public universities in the State of Michigan, having celebrated our 110th birthday on September 19, 2009. Reaching the century milestone is an indication of our past success. Our physical plant was primarily built in the 1960s and 1970s to meet the needs of our students of the past. To prepare our students for the future, many of NMU's east campus facilities need to be transformed to accommodate the programmatic needs of today and the continued development of a state-of-the-art learning environment. 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 Capital Outlay Project Priorities

Renovation and Addition to the Learning Resource Center (LRC)

This building was designed for university programs and needs that were in effect 30 years ago. Renovation of the space is key to the university's vision for development of a learning community for the 21st century, and addresses the teaching and learning technologies that were not available at the time the building was constructed. The renovation will allow for flexible, interactive spaces that support creativity, critical thinking, and collaboration. It is also needed so that the NMU Olson Library, housed in the building, can update its services to promote learning in a digital age. Additionally, this renovation will update core systems and technologies used to support WNMU-TV, WNMU-FM and the university's Audio-Visual Services public service and campus support units. The LRC will be brought up to ADA code for barrier-free access and life safety.

Academic Facilities Upgrade Project

The university is continually assessing the operational and physical condition of the facilities on campus. In the latest review, three buildings constructed in the mid-sixties and seventies are in need of considerable upgrades. The goal of this project is to address maintenance items in these buildings, to include the Forest Roberts Theatre, McClintock Building, and the Physical Educational Instructional Facility. Correcting these items will have a positive effect on the operational efficiencies of the facilities and enhance the learning environment.

Sam M. Cohodas Hall Renovation

The goal of this project is to create a high quality environment for providing resources and services that support the Northern Michigan University student. Further, new program functions will be introduced while efficiently utilizing the existing building structure. Programs include general-purpose and designated classrooms that will place students in closer proximity to faculty offices. Programs will be enhanced by increased interaction and improved availability of programs. Renovation should reflect an easily accessible environment for the student, faculty, administrators, and public users.





Summary

Fiscal Year 2015 Capital Outlay Project Priorities

Priority	Project	Total Project Cost (in thousands)
1	Renovation and Addition to the Learning Resources Center	\$65,600
2	Academic Facilities Upgrade Project	\$10,076
3	Sam M. Cohodas Hall Renovation	\$20,680



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Institution Name: Northern Michigan University

Project Title: Renovations and Addition to the Learning Resources Center

Project Focus: Academic Research Administrative/Support

Type of Project: Renovation Addition New Construction

Program Focus of Occupants: Library, Public Broadcasting, Instructional and Student Support

Approximate Square Footage: 290,300

Total Estimated Cost: \$65,600,000

Estimated Start/Completion Dates: May 2015/December 2016

Is the Five-Year Plan posted on the institution's public internet site? Yes No

Is the requested project the top priority in the Five-Year Capital Outlay Plan? Yes No

Is the requested project focused on a single, stand-alone facility? Yes No

1. *Describe the project purpose:*

The renovation of Learning Resources Center, built in 1966, is key to the university's vision for development of a learning community for the 21st century. The renovation will address the teaching and learning technologies not available at the time the building was constructed, but are necessary to prepare students and the community for the global economy. The renovation will allow for flexible, interactive spaces that support creativity, critical thinking, and collaboration. It is also needed so that the NMU Olson Library, housed in the building, can update its services to promote learning in a digital age.

Additionally, this renovation will update core systems and technologies used to support WNMU-TV, WNMU-FM and the university's Audio-Visual Services public service and campus support units. The Olson Library and Learning Resources Division work in concert to deliver information services and technologies used by members of the general public as well as those involved with teaching and learning on campus.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations and Addition to the Learning Resources Center *(continued)*

2. Describe the scope of the project:

The renovation of the Learning Resources Center will include facility improvements to public broadcasting stations (WNMU-TV, WNMU-FM), Audio-Visual Services, the Olson Library, the Central Upper Peninsula and NMU Archives, and instructional and student support areas critical to the university's mission. Specific project goals include:

- New technology-enhanced group study areas that allow students to collaborate on assignments, service learning projects, and other activities.
- To expand the Center for Teaching and Learning that supports faculty development, the scholarship of teaching and learning, and best practices in assessment, evaluation, and instructional design in face-to-face and online instruction.
- A new state of the art digital media center providing students with the facility and tools to create digital media (audio, video, and other) in support of their academic course work.
- Facility improvements for the Central Upper Peninsula and NMU Archives, which is open to the public and houses an extensive collection documenting both the history of Northern Michigan University and the Upper Peninsula.
- Advanced technology learning spaces for students engaged in the study of broadcast media and advanced learning technologies.

Modifications within administrative areas vary from technology upgrades supporting new programs, to relocation and expansion necessary to accommodate the projected student enrollments. Upgrades and new programs will be supported by the latest technologies not currently existing within the fabric of the structure. The facility has been maintained well and its basic structure and building facade remain in good condition. However, the existing exterior windows and building support systems are outdated and in poor condition. With this renovation, the opportunity will allow the HVAC, plumbing, electrical, and information technology systems be upgraded to today's codes and standards.

Sustainability and energy efficiency will be primary concerns. LEED® Green Building certification will be sought through the specification of "green" building materials, efficient material management during construction through reduction, reuse, and recycling of construction and



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations and Addition to the Learning Resources Center *(continued)*

packaging materials, and design of efficient systems that require less energy and use of natural resources. The overall goal will be to reduce operating costs, provide a healthier environment for building occupants, and conserve energy.

The design will address barrier-free regulations and the Americans with Disabilities Act by including renovations in the areas of accessibility and support facilities. Vertical circulation components, including stairways and elevators, will be updated. Door hardware, access ways, signage, etc. also do not meet the current program requirements.

3. *How does the project enhance the core academic and/or research mission of the institution?*

This project will provide the technology, space and flexibility required for NMU's students, faculty and community to succeed in the 21st Century. The Center for Teaching and Learning will support faculty to develop best practices in teaching, assessment, evaluation, and retention. Group study areas will promote collaborative learning and improvements to the building's technology infrastructure will support current and future instructional needs. Updated production studios will provide new learning opportunities for students and faculty involved with high definition (HD) broadcast media and production.

This project will also provide facility upgrades that will foster collaboration between the two primary tenants in the Learning Resources Center; Academic Information Services and the Learning Resources Division. This collaboration will avoid duplication of services; providing a more efficient delivery of high technology services to students and faculty as a result of properly designed work spaces. Examples of high technology services to be included are distance learning (Interactive TV), design and support of active learning classrooms, and use of information technologies (IT) such as audio-video lecture-capture and the production of video course content used for on-line learning.

The improvements to the building's technology infrastructure as well as enhancements to the temperature control, air delivery and lighting system will support both current instruction needs as well as providing an adaptable platform for changing pedagogies.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations and Addition to the Learning Resources Center *(continued)*

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

Business and education leaders include critical thinking, collaboration, creativity, media literacy and media creation as required skills to succeed in 21st Century readiness. The Learning Resources Center renovation will be designed to provide the space and resources necessary for the development of these skills. Graduates will be better prepared to make effective use of technology to enhance employability and energize the economy of the State and Nation. The project's value is enhanced by the role this building plays in the Central Upper Peninsula, beyond the campus walls. The Olson Library, for example, provides a federal and Michigan government depository that is open to the public more than 90 hours each week.

The Olson Library and Learning Resources Division (WNMU-TV/FM) are heavily engaged in providing a variety of information services to residents throughout Upper Michigan. This facility renovation will harden WNMU's Emergency Alert Services, provide increased availability of the National Weather Service (NOAA) weather broadcasts through secondary audio programs available on WNMU-TV, preserve the availability of national PBS and NPR program schedules for area residents and increase general access to library resources and information. These life-safety services coupled with the job skills training that students receive in the field of broadcasting and multi-media help provide a robust base for economic development throughout the region.

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

A. Utilization Measurement:

Northern Michigan University maintains a comprehensive space inventory and utilizes room scheduling/utilization software for class and conference room scheduling. Utilization reporting is conducted for both fall and winter semesters. These reports identify opportunities for scheduling improvement by academic departments and are provided and reviewed by all academic dean and department heads. These tools allow the university to optimize space efficiency and evaluate/improve both room and building utilization.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations and Addition to the Learning Resources Center *(continued)*

The Olson Library uses the Association of College & Research Libraries “Standards for Libraries in Higher Education” to develop benchmarking and peer comparison indicators. It has also developed internal systems for tracking space demands, including an online room reservation system that provides data about Library room use and unmet demand. These measures indicate, for example, the need for additional small group study rooms that students can reserve for collaboration. The Library, Computing HelpDesk, Instructional Design and Technology office, and other units in the Learning Resources also track usage trends that are used to evaluate space needs.

WNMU-TV and WNMU-FM use a variety of audience evaluation services to determine station programming and viewer interest. In addition, the need for technical services is determined through service order processing and tracking software to make sure that campus and community constituents have the right equipment and professional services needed to support various projects that require media related technology.

B. Comparative Utilization Data:

In 2008, as part of the Campus Master Plan update, the university classified all of its existing space and then 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. As a continuation of the benchmarking effort noted above, a formal evaluation of facility use (space utilization) was conducted in 2011. Data compiled from the university scheduling/utilization reports was evaluated both internally and by an outside consultant. The evaluation illustrated NMU’s utilization between 8:00 am and 5:00 pm 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 from 2008 are now repeatedly used to evaluate the need for new space requests and identify opportunities to re-purpose underutilized space in lieu of building new.

C. Project Improvement on Space/Infrastructure Utilization:

The renovation of the Learning Resources Center provides direct improvements to the service delivery of the departments located within it. The renovation of the existing space and enhancements to the building’s technology infrastructure, improving temperature control, air delivery and lighting systems, will support both current instruction and service delivery needs.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations and Addition to the Learning Resources Center *(continued)*

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

Yes, a primary focus of this capital outlay project is to address over \$1.7 million of life/safety issues identified in the current facility assessment including improved fire suppression, exit and emergency lighting, etc.

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

Sustainability and conservation efforts are goals of the University. LEED® Green Building certification will be sought through the specification of "green" building materials, thoughtful 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 of natural resources. The overall goal will be to reduce operating costs, provide a healthier environment for building occupants, and conserve energy.

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

Yes, NMU Foundation, Industry Contributions and Capital Bonding.

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

Yes, if necessary.

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

No, the completed project will reduce operating costs for the university. The facility improvement measures will decrease electricity, gas, and water consumption and help to better control utility costs. Maintenance costs will also be reduced with the installation of new, more serviceable equipment and systems.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations and Addition to the Learning Resources Center *(continued)*

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

The project will have no impact on tuition.

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

If State funding is not authorized for this project, a phased approach will need to be utilized to address the current maintenance issues in this building over a period of ten years or more with a greater amount of the project cost being bore by students in their tuition. Utility and maintenance cost savings will not be captured as quickly. A phased approach will significantly delay providing the space and resources that support the creativity, critical thinking, and collaboration needed for our students and community to compete in a global economy.

Additionally, this project impacts the entire Upper Peninsula region by making available library and broadcasting resources to thousands of U.P. residents. Services offered through this facility are used by K-12 schools across the region and an audience of over 225,000 viewers and listeners of the University's Public Broadcasting stations. WNMU is the primary Emergency Alert Facility for the Central Upper Peninsula and provides emergency messaging capabilities to other broadcasters in the region. Failure to properly maintain these and other essential services negatively impacts businesses and individuals if they become unavailable. Providing these services through other means would likely prove cost prohibitive.

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

The construction of a new facility was considered; however, the cost/benefit analysis illustrated a renovation project was more favorable. University officials also explored public/private partnerships with commercial broadcasters, but found the combining of these facilities to be unworkable due to federal commercial/non-commercial rules and regulations. Structurally, the building footprint provides exceptional multi-media studio spaces and is constructed in such a way that makes renovation affordable. Studio spaces already have the required ceiling height (two stories) and provide for convenient cable routing and wire tray access. In addition, WNMU-TV migrated its broadcasting hardware to digital in 2011 and could continue essential operations as other portions of the building are renovated. The existing facility is structurally sound and built to accommodate high density storage and large open areas; to reconstruct these features in a new facility would be very costly. As such, the State of Michigan benefits through the renovation and reuse of this existing facility; optimizing current campus facilities in lieu of the extensive cost for constructing new comparable facilities.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Institution Name: Northern Michigan University

Project Title: Academic Facilities Upgrade Project

Project Focus: Academic Research Administrative/Support

Type of Project: Renovation Addition New Construction

Program Focus of Occupants: Instruction, Student and Community Support Services

Approximate Square Footage: 243,906

Total Estimated Cost: \$10,076,000

Estimated Start/Completion Dates: May 2014/August 2015

Is the Five-Year Plan posted on the institution's public internet site? Yes No

Is the requested project the top priority in the Five-Year Capital Outlay Plan? Yes No

Is the requested project focused on a single, stand-alone facility? Yes No

1. *Describe the project purpose:*

The Academic Facilities Upgrade Project will address major maintenance and accessibility issues associated with three academic facilities reducing operating costs, providing a healthier environment for building occupants, and conserving energy. Two of the three campus buildings requiring urgent maintenance issues, the Forest Roberts Theatre and McClintock Building, were constructed in 1964; while the Physical Education Instructional Facility was built in 1976. These buildings are used for academic purposes, providing general use classrooms and instructional laboratories, physical education instructional areas, and communication and performing arts area.

2. *Describe the scope of the project:*

The academic facilities upgrades include the replacement of HVAC systems, electrical upgrades, handicap accessibility items, exterior brick replacement, and fire alarm system enhancements. Sustainability and energy efficiency will be primary concerns. "Green" building materials will be specified. Construction and packaging materials will be recycled, reused, and reduced during construction. Efficient systems will be specified that require less energy and use of natural resources. LEED Certification will be sought for this project.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Academic Facilities Upgrade Project *(continued)*

3. *How does the project enhance the core academic and/or research mission of the institution?*

The academic facilities upgrades project provides improved environmental conditions within the three facilities for faculty and students. The space will have better temperature control and air circulation, increased power and data access, improved lighting conditions, increased accessibility, and safer conditions.

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

The proposed capital outlay project will enhance Michigan's three initiatives by providing state residents with access to advanced educational opportunities in an improved learning environment. Graduates will be better prepared to make effective use of technology to enhance employability and energize the economy of the State and Nation.

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

A. Utilization Measurement:

Northern Michigan University maintains a comprehensive space inventory and utilizes room scheduling/utilization software for class and conference room scheduling. Utilization reporting is conducted for both fall and winter semesters. These reports identify opportunities for scheduling improvement and are provided and reviewed by all academic dean and department heads. These tools allow the university to optimize space efficiency and evaluate/improve both room and building utilization.

B. Comparative Utilization Data:

In 2008, as part of the Campus Master Plan update, the university classified all of its existing space and then 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. As a continuation of the benchmarking effort noted above, a formal evaluation of facility use (space utilization) was conducted in 2011. Data compiled from the university scheduling/ utilization reports was evaluated both internally and by an outside consultant.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Academic Facilities Upgrade Project *(continued)*

The evaluation illustrated NMU's utilization between 8:00 a.m. and 5:00 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 from 2008 are now repeatedly used to evaluate the need for new space requests and identify opportunities to re-purpose underutilized space in lieu of building new.

C. Project Improvement on Space/Infrastructure Utilization:

This project will enhance the buildings' aging infrastructure to support current and future improvements without increasing the university's total building square footage. Building infrastructure improvement will facilitate the reuse of these facilities to meet the current and future academic needs of each department housed in these buildings.

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

Yes, a primary focus of this capital outlay project is to address over \$200,000 of life/safety issues identified in the current facility assessment including improved fire suppression, exit and emergency lighting, etc.

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

Sustainability and conservation efforts are goals of the University. In 2012, an energy services company was contracted to conduct an energy audit and conditions assessment of the Forest Roberts Theatre and McClintock Building. The two facilities presented a significant opportunity for savings through HVAC and lighting upgrades, water conservation improvements, and installation of a new building automation system to provide optimal control during occupied and unoccupied times. These facility improvement measures (FIMs) were determined to reduce NMU's energy and other operating costs at return on investment over a period of 12 years or less. This process was completed in several campus buildings over the past 4 years with successful results.

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

Yes, NMU Foundation, Industry Donation and/or Capital Bonds.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Academic Facilities Upgrade Project *(continued)*

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

Yes, if necessary.

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

The completed project will reduce operating costs for the university. The facility improvement measures will decrease electricity, gas, and water consumption and help to better control utility costs. Maintenance costs will also be reduced with the installation of new, more serviceable equipment and systems.

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

The project will have no impact on tuition.

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

If State funding is not authorized for this project, a phased approach will need to be utilized to address the current maintenance issues in these three buildings over a period of ten years or more with a greater amount of the project cost shared by students in the form of increased tuition. Utility and maintenance cost savings will not be captured as quickly.

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

The construction of new facilities was considered; however, the cost/benefit analysis illustrated a maintenance project as more favorable. The existing facilities are structurally sound-but fail to meet the special needs of the academic programs taught within these buildings. The State of Michigan benefits through the renovation and reuse of these existing facilities; optimizing current campus facilities in lieu of extensive cost for new facilities.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Institution Name: Northern Michigan University

Project Title: Renovations to the Sam M. Cohodas Hall

Project Focus: Academic Research Administrative/Support

Type of Project: Renovation Addition New Construction

Program Focus of Occupants: Instruction, Faculty and Student Support Services

Approximate Square Footage: 104,000

Total Estimated Cost: \$20,680,000

Estimated Start/Completion Dates: May 2014/August 2015

Is the Five-Year Plan posted on the institution's public internet site? Yes No

Is the requested project the top priority in the Five-Year Capital Outlay Plan? Yes No

Is the requested project focused on a single, stand-alone facility? Yes No

1. *Describe the project purpose:*

The renovation to the Sam M. Cohodas Hall will enhance the quality of services that support the students of Northern Michigan University by changing the use of the first four floors from academic support space and faculty offices to academic classrooms and faculty offices. Located on the site of the original campus buildings, construction on the six-story Cohodas Building was completed in July 1975. The building contained most of the administrative offices, as well as student related support services departments. This change in use will have a positive effect on the operation and availability of programs to the general student population with classrooms in close proximity to faculty and department offices.

2. *Describe the scope of the project:*

Two floors of the current six-story structure will be renovated to accommodate classrooms ranging from 690 to 1,150 square feet. One of these classrooms will be a twenty-eight station computer lab specifically used by the Real Time Trading classes. This is a unique program and teaching opportunity where students learn about the financial markets through the use of special software. Students are online with the markets purchasing and selling stocks, bonds, etc. without actually spending real money.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations to the Sam M. Cohodas Hall (*continued*)

Minor renovations will occur in departmental offices as a result of the program changes and efficiency due to incorporating classrooms and faculty offices. Modifications within administrative areas vary from technology upgrades supporting new programs, to relocation and expansion necessary to accommodate the projected student enrollments. Upgrades and new programs will be supported by the latest technologies not currently existing within the fabric of the structure. The facility has been maintained well and its basic structure and building envelope remain in good condition. However, the existing building support systems are outdated and in poor condition. With the change in use, the opportunity will allow the mechanical, electrical, and information technology systems be upgraded to today's standards.

Sustainability and energy efficiency will be primary concerns. LEED® Green Building certification will be sought through the specification of "green" building materials, thoughtful 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 of natural resources. The overall goal will be to reduce operating costs, provide a healthier environment for building occupants, and conserve energy.

The design will address barrier-free regulations and the Americans with Disabilities Act by including renovations in the areas of accessibility and support facilities. Vertical circulation components, including stairways and elevators, do not meet today's standards and codes. Door hardware, access ways, signage, etc. also do not meet the current program requirements. Site improvements include the expansion of Lot 12 to meet the demands of the renovated facility, grade changes for improved storm water run-off, new sidewalks and site lighting.

3. *How does the project enhance the core academic and/or research mission of the institution?*

The renovation to the Sam M. Cohodas Hall provides direct improvements to academic delivery for the departments located within Sam M. Cohodas Hall. The addition of new classrooms, a laboratory, improvements to the building's technology infrastructure as well as enhancements to the temperature control, air delivery and lighting system will support both current instruction needs as well as providing an adaptable platform for changing pedagogies.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations to the Sam M. Cohodas Hall (*continued*)

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

The proposed capital outlay project will enhance Michigan's three initiatives by providing state residents with access to advanced educational opportunities in an improved learning environment. Graduates will be better prepared to make effective use of technology to enhance employability and energize the economy of the State and Nation.

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

A. Utilization Measurement:

Northern Michigan University maintains a comprehensive space inventory and utilizes room scheduling/utilization software for class and conference room scheduling. Utilization reporting is conducted for both fall and winter semesters. These reports identify opportunities for scheduling improvement by academic departments and are provided and reviewed by all academic dean and department heads. These tools allow the university to optimize space efficiency and evaluate/improve both room and building utilization.

B. Comparative Utilization Data:

In 2008, as part of the Campus Master Plan update, the university classified all of its existing space and then 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. As a continuation of the benchmarking effort noted above, a formal evaluation of facility use (space utilization) was conducted in 2011. Data compiled from the university scheduling/utilization reports was evaluated both internally and by an outside consultant. The evaluation illustrated NMU's utilization between 8:00 am and 5:00 pm 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 from 2008 are now repeatedly used to evaluate the need for new space requests and identify opportunities to re-purpose underutilized space in lieu of building new.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations to the Sam M. Cohodas Hall (*continued*)

C. Project Improvement on Space/Infrastructure Utilization:

The renovation of Sam M. Cohodas Hall provides direct improvements to the academic delivery of the departments located within it. The repurposing the existing space to include new classrooms and a laboratory, while completing enhancements to the building's technology infrastructure, improving temperature control, air delivery and lighting systems, will support both current instruction needs as well as providing an adaptable platform for changing pedagogies.

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

Yes, a primary focus of this capital outlay project is to address over \$510,000 of life/safety issues identified in the current facility assessment including improved fire suppression, exit and emergency lighting, etc.

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

Sustainability and conservation efforts are goals of the University. LEED® Green Building certification will be sought through the specification of "green" building materials, thoughtful 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 of natural resources. The overall goal will be to reduce operating costs, provide a healthier environment for building occupants, and conserve energy.

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

Yes, NMU Foundation, Industry Contributions and Capital Bonding.

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

Yes, if necessary.



FISCAL YEAR 2015 CAPITAL OUTLAY PROJECT REQUEST

Renovations to the Sam M. Cohodas Hall (*continued*)

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

No, the completed project will reduce operating costs for the university. The facility improvement measures will decrease electricity, gas, and water consumption and help to better control utility costs. Maintenance costs will also be reduced with the installation of new, more serviceable equipment and systems.

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

The project will have no impact on tuition.

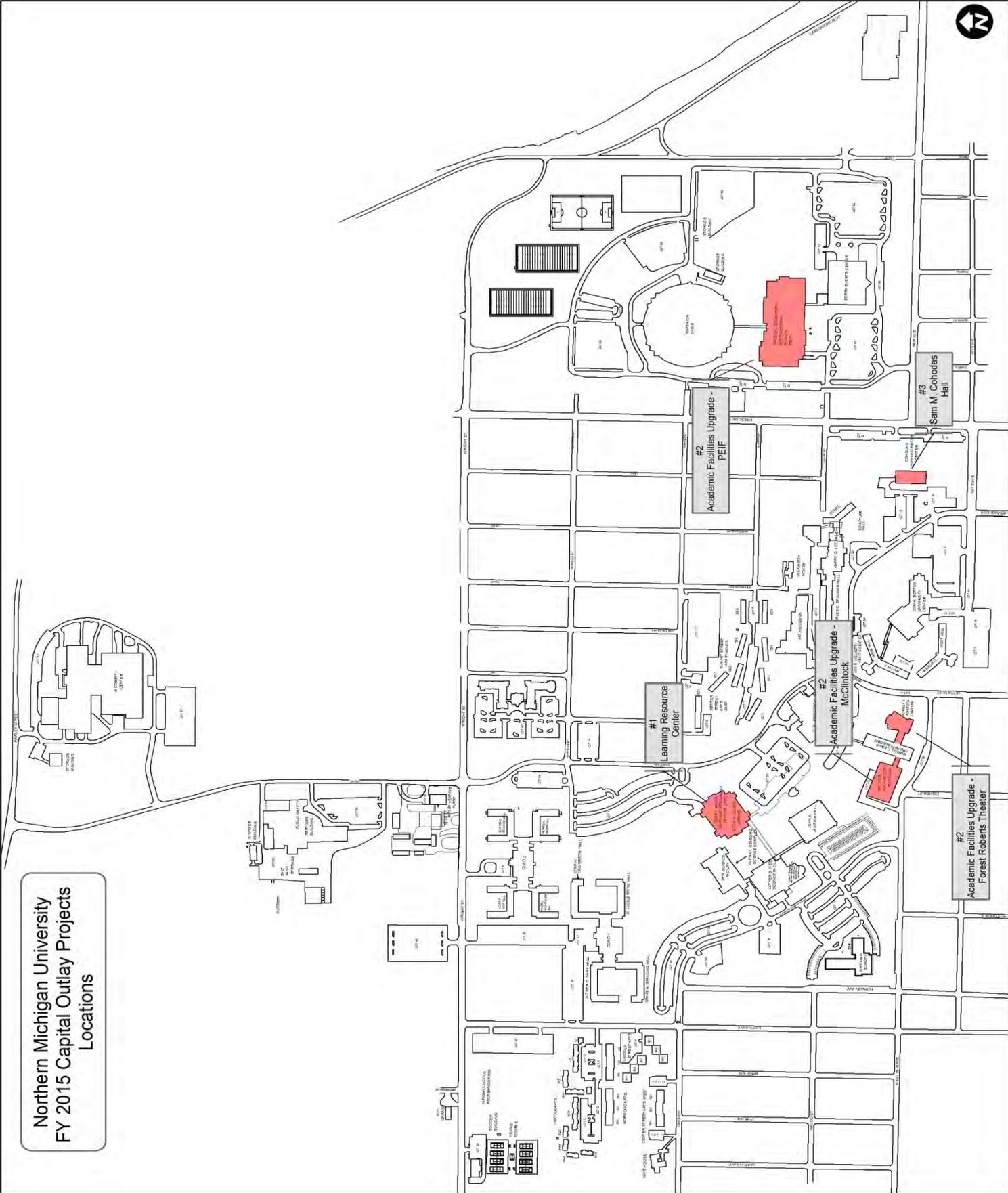
12. *If this project is not authorized, what are the impacts to the institution and its students?*

If State funding is not authorized for this project, a phased approach will need to be utilized to address the current maintenance issues in this building over a period of ten years or more with a greater amount of the project cost being bore by students in their tuition. Utility and maintenance cost savings will not be captured as quickly.

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

The construction of a new facility was considered; however, the cost/benefit analysis illustrated a renovation project was more favorable. The existing facility is structurally sound but fails to meet the special needs of the academic programs taught within this building. The State of Michigan benefits through the renovation and reuse of this existing facility; optimizing current campus facilities in lieu of the extensive cost for constructing new comparable facilities.

Northern Michigan University
 FY 2015 Capital Outlay Projects
 Locations





Status of “In-Progress” State Building Authority Projects

John X. Jamrich Hall Replacement

- **Project Total Cost: \$33.4 million**
- **Public Act 192 of 2012 Construction Authorization Approval**
- **Project is in the Construction Stage**
- **Expected Completion August 2014**

A modern, high-tech classroom facility that improves academic delivery, maximizes building use, and reduces operational and maintenance costs will be constructed to replace the aged Jamrich Hall. The existing facility was completed in 1969 and serves as the university’s primary general use classroom building.

The new facility will have the proper mix of classrooms that are highly flexible and adaptable to changing innovations in teaching pedagogies. The latest wireless technologies will provide highly collaborative instructional space for students and faculty. Informal learning spaces are distributed throughout the facility for improved opportunities for students and faculty to interact outside the classroom. A new enclosed pedestrian link will connect the new facility to another instructional complex, the Learning Resources Center, allowing for improved barrier free accessibility, and direct access to technology support services.

Compared to a renovated Jamrich Hall, the new facility will provide a net square foot reduction, an increase in net program efficiency, a reduction in annual operating costs, and a reduction of overall construction cost. Additionally, the new building eliminates course scheduling disruption during construction. The increased benefits of the new facility improve efficiencies and long-term financial sustainability for NMU and the State of Michigan.





University Projects

**Completed – November 1, 2012 to November 1, 2013
With a Total Cost between \$500,000 – \$1,000,000**

Physical Education Instructional Facility Roof Replacement

The existing built up roof was originally installed in 1974 and an EPDM roof was installed over the original roof in 1990. A new fully adhered FleeceBack EPDM membrane was applied over the existing EPDM roof after mechanically fastening the existing roof system to the roof decking. At areas where conduits are located directly below the roof decking, a new fully adhered FleeceBack EPDM membrane over insulation board was applied after tear off of the existing EPDM and roof board. Included in the scope of work was the removal and replacement of the existing lightning protection system. Construction was completed in July, 2013 for a project cost of approximately \$681,000.00.



University Projects Projects Planned November 1, 2013 to November 1, 2014 With a Total Cost Over \$1,000,000

Performance Contracting Phase III

To continue the effort to further reduce energy/operational costs, Phase III of this project focuses on housing facilities, fine arts complex, and Superior Dome. The energy services company has performed comprehensive energy conservation audits, determined the energy consumption and operational characteristics of the facilities, and identified the facility improvement measures (FIMs), procedures, and other services that could be implemented in order to reduce NMU's energy and other operating costs for the facilities. The energy savings, operational savings, and cost avoidance achieved from the selected improvement measures for this phase will fund this project based on a period of 12 years or less, assuming a 5% interest rate. The performance of the FIMs, services, and reduced energy consumption will be guaranteed by the energy services company. The cost of the selected facility improvement measures have yet to be determined.



Maintenance Projects 2014 to 2019 With a Total Cost Over \$1,000,000

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

	2014	2015	2016	2017	2018	2019	Total
Fire Alarm Mass Notification	\$ 2,300,000						\$ 2,300,000
Total	<u>\$ 2,300,000</u>						<u>\$ 2,300,000</u>



Maintenance Projects 2014 to 2019 With a Total Cost Over \$1,000,000

Project Descriptions

Security, Door Access, Fire Alarm, Mass Notification, and Energy Management System

Replacement. The existing Honeywell fire alarm, door access, security, and energy management system installed in nineteen buildings on campus has reached the end of its useful life. The system is no longer supported by the manufacturer and replacement parts are difficult to acquire. Through three separate projects, the existing system will be separated into three independent systems that have the latest technology and problems on one system would not affect another.

- 1) **Security/Door Access:** The existing CBORD security/card access system that is currently in all ten residence halls and Woodland Park apartments has been expanded to replace the existing Honeywell Building card access system in the eighteen Stateside and Auxiliary buildings. Additional doors were installed on the new system to allow Public Safety to perform an all-building lockdown in the event that there is an active shooter on campus as well as lock/unlock doors with building schedules. In addition, the project results will increase reliability; simplified operational, maintenance, and personnel training needs by standardizing to one system for all campus facilities; and improved cross departmental support. The installation has been completed in all eighteen buildings; the renovation of the dispatch area in the Services Building to accommodate the new head end system equipment will be completed by January 2014. The total project cost is expected to be \$1.6 million.
- 2) **Fire Alarm/Mass Notification:** The existing Honeywell FS90 system will be replaced with a new fire alarm system in the thirteen Stateside and Auxiliary buildings. The new system would incorporate the NFPA Part 12 recommendations for mass notification within campus facilities. The existing Simplex fire alarm systems currently installed in several Housing and Stateside buildings on campus will also need to be modified to incorporate mass notification as part of a separate project in the future. The Honeywell replacement project is currently under construction and is expected to be completed by January 2015. Construction has an estimated cost of \$2.3 million.



Maintenance Projects 2014 to 2019 With a Total Cost Over \$1,000,000

- 3) **Energy Management:** The existing energy management system is being replaced in nineteen Stateside and Auxiliary buildings. The new system will increase reliability; improve the controllability of mechanical and electrical systems to generate energy savings; simplify operational, maintenance, and personnel training needs by standardizing to one system for all campus facilities; and allow system access through the Internet so that problems could be diagnosed remotely by university staff and the energy management company. Some of this work has been incorporated on a building-by-building basis as part of the Performance Contracting project. In 2010, the energy management systems in Jacobetti and University Center were converted and expanded with the new energy management system. In 2012 as part of the Phase II performance contract, the systems have been replaced in Art & Design, Cohodas, Learning Resources Center, West Science, PEIF, and Services Building. The existing energy management systems were expanded in the Berry Event Center, Hedgcock, New Science, and Whitman. The existing energy management system in the Superior Dome will be replaced in 2014 and in the Fine Arts Complex in 2015. A time frame has not been established yet for the systems in the residence halls.



Northern Michigan University

Long-Term Maintenance Projects 2014 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 Maintenance for 2014

Each year the university provides base budget and auxiliary funds to address long-term 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 2014 are indicated on the following page.



Long-Term Maintenance Projects – 2014 With a Total Cost Less than \$1,000,000

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

2014 Long-Term Maintenance List	General Fund Budget	Auxiliary Fund Budget	Total Project Budget
PEIF Roof (replaced in 2013; second year of funding plan)	\$300,000		\$300,000
Replace Superior Dome Energy Management System	\$550,000		\$550,000
<i><u>PEIF:</u></i>			
Replace Sump and Sanitary Pumps	\$120,000		\$120,000
Replace Four Steam PRV Stations with Two Stations	\$80,000		\$80,000
<i><u>Superior Dome:</u></i>			
Replace Field Lighting	\$240,000		\$240,000
Replace Sky Light	\$165,000		\$165,000
<i><u>Services Building:</u></i>			
Direct Steam Humidifiers for Printing Services AHUs	\$25,000		\$25,000
Building Envelope (Tuckpointing, Sealing Brick, Painting Exterior Doors, Repair EIFS, etc.)	\$75,000		\$75,000
Interior Finishes (Paint; Carpet; Ceiling, Wall, and Floor Tile; Stair Treads; Door Hardware; Blinds, etc.)	\$50,000		\$50,000
Hardscape Infrastructure (Concrete, Asphalt, Irrigation, Landscaping, etc.)	\$50,000		\$50,000
Building Water Distribution System Improvements (Backflow Preventers/Cross Connection Maintenance, Repairs and Testing)	\$29,500		\$29,500
Utility Infrastructure (Water, Sanitary, Storm, Steam, Electric, Gas, Telecom, etc.)	\$25,000		\$25,000
<i><u>University Center:</u></i>			
Interior Finishes (Paint; Floor Covering, Folding Partitions, etc.)		\$180,000	\$180,000
Exterior Finishes (Windows, Doors, Entrance Modifications, etc.)		\$65,000	\$65,000
<i><u>Dining Services:</u></i>			
Cabinet/Countertop Upgrades		\$50,000	\$50,000
Floor Coverings		\$35,000	\$35,000
<i><u>Housing:</u></i>			
Replacement Furnishings (1 residence hall, apartments)		500,000	\$500,000
Apartment Refurbishment and Construction of Norwood Barrier Free Unit		232,000	\$232,000
Phase I Norwood/Center Roof Replacement		203,000	\$203,000
Wilkinson House Site Work and Retaining Wall		15,000	\$15,000
Total Budget	\$1,709,500	\$1,280,000	\$2,989,500



Future University Projects

The 2008 Campus Master Plan for Northern Michigan University (NMU) identifies growth opportunities, spatial efficiencies, land utilization, and community/business partnerships to help accommodate the projected enrollment growth of 10,400 students. Below is a brief description of various initiatives that are either included in the plan specifically or support the theme of the plan.

Future Student Housing Projects

With the completion of the four residence halls connected to Quad II, the University is reviewing the other housing complexes, both residence halls and apartments, to determine how best to meet the future needs of students. The possibilities being discussed are renovating some or all of the remaining six residence halls and renovating or replacing aging apartment complexes.

Mixed-Use Development

A mixed-use development to support student commercial activities and enhance the image of the university adjacent to campus is envisioned as a vibrant living-learning district (retail and housing) and partnership opportunity between the university, City of Marquette, and a third party development entity. A market study was completed to determine the economic, demographic, and market opportunities for this use project. As a start, the university has opened a smoothie and Japanese cuisine restaurant in May 2011 that serves also as a late night study space for the students and bookstore outlet.

Student Union

A need expressed by students and staff during the 2008 Campus Master Plan update was a centrally located student union. This need was also noted as a space deficiency when the university's net assignable square footage was compared with peer institutions. Possibilities regarding location and potential services/occupants for this facility are being discussed with student organizations and staff.

Bike Paths

As part of the Campus Master Plan update, a comprehensive review of many existing studies related to campus planning were reviewed, including the Bicycle Feasibility Study conducted in 2001. The 2008 Campus Master Plan illustrates a number of potential paths and identifies key design principles for pedestrian networks.



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. These amenities include campus entries, circulation routes, academic facilities, student support facilities, parking areas, recreational facilities, conference facilities, museum space, and theater space. The first phase of the campus wayfinding project has been completed which included the installation of a new campus entry sign at Seventh Street, trailblazers marking the routes from city streets to the university, a new golf course sign, and a new C.B. Hedgcock Building sign to make the facility more recognizable for prospective students and campus visitors. Phase II included campus entry signs at Wright Street/Tracy Avenue and Third Street/Fair Avenue entrance. Boundary markers were installed at the corner of Kaye and Presque Isle Avenue and the Wright Street entrance to the Superior Dome.

Landscape Master Plan

The University has been investigating ways in which it can lower maintenance costs through the use of different landscape material. A private consulting firm was retained to inventory the university's existing landscape, identify areas where low maintenance landscape would be appropriate, conduct an analysis of cost savings, and develop recommendations for phased construction. A test plot has been constructed to showcase the plantings that are being considered in the master plan. The plot development will be evaluated over the next few growing seasons to determine the level of attention required for establishment of the plantings and to review the appearance throughout the process.

East/West Corridor - NMU/Marquette General Health Systems Study

A joint study between NMU and Marquette General Health Systems was conducted to review the possibility of a joint parking deck and the connection of Kaye Avenue to Fair Avenue. This connection will provide an east-west corridor link that will benefit the City, Hospital, and University. This connection will also allow the University to eliminate 7th Avenue, helping to eliminate traffic congestion on campus.

University Center/Marquette General Health Systems

MGHS and the University completed a collective study to determine possibilities for joint use of this facility for educational, medical, and conference space. This potential project would include renovations associated with inner building office moves and future tenant build-outs. Maintenance items, such as the replacement of windows, doors, roof, cooling tower, plumbing fixtures, exit lighting, etc., were included.



Future University Projects

Jacobetti Complex

Northern is developing a business, industry, and innovation center in the Jacobetti Complex. This is a one-stop service center for new business ventures designed to help diversify and revitalize the state's struggling economy, support student internships and entrepreneurial academic programs, speed the commercialization of university research, and promote a culture of "entrepreneurial risk-taking." This project is a partnership between Northern Initiatives and the university. Phase I of this project included relocating the Northern Initiatives' office to the Jacobetti Complex. This phase was completed in July 2009. In 2010, two startup businesses established a presence in the incubator space.

Superior Dome Locker Rooms

The university is evaluating the feasibility of concentrating all athletic department offices and the construction of new locker rooms for Track, Cross Country Running, and Cross Country Skiing in the Superior Dome. This construction will allow all athletic offices to be consolidated into one location and provide dedicated locker room space for each of the teams mentioned above.

Lee Hall Renovation

Lee Hall is the second oldest building on campus. Renovations are planned to create an Alumni/Visitor Welcoming Center, NMU Club, University/Upper Peninsula History Museum, and departmental offices for the NMU Foundation. The ballroom on the second floor will be restored and a facility for catering services will be constructed. The construction and reuse of this facility will bring recognition to the University, its heritage, and participation in the community. The project may be completed in phases with the Phase I renovation focusing on the renovation of existing art gallery and restrooms; installation of a new elevator, and the restoration of the Ballroom. The Phase I project budget is estimated to be \$1.4 million.

Physical Educational Instructional Facility Pool

The university is developing conceptual designs for a Natatorium addition to the PEIF for swimming, diving, and related amenities. The building should reinforce the architecture and character, create visibility from Presque Isle Avenue, and embrace future adjacent mixed-use elements. This addition will also address increased maintenance issues with the existing pool, meet current state and federal regulations, and NCAA requirements. To keep the current pool functional, the existing filtration system has been replaced this past year. Automatic controls and enclosed filter tanks were installed. The pool deck and gutter pans were cleaned and repaired as necessary. The filtration system equipment could be reused if a new pool is constructed in the future. This interim maintenance project cost approximately \$400,000.



Future University Projects

NMU Golf Course Clubhouse

In conjunction with the NMU Construction Management Program, programming and facility needs assessment have produced preliminary plans for construction of a clubhouse. The facility would be LEED Certified and be a working laboratory for students in the C/M program during the remaining phases of design and construction. The NMU Foundation is exploring opportunities for funding this \$850,000 project.

Green Building Technology Demonstration Center

To help students, educators, regional consumers, and builders understand green building technologies and increase energy savings, Northern Michigan University proposes a Green Building Technology Demonstration Center at the Jacobetti Complex. This facility would be constructed as a live demonstration center exhibiting all of the structure's operational systems. The building systems, including the envelope, heating, cooling, lighting, and electrical, will stress energy efficiencies and sustainability. This facility will be constructed displaying all technologies creating a living laboratory. Design, construction, and maintenance of the facility will be incorporated into the College of Technology and Applied Science curriculum. The building will be provided with information kiosks and serve as a regional education/ demonstration center serving students, builders, and consumers on the latest green building technologies. The total project cost is estimated to be \$450,000.

University Center Space Programming

Schematic floor plans have been developed for the renovation of the University Center to create a Center for Allied Health with Nursing, Clinical Sciences, Athletic Training, NMU Health Center, Health Promotions, and Counseling Center in one location.

Military Science Department Relocation

Project includes the renovation of existing conference and storage space on the first floor of Hedgcock to create departmental office for Military Science. Department's space, offices, classroom, and storage space, will then be consolidated in one building. The estimated project budget is \$412,000.



Future University Projects

Classroom Renovations in Learning Resources Center and Cohodas Hall

As part of the campus wide classroom utilization study, underutilized space was examined and identified to be repurposed as general purpose classrooms in Cohodas Hall and the Learning Resources Center (LRC). This allows fewer classrooms to be constructed in the New Academic Building as compared to Jamrich Hall. The renovation of this identified space in Cohodas Hall and LRC into classrooms will occur concurrently with the New Academic Building construction as to maintain the necessary number and mix of classrooms on campus determined by the study.

Jamrich and Gries Hall Demolition

Once the New Academic Building is constructed, Jamrich Hall will be demolished as indicated in the State-approved project statement for the New Academic Building. Renovations in other campus buildings are being planned for the three remaining departments in Gries Hall that will not be housed in the New Academic Building. Military Science will relocate to the first floor of the CB Hedgcock Building adjacent to their existing classroom and supply room, the Health Center will relocate to the University Center, and Psychology to the New Science Facility currently occupied by Math. After their relocation, Gries Hall will be demolished as recommended in the 2008 Campus Master Plan.

Bookstore Study

NMU's Bookstore operations were evaluated by independent consultants to analyze the overall efficiency, benchmark it to the service level and historical financial performance, and to provide a long range plan to improve the level of return and overall service. The plan outlines strategic initiatives for relocation of the Bookstore to align with the campus growth pattern, in a location proximate to the academic core.

Quad II

The common area between the four Quad II residence halls would be renovated to enhance student life. Possible new venues include a convenience store, bookstore, food emporium, student lounge, programming rooms, meeting and study space, and satellite student recreation center.



Future University Projects

Dining Services Marketplace Renovation Phase V

The project will include replacement of the dishwasher, server casework, flooring and built in equipment, and improvements in site circulation to accommodate student requests for increased hours of operation. The estimated budget for this phase is \$900,000 and it will complete this project.

MIR Roadway Improvements Request

NMU has been working with the Michigan Department of Transportation (MDOT) on three possible Michigan Institutional Roadway (MIR) requests to resurface (1) Fair Avenue between Eighth and Seventh Street, (2) the entrance and roadway around the Jacobetti Complex, and (3) the inner-most ring road north of the Superior Dome. Not all of the costs for these projects would be covered by MIR funds; however, by participating in these programs, the University can leverage state funds to help improve its infrastructure. The MDOT is providing both design and construction estimates at no cost to the University for each potential project. Below is a brief description of each project:

- 1) NMU completed the resurfacing of the roadway and parking of Fair Avenue between Eighth and Seventh Street in August 2012 with university funds since this section was in very poor condition and MIR funding was not available this year.
- 2) The entrance and ring road around the Jacobetti Complex was installed when the building was constructed and is almost 30 years old. The project will resurface approximately 3,300 feet of roadway and provide approximately 800 feet of new curb to help control drainage problems adjacent to the entrance road and the main entrance to the building. There are a number of on-street parking spaces along the ring road that would not qualify for MIR funds. Estimated cost to resurface the roadway and on-street parking: **\$383,000 (MDOT \$247,000; NMU \$136,000)**.
- 3) The ring road directly north of the Superior Dome was constructed in 1990 and is in fair condition; however, the original plans called for curb the entire length of this roadway. This was eliminated as a cost savings measure during construction. The elimination of this curb has created a number of drainage issues that have been exemplified since parking has been expanded and the access road to Wright Street constructed. This project would provide and install approximately 1,200 feet of new curb and resurface 1,200 feet of roadway. The only portion of this project that does not qualify for MIR funding is the loading dock area. Estimated cost to resurface the roadway and loading dock area: **\$255,000 (MDOT \$225,000; NMU \$30,000)**.



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

Written by:

Mr. R. Gavin Leach, Vice President for Finance and Administration
Mr. Arthur J. Gischia, Sr. Associate Vice President for Administration
Ms. Kathy A. Richards, Associate Vice President for Engineering and Planning/Facilities
Ms. Katie M. Schoonveld, Institutional Research Assistant
Mr. James S. Thams, Associate Director, Engineering and Planning/Grounds
Ms. Sherri A. Towers, Sr. Director of Budget and Business Services

Illustrated and Edited by:

Ms. Cathy A. Niemi, Administrative Assistant, Office of the Vice President for Finance and Administration