



Northern Michigan University



Quad II Lobby

**Five Year Facilities Master Plan
December 2009**



Northern Michigan University

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Five Year Capital Outlay Plan



Northern Michigan University

Section I Mission

Five Year Capital Outlay Plan



Northern Michigan University

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.



Five Year Capital Outlay Plan



Northern Michigan University

Section II Instructional Programming

Five Year Capital Outlay Plan



Strategic Direction: 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 Direction: Road Map to 2015 *(continued)*

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



Five Year Capital Outlay Plan



Strategic Direction: Road Map to 2015 *(continued)*

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





Strategic Direction: Road Map to 2015 *(continued)*

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 Direction: Road Map to 2015 *(continued)*

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.





Northern Michigan University

Academic Programs

Baccalaureate Degree Programs

Major

| | |
|---|---------------------------------------|
| Accounting | Biology |
| Accounting/Computer Information Systems | Biology Education |
| Accounting/Corporate Finance | Botany |
| Accounting/Financial Planning | Business Computer Information Systems |
| Applied Math | <u>Concentrations</u> |
| Art and Design - BS or BA | Marketing |
| Art and Design - BFA | Software Development |
| Art and Design Education | Networking |
| <u>Concentrations</u> | Systems Analysis |
| Ceramics | End User/Help Desk |
| Jewelry/Metalsmithing /Blacksmithing | Business Undeclared |
| Drawing/Painting | Chemistry (ACS Certified) |
| Electronic Imaging | Chemistry Education |
| Photography | Clinical Health Science |
| Environmental Design | Clinical Laboratory Science |
| Printmaking | Clinical Laboratory Technology |
| Film/Video | Communication Disorders |
| Product Design | Communication Studies |
| Furniture Design | Computer Science |
| Sculpture | Construction Management |
| Graphic Communication | Criminal Justice |
| Woodworking | Earth Science |
| Illustration | Earth Science Education |
| Art History | Ecology |
| Athletic Training | Economics |
| Biochemistry | Economics Education |
| | Electronics Engineering Technology |
| | Elementary Education (Undeclared) |

Five Year Capital Outlay Plan



Northern Michigan University

Academic Programs

Baccalaureate Degree Programs *(continued)*

Major

| | |
|--------------------------------------|--|
| English | Industrial Technology Education |
| English/Elementary Education | International Studies |
| English/Graduate Bound | Language Arts/Elementary Education |
| English/Secondary Education | Liberal Arts and Sciences |
| Entertainment and Sports Promotion | Loss Prevention Management |
| Entrepreneurship | Management |
| Environmental Conservation | Management of Health and Fitness |
| Environmental Sciences | Marketing |
| <u>Concentrations</u> | |
| Biological | <u>Concentration</u> |
| Physical | IT Marketing |
| Political Science | Mass Communications |
| Financial Management | Mathematics |
| Forensics Biochemistry | Mathematics/Elementary Education |
| French | Mathematics/Secondary Education |
| French Education | Mechanical Engineering Technology |
| General Science/Chemistry | Media Production and New Technology |
| General Science/Earth Science | Media Studies |
| Geography Education | Mentally Impaired/Elementary Education |
| Geography/Human | Mentally Impaired/Secondary Education |
| Geography/Physical | Microbiology |
| Geography/Social Studies Education | Music |
| Health | Music Education |
| Health Education/Secondary Education | Network Computing |
| History | Nursing |
| History Education | Outdoor Leadership and Management |
| Hospitality Management | Personal finance |
| Individualized Studies | Philosophy |
| Industrial Technology | |

Five Year Capital Outlay Plan



Academic Programs

Baccalaureate Degree Programs (*continued*)

Major

| | |
|--|-------------------------------------|
| Physical Education/ED | Public Administration |
| Physics | Public Relations |
| Physics Education | Ski Area Business Management |
| Physiology | Social Science/Geography |
| Planning | Social Science/History |
| Political Science | Social Science/Political Science |
| Political Science Education | Social Science/Sociology |
| Political Science/Pre-Law | Social Studies/Elementary Education |
| Pre-Architecture | Social Studies/Secondary Education |
| Pre-Chiropractic | Social Work |
| Pre-Clinical Health Science | Sociology |
| Pre-Dental | Sociology in Liberal Arts |
| Pre-Engineering | Spanish |
| Pre-Law | Spanish Education |
| Pre-Medicine | Sports Science |
| Pre-Optometry | Technical Communication |
| Pre-Pharmacy | Technology and Applied Sciences |
| Pre-Physician | Theatre |
| Pre-Radiography | Undeclared |
| Pre-Respiratory Therapy | Writing |
| Pre-Veterinary | Zoology |
| Psychology | |
| Psychology/Behavior Analysis | |
| Psychology/Graduate School Preparation | |



Northern Michigan University

Academic Programs

Associate Degree Programs

Major

Automotive Service Technology
Aviation Maintenance Technology
Building Technology
Child Care Services
Climate Control Technology
Computer Aided Design- Mechanical
Computer Information Systems
Crafts
Criminal Justice
Electronics Technology
Food Service Management
General Business
General Studies
Health Information Processing
Individualized Studies
Industrial Maintenance
Industrial Media
Law Enforcement
Liberal Studies
Manufacturing Technology
Media Illustration
Office Information Assistant
Radiography
Respiratory Therapy
Surgical Technology

Certificate Programs

Aviation Maintenance Technology
Automotive Service
Clinical Assistant
Computer Numerical Control Technology
Cosmetology
Geographic Information Systems
Heating and Air Conditioning/Refrigeration
Individualized Studies
Numerical Control Technology
Practical Nursing

Diploma Programs

Advanced Law Enforcement
Collision Repair Technology
Electrical Line Technician

Certifications

Cosmetology Instructor
Manicurist
Police Academy

Five Year Capital Outlay Plan



Northern Michigan University

Academic Programs

Graduate Programs

Administrative Service

Community Planning

General Administration

Public Administration

Biology

Chemistry

Criminal Justice

Communication Disorders

English

Literature

Pedagogy

Writing

Creative Writing

Exercise Science

Individualized Studies

Nursing

Advanced Adult Health Nursing

Family Nurse Practitioner

Public Administration

Community Planning

Criminal Justice

Financial Administration

General Administration

Health Care Administration

Personnel and Labor Relations

State and Local Administration

(Certificates)

Budget Administration

Criminal Justice Management

Health Care Administration

Nurse Educator

Personnel Administration

Public Management

Program Evaluation and Analysis

Psychology

Training and Development

EDUCATION

Counseling

School Counseling

Educational Administration

Administration and Supervision

Instructional Leadership

Elementary Education

Mathematics Education

Mathematics and Science Education

Enhanced Mathematics and Science Education

Reading

Reading Specialist

Science Education

Secondary Education

Art and Design

Biology

Chemistry

English

French

Five Year Capital Outlay Plan



Northern Michigan University

Academic Programs

EDUCATION (continued)

Geography
Political Science
Spanish
Special Education
Learning Disabilities
Education Specialist
 Administration and Supervision
 Literacy Leadership
Education Certificates
 State Professional Education Certificate, Elementary
 State Professional Education Certificate, Secondary
Additional Endorsement
School Guidance Counseling Endorsement

Post-Baccalaureate Programs

Elementary Provisional Certificate
Secondary Provisional Certificate



Northern Michigan University

Academic Programs

Elementary Education Minors

Elementary Education Planned Component
English
French Education
Geography
History
Language Arts
Mathematics
Physical Education
Science
Social Studies
Spanish Education
Special Education/Psychology

Political Science Education
Psychology Education
Spanish Education
Special Education/Psychology

Non-Education Minors

Accounting
Accounting/Computer Information Systems
Anthropology
Applied Ethics
Architectural Technology
Art & Design
Art History
Automotive Service Tech
Biology
Broadcasting
Broadcasting/Production
Business Administration
Chemistry
Child Care Services
Clinical Laboratory Techniques
Communications Disorders
Computer Aided Design/Mechanical
Computer Information Systems
Computer Science
Construction Systems
Contracted Minor
Criminal Justice

Secondary Education Minors

Art & Design Education
Biology Education
Chemistry Education
Earth Science Education
Economics Education
English Education
Environmental Conservation Education

French Education
Geography Education
Health and Nutrition Minor
History Education
Mathematics Education
Physical Education
Physical Education/Coaching
Physics Education

Five Year Capital Outlay Plan



Northern Michigan University

Academic Programs

Non-Education Minors (*continued*)

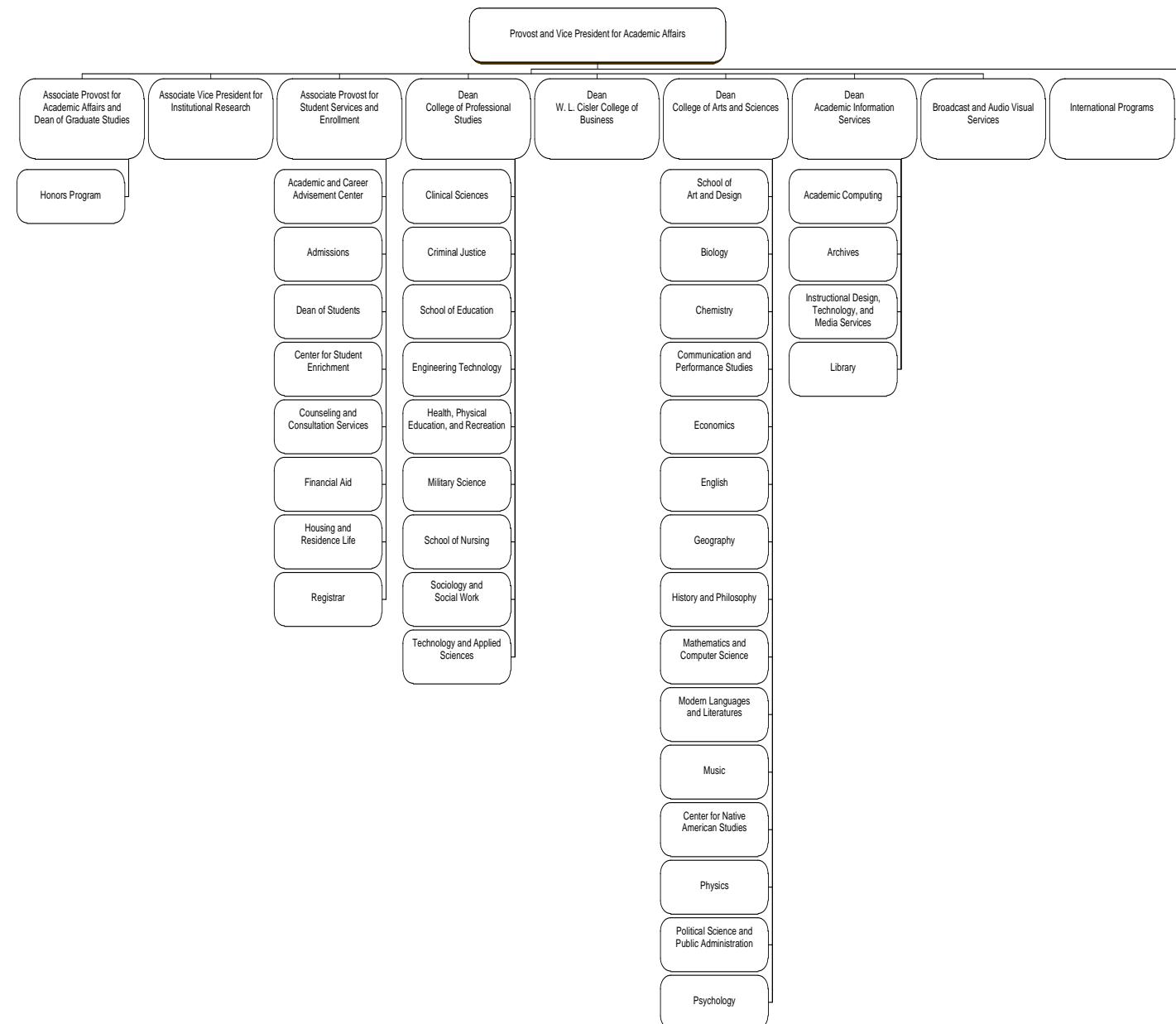
| | |
|------------------------------------|-----------------------------|
| Earth Science | Mathematics Cluster |
| Economics | Military Science |
| Electromechanical Technology | Music |
| Electronics | Native American Studies |
| Electronics Service Technology | Nutrition |
| Emergency Medical Services | Office Services |
| English | Outdoor Leadership |
| Environmental Conservation | Outdoor Recreation |
| Finance | Outdoor Recreation Cluster |
| French | Performance Theatre |
| Gender Studies | Philosophy |
| Geography/Human | Physical Education/General |
| Geography/Physical | Physical Education/Coaching |
| German | Physics |
| Health Cluster | Planning |
| Health Education | Policy Evaluation Cluster |
| History | Political Science |
| Hospitality Service Management | Public History |
| Human Behavior Cluster | Psychology |
| Human Biology | Public Administration |
| Human Services | Public Relations |
| Industrial Maintenance Technology | Religious Studies |
| International Studies | Research Analyst |
| Interpretation & Outdoor Education | Social Welfare |
| Journalism | Sociology |
| Labor Relations | Spanish |
| Labor Studies | Speech Cluster |
| Latin American Studies | Speech Communications |
| Management | Substance Abuse Counseling |
| Manufacturing | Technical Theatre |
| Marketing | Theatre |
| Mathematics | Writing |

Five Year Capital Outlay Plan



Northern Michigan University

Academic Affairs Division



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 2008, we had an enrollment of 9,347 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 seven 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 *(continued)*

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.
- Develop a specific Road Map for certificate, one-year and two-year programs.

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 *(continued)*

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 *(continued)*

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 *(continued)*

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 *(continued)*

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
- Provide new faculty and staff with an on-the-road introduction to the U.P. to orient them to the assets, cultures and economy of the U.P. and to connect them with research ideas that will promote community and regional involvement
- 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 computers have built-in wired and wireless networking and are replaced on a two-year cycle. Wireless technology throughout campus provides improved student access in and out of the classroom and provides greater efficiency in delivery of student services via the internet. Over the next two years, the university plans to expand the wireless network to provide community-wide access through new WiMax technology that will blanket the surrounding county and provide wireless access from campus directly to more than 6,300 students that live off campus in the Marquette area. The improvements will include higher speed services for students to utilize in performing coursework and research. Northern is a leader in the development and utilization of web-based or web-enhanced courses. The university has more than 1,758 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 continues to move forward with its plans for the 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. The project includes the construction of a research facility that will explore ways to create alternative energy.



Initiatives / Academic Program Needs with Impact on Facilities

Instructional Programming: *(continued)*

The university's public radio and television stations will continue its transition to digital broadcasting. The television station completed a master control upgrade that will allow the station to program and switch multiple digital program streams. Future plans are for upgrade of a new digital transmitter, antenna, and microwave system. NMU intends to use digital television and radio transmissions to offer high definition broadcasts, plus up to four optional standard definition program streams that contain classroom and course content especially designed for higher education and K-12 instruction.

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.

In addition, the capital outlay projects listed in Section V describe university needs to continue its conversion of the campus to a high-tech learning environment through renovation of existing facilities that are necessary to help support our growing and changing learning environment, including academic, recreational, and living facilities.



Northern Michigan University

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 225,000 people pass through the Superior Dome turnstiles on an annual basis. The Superior Dome is home to Northern Michigan University football, and hosts high school football regular season games, as well as many MHSAA football playoff games, 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, Midwest Regional Cable Television Managers meeting, Michigan Association of Water Works, U.P. Job Fairs, Boat, Sport and Recreational Vehicle Show, Marquette County New 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 basketball. The facility hosts many junior hockey tournaments, NMU men's and women's club hockey games, as well as figure skating programs. The USOEC short track speed skating programs train in this facility and hosts prestigious competitions. The Berry Events Center also plays host to numerous concerts, lectures, banquets, 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. 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.

Five Year Capital Outlay Plan



Northern Michigan University

Community Presence Activities *(continued)*



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, Nebraska, Illinois, Minnesota, Indiana, Alaska, and Canada annually attend events at NMU. The majority of these 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 all Americans 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 60 Olympic medals, along with high school diplomas and college degrees.



Five Year Capital Outlay Plan



Northern Michigan University

Community Presence Activities *(continued)*



NORTHERN INITIATIVES
is a non-profit
community development
corporation

Northern Initiatives

NMU invests annually in Northern Initiatives (NI), a non-profit economic development corporation now housed on the NMU campus. NI serves 49 rural counties; its original fifteen Upper Peninsula counties, twenty-nine 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, isolate, and sometimes seasonal in nature. NI provides business development services to over 200 companies annually and since 1994 has loaned over \$20M to nearly 500 businesses, with 54% of its loans going to start-up enterprises. NI annually works with around 100 manufacturers and small businesses supporting them with consultations or technical assistance. It also works on regional sustainability projects that offer small businesses the ability to reach larger markets. Its current example is the Great Waters, Nature Tourism Initiative, www.greatwaters.net.

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. 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. 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 five public school academies (charter schools) in Michigan.

Five Year Capital Outlay Plan



Community Presence Activities *(continued)*

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 certification and enrichment using interactive TV and works with local Regional Educational Services Agencies to support the technology needs of area schools. This year, services also included new opportunities for school administrators to conduct regional and state-wide meetings using ITV systems eliminating or reducing the need for expensive travel. These cost effective ITV services help NMU expand the educational horizon of budget challenged school districts and offer students and teachers access to advanced learning services. Using web-based instructional methods NMU offers advanced education in areas such as nursing, criminal justice, public administration and business. In support of these efforts, NMU went live with its new WiMax wireless internet service in August, 2008 and now serves the City of Marquette with 4G technology. This new communications tool provides high-bandwidth communications that supports teaching and learning where students, because of weather, employment or other circumstances find it impossible to attend classes on NMU's campus.



Community Presence Activities *(continued)*

Public Broadcasting

NMU's public radio and television stations continue with their transition to digital broadcasting. In 2007, WNMU-FM became the first radio station in Upper Michigan to begin digital broadcasting with the capacity to add auxiliary program streams to its main broadcast signal. The station relies on WNMU-TV's microwave system for completing its studio-to-transmitter link which was recently upgraded to digital. With this link in place additional program streams are now possible and will be considered for broadcast as the need and demand dictates. Likewise, WNMU-TV continues its transition to full digital broadcasting and during the second quarter of 2009, completed the installation of a new microwave link, digital transmitter and antenna system. The station also continues with its studio conversion project, upgrading control room facilities for video and audio switching. This latest studio conversion project will be 100% funded by a \$633,231 Rural Utilities Service Digital Conversion grant.

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. Both stations continue to provide service learning opportunities for NMU students with hands-on production, graphics, and electronic engineering opportunities.



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 March 2001, the total impact that NMU has on economic activity in the UP is \$262 million. The study indicated that NMU has an impact on more than 5,000 jobs which represents one of every 25 jobs in the UP, and one of every five in Marquette County. The economic impact generates a five-to-one return on the annual investment in NMU by the State of Michigan.

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, In., Louisiana Pacific-Newberry, Pioneer Surgical Technologies, WE Energies, Smurfit-Stone Container, and NewPage Corporation.

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 WalMart. 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

Northern Michigan University has entered into a partnership with Marquette General Hospital in order to offer two new associate degree programs. New accreditation standards require that all hospital based training programs form a partnership with an academic institution. The Radiography and Respiratory Therapy Programs represent a collaborative effort between Marquette General Hospital and the Clinical Laboratory Sciences Department, which will result in students being awarded an associate's degree.



Economic Impact / Partnerships with Business and Industry *(continued)*

The first majors were enrolled at NMU in fall 2007. The programs require one year of prescribed prerequisite course work at NMU. Following that, students would complete a two year clinical practicum at Marquette General Hospital. These two programs will help meet the increasing need for accredited professionals in these two rapidly growing fields. Graduates will be in high demand, both locally and regionally. All of these credits will also ladder into a bachelor's degree program which is currently being developed.

School of Technology and Applied Sciences

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 Industrial Electrical 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. Additionally, NMU staff and faculty are continuing the development of a company specific apprenticeship program that will serve the mining operations, as well as the proposed nugget processing plant expansion. 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 Center 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.

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.

Five Year Capital Outlay Plan



Economic Impact / Partnerships with Business and Industry *(continued)*

Louisiana-Pacific, Newberry

Considerable collaboration resulted in a customized skill gap analysis product that initially assessed 26 Louisiana-Pacific employees. The gap analysis will assist the company in reliably determining training needs. Louisiana-Pacific continues to administer the written assessments as needed for new hires and promotion candidates. Hands-on assessments, assessment scoring, and gap analysis reports are provided by NMU.

Wisconsin Public Service Company

During 2004 a major employee assessment project was conducted by the School of Technology and Applied Sciences for electrical and mechanical maintenance employees at two Wisconsin Public Service electric generation facilities. The assessment resulted in a Training Gap Analysis document which will guide WPS management as employee training is scheduled and delivered as part of an employee upgrade program. WPS is pleased with the work done by NMU faculty.

AMR (American Eagle Airlines)

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

Ironwood Plastics

Students have access to a scholarship endowment from Ironwood Plastics to provide students with a certificate in Injection Molding Technology. This program provides graduates with the necessary skills for entry-level employment within the plastic injection industry.

Regional Organized Labor Unions

Apprentice training for five area trade unions is located in the D.J. Jacobetti Center at NMU. The Local 6 Bricklayers, Local 7 Sheet Metal Workers, Local 8 Iron Workers, Local 506 HVACR, and the Local 1070 Electricians.

Plumbers and Pipefitters have all located their regional training base to the Jacobetti Center. In addition to the apprentice training, journeyman upgrade sessions within each trade jurisdiction will be offered. Each year, from August through June, nearly 700 hours of instruction takes place.

Five Year Capital Outlay Plan



Economic Impact / Partnerships with Business and Industry *(continued)*

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 Industry

In response to changes in Michigan's food safety laws, NMU conducts mandatory food safety certification courses. All food 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 two mini baja vehicles used in student competitions across the Midwest.

Pioneer Surgical Technology

A close working relationship continues between NMU and 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 Center, 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 *(continued)*

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.

Economic Development Jobs Training Grant (EDJT)

A \$200,000 EDJT grant to provide in-service skills training and professional development for employers/employees in the manufacturing industry sectors in our region.



Northern Michigan University

Section III Enrollment and Staffing

Five Year Capital Outlay Plan

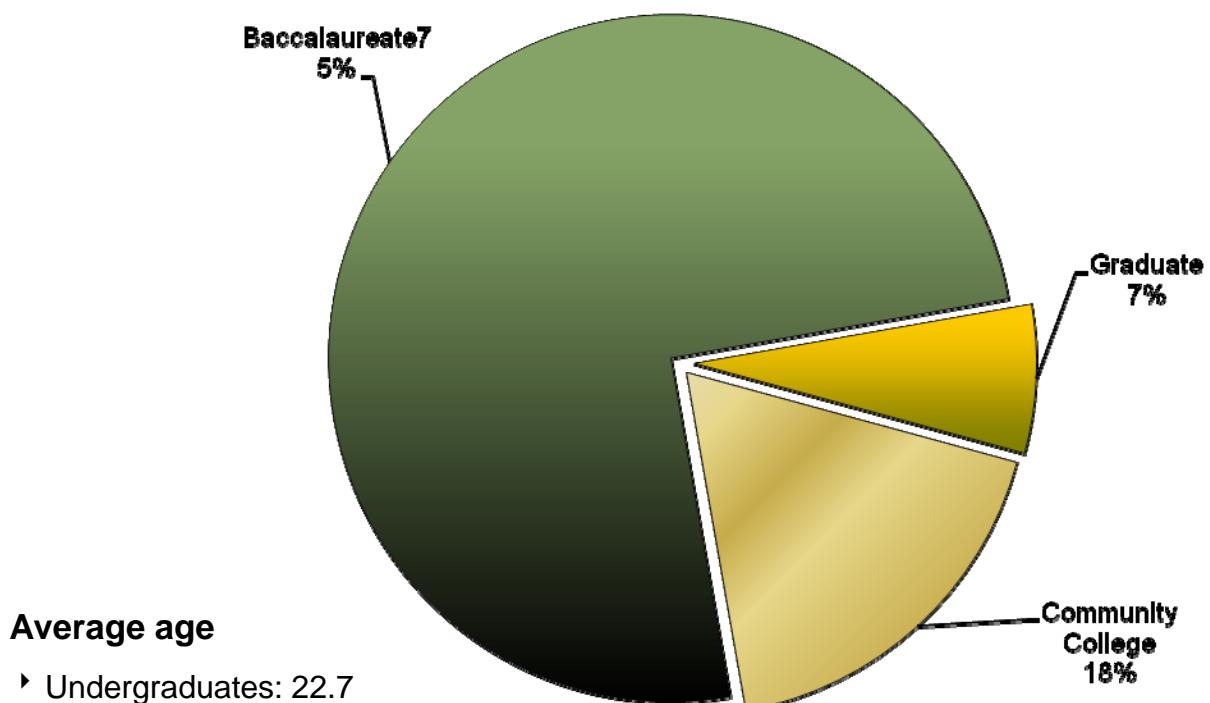


Northern Michigan University

Enrollment

Headcount

Fall 2009 (n = 9,258 – 10th Day of Class)



Average age

- Undergraduates: 22.7
- Graduates: 37.3
- Overall: 23.8

Other student statistics

- At least one student from:
 - 83 of 83 Michigan counties
 - 44 different states
 - 20 different countries

Five Year Capital Outlay Plan



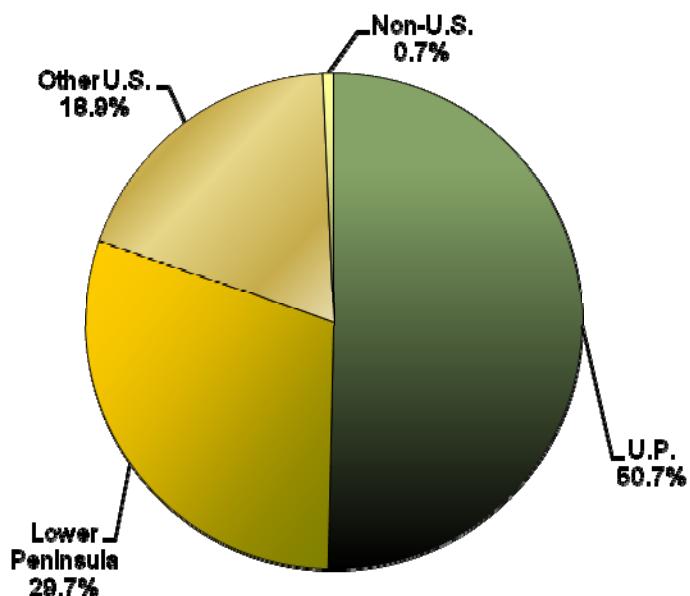
Northern Michigan University

Enrollment

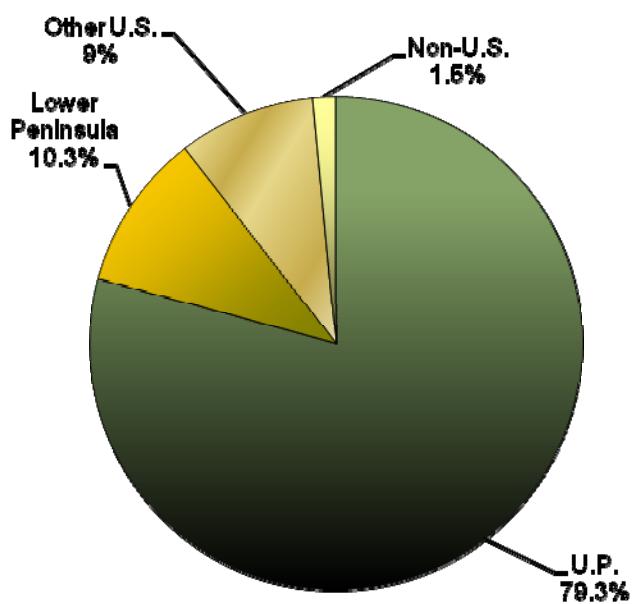
Recruiting Region

Fall 2009 (n = 9,258 – 10th Day of Class)

Undergraduate
(n = 8,578)



Graduate
(n = 680)



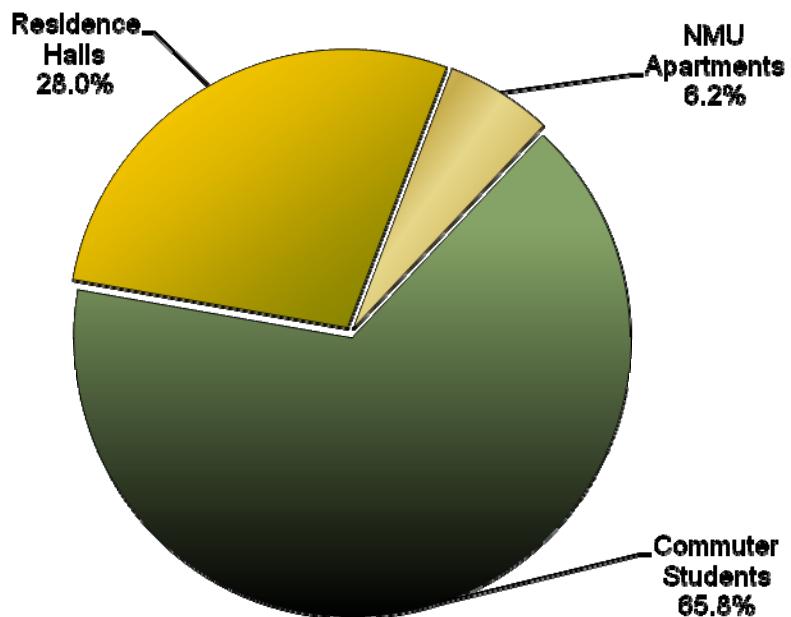
Five Year Capital Outlay Plan



Northern Michigan University

Enrollment

Where NMU Students Live
Fall 2009 (n = 9,258 – 10th Day of Class)



Five Year Capital Outlay Plan

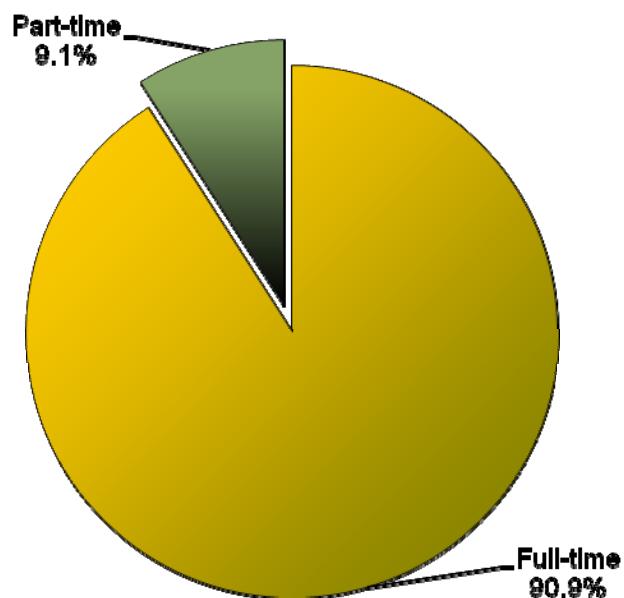


Northern Michigan University

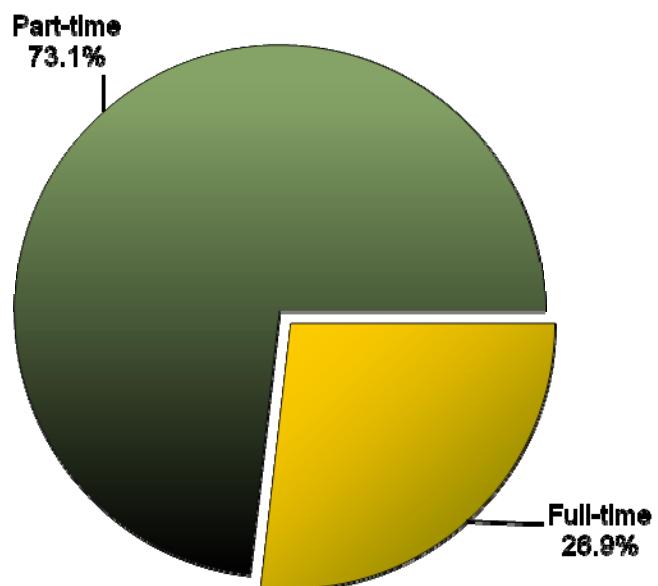
Enrollment

Full-time/Part-time Status
Fall 2009 (n = 9,258 – 10th Day of Class)

Undergraduate
(n = 8,578)



Graduate
(n = 680)



Five Year Capital Outlay Plan



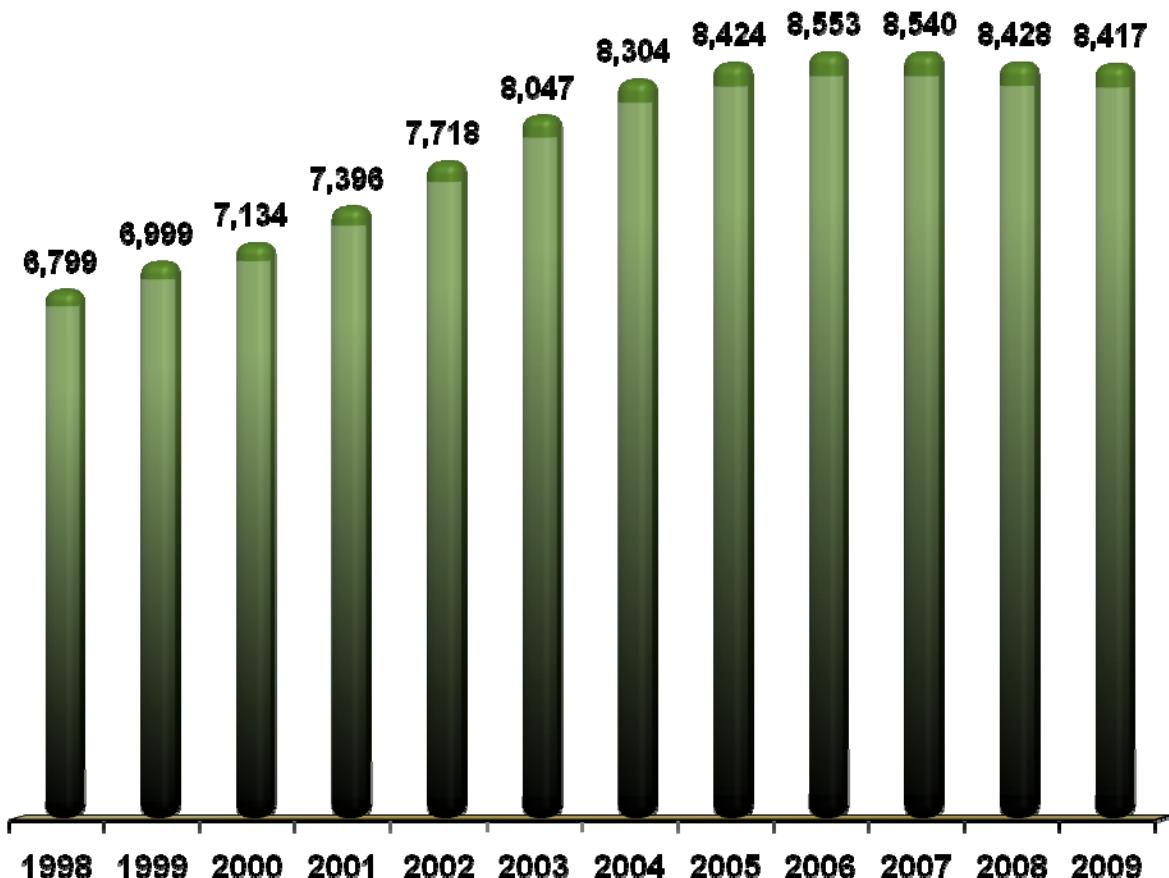
Northern Michigan University

Enrollment

Full Year Equated Student Change

- ▶ FYES decreased for the third successive year after eight consecutive years of growth
 - ▼ Decrease of 0.1% as compared to prior year
 - ▲ Overall increase of 23.8% since 1998

NMU FYES



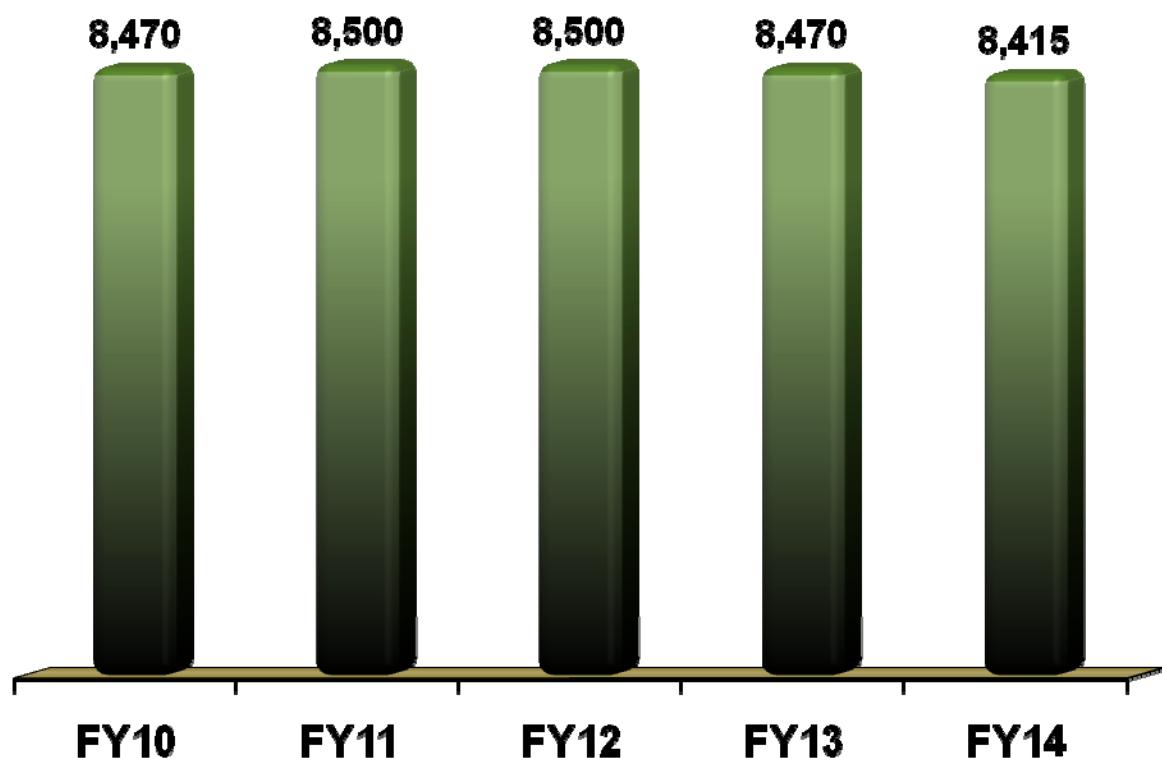
Five Year Capital Outlay Plan



Northern Michigan University

Enrollment

Full Year Equated Student Change (FYES) 5 Year Projection



Five Year Capital Outlay Plan

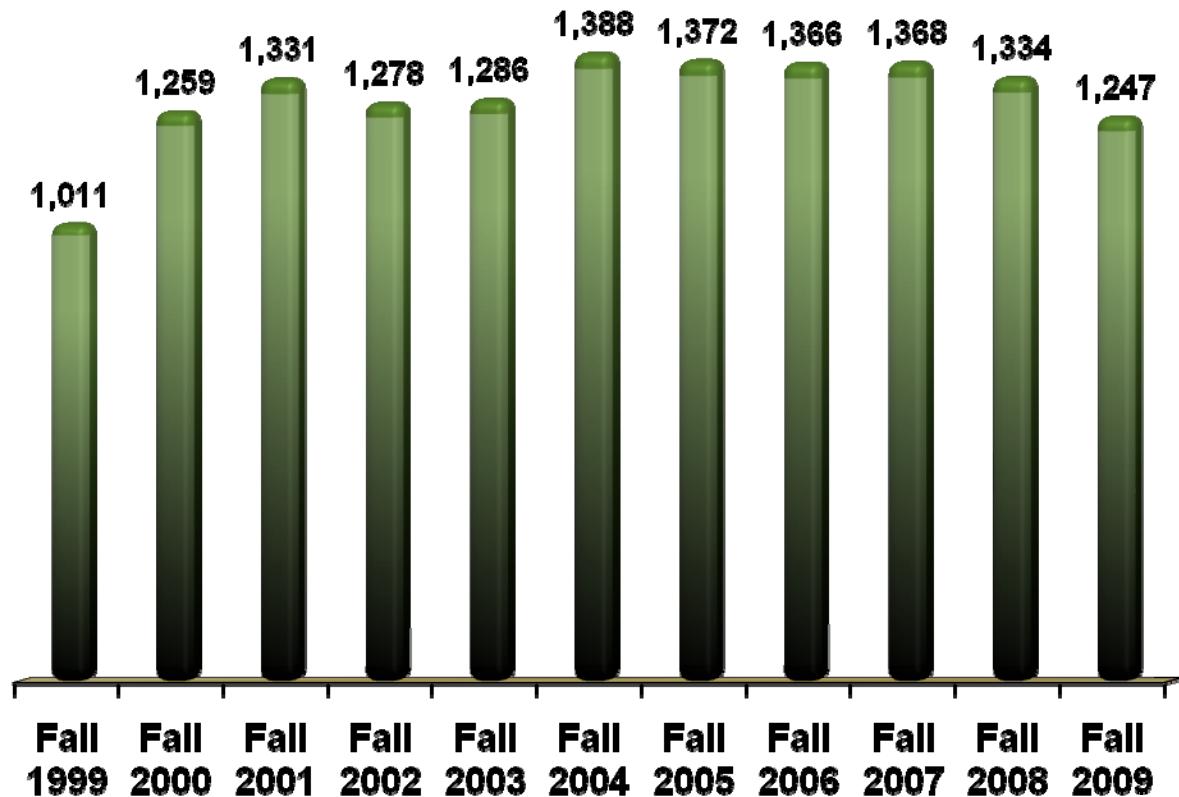


Northern Michigan University

Enrollment

Baccalaureate First-Time, Full-Time New Freshmen

- ▶ Fall 2009 Freshman Class will decline by 7% comparable to prior five year numbers
- ▶ Fall 2009 Freshman Class Increased by 23.3% Since Fall 1999



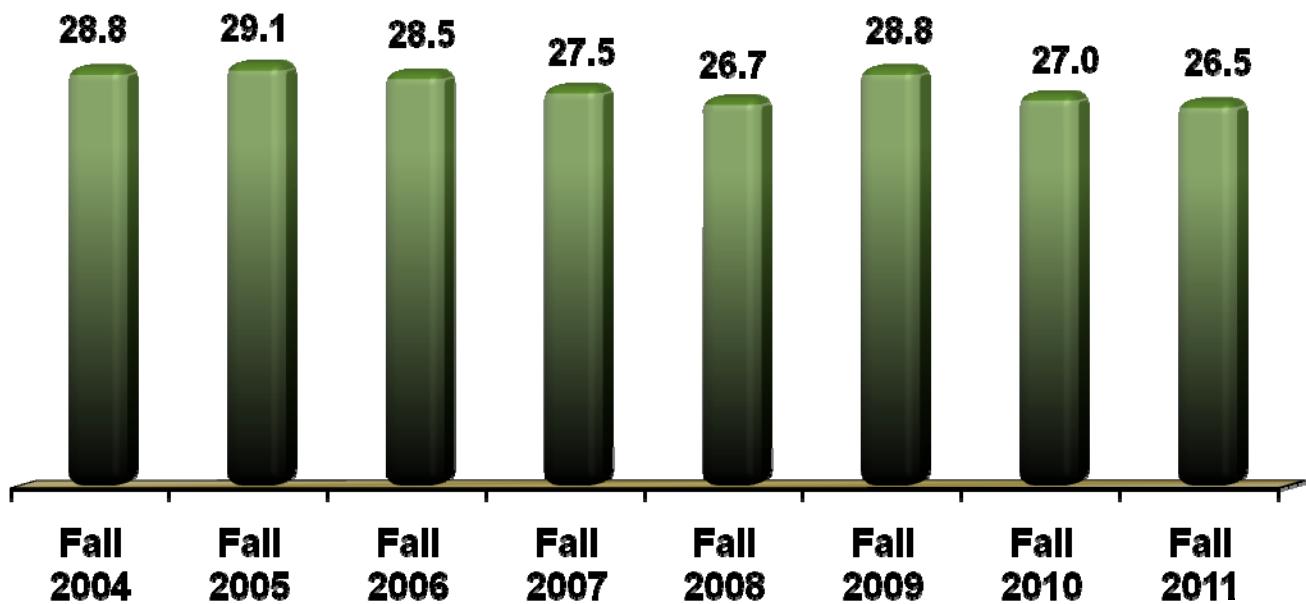
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Northern Michigan University

Enrollment

Average Lecture Class Size and Projected Average Class Size



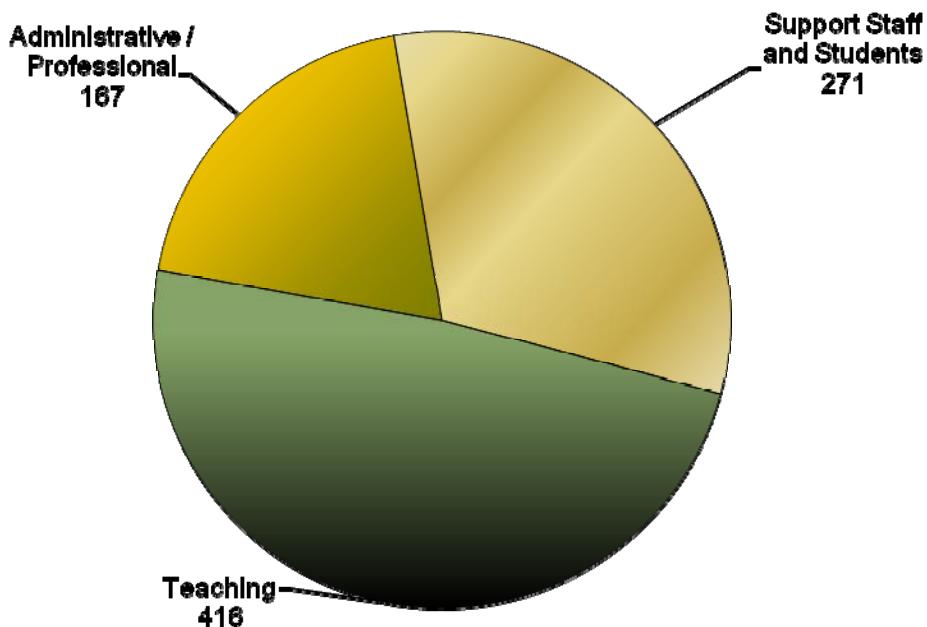
Five Year Capital Outlay Plan



Northern Michigan University

Staffing

2008-2009 Full-Time Equivalent By Employee Category



Staff FTE

| | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Teaching (Instructional Staff) | 362 | 363 | 372 | 383 | 402 | 408 | 416 | 423 | 425 | 425 | 425 |
| Administrative/Professional Staff | 200 | 186 | 163 | 156 | 161 | 163 | 167 | 167 | 167 | 167 | 167 |
| Service Staff and Students | 308 | 306 | 308 | 270 | 277 | 287 | 271 | 271 | 271 | 271 | 271 |

Student (FYES) - to - Staff Ratios

| | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Teaching (Instructional Staff) | 22.23 | 22.88 | 22.65 | 22.33 | 21.24 | 20.65 | 20.25 | 20.04 | 20.02 | 20.02 | 19.95 |
| Administrative/Professional Staff | 40.24 | 44.65 | 51.68 | 54.83 | 53.03 | 51.55 | 50.37 | 50.69 | 50.87 | 50.87 | 50.69 |
| Service Staff and Students | 26.13 | 27.14 | 27.53 | 31.68 | 30.82 | 29.37 | 31.10 | 31.29 | 31.40 | 31.40 | 31.29 |

Five Year Capital Outlay Plan



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 one-third (1/3) of all campus facilities are inspected by a professional engineering and architectural firm to update 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.



Five Year Capital Outlay Plan



Northern Michigan University

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 and is actively expanding. These efforts include: continually improving energy 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 save 25 million dollars since 1973.

Energy

Sustainability and conservation efforts are a University goal and to improve these efforts the Facilities Department conducts monthly meetings with facilities staff to evaluate building mechanical and electrical system operation, make scheduling and system improvements, and review utility usage. These efforts have helped to reduce heating and cooling usage by 25%; while square footage of air conditioned space has increased 146%, reduced electrical usage 1% and water usage 34%, while overall square footage has increased 77%, since 1973. These reductions were achieved due to NMU's resource conservation effort.

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, projected savings along with the 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 several boiler replacements in campus apartments.

One of the university's goals for the upcoming year is to launch an Energy Star Program. This program will utilize the five Energy Star stages which are recommissioning, lighting, supplemental load reduction, fan system upgrades and heating/cooling system upgrades. The goal is to closely review each campus building over the next 5-7 years.

Five Year Capital Outlay Plan



NMU and Sustainability *(continued)*

Building Design

LEED® Green Building certification is being sought 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 with the overall goal of reducing operating costs, providing a healthier environment for building occupants, and conserving energy. The university has achieved LEED Green Building certification for the renovation of Meyland Hall and LEED Green Building Silver certification on Van Antwerp Hall renovations as Hunt Hall and two Quad II Lobby renovations anticipate certification by the end of 2009. These coveted awards are among the first in the Midwest under the LEED certification system and speak to the university's continued commitment to sustainability. Also, 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 5,000 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.



NMU and Sustainability *(continued)*

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 installed at one of the Dining Halls to reduce food waste volume by 85%. 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.

Operational policies include promoting “trayless service days” within campus dining halls to help reduce waste. The university also utilizes green cleaning products for most of its applications.

Community Awareness

Sustainability and conservation efforts are a University goal and to improve community awareness the Facilities Department provides monthly emails to the campus community highlighting 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.”



Northern Michigan University

Facilities Assessment

- ◆ **NMU Physical Plant Overview**

- 64 Buildings
 - ▼ 3.48 million square feet
- 684 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



Five Year Capital Outlay Plan



Northern Michigan University

Facilities Condition Cost Analysis by Priority Class For All State Buildings

| Buildings | Immediate | Year One | Year Two to Five | Year Six to Ten | Total |
|--|-------------------|----------------------|----------------------|----------------------|----------------------|
| Ada B. Vielmetti Health Center | \$ - | \$ 14,776 | \$ 55,160 | \$ 80,192 | \$ 150,128 |
| Art and Design | \$ - | \$ 110,563 | \$ 5,475 | \$ 916,492 | \$ 1,032,531 |
| Berry Center Link | \$ - | \$ - | \$ 2,839 | \$ 38,148 | \$ 40,987 |
| Bus Garage | \$ - | \$ - | \$ 16,364 | \$ 3,269 | \$ 19,633 |
| Butler Building | \$ - | \$ 15,903 | \$ 37,642 | \$ - | \$ 53,543 |
| E.G. Carey Hall* | \$ 94,753 | \$ 323,130 | \$ 5,391,812 | \$ 521,188 | \$ 6,330,884 |
| Superior Dome / PEIF Link | \$ - | \$ 2,225 | \$ 224 | \$ 15,345 | \$ 17,794 |
| Berry Events Center | \$ 74,287 | \$ - | \$ - | \$ 625,416 | \$ 699,703 |
| Forest Roberts Theatre | \$ - | \$ 660,097 | \$ 644,734 | \$ 423,793 | \$ 1,728,625 |
| New Science Facility | \$ 2,846 | \$ 41,172 | \$ 71,656 | \$ 889,084 | \$ 1,004,759 |
| H. D. Lee Hall* | \$ 120,956 | \$ 292,906 | \$ 4,005,439 | \$ 180,107 | \$ 4,599,409 |
| Jacobetti Center | \$ - | \$ 1,234,175 | \$ 2,934,900 | \$ 4,191,703 | \$ 8,360,777 |
| Jacobetti Storage | \$ - | \$ 19,636 | \$ 3,918 | \$ 51,899 | \$ 75,453 |
| John X. Jamrich Hall | \$ 34,302 | \$ 489,973 | \$ 6,376,398 | \$ 2,376,380 | \$ 9,277,053 |
| Kaye House (President's Residence) | \$ - | \$ - | \$ 49,457 | \$ 36,407 | \$ 85,864 |
| E. L. Harden Learning Resource Center | \$ 102,407 | \$ 998,669 | \$ 10,666,955 | \$ 2,331,934 | \$ 14,099,965 |
| Learning Resource Center/West Science Link | \$ - | \$ 10,488 | \$ 7,192 | \$ 19,574 | \$ 37,254 |
| L. S. West Science Building | \$ - | \$ - | \$ - | \$ 1,055,865 | \$ 1,055,865 |
| W.B. McClintock Building | \$ - | \$ 353,414 | \$ 478,344 | \$ 437,479 | \$ 1,269,237 |
| Physical Education Instruction Facility | \$ - | \$ 1,860,043 | \$ 2,213,354 | \$ 1,613,699 | \$ 5,687,096 |
| Ripley Heating Plant | \$ - | \$ 3,617 | \$ 44,253 | \$ 93,698 | \$ 141,568 |
| Sam M. Cohodas Hall | \$ 9,753 | \$ 44,336 | \$ 2,804,501 | \$ 5,422,604 | \$ 8,281,195 |
| Services Building | \$ - | \$ - | \$ 106,978 | \$ 232,819 | \$ 339,798 |
| Superior Dome | \$ - | \$ 5,930,465 | \$ 1,449,131 | \$ 1,478,203 | \$ 8,857,799 |
| University Center/Gries Hall Link | \$ - | \$ 38,670 | \$ - | \$ 72,510 | \$ 111,180 |
| W. F. Gries Hall | \$ - | \$ 36,350 | \$ 298,978 | \$ 614,768 | \$ 950,096 |
| Thomas Fine Arts | \$ - | \$ 9,553 | \$ - | \$ 28,588 | \$ 38,141 |
| Other | | | | | |
| Utility Infrastructure | \$ 182,890 | \$ 96,126 | \$ 21,028,151 | \$ 359,679 | \$ 21,666,847 |
| Hardscape | \$ - | \$ 95,758 | \$ 210,678 | \$ 933,966 | \$ 1,240,403 |
| Campus Security | \$ - | \$ - | \$ 435,195 | \$ - | \$ 435,195 |
| Totals | \$ 622,194 | \$ 12,682,045 | \$ 59,339,728 | \$ 25,044,809 | \$ 97,688,782 |

* These Buildings were vacated in FY 2005

Five Year Capital Outlay Plan



Northern Michigan University

Facilities Condition Cost Analysis by Priority Class For All Auxiliary Buildings

| Buildings | Immediate | Year One | Years Two to Five | Years Six to Ten | Total |
|-----------------------------------|----------------------|------------------------|------------------------------|-----------------------------|-------------------------|
| Center Street Apartments | \$ 52,431.00 | \$ 426,408.00 | \$ 4,570,199.00 | \$ 590,953.00 | \$ 5,639,990.00 |
| Charles C. Spooner Residence Hall | \$ 58,560.00 | \$ - | \$ 5,404,597.00 | \$ 388,773.00 | \$ 5,851,930.00 |
| Don H. Bottum University Center | \$ 132,111.00 | \$ 130,255.00 | \$ 13,601,668.00 | \$ 2,126,481.00 | \$ 15,990,514.00 |
| L. O. Gant Hall | \$ 27,722.00 | \$ - | \$ 4,888,502.00 | \$ 1,500,166.00 | \$ 6,416,391.00 |
| L. H. Halverson Hall | \$ 154,802.00 | \$ - | \$ 4,464,189.00 | \$ 1,500,312.00 | \$ 6,119,304.00 |
| Lincoln Street Apartments | \$ 110,284.00 | \$ 385,751.00 | \$ 5,056,741.00 | \$ 1,143,736.00 | \$ 6,696,511.00 |
| M.K. Magers Hall | \$ - | \$ 6,940.00 | \$ - | \$ 44,140.00 | \$ 51,080.00 |
| M. L. VanAntwerp Residence Hall | \$ - | \$ - | \$ 7,823.00 | \$ 6,536.00 | \$ 14,359.00 |
| Norwood Street Apartments | \$ 46,561.00 | \$ 761,580.00 | \$ 3,387,983.00 | \$ 115,208.00 | \$ 4,311,332.00 |
| Payne Hall | \$ 163,632.00 | \$ - | \$ 4,478,954.00 | \$ 1,500,166.00 | \$ 6,142,752.00 |
| Quad I Service | \$ 8,817.00 | \$ - | \$ 210,827.00 | \$ 322,132.00 | \$ 541,776.00 |
| Quad II | \$ 75,166.00 | \$ 679,291.00 | \$ 3,179,587.00 | \$ 456,206.00 | \$ 4,390,251.00 |
| G.A. Spalding Hall | \$ 65,433.00 | \$ - | \$ 4,730,629.00 | \$ 1,494,211.00 | \$ 6,290,273.00 |
| W. D. West Residence Hall | \$ 28,338.00 | | \$ 6,285,526.00 | \$ 625,275.00 | \$ 6,939,139.00 |
| Wilkinson House | \$ - | \$ - | \$ 220,934.00 | \$ - | \$ 220,934.00 |
| Summit Street Apartments | \$ 46,765.00 | \$ 453,811.00 | \$ 5,790,641.00 | \$ 1,317,381.00 | \$ 7,608,598.00 |
| Totals | \$ 970,622.00 | \$ 2,844,036.00 | \$ 66,278,800.00 | \$ 13,131,676.00 | \$ 83,225,134.00 |

Five Year Capital Outlay Plan



Northern Michigan University

Facility Assessment Summary

Five Year Capital Outlay Plan



Facility Assessment *(continued)*

Long Term Maintenance

Since September 2008, Northern has completed \$3.3 million of long term maintenance for state buildings, auxiliary buildings, utility infrastructure, security, and hardscape. Examples of some of these projects include, but are not limited to, the following:

- Quad II Lobby Renovations
- LRC HVAC improvements
- Residence Hall / Apartment door access
- Asphalt, sidewalk, and catch basin repairs
- Sanitary sewer replacement
- Jacobetti classroom upgrades
- Heating Plant electrical upgrades and make-up air repairs
- Heating Plant stack repairs
- LRC water heater replacement

When buildings are renovated, long term maintenance projects are incorporated whenever possible. This fiscal year general fund monies totaling \$1,370,000 have been allocated to address long term maintenance items.

Space Utilization

NMU's room scheduling software by *CollegeNet* (R25) has been utilized since the fall 2007 semester for majority of all class scheduling. This software automates the course and event assignment for classroom/meeting space across campus. In addition to the room scheduling software, NMU has purchased X25, a room utilization reporting component by *CollegeNet*, utilizing the scheduling data from R25. These two tools will allow the university to optimize course scheduling and evaluate/improve current space utilization.

During the summer of 2008, this system was used to evaluate the use of both general and department controlled classrooms in the Jacobetti Center. With the data provided by this system, the university was able to consolidate classroom space within the facility and identify approximately 10,000 gross square feet to be adapted for other uses.

Five Year Capital Outlay Plan



Northern Michigan University

Facility Assessment *(continued)*

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. The university has established a Space Utilization Committee to help identify these deficiencies, provide the administration with space utilization information, and develop recommendations to effectively manage facilities.

Below is a summary of *General Use Classroom Utilization* by building for fall 2008 (Monday/Friday - 10:00am – 3:00pm)

| General Use Classroom Facilities Fall 2009 | | | |
|---|------------------------|-------------------------------------|-------------------------------------|
| Building | # of Classrooms | Average Room Utilization (%) | Average Seat Utilization (%) |
| John X. Jamrich Hall | 32 | 66 | 59 |
| Luther S. West Science Building | 14 | 69 | 63 |
| Wayne B. McClintock Building | 6 | 60 | 54 |
| Russell Thomas Fine Arts | 6 | 69 | 67 |
| Walter F. Gries Hall | 3 | 73 | 81 |
| New Science Facility | 2 | 76 | 65 |
| Whitman Hall | 2 | 77 | 55 |

Utilization rates represent only credit classes formally scheduled by the Registers 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 our spatial distributions with similar institutions to identify opportunities for expansion. 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.

Five Year Capital Outlay 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 2005, NMU installed 987 feet of water main to serve the new Woodland Park Apartments.

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.





Assessment of Campus Utilities System *(continued)*

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. 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.

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, landscape area. This reduced the water entering the city storm system by approximately 400,000 gallons annually.



Assessment of Campus Utilities System *(continued)*

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 2009, 350 feet of sanitary pipe sewer was replaced serving the 600/700 Summit Street Apartments. Also, during the fall of 2009, 248' of sanitary sewer pipe installed in the early 1900s serving the Cohodas Hall was slip lined using trenchless technology.

| UTILITY SYSTEM | NEED YEAR | ESTIMATED COST |
|-----------------------------|--------------|---------------------------|
| Water System | 4 | \$167,107 |
| Steam Distribution | 3 | \$2,228,096 |
| Storm Drain Mains | 5 | \$64,272 |
| Sanitary Sewer Mains | 2 | <u>\$167,107</u> |
| Utility System Total | | <u>\$2,626,582</u> |



Assessment of Campus Infrastructure

Roadways (3.6 miles)

Improvements:

The last road improvement was completed in 2003 with over 3,800 feet of new roadway being constructed, including curb and gutter and storm sewer by the Michigan Department of Transportation. This project was funded through a Michigan Institutional Roadway (MIR) grant and completed the road network encompassing the university's Recreation and Sports Complex.

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:

Several areas around the campus are beginning to show signs of deteriorating pavement but are not in the condition requiring immediate repairs within the next year. The roadway to the northwest from the Lee Drive and Seventh Street intersection past the driveway entrance into Lot #28 will need to be paved in the next several years. These areas have superficial cracks in the pavement that will worsen over time as a result of the harsh winters. The areas will need to be repaired by filling potholes with asphalt patch and crack sealant, and select areas of paved surface may be scarified where necessary to improve drainage patterns. The entire pavement should receive a 2" asphalt surface course and new striping.

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. These areas are expected to crack requiring sealant and patchwork before applying the new surface wearing course. It is expected that 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.



Assessment of Campus Infrastructure *(continued)*

Parking (6,877+ spaces total)

Improvements:

Current parking lot conditions on campus range from paved parking with curb and gutter to unimproved gravel lots. During the 2004 construction season Lots 28 and 62 were reconstructed to serve the newly renovated Student Services 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 2006 a new 207-space parking lot was completed as part of the new Woodland Park Apartments and a portion of Lot 15 was resurfaced.

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. As the sidewalks crack from the effect of freeze and thaw, the surfaces become uneven, and the scraping of the ice and snow causes more and more structural damage. The typical deterioration of the hardscape structures is accelerated as a result of the harsh winter environment.

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



Assessment of Campus Infrastructure *(continued)*

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 2004, in conjunction with the Student Services Parking Lot project, approximately 2,500 feet of sidewalk was replaced between the Academic Mall and the corner of 7th Street and Tracy Avenue.

Despite this replacement there are still a number of walks that do not meet the existing campus standard or are so badly deteriorated that they are in need of replacement. Several 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. Sidewalks in the vicinity of Spooner Hall and the intersection of Seventh Street and Lee Drive need replacement. Two other areas exist on campus that presently either do not have a concrete sidewalk or the existing sidewalk is not adequate for the conditions.

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 Carey 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 2008 approximately 180' of asphalt sidewalk was replaced with 10' wide concrete sidewalks at the Superior Dome.



Assessment of Campus Infrastructure *(continued)*

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 and the surrounding City of Marquette. WiMax network coverage will also be expanded to meet the needs of the university community that live outside the City of Marquette within a 30 mile radius of the city.



Northern Michigan University

Building Bonds

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

| Fiscal Year | Principal | Interest | Total |
|---|-----------------------------|---------------------|----------------------|
| 2010 | 3,545,000 | 5,077,624 | 8,622,624 |
| 2011 | 3,585,000 | 4,923,553 | 8,508,553 |
| 2012 | 3,650,000 | 4,788,619 | 8,438,619 |
| 2013 | 3,720,000 | 4,652,256 | 8,372,256 |
| 2014 | 3,985,000 | 4,508,813 | 8,493,813 |
| Total Five Years | \$18,485,000 | \$23,950,865 | \$42,435,865 |
| Thereafter | | | |
| 2015 - 2019 | 21,540,000 | 19,871,444 | 41,411,444 |
| 2020 - 2024 | 25,395,000 | 14,175,548 | 39,570,548 |
| 2025 - 2029 | 20,915,000 | 8,481,782 | 29,396,782 |
| 2030 - 2034 | 16,355,000 | 3,738,816 | 20,093,816 |
| 2035 - 2039 | 7,490,000 | 600,575 | 8,090,575 |
| Total | \$110,180,000 | \$70,819,030 | \$180,999,030 |
| Less: Deferred amount on refunding, net | <u>(\$4,731,859)</u> | | |
| Less: Unamortized re-offering premium | <u>\$1,958,151</u> | | |
| Total | <u>\$107,406,292</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

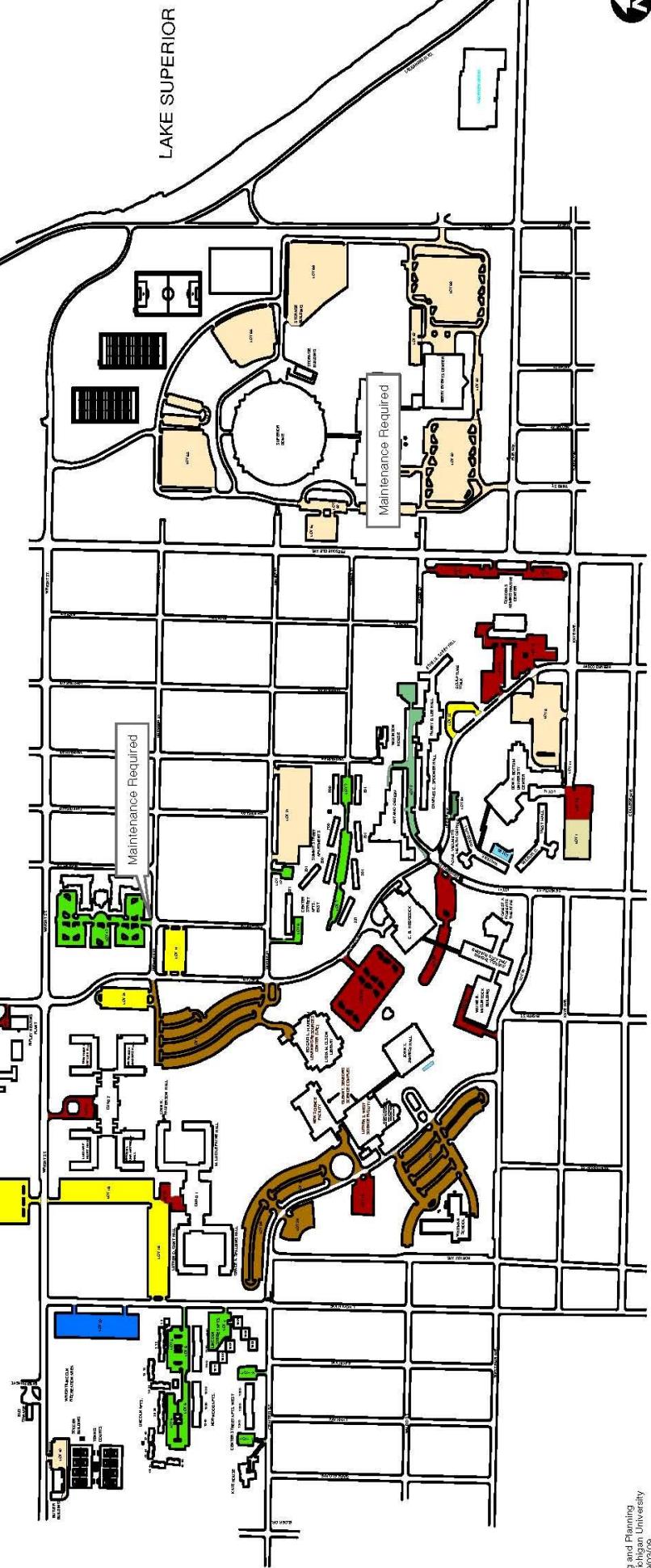
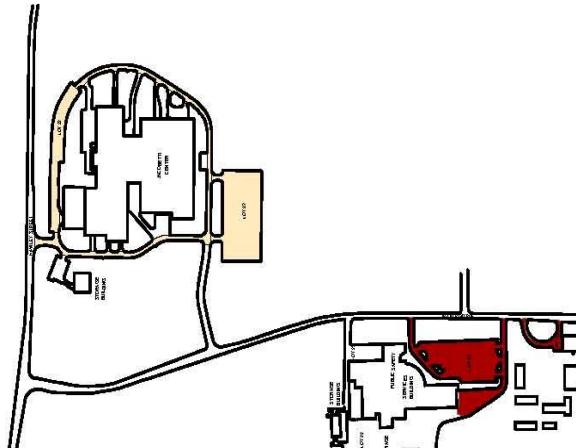
Five Year Capital Outlay Plan

Northern Michigan University 2009 Road and Parking Statistics

Legend

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

| Summary of NMU Parking Lots | | # of Lots | Total of Spaces |
|-------------------------------|----|-----------|-----------------|
| Apartment | 6 | 9 | 6 |
| Commuter | 4 | 997 | 4 |
| Freshman/Resident | 10 | 1082 | 10 |
| General Parking | 1 | 180 | 1 |
| Handicap | 17 | 2757 | 17 |
| Health Center | 2 | 13 | 2 |
| Heating Plant | 1 | 45 | 1 |
| Norway Street Faculty Parking | 1 | 123 | 1 |
| Preserved Resident (Spooner) | 1 | 106 | 1 |
| Preserved Resident (West) | 1 | 858 | 5 |
| President | 5 | 12 | 1 |
| Service Entry | 2 | 46 | 2 |
| Street Parking - Faculty Only | 1 | 35 | 1 |
| Street Parking - General | 1 | 35 | 1 |





Northern Michigan University

Assessment of University Land

Five Year Capital Outlay Plan



Northern Michigan University

University Land

The university owns 684 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.

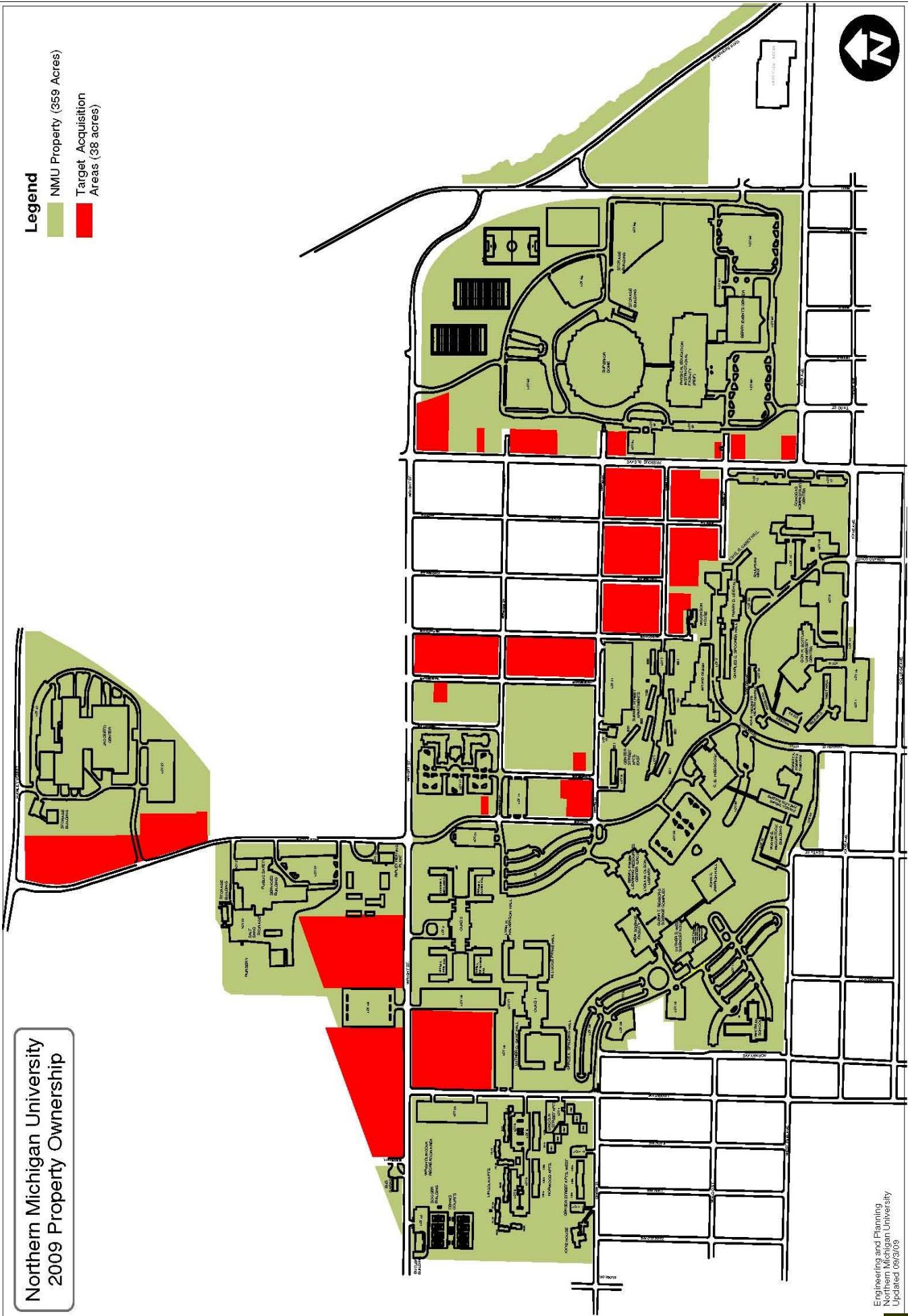


Five Year Capital Outlay Plan

Northern Michigan University 2009 Property Ownership

Legend

- NMU Property (359 Acres)
- Target Acquisition Areas (38 acres)





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 109th birthday on September 19, 2008. Reaching the century milestone is an indication of our past success. Our physical plant was 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.



Bio-Mass Fueled Combined Heat and Power Cogeneration

A solid bio-mass fueled high pressure steam boiler with an extraction steam turbine will be constructed in an addition to the Ripley Heating Plant to generate steam and electricity for most of the buildings on NMU's campus. The goal is to increase energy efficiency, improve the reliability of electricity, utilize renewable resources, and diversify the fuel sources. As a result, NMU's operating costs will be reduced, new jobs will be created in the area, the dependency on foreign oil and natural gas will be reduced, a market will be created for small U.P. wood suppliers' waste wood products, and the environment will benefit because of improved efficiency. In addition the project offers an opportunity for our faculty and students to explore ways to create alternative energy through the construction of a research facility. Potential projects include investigating the growth of algae as a carbon emission sequestration system; sampling emissions and researching temperature, flow rate, and aeration; utilizing the algae tank to capture emitted CO₂ and calculating the carbon footprint reduction; and examining NMU's waste recycled paper as material for briquettes that can be burned as fuel for the boiler.

John X. Jamrich Hall Renovation

Jamrich Hall was completed in 1969 and serves as the University's primary general use classroom building. As with most classroom buildings from this era, it was designed for traditional lecture type instruction and is not conducive for modern pedagogies. The goal of this project is to renovate and upgrade Jamrich Hall to create a modern, high quality classroom facility that supports active learning by providing high-tech, flexible learning spaces that can be adapted to various class sizes and room layouts with the latest support technologies.

Five Year Capital Outlay Plan



Northern Michigan University

Introduction *(continued)*

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 also provide for increasing library needs and expansion of the university archives. The LRC also needs to 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

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.



Five Year Capital Outlay Plan



Northern Michigan University

Attachment A

SUMMARY

FISCAL YEAR 2011 CAPITAL OUTLAY PROJECT REQUEST

| Priority | Project | Total Project Cost (in thousands) |
|----------|--|--------------------------------------|
| 1 | Bio-Mass Fueled Combined Heat and Power Cogeneration | \$65,000 |
| 2 | Jamrich Hall Modernization | \$33,900 |
| 3 | Renovation and Addition to the Learning Resources Center | \$65,600 |
| 4 | Academic Facilities Upgrade Project | \$8,980 |
| 5 | Sam M. Cohodas Hall Renovation | \$18,400 |



Northern Michigan University

NORTHERN MICHIGAN UNIVERSITY
FY 2011 CAPITAL OUTLAY PROJECT REQUEST
Bio-Mass Fueled Combined Heat and Power Cogeneration
Priority Ranking #1
Project Total Cost (in thousands) = \$65,000

| | | |
|--|-------------------|------------------|
| Is The Project a Renovation or New Construction? | Ren <u> </u> | New <u>X</u> |
| Is There a 5-Year Master Plan Available? (Project will not be approved without a current 5-year plan on file with the State Budget Office) | Yes <u>X</u> | No <u> </u> |
| Are Professionally Developed Program Statements and/or Schematic Plans Available Now? | Yes <u>X</u> | No <u> </u> |
| Are Match Resources Currently Available? | Yes <u>X</u> | No <u> </u> |
| Has the University Identified Available Operating Funds? | Yes <u>X</u> | No <u> </u> |

A. Project Descriptive Narrative

Northern Michigan University (NMU) operates the Ripley Heating Plant, which supplies steam to a majority of this campus' three million square feet of facilities. The primary fuel for the Heating Plant is natural gas, with fuel oil as backup. The Heating Plant is also the primary distribution point for electricity purchased from the Marquette Board of Light & Power (MBLP), a municipal generating station. Backup electrical power consists of emergency levels of individual diesel/natural gas generators in a minimum number of the university's major facilities.

In an ongoing effort to reduce our operating costs NMU contracted with HDR|Cummins & Barnard (HDR|CB) to study options to reduce our utility generation and distribution energy costs, utilizing a solution that has a positive impact on our environment. The recommended solution is a 100% bio-mass fueled cogeneration combined heat and power (CHP) addition to the existing plant that would have a positive impact on our environment and the economy of the Upper Peninsula. Coal will not be utilized as a backup fuel for this project.

The combined heat and power cogeneration project would utilize a solid fuel fluidized bed high pressure boiler rated at 120,000-140,000 pounds per hour, capable of burning wood chips, integrated with a 10 megawatt extraction steam turbine capable of producing the required university's thermal and electrical needs.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #1: Bio-Mass Fueled Combined Heat and Power Cogeneration *(continued)*

As part of the feasibility study, HDR|CB and Northern Michigan University worked with representatives of the MBLP in an effort to determine if it was advantageous to partner on the project. After extensive analysis it was determined that direct participation was not financially beneficial for either the MBLP or the university. The MBLP is supportive of the project and is willing to assist as needed with electrical generation, distribution, and solid fuel handling. In addition to providing bio-mass generated heat and power for our campus, the project offers an opportunity for our faculty and students to explore ways to create alternative energy from U.P. wood with the addition of a interconnected research facility. The main focus of the research would be to develop an algae sequestration program involving carbon capture from combustion emissions. This learning component of the project may serve as a national model for the extraction of biomass energy from regional wood resources. Other sources of biomass for fuel for the boiler, such as waste recycled paper and other campus organic matter, will be examined for energy production and ease of storage and use. Processes and/or equipment developed from these projects may be of interest to other states and/or organizations that have access to woody resources and seek to change energy usage.

As a part of our due diligence, the university met with potential providers of wood fiber. The initial reaction from those attending was very positive. The proposed Plant would utilize wood chips and wood by-products of the Upper Peninsula wood products industry, for example, tree tops, sawdust, and bark, for fuel. Discussion of costs of wood by-products and availability on a continuous basis confirmed the viability of this renewable resource as a reliable fuel source for the project.

The gross square footage of this project is approximately 31,500 square feet.

The estimated construction start date for this project would be March 2010, with an estimated completion date of June 2012.

The estimated annual operating cost for this project is \$1,326,000, excluding fuel costs, supplemental/standby power, and project debt service.

The estimated annual cost avoidance after debt service (over a 30 year period) to the university varies from \$500,000 to \$1,900,000, depending on the cost of biomass, gas, and oil costs.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #1: Bio-Mass Fueled Combined Heat and Power Cogeneration *(continued)*

B. Programmatic Benefit to Institution

This capital outlay project will allow Northern to reduce operating costs while creating a new learning environment to explore bio-energy.

The addition to the Ripley Heating Plant, to include a solid fuel boiler and steam turbine, will provide the maximum flexibility to the university, to burn the most economic fuel while ensuring an adequate supply of electrical power and thermal energy with increased reliability for the future. It will improve operational efficiencies and reduce overall costs for heat and power. The project will result in an operational cost avoidance in the face of rising, volatile fuel oil and natural gas markets.

The addition will incorporate the best available technology and will meet current Michigan Department of Environmental Quality Standards. This facility will be an example for the university and its students to showcase a bio-mass fueled combined heat and power cogeneration plant generating steam and electricity more efficiently, while meeting the most stringent environmental standards. It should encourage similar projects within the state.



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #1: Bio-Mass Fueled Combined Heat and Power Cogeneration *(continued)*

Economic Benefit to the State of Michigan

C. The proposed capital outlay project will provide the following economic benefits to both the local community and the State:

- State of Michigan will benefit by the creation of 80-100 new jobs
- Taxpayers benefit through research regarding enhanced biomass production that can be used to reduce the state's dependency on foreign oil and natural gas
- The State of Michigan will benefit as small marginal wood suppliers will have a new regional market for their waste wood products
- Taxpayers will benefit as the project will serve as a model to encourage others in the State to investigate and implement similar renewable resource site-specific projects, reducing the reliance on foreign fuel supplies
- Taxpayers will benefit directly with access to advanced educational opportunities,
- Michigan's environment will benefit because of the increased efficiency of the CHP Cogeneration technology in producing steam and electricity, thereby, reducing the amount of thermal energy emitted into the atmosphere and Lake Superior in the combustion and condensing process versus separate stand alone steam and electric generating stations

D. Match Resources

1. Local and regional sources for project:

- A. University reserves
2. Bonding
3. State appropriations



Northern Michigan University

NORTHERN MICHIGAN UNIVERSITY
FY 2011 CAPITAL OUTLAY PROJECT REQUEST
Jamrich Hall Modernization –
A Sustainable, Efficient, High-Tech Learning Facility
Priority Ranking #2
Project Total Cost (in thousands) = \$33,900

| | |
|--|--|
| Is The Project a Renovation or New Construction? | Ren <input checked="" type="checkbox"/> New <input type="checkbox"/> |
| Is There a 5-Year Master Plan Available? (Project will not be approved without a current 5-year plan on file with the State Budget Office) | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Are Professionally Developed Program Statements and/or Schematic Plans Available Now? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Are Match Resources Currently Available? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Has the University Identified Available Operating Funds? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |

A. Project Descriptive Narrative

Jamrich Hall was completed in 1969 and serves as the university's primary general use classroom building. The facility has 32 classrooms with a total seating capacity of over 2,800. It comprises 45% of the university's total classroom capacity with over 980 scheduled course hours per week. Jamrich Hall is centrally located flanked by the West Science Building, the New Science Facility, and the Learning Resource Center. These four buildings form the central academic core of campus. Because of its capacity, utilization, and location, Jamrich Hall is considered an essential classroom facility. However, as with most classroom buildings from this era, it was designed for traditional lecture type instruction and is not conducive for modern pedagogies.

Jamrich Hall is key to meeting the university's vision of a 21st century learning community. This vision includes high tech, flexible learning spaces and consolidation of academic functions to the central core of campus. These new learning spaces will improve student education by providing an active learning environment that promotes student interaction, cooperative learning, and is adaptive to various courses and layouts. The objective of this project is twofold: (1) renovate Jamrich Hall to create a modern, high quality classroom facility that supports active learning; and (2) provide academic department office space within the facility close to classroom and other departments.

This mix of high-tech, flexible learning rooms with additional academic department space will strengthen student learning and the re-purposing of existing lab space is consistent with the recommendations of the recently updated Campus Master Plan to rebalance the spatial distribution of academic departments and provide in-fill development in the core of campus.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #2: Jamrich Hall Modernization *(continued)*

To provide a sustainable learning environment, the building's electrical, lighting, heating and ventilation systems will be reconstructed to meet current codes and energy standards. LEED® Green Building certification will be sought through the specification of "green" building materials, wise material management during construction with the reuse, recycling, and the reduction of construction and packaging material, and the design of efficient building systems that require less energy and natural resource consumption. This modernization will facilitate the demolition of Gries Hall as identified in the Campus Master Plan. New offices will be designed following the university's current space design guidelines and Gries Hall laboratories will be relocated to existing, re-purposed laboratory space in the Seaborg Science complex. This will improve space utilization, reduce total campus square footage by over 21,700 sf., reduce energy costs, and eliminate over \$900,000 in deferred maintenance. The overall goal is to improve building efficiencies, provide a healthier environment for building occupants, reduce operating costs, and conserve energy in a mixed use high-tech learning facility.

Gross square footages of this project by building:

| | |
|----------------------|---------------------|
| John X. Jamrich Hall | 162,352 square feet |
|----------------------|---------------------|

The estimated project start date would be June 2010, with an estimated completion date of August 2011.

The estimated annual operating cost for this project by building is:

| | |
|----------------------|-------------|
| John X. Jamrich Hall | \$1,056,900 |
|----------------------|-------------|

B. Programmatic Benefit to Institution

Northern Michigan University's (NMU) strategic plan includes the continued development of a learning community where students receive individualized attention in a high-tech learning environment. This learning environment will:

- meet student and employer needs of the information age
- promote the development of independent lifetime learners
- encourage student-faculty contact and student-peer collaboration
- provides access to technology, regardless of student's economic status
- build a stronger partnership with educators and community
- provide greater opportunities and course offerings for the student
- provide a healthier atmosphere for the building occupants due to the sustainable construction.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #2: Jamrich Hall Modernization *(continued)*

Renovations to Jamrich Hall will support the programmatic needs of all disciplines on campus and provide a new high-tech, learning center that support modern pedagogies.

C. Economic Benefit to the State of Michigan

The proposed capital outlay project will provide the following economic benefits to both the local community and the state:

- taxpayers will benefit directly with access to advanced educational opportunities
- taxpayers will benefit indirectly from the more highly educated students that are better prepared to make effective use of technology
- State of Michigan benefits through the renovation and reuse of an existing facility, thus optimizing current campus facilities in lieu of extensive cost for new comparable facilities
- taxpayers will benefit from the additional capacity and opportunities for enrollment within the university
- taxpayers will benefit from the operational efficiencies gained through the more energy efficient building systems.

D. Match Resources

1. Local and regional sources for project:

- A. Industry contributions
- B. NMU Foundation

2. Bonding



Five Year Capital Outlay Plan



Northern Michigan University

NORTHERN MICHIGAN UNIVERSITY
FY 2011 CAPITAL OUTLAY PROJECT REQUEST
Renovations and Addition to the Learning Resources Center
Priority Ranking #3
Project Total Cost (in thousands) = \$65,600

Is The Project a Renovation or New Construction?

Ren New _____
Yes No _____

Is There a 5-Year Master Plan Available?

(Project will not be approved without a current 5-year plan
on file with the State Budget Office)

Are Professionally Developed Program Statements and/or

Schematic Plans Available Now?

Yes No _____

Are Match Resources Currently Available?

Yes No

Has the University Identified Available Operating Funds?

Yes No _____

A. Project Descriptive Narrative

The Learning Resources Center was constructed in 1966. The building was designed for university programs and needs that were in effect 40 years ago. Those needs included temporary office space for faculty which were located on the ground floor of this building. The intent was to expand the library collection to the ground floor when necessary and to create faculty offices elsewhere on campus. During the last ten years, a majority of faculty have been relocated on campus. As the last of the faculty have moved from temporary offices in the Learning Resources Center, we renovated the vacated space to create a student gathering space, expanded writing center, a satellite tutoring program, consolidated the Academic Computing operations, and expanded the computer server space. These renovations are temporary in nature until the major building renovation can take place.

Renovation of the facility 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 that were not available at the time the building was constructed, and which are necessary to prepare students and K-12 teachers for today and the future global economy. These technologies include:

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #3: Renovations and Addition to the Learning Resources Center (*continued*)

- an interactive and multimedia instructional development center where faculty can design electronic learning environments
- a learning classroom with capabilities to foster cooperation, communication, efficiency, and greater access to students at a distance and on-site
- a help and service center where walk-in technical assistance can be provided
- infrastructure for K-12 and higher education cooperative learning network
- work areas with networked ports, wireless access and power outlets for interactive research with library holdings and remote information resources

The renovation will also provide for expanded library holdings and expansion of university archives. In order to comply with the FCC's digital broadcasting mandate, the university upgraded the WNMU-TV's master control and transmitter facilities this past year. However, the university's production studios, graphics and scene shop, post production suites, announce booth and audio/video mixing facilities remain analog and are original to the building. Studio lighting equipment has been found to contain asbestos and with dimmer equipment is no longer supported by the manufacturer. Classroom space needs to be incorporated with the production facilities to meet the teaching mission of the university and the studios require updating to meet the needs associated with a fully digital-compliant broadcast center.

The Learning Resources Center also needs to be brought up to today's standards for ADA barrier free access and life safety. The building requires extensive work, which includes window replacement, masonry repair, and a complete renovation of the HVAC systems. This project will additionally upgrade and renovate the building to meet current architectural, mechanical and electrical 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, 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 estimated gross square footage for this project is 290,300.

The estimated construction start date for this project would be May 2011, with an estimated completion date of December 2012.

The estimated annual operating cost for this building is \$1,889,600.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #3: Renovations and Addition to the Learning Resources Center *(continued)*

B. Programmatic Benefit to Institution

Northern Michigan University's (NMU) strategic plan includes the continued development of a learning community where students receive individualized attention in a high-tech learning environment. This learning environment will:

- meet student and employer needs of the information age
- promote the development of independent lifetime learners
- encourage student-faculty contact and collaboration
- provide access to technology, regardless of student's economic status
- build a stronger partnership with educators and community
- provide greater opportunities and course offerings for the student
- provide a healthier atmosphere for the building occupants due to the sustainable construction.

These renovations will provide students needed exposure to enhanced teaching and learning technologies that will better prepare them for the highly competitive global job market, where technology is continuing to change at an exponential rate. In addition, expansion of the university's library holdings are necessary to support academic programs, to maintain accreditation standards, and to provide the resources necessary for students to achieve their learning goals. Enhanced distance, multimedia, and interactive learning resources will increase access to location bound students in remote areas of the Upper Peninsula.

C. Economic Benefit to the State of Michigan

The proposed capital outlay project will provide the following economic benefits to both the local community and the state:

- taxpayers will benefit directly with access to advanced educational opportunities
- taxpayers will benefit indirectly from more highly educated students that are better prepared to make effective use of technology in the coming century
- ability to provide Upper Peninsula K-12 teachers and administrators with enhanced in-service educational opportunities
- enhanced facilities for document preservation center would benefit taxpayers throughout the state
- taxpayers will benefit from the operational efficiencies gained through the more energy efficient building systems



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #3: Renovations and Addition to the Learning Resources Center (*continued*)

D. Match Resources

Federal sources available for project:

1. U.S. Department of Commerce
National Telecommunications Information Administration (NTIA)
Public Telecommunications Financial Planning (PTFP)
2. U.S. Department of Commerce
Telecommunications Information and Infrastructure Assistance Program
3. Corporation for Public Broadcasting (CPB)
Rural Stations Grant Fund Pool for Radio
4. Local and Regional Sources for project:
 - A. Industry contributions
 - B. NMU Foundation
5. Bonding



Five Year Capital Outlay Plan



Northern Michigan University

NORTHERN MICHIGAN UNIVERSITY
FY 2011 CAPITAL OUTLAY PROJECT REQUEST
Academic Facilities Upgrade Project
Priority Ranking #4
Project Total Cost (in thousands) = \$8,980

| | |
|--|--|
| Is The Project a Renovation or New Construction? | Ren <input checked="" type="checkbox"/> New <input type="checkbox"/> |
| Is There a 5-Year Master Plan Available? (Project will not be approved without a current 5-year plan on file with the State Budget Office) | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Are Professionally Developed Program Statements and/or Schematic Plans Available Now? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Are Match Resources Currently Available? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Has the University Identified Available Operating Funds? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |

A. Project Descriptive Narrative

There are three buildings that have been identified that have urgent maintenance issues. Two of these buildings, the Forest Roberts Theatre and McClintock Building, were constructed in 1964, and the Physical Education Instructional Facility was finished in 1976. These buildings are used for academic purposes, providing general use classrooms, physical education instructional areas, and communication and performing arts area.

The academic facilities upgrades include the replacement of HVAC systems, electrical upgrades, handicap accessibility items, outside 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. The overall goal is to reduce operating costs, provide a healthier environment for building occupants, and conserve energy.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #4: Academic Facilities Upgrade Project *(continued)*

Gross square footages of this project by building:

| | |
|---|---------------------|
| Forest Roberts Theatre | 30,704 square feet |
| McClintock Building | 33,575 square feet |
| Physical Education Instructional Facility | 179,627 square feet |

The estimated project start date would be June 2010, with an estimated completion date of August 2011.

The estimated annual operating cost for each building is:

| | |
|---|-------------|
| Forest Roberts Theatre | \$200,000 |
| McClintock Building | \$218,000 |
| Physical Education Instructional Facility | \$1,169,000 |

B. Programmatic Benefit to Institution

This capital outlay project will continue the development of a learning community for the 21st century. The university's goal is a learning environment that:

- meets student and employer needs of the information age
- promotes the development of independent lifetime learners
- encourages student-faculty contact and collaboration
- provides access to technology, regardless of student's economic status
- builds a stronger partnership with educators and community
- provides greater opportunities and course offerings for the student
- provide a healthier atmosphere for the building occupants due to the sustainable construction.

Improvements made in these buildings will enhance the learning environment and increase the operational efficiency of these facilities.



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #4: Academic Facilities Upgrade Project *(continued)*

C. Economic Benefit to the State of Michigan

The proposed capital outlay project will provide the following economic benefits to both the local community and the state:

- taxpayers will benefit directly with access to advanced educational opportunities
- taxpayers will benefit indirectly from the more highly educated students that are better prepared to make effective use of technology in the coming century
- State of Michigan benefits through the renovation and reuse of an existing facility, thus optimizing current campus facilities in lieu of extensive cost for new comparable facilities
- taxpayers will benefit from the operational efficiencies gained through the more energy efficient building systems

D. Match Resources

1. Local and regional sources for project:
 - A. Industry contributions
 - B. NMU Foundation
2. Bonding



Northern Michigan University

NORTHERN MICHIGAN UNIVERSITY
FY 2011 CAPITAL OUTLAY PROJECT REQUEST
Renovations to the Sam M. Cohodas Hall
Priority Ranking #5
Project Total Cost (in thousands) = \$18,400

Is The Project a Renovation or New Construction?

Ren New _____

Is There a 5-Year Master Plan Available?

Yes No _____

(Project will not be approved without a current 5-year plan
on file with the State Budget Office)

Are Professionally Developed Program Statements and/or

Schematic Plans Available Now?

Yes No _____

Are Match Resources Currently Available?

Yes No _____

Has the University Identified Available Operating Funds?

Yes No _____

A. Project Descriptive Narrative

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. The original structure was named after a local produce entrepreneur and philanthropist, Sam M. Cohodas.

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 administrative offices to academic classrooms and faculty offices. This change in use, including those relocated academic departments and classrooms, will have a positive effect on the operation and availability of programs to the general student population.

Two floors of the current six-story structure will be renovated to accommodate classrooms ranging from 690 square feet 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.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #5: 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 shall 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.

The gross square footage of this project is approximately 104,000 square feet.

The estimated construction start date for this project would be June 2010, with an estimated completion date of August 2011.

The estimated annual operating cost for this building is \$677,000.

Five Year Capital Outlay Plan



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #5: Renovations to the Sam M. Cohodas Hall *(continued)*

B. Programmatic Benefit to Institution

Northern Michigan University's (NMU) strategic plan includes the continued development of a learning community where students receive individualized attention in a high-tech learning environment. This learning environment will:

- meet student and employer needs of the information age.
- promote the development of independent lifetime learners.
- encourage student-faculty contact and collaboration.
- provides access to technology, regardless of student's economic status.
- build a stronger partnership with educators and community.
- provide greater opportunities and course offerings for the student.
- provide a healthier atmosphere for the building occupants due to the sustainable construction.

Renovations to the Cohodas Hall support several new use and programmatic needs. Existing areas will be redeveloped to provide learning environments and support to academic programs and students. It will bring much needed general purpose classrooms in direct proximity of departmental and faculty offices.

C. Economic Benefit to the State of Michigan

The proposed capital outlay project will provide the following economic benefits to both the local community and the state:

- taxpayers will benefit directly with access to advanced educational opportunities
- taxpayers will benefit indirectly from the more highly educated students that are better prepared to make effective use of technology in the coming century
- State of Michigan benefits through the renovation and reuse of an existing facility, thus optimizing current campus facilities in lieu of extensive cost for new comparable facilities
- taxpayers will benefit from the additional capacity and opportunities for enrollment within the university
- taxpayers will benefit from the operational efficiencies gained through the more energy efficient building systems.



Northern Michigan University

FY 2011 CAPITAL OUTLAY PROJECT REQUEST

Request #5: Renovations to the Sam M. Cohodas Hall *(continued)*

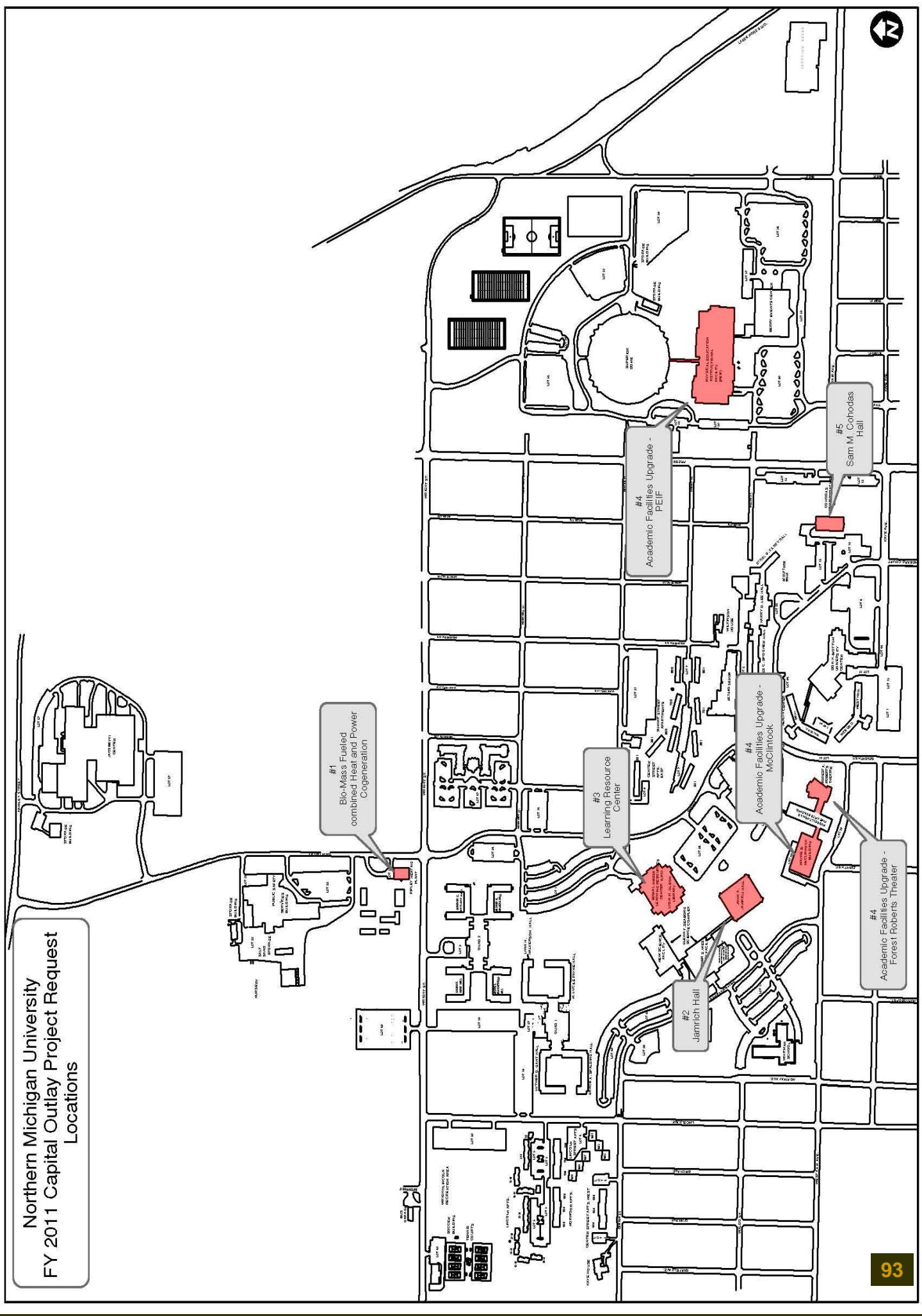
D. Match Resources

1. Local and regional sources for project:
 - A. Industry contributions
 - B. NMU Foundation
2. Bonding



Five Year Capital Outlay Plan

Northern Michigan University FY 2011 Capital Outlay Project Request Locations





Northern Michigan University

Status of “In-Progress” State Building Authority Projects

NMU does not currently have any State Building Authority Projects.



Five Year Capital Outlay Plan



Northern Michigan University

University Projects

Completed From November 1, 2008 to November 1, 2009
With a Total Cost Between \$500,000 - \$3,000,000

WNMU-TV Digital Transmission and Production

The Phase II project of Northern Michigan University's broadcast digital conversion replaced analog television broadcast transmission equipment. There were three main components associated with the project:

- Replacement of WNMU-TV's studio-transmitter microwave link (STL) radios with digital equipment, aligning the microwave system, and verifying the 30-mile transmission path with a proof of performance test
- Removal of the station's analog transmitter and installing a digital channel 13 transmitter
- Replacement of WNMU's original, 35 year-old, broadcast antenna and feed-line

WNMU-TV engineers and project contractors completed all three items when the station signed on the air with its digital transmissions on June 6, 2009. Originally WNMU-TV was preparing to complete its DTV transition to comply with the federally mandated February 2009 digital conversion deadline, but was forced to change its plans when Congress legislated a delay to June 12, 2009. This replacement of NMU's transmission system renewed an aging distribution infrastructure that was prone to age related failures. As an added benefit, the newer, digital transmitter reduced power consumption by nearly 50% saving energy and lowered operating costs.

The project budget was \$1.4 million which the Corporation for Public Broadcasting provided 75% of the funding through a matching Digital Conversion Grant.

Five Year Capital Outlay Plan



Northern Michigan University

University Projects

Completed From November 1, 2008 to November 1, 2009

With a Total Cost Between \$500,000 - \$3,000,000

(continued)

Quad II Residence Hall Lobbies Renovation

Quad II is a four residence hall complex – Hunt, Van Antwerp, Magers and Meyland Halls – originally constructed in 1966 and 1967. The two lobbies (one for Magers and Meyland Halls and the other for Hunt and Van Antwerp Halls) were renovated to include new service centers, upgraded rest rooms, new entryways, replacement windows, wall finishes, ceilings, lighting, floor finishes and mechanical system upgrades. The project was completed in August 2009. The project budget was \$1,750,000.

Superior Dome Synthetic Turf Replacement

The existing synthetic turf and mechanical conversion system in the Superior Dome was replaced with a new system. The existing 18-year-old turf exceeded its life expectancy of 10-12 years and was splitting and tearing more with each conversion causing safety concerns. The project was completed in August 2009 and the budget was \$1,878,065.

Learning Resources Center HVAC Upgrade

Retro-commissioning was completed for the mechanical systems in the Learning Resources Center in 2007. System deficiencies were identified and recommendations were made that would allow the systems to operate as originally designed. This construction project focused on getting the four main building air-handlers back to “like new” condition by replacing the coiling, heating, and re-heat coils; replacing steam traps, dampers, control valves, humidifiers, etc. Following the system component replacement, all systems were tested, re-calibrated, and balanced. The work was completed in June 2009 and the project budget was \$750,000.

Five Year Capital Outlay Plan



Northern Michigan University

University Projects

Projects Planned November 1, 2009 to November 1, 2010
with a Total Cost Over \$1,000,000

NMU does not currently have any construction projects over a \$1,000,000 planned between November 1, 2009 to November 1, 2010.



Northern Michigan University

Maintenance Projects 2010 to 2015 With a Total Cost Over \$1,000,000

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

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---------------------------------|-------------|------|-------------|------|------|------|-------------|
| Jacobetti Roof Replacement | \$1,500,000 | | | | | | \$1,500,000 |
| Sueprior Dome Roof Replacement | | | \$4,500,000 | | | | \$4,500,000 |
| Access Control State buildings* | | | | | | | TBD |
| Mass Notification* | | | | | | | TBD |
| Fire Alarms Residence Halls* | | | | | | | TBD |
| Fire Alarms Sate Buildings* | | | | | | | TBD |
| | | | | | | | |
| Total | | | | | | | \$6,000,000 |

*Schedule and projects costs to be determined



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. In considering all options, the university's overall bed count would remain about the same.

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.

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 *(continued)*

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.

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 Hospital Study

A joint study between NMU and Marquette General Hospital 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

MGH and the university are participating in a collective study to determine possibilities for joint use of this facility for educational, medical and conference space. This project will 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., will be completed.



Future University Projects *(continued)*

Jacobetti Center Technology Center

Northern is developing a Business and Industry Center in the Jacobetti Center. 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 Center. This phase was completed in July 2009.

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.

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.

Carey Hall Renovation

Carey Hall is the oldest building on campus and is primarily used as transitional space for displaced departments during building renovation projects. The future use of Carey Hall is currently being explored.

Five Year Capital Outlay Plan



Future University Projects *(continued)*

Sawyer Academic Center

NMU is in preliminary discussions with Marquette County about renovating an existing facility at Sawyer International Airport to accommodate both the NMU Aviation Maintenance Associate degree program and other NMU general education courses. The possibility of incorporating the AMR Maintenance Academy for new hires is also being negotiated with American Eagle, a subsidiary of American Airlines.

Dining Services Study

The Dining Services program has undergone an extensive study, focusing on operations, management and facility needs. The findings were formulated into a plan that will be utilized to continue facility planning for future student growth and the need to modify existing and provide new service locations to meet the growth demand.

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 bookstore, food emporium, student lounge, programming rooms, meeting and study space, and satellite student recreation center.



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