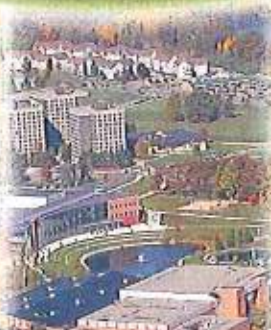
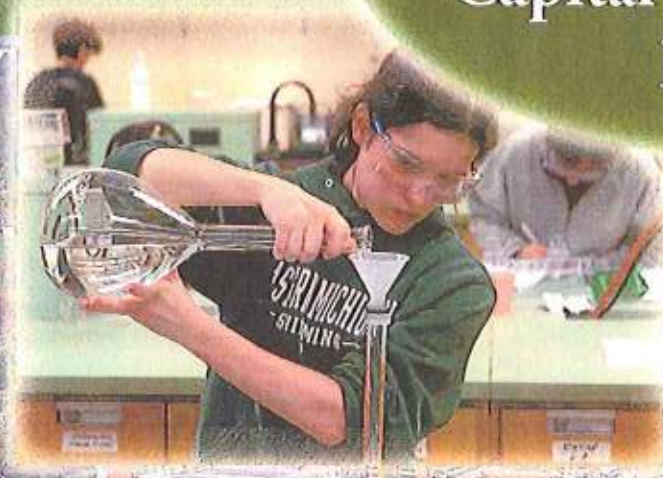




Eastern Michigan University  
Capital Outlay Request  
FY 2013



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# Eastern Michigan University Capital Outlay Request FY2013

## EXECUTIVE SUMMARY

Eastern Michigan University is pleased to present this Capital Outlay Request for FY 2013. An investment in Eastern Michigan University is an investment in Michigan as about 90% of our students are from Michigan and upon graduation, 80% remain in Michigan.

Eastern Michigan University has a measurable impact on the citizens of Michigan. To accomplish this the University provides an exceptional learning environment that can accommodate the diverse mission and specialized delivery of instruction that meets the expectations of our publics – students and their parents, business and industry and the state. An exceptional learning environment requires facilities that can accommodate the technologies that are now woven throughout every discipline. Buildings constructed before the technology revolution/evolution cannot satisfy these demands.

Eastern Michigan University has 37 buildings that are at least 20 years old, with an average building age of 50 years. While many old buildings have a unique charm, they lack the infrastructure needed to facilitate modern information and communication technologies, as well as the mechanical and electrical systems required to support a technology-friendly environment. Most building systems are recognized to have finite useful lives of approximately 30 years. The University's top capital project, the renovation of Strong Hall, exceeds this age. As such, the University has identified the renovation of the 80,713 square foot Strong Hall classroom facility as again, its top capital outlay project.

Strong Hall, which houses the Geology & Geography and the Physics & Astronomy departments, was built in 1957 and has not received any significant improvements since. Strong Hall is part the Science Complex that includes the newly developed, self-funded, \$90 million Mark Jefferson Science Building. Once entirely completed, this science complex will be a state-of-art facility that will facilitate cutting edge sciences and be used as a model for Universities across the country.

The Strong Hall project will include renovation of the entire existing structure including; classrooms, lecture halls, student common areas, and faculty offices. The renovation will include: reconfiguration of existing space to modernize classroom and lab spaces with new technology and flexible use spaces for both research and instruction; updating of the fire suppression system; and replacement of the existing HVAC, plumbing, and electrical systems to improve energy efficiency and help reduce existing operating costs.

The modernized and reconfigured space will provide students with much needed gathering space for impromptu meetings with faculty and other classmates. These improvements will also provide flexibility in classroom configuration to adapt to the changing instructional environment.

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In addition to the need to renovate Strong Hall, the University also has a critical need to develop an integrated Arts, Communication, and Applied Technology Village. The intersecting disciplines of Art, Communication, Creative Writing, Dance, Music, Integrated and Applied Technology, and Theatre have experienced healthy growth over recent decades as evidenced in the number of majors. While Communication & Theatre Arts was once housed exclusively in Quirk, current enrollment demands have spread classes to Pray-Harrold, Ford, Roosevelt, Warner, and Best Hall Lounge. The Department of Art is faced with a similar dilemma and uses locations across campus. The electronic communications and applied technology needs cannot be met in existing buildings. The primary facilities at the University for Arts, Communication, and Technology are housed in eleven buildings scattered throughout the campus. These facilities are brick and block structures encompassing 368,945 square feet and were constructed between 1903 and 1980. Eight of the eleven buildings were designed for purposes/activities other than their current use.

In addition to being scattered across a wide area, current structures are worn and out-of-date; issues include leaky roofs, lack of climate control, lack of sound buffering, inadequate electrical wiring, absence of storage space, no quantitative research laboratories, and acoustically poor performances spaces. Innovative and cutting-edge programming has often been stifled. Times have changed yet these facilities have remained unchanged resulting in a decline in our ability to adequately serve current majors (undergraduate and graduate), as well as compete for prospective students. Eastern Michigan University provides no facility that encourages collaborative interdisciplinary work between the programs in Art, Integrated and Applied Technology, Communication, Media & Theatre Arts, Creative Writing, and Music & Dance. Compartmentalization of these separate yet interrelated disciplines is perpetuated by currently available facilities and technology.

Eastern Michigan University views its physical capital as a financial asset, and believes that investing in the Strong renovation project is an exceptionally wise use of state funds. Such an investment will extend the life of the buildings, reduce operation costs and offer a more effective learning environment.

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## **MISSION STATEMENT**

MISSION

GUIDING PRINCIPLES

VALUES

## **Eastern Michigan University Capital Outlay Request FY2013**

### **MISSION**

**Eastern Michigan University** is committed to excellence in teaching, the extension of knowledge through basic and applied research, and creative and artistic expression. Building on a proud tradition of national leadership in the preparation of teachers, we maximize educational opportunities and personal and professional growth for students from diverse backgrounds through an array of baccalaureate, master's and doctoral programs. We provide a student-focused learning environment that positively affects the lives of students and the community. We extend our commitment beyond the campus boundaries to the wider community through service initiatives and partnerships of mutual interest addressing local, regional, national and international opportunities and challenges.

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## GUIDING PRINCIPLES

The following guiding principles provide standards the University seeks to achieve:

- |                          |  |
|--------------------------|--|
| <b>Accessibility</b>     | An inclusive community of learners that provides educational opportunities to any qualified individual who wishes to participate.  |
| <b>Relevancy</b>         | Programs designed to broaden perspectives, heighten awareness, deepen understanding, establish disciplined habits of thought, respond to changes in the workplace and society, and help develop individuals who are informed, responsible citizens.  |
| <b>Respond to Change</b> | A learning community that is responsive to economic, social, and political change. As an agent of change, the University explores new alternatives, recognizes constraints, and makes wise institutional choices.                                    |
| <b>Flexibility</b>       | While recognizing that various constituencies have different needs, University programs, activities and services are flexible so that people have the opportunity to participate and to achieve their goals and purposes.                            |
| <b>Quality</b>           | All programs, activities, and services achieve the highest standards of quality.   |
| <b>Collaboration</b>     | All University programs, activities, and services work collaboratively to solve problems, provide greater efficiencies, and expand learning opportunities. Collaboration extends beyond the University to colleagues, communities, and institutions. |
| <b>Accountability</b>    | The University has consistent policies and procedures to ensure accountability at all levels. All members of the University community are accountable for their actions and decisions.   |
| <b>Affordability</b>     | Qualified individuals who desire to participate are not discouraged from doing so because of financial resources.  |

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## VALUES

Eastern Michigan University's mission and philosophy are built upon shared values that define and nourish the intellectual, ethical, and aesthetic environment. These values are:

- Teaching and Learning** We believe that teaching and learning are central to everything that we do. We recognize that we are a community of learners who discover, interpret, apply, and transmit knowledge.
- Excellence** We believe that the promotion of personal and academic excellence provides a foundation for institutional quality. We are committed to achieving the highest standards through ongoing assessment and continuous quality improvement.
- Human Dignity and Respect** We believe that wisdom, sound judgment, acceptance, and respect for other persons, cultures, and ideas are characteristics of an educated person. We seek to demonstrate, through all programs, activities, and services, an appreciation of human diversity and an atmosphere of mutual respect and support for individual differences.
- Diversity** We believe that cultural diversity enriches learning experiences and promotes respect and understanding. We welcome qualified learners of varying interest, abilities, backgrounds, and expectations and are committed to creating an inclusive educational environment that provides exceptional opportunities for all learners. We seek to attract, serve, and retain a highly qualified and diverse student body, faculty, and staff, and to make special effort to provide access to educational opportunities for non-traditional and under-represented populations.
- Scholarship and Intellectual Freedom** We believe that intellectual and creative freedom supports scholarship and advances the learning process. We promote, encourage, and support personal and academic freedom. We seek to provide an environment that fosters knowledge development and creative learning experiences through intellectual and cultural exchange.
- Public Engagement** We believe that the University should engage the public in mutually beneficial relationships to achieve the public good. We aspire to develop regional, national, and international partnerships that allow us to serve our stakeholders more effectively, while providing increased learning opportunities for our students, faculty, and staff.

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### **Leadership and Participatory Decision-Making**

We believe that effective organizations are characterized by visionary leadership and participatory decision-making at all levels. We are committed to creating and supporting an environment that fosters open communication and innovative approaches to change.

### **Integrity**

We believe that integrity is critical to our continued success and institutional effectiveness. We expect and support the highest level of personal, intellectual, academic, financial, and operational integrity within the University community.

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# **INSTRUCTIONAL PROGRAMMING**

EXECUTIVE SUMMARY

THE COLLEGES

OTHER ACADEMIC UNITS

## **Eastern Michigan University Capital Outlay Request FY2013**

### **EXECUTIVE SUMMARY**

The University was founded by the State of Michigan in 1849. Then called Michigan State Normal School, its primary purpose was to educate teachers. In 1956, Michigan State Normal College became Eastern Michigan College, and in June 1959, then comprising three Colleges and a Graduate school, it became Eastern Michigan University.

Today, Eastern Michigan University is a comprehensive Undergraduate and Graduate institution, offering 143 Undergraduate majors and curricula leading to a broad spectrum of Baccalaureates and a total of 136 Graduate concentrations leading to the Master's, Specialist's, and Doctoral degrees. Its focus is on preparing students to succeed beyond graduation by emphasizing a personal approach to education in which the student is the center of the learning experience. The University prides itself on putting "Education First."

The University is fully accredited by the North Central Association (NCA) of Colleges and Schools. More than 100 national and international professional organizations provide focused accreditations at the college, department, and program levels.

The University's Division of Academic Affairs comprises five academic Colleges: the College of Arts and Sciences (CAS), the College of Business (COB), the College of Education (COE), the College of Health and Human Services (CHHS), and the College of Technology (COT). The Division is further supported by Extended Programs and Educational Outreach (EPEO), and the Bruce T. Halle Library (LIB).

Even with self-funding of the Mark Jefferson building renovation and the State's help in modernizing the Pray-Harrold building, the Academic Affairs Division's facilities are still in need of modernization. The University's capital priorities are (1) renovating Strong Hall Science classroom and laboratory building, (2) the Integrated Arts and Technology Village, (3) expansion or relocation of the College of Business facilities, and (4) expansion or renovation of the College of Health and Human Services facilities.

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## THE COLLEGES

### College of Arts and Sciences

The College of Arts and Sciences (CAS) was established in 1959-1960 during the academic year EMU became a University. The College currently is the largest in the University, with 18 Departments (Art; African American Studies; Biology; Chemistry; Communications, Media and Theatre Arts; Computer Science; Economics; English Language and Literature; Geography and Geology; History and Philosophy; Mathematics; Music and Dance; Political Science; Physics and Astronomy; Psychology; Sociology, Anthropology and Criminology; Women and Gender Studies; and World Languages), and one Interdisciplinary program (Gerontology). Graduate work in the College expanded rapidly from two degrees in 1960 (History and Literature) to degrees in all departments by 1969. Beginning in Fall 2001, the College offered a Ph.D. in Clinical Psychology, the first Ph.D. at Eastern.

For a perspective of the size and complexity, the College of Arts & Sciences:

- Generates more than half of EMU's student credit hours.
- Employs slightly more than half of the University's faculty.
- Uses all or part of 12 buildings.
- Offers nearly all of the general education courses, which provide the foundation for specialized work in major programs.
- Supports 6,000 sections annually for more than 1,800 courses.
- Maintains over 100 Undergraduate and 70 Graduate programs.
- Includes nearly 6,000 Undergraduate and 1,000 Graduate majors each year.
- Awards more than 1,200 Undergraduate and 300 Graduate degrees annually.

The College is also proud of the following attributes:

- It exhibits student research and creativity in its annual Undergraduate Symposium.
- Maintains the federally funded (a) Sailing Ocean Literacy Grant; (b) DUETS Urban Education Grant; (c) Gear Up Higher Education Preparation Grant; (d) TCATTE English-As-A-Second-Language Grant; and the (c) Creative Science Inquiries Experience Program (CSIE).
- Hosts the Institute for Geospatial Research and Education (IGRE) and the Institute for Language, Information and Technology (ILIT). ILIT includes the unique, internationally renowned Linguist List website and data repository, which is used by linguists around the world, a half-dozen major national journals, and scholars applying knowledge to solve current global problems. IGRE has received major grants from NOAA, Michigan Department of Natural Resources, NASA, and NSF.
- Every Department in the College participates in the education of teachers through specific methods course offerings.

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The Board of Regents has recognized the upgrade of the science facilities as a critical need of the University. With the renovation of the Mark Jefferson Science Building nearing completion, the focus shifts to renovating Strong Hall.

Strong Hall was built in 1957 as an 80,713 square foot three-story building to house Physical Science programs that include the Departments of Geography and Geology and Physics and Astronomy. The building also houses the programs of earth science, physical science, integrated science, historic preservation, urban and regional planning, and geographic information systems. Strong Hall has not seen significant renovations since it was built. It is in need of classroom and laboratory upgrades, technology repair, and replacement of infrastructure and building improvements including mechanical and electrical systems, and removal of asbestos. The program for Strong Hall would continue to allow integration between programs and departments from other Colleges, for example, that of the Coatings Research Institute and the Department of Chemistry. The project is estimated to cost \$40 million for renovated space.

The departments housed in Strong Hall have several programs of note. Entering its fourth decade, Eastern's Historic Preservation Program is the largest Graduate program in Historic Preservation in the nation. Over the years it has been the recipient of multiple state and national awards, including the American Association of State & Local History's coveted "Certificate of Commendation" (1989) for ten years of nationally-recognized performance within the field of historic preservation education. The award program sponsored by AASLH is the nation's most prestigious competition for local history achievement.

In 1999, Eastern's Historic Preservation Program was presented with the "Lucy Hamilton Education Award" from Preservation Wayne, Detroit's leading preservation organization, for contributions to historic preservation in Michigan and Detroit. That same year, program founder Marshall McLennan received the "Lifetime Achievement" Award from the Michigan Historic Preservation Network.

The Department of Physics and Astronomy was recently named by the American Institute of Physics as a top producer of Undergraduate Physics majors in the country, among Master's granting institutions. Faculty members in the Department were awarded a \$600,000 grant from the National Science Foundation to create the Physics Scholars Program, which prepares young scientists to enter the discipline of Physics. Another faculty member received The "Sam Tour" award from ASTM International for publishing the most influential research paper on the corrosion testing of metals.

The College also has a critical need to modernize and expand facilities for Communications; Visual and Performing Arts; Electronic Media; Film, Design and Technology. The Integrated Arts and Technology Village (IAT Village) is envisioned as a creative, innovative, interdisciplinary endeavor uniting multiple programs, including Visual Art (2D and 3D); Communication, Media & Theatre Arts; Music & Dance; Graphic Design; Photography; Interior Design Simulation; Animation and Gaming; Computer-Aided Design; Product Design and Development; Apparel; Textiles & Merchandising and Construction Management. These units have curricular,

## **Eastern Michigan University Capital Outlay Request FY2013**

programmatic and career-oriented synergies, and have experienced considerable growth in both student and market demand in the last decade. The IAT Village is envisioned to provide space, both physically and intellectually, for the fusion of these disciplines in a way that would provide a showpiece for the University and actively engage the surrounding community. The IAT Village creates opportunities for collaboration among the Arts and Technology departments to promote student learning to diversify students' critical skill sets necessary to succeed in the marketplace and to foster a spirit of innovation and community.

Through a combination of renovation and new construction, the IAT Village would combine four existing campus structures (three academic buildings already housing disciplines involved in the project and one reserve residence hall) to reinvigorate the east side of campus. The resulting facility is designed in such a way as to serve as a campus gateway from the southeast.

The goals for Eastern Michigan University's IAT Village are to:

- Redesign the uncoordinated collection of spaces currently in use to form a state-of-the-art environment to house an interdisciplinary mix of creative disciplines - such as Theatre, Music, Art, Media & Film, Communications Technology, and Applied Technology - by creating a village atmosphere that encourages collaboration and cross-discipline creativity with spaces that meet the specialized technical and environmental needs of each discipline.
- Create spaces that serve the diverse and specialized needs of the Communications, Arts, Media and Design.
- Incorporate design features that meet current needs and anticipate future programmatic and information technology needs within a structural envelope that is energy-efficient and environmentally friendly.
- More effectively engage the greater community through the consolidation and upgrading of our exhibition and performance spaces.
- Improve accessibility for the disabled.
- Provide a more safe and secure environment for learning and teaching with adequate parking.
- Enhance the University's recruiting initiative as a learning center for the Performing and Creative Arts.
- Foster growth in programming, both in terms of students served and community members engaged.
- Nurture interdisciplinary programs that train students who are better prepared to meet the market demand for creative, multi-disciplined, skilled graduates.
- Create a signature campus complex that serves as a southeastern "gateway" to campus and makes a strong visual statement about the disciplines it houses while serving as a magnet for both campus and non-campus populations.

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### College of Business

The College of Business was formed in 1964 and has grown to be the second largest college at Eastern. Branded as “Innovative, Applied and Global”, it has been selected as one of the “Best Business Schools” every year since 2003 by the *Princeton Review*. The College is accredited by the AACSB (The Association to Advance Collegiate Schools of Business International), a distinction shared by only 30% of U.S. Business Schools. The College offers 12 Undergraduate majors and eight Undergraduate minors and five graduate degree programs in four departments: Accounting and Finance; Computer Information Systems; and Management and Marketing. It is the only Business school in the country to offer a Master’s of Science in Integrated Marketing Communications program and offers the only Graduate program in Human Resources in China. Its Professional Education Center provides executive education for a variety of corporations and non-profit organizations. The College is supported by 13 business advisory boards to ensure the relevancy of curriculum and to increase interaction with the business community. Additionally, the College has partnership agreements with Universities in China, Korea, India, Malaysia, Pakistan, Germany, France, Spain, Belgium and Yemen.

The region’s economic development has been enhanced through centers of excellence within the College of Business. The Center for Entrepreneurship is specifically intended to support the development of new enterprise in the region and provide no-cost services to entrepreneurs and small businesses. The Center houses the SBA Small Business and Technology Development Center network (SBTDC). The SBTDC operates four offices covering the metro-Detroit area (Wayne, Oakland and Monroe counties). In 2009, the offices provided services to over 750 clients, training to over 2,200 people and helped start 24 businesses. The Center also sponsors an Annual Collegiate Entrepreneur Organization (CEO) student organization and the Annual Sesi Midwestern Entrepreneurship Conference. About 300 High School, Community College and University students attended the Conference in 2010. The Skandalaris business plan competition with cash prizes sponsored as part of the conference attracted almost 100 plans from High School, Community College and University students.

To further the mission to enhance regional economic development the COB has also committed a suite of offices on the third floor of the Owen Building to establish the Office of Business Partnership Program. These offices house the Regional Headquarters of the Michigan Small Business & Technology Development Center (SBTDC); the Southeastern Michigan U.S. Export Assistance Center; the Center for Entrepreneurship; the Biz Resource Center for small businesses and students; and the Washtenaw County, Ypsilanti SmartZone Center. The College was instrumental in opening a Business Incubator partnering with Ann Arbor SPARK, a regional economic development organization, about 100 yards from the College. The Strategic Human Resource Management Center has been providing Human Resource Management education and certification to professionals throughout Southeast Michigan for more than nine years, receiving multiple awards and recognition from the National Society for Human Resource Management. Other new strategic initiatives include programs in Supply Chain Management, International Business, Integrated Marketing Communications and Entrepreneurship.

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The College is the first business school in the country to develop an “Ethos Statement”, a strong statement of ethics and values to foster a professional culture within the College. This statement is attached to every syllabus for every course offered in the College. It is also the first business school to have an “Ethos Week” to promote and encourage ethics education. This initiative was started by the Business students and continues as an annual series of events to promote ethics in business. Students also started the first and only “Ethos Honor Society” in the country.

The College of Business is currently housed in the Gary Owen Building, built in 1990, and situated on Michigan Avenue roughly one mile from EMU’s Main campus. This building comprises the instructional facility for more than 3,500 students, both day and evening, who represent the ethnic and socio-economic diversity of the region as well as having a significant international component. The College has experienced steady growth in enrollments over the past five years due to the introduction of new programs, Community College Articulation Agreements, and International Partnerships. Approximately 121 Undergraduates (4%) and 230 Graduate students (27%) from over 30 countries help to make the business programs and activities not only diverse, but truly international. In Fall 2009, College of Business programs attracted 40% of the University’s international students (44% of Undergraduates and 38% of Graduates). The Graduate programs are offered at night along with Undergraduate courses that allow Undergraduate students to complete their degree programs.

The College is at capacity. In Fall 2010, all classrooms are filled at night and except for early morning and late afternoons, all classrooms are filled during the day. The College is unable to grow any graduate programs unless an addition is built. The number of graduate students enrolled has grown from 611 in fall 2005 to 929 in fall 2009. Building capacity constraints have become critical. The increased interaction with the business community, economic development activity and professional education also raises the need to have a more professional business facility. Currently, there is no true “entry” to the College. There is only one executive classroom and no student lounge area. There is no library, student center or even adequate study areas for the students to study between classes. The lunch area has a maximum capacity of 50. This is inadequate to service the over 2,600 undergraduate and 930 graduate students. Because of the distance from the main campus all of the students are “commuters”, it is just a matter of how far they commute. A building addition to the College of Business continues to be considered as a major priority for future Capital Outlay allocations.

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## College of Education

For more than 160 years, Eastern Michigan University's College of Education (COE) has played a major state and national role in the preparation of teachers, other school personnel and related professionals. Eastern has an historic and valued place as the first "Normal School" West of the Allegheny Mountains. Eastern was among the first institutions involved with the preparation of physical and special education teachers. The College of Education is one of the nation's largest preparers of professional education personnel, offering programs at the Bachelor's, Master's, Specialist's and Doctoral degree levels. The College's programs have received a number of national recognitions, are fully accredited and are Charter members of the National Council for the Accreditation of Teacher Education (NCATE), and are approved by the Michigan Department of Education. In almost every instance where a program-specific national recognition exists, the EMU College of Education holds this recognition at the highest level.

Through its Office of Urban Education and Educational Equity (OUEEE), the college has created numerous partnerships with local school districts that are interested in enhancing a variety of school improvement activities. The OUEEE has also established strong new partnerships with the Detroit Public Schools and the Charles H. Wright Museum of African American History. Additionally, the OUEEE and its Minority Achievement Retention and Success (MARS) Program have been instrumental in the recruiting, retention, and achievement of our minority students.

Graduates from the College of Education are highly prized and are aggressively recruited at the national level. Our alumni hold many distinctions, including the Pulitzer Prize, National Student Teacher of the Year and National Teacher of the Year, and serve as presidents or executives of major national professional organizations. In addition, 26 COE graduates have received the prestigious Milken Family Foundation Award for teaching excellence in the classroom. Finally, over 1,000 of our students become certified teachers each year.

In July 1999, the entire College of Education was relocated to the John W. Porter Building. This building was a \$13,816,000 renovation of the former campus library that was authorized in Public Act 19 (P.A. 19) of 1993. Thus, we have no short term capital outlay requests for this college. However, most of the pressing technological requests for the College of Education were initially addressed in 1999. Since that time, college development resources have been used to refresh and address expanded technology needs. With continued and additional expansion of technology and users, the facility requirements for the EMU College of Education will need to be addressed through a more stable refreshment program if we are to continue to deliver our comprehensive and diversified academic programs for the next five years.

The Michigan Department of Education has determined that the professional education programs offered through the College of Education at EMU are ranked "Exemplary." Most programs in the College of Education are nationally accredited by disciplinary organizations, which frequently list standards for quality of program space:

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**Department of Leadership and Counseling** - Leadership programs are accredited by the National Council for the Accreditation of Teacher Education. Community, college and school counseling programs are accredited by the Council for Accreditation of Counseling and Related Educational Programs.

**Department of Special Education** - Speech-language pathology program accredited by the American Speech-Hearing Association; hearing impaired program accredited by the Council on Education for the Deaf. The department is nationally accredited by the Council for Exceptional Children and the National Council for the Accreditation of Teacher Education.

**Department of Teacher Education** - Accredited by the National Council for the Accreditation of Teacher Education, the Association for Childhood Education International, the International Reading Association, and the National Association for the Education of Young Children.

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## College of Health & Human Services

The College of Health and Human Services (CHHS) prepares professionals with the knowledge and skills to enhance quality of life for Michigan residents and facilitate social change. The college's schools include: Health Promotion and Human Performance, Health Sciences, Nursing, and Social Work. The College of Health and Human Services is located in the Porter Building, the Warner Building, Roosevelt Hall, and the Marshall Building. Administrative space is provided in the Marshall Building for the Dean's office and three of the four schools, as well as laboratories and classrooms for the whole College. Roosevelt and Warner provide classroom and laboratory space, and Porter houses the School of Health Promotion and Human Performance.

With the State of Michigan's push to support health and human service programming, the population of undergraduate and graduate students has increased in the college. Enrollment increased by more than 10% in Fall 2011. Classroom and office space is at a premium. There is a possibility of increasing the number of students in some of the existing programs as well as adding new programs if our need for more classroom, laboratory as well as research space is met. Furthermore, the CHHS has hired new research faculty over the past few years, and with the 2009 addition of a doctoral program in Nursing Education, steady expansion of faculty/student, interdisciplinary-research collaborations are anticipated. Under these circumstances, the CHHS has proposed a three-prong strategy to address its facility needs. First, the Warner gymnasium is in need of major renovation: heating and cooling, classrooms, existing labs, etc. Second, acquiring additional space in the Bowen, Warner buildings, and/or future expansion to the Marshall Building, for office and research needs is critical to grant acquisition and contract services for on and off-campus constituents as well as to meet accreditation requirements. Third, Roosevelt is in need of classroom improvements, but these are not in the magnitude of total building renovation; thus, these needs likely will be addressed in the University's annual maintenance program.

To address the first component of the CHHS strategy regarding the Warner building, a multi-disciplinary Wellness Research Institute is proposed to provide central coordination and support services to researchers. The center will comprise of a variety of laboratories such as movement technology, performance testing, simulation, sensory integration, body composition and wet laboratories. Currently at EMU, similar research institutes, such as the Coatings Research Institute, thrive and can serve as a model for this endeavor.

The plan is to convert unused locker room (15,080 sq. ft.) and gymnasium (3,360 sq. ft.) space in Warner into a Wellness Research Institute suite. Within a 45 year-old building, 18,440 sq. ft. will be renovated and brought up to current building standards to support research initiatives for the College of Health and Human Services.

The proposal encompasses construction-related items: cabinetry, shelving, sinks, vent hoods, chemical storage, toilets, urinals, a shower, one-way mirror windows for observation rooms,

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doors, security system, lighting, elevator, enhancements for access to internet and other technologies.

One area will have an elevated track for motion analysis. This will require force plate sensor equipment and cameras for recording data for sport and athletic movement plus patient rehabilitation activities. In addition LCD monitors, speakers, microphones, and cameras will be used in many areas to record subject reactions, conversations, responses, and motion for research data analysis, review, summary, and dissemination.

The budget incorporates demolition of existing lockers, restrooms, showers, and asbestos abatement, along with new construction of an entrance with lobby and elevator for ADA compliance. Remodeling corridors leading to the Wellness Research Institute suite and Movement Technology Laboratory and the two research spaces themselves with Leadership in Energy and Environmental Design (LEED) considerations, green materials, and sensitivity to universal design needs of all persons regardless of age or disability, will provide an environment for both discipline specific and interdisciplinary studies to flourish.

While most proposals will serve one or two major research efforts, this one benefits a College whose percent increase in enrollment and new faculty hiring outpaces the rest of the campus.

There has been a strategic decision by Eastern Michigan University (EMU) to grow research capacity. While EMU has been a stellar, accredited, comprehensive university for 160 years, it enjoyed 75% state support in the 1970's and now receives on average 27% of its revenues from state funding. Seeking revenue from grants and contracts to achieve our mission has become an important goal. In the College of Health and Human Services, grant proposals this past year have increased by 39% and awards by 59% with decisions currently pending for more than \$6 million in proposals. Fiscal year 2009 saw the highest level of submitted grant proposals, \$11,736,864, in the College's 35-year history.

Several programs in the College of Health and Human Services are accredited by disciplinary organizations, which frequently list standards for quality of program space especially with regards to research space:

**School of Health Promotion and Human Performance** - Athletic training accredited by the Commission on Accreditation of Allied Health Education Programs and the Joint Review Committee on Education Planning and Athletic Training; health education accredited by the Michigan Department of Education/National Council for the Accreditation of Teacher Education; orthotics and prosthetics is accredited by the National Commission on Orthotics and Prosthetics Education; physical education is accredited by the National Association of Sport and Physical Education/National Council for the Accreditation of Teacher Education.

**School of Health Sciences** - Clinical laboratory sciences program accredited by the National Accreditation Agency for Clinical Laboratory Sciences; occupational therapy accredited by the

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Accreditation Council for Occupational Therapy Education; dietetics accredited by the Commission on Accreditation for Dietetics Education of the American Dietetic Association.)

**School of Nursing** - Accredited by the Commission on Collegiate Nursing Education.

**School of Social Work** - Accredited by the Council on Social Work Education.

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## College of Technology

The College of Technology (COT) is dedicated to excellence in the delivery of professional programs in the School of Technology Studies, School of Engineering Technology and the Department of Military Science and Leadership. Also, the COT is proud of its research and training activities in textiles, polymers and coatings, police and fire staff training and workforce development. Program offerings are based on the philosophy that technology and management studies enhance learning; their application is vital in the creation and discovery of new knowledge. Graduates of COT programs are better prepared to function in an ever changing global technological environment and to assume leadership roles in organizations, corporations, government agencies and institutions of higher education throughout the world. Today's College of Technology has become an integral component of the University's mission, allowing students to be better prepared to compete globally. With a reputation for excellence and innovation, the College of Technology continues to meet the changing needs of students and employers today.

Although hindered by being housed primarily in Sill (1965) and Roosevelt (1928) Halls, the college has made great strides in the development and delivery of relevant programs and educational experiences for students. The greatest challenge facing the college at present is the need for facility modernization that would address both the shortage of appropriate facilities and less than adequate teaching and laboratory environments for many classes and research activities.

The COT fully endorses the need for a new *Integrates Arts and Technology Village (IAT Village)* as one means of addressing some of this College's needs. The IAT Village is an essential priority as the University and COT attempt to stay up-to-date in educational delivery, student learning experiences and faculty research. Faculty members from the College of Arts and Sciences and the COT came together to develop a plan for such an interdisciplinary, integrated arts and applied technology facility.

Several programs in the College of Technology are accredited by disciplinary organizations, which frequently list standards for quality of program space:

**School of Engineering Technology** - Construction Management accredited by the American Council for Construction Education; Interior Design accredited by the Foundation for Interior Design Education and Research.

**School of Technology Studies** - Hotel and Restaurant Management program accredited by the Council on Hotel, Restaurant and Institutional Education; Legal Assistant (Paralegal Studies) program accredited by the American Bar Association; Business, Marketing and Technology Education, Technology and Design Education programs approved by the National Council for Accreditation of Teacher Education/International Technology Educational Association/Council on Technology Teacher Education; Apparel, Textiles and Merchandising program accredited by The Textile Institute, incorporated by Royal Charter.

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In addition to the IAT Village, an equally-important need for the College of Technology is to address the pressing instructional and research space needs for its School of Engineering Technology as it reaches out to develop an interdisciplinary direction developed by the faculty in the areas of alternative energies and sustainability. In addition, a critical need exists for immediate space renovation within its existing facilities concentrated on developing an *Instructional Innovation Project* for both Sill and Roosevelt Halls. This involves developing instructional areas to meet the needs of innovative curricular change with the accompanying space to incorporate new learning delivery modes such as team and applied development instructional approaches.

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## Other Academic Units

### Extended Programs and Educational Outreach

Extended Programs and Educational Outreach (EPEO) provides leadership to the campus in extending Eastern Michigan University to its communities. As the primary delivery structure for off-campus programs, EPEO works closely with academic departments and colleges as well as student service areas to serve students both on campus and beyond. Because its programs are offered off campus, we have no short term capital outlay requests for EPEO.

EMU programs offered via EPEO are varied in both geographic distribution and program type. Courses are offered in traditional and compressed formats, distance learning, and contract programs. Off-campus centers are maintained in Brighton, Detroit, Flint, Jackson, Livonia, Monroe, and Traverse City. Courses and programs may also be delivered at non-EMU locations such as Grand Rapids in partnership with Grand Valley State University, Daimler Chrysler, and Foote Hospital, to name a few. Programs are also offered internationally in partnership with foreign institutions, for example the Human Resource and Organizational Development Master's degree in China.

EPEO is also responsible for EMU-Online, Eastern Michigan's online course delivery unit. More than 357 courses have been developed and enrollments are increasing annually. Ten full degree programs have been developed for online delivery, including our newest program, Intergrated Marketing Communication.

EPEO continues to expand within the region, and internationally. EMU-Livonia will expand again this year to serve the growing off campus student population. In addition to the partnership with the Tianjin Normal University, there are discussions with other potential university partners in China interested in Geographic Information Systems (GIS) and Quality programs. These programs can be delivered in a hybrid format, face-to-face and online, and help further the internationalization of the curriculum and broaden the knowledge and experience of the faculty.

On campus, EPEO delivers programming on weekends using various campus buildings and the Eagle Crest Conference Center. In addition, technology can be used to deliver programs between campus and distance sites.

EPEO also provides a number of non-credit offerings which meet the life-long learning needs of the southeast region of Michigan.

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### Library

The Bruce T. Halle Library houses the University Library, Bruce K. Nelson Faculty Development Center, Holman Learning Center, Academic Technology and Computing Services and Eagle Cafe. With over 949,000 volumes, 200 indexes and databases, and 20,000 full-text journals, the library provides an array of resources that supports teaching, learning and research to facilitate the intellectual, scientific, artistic, cultural, and service pursuits of the University. The 218,000 square foot library offers 2,250 seats for faculty and students, over 500 computers in labs and public areas, 1,500 network ports, and wireless access to Internet throughout the Library.

At the time when Halle Library opened in 1998, several decisions were made due to budget constraints: (1) to limit the size of the Automatic Retrieval Collection (ARC), (2) to limit the size of the University Archives, (3) to forego proper environmental controls in the University Archives, and (4) to forego proper environmental controls in the "Head End" room which houses major servers, network infrastructure, and the like.

Completion of the full capacity of the Automatic Retrieval Collection (ARC) can wait at least until FY 2013. It will cost approximately \$1,750,000.00 to add the two (2) bays which will increase the capacity of the ARC by 200,000 volumes as well as to update the decade-old hardware in part of the ARC.

The University's interest in showcasing its accomplishments and the desire to expand the conception of the University Archives to a digital repository both require different and more significant space utilization than the current area provides. Every year that we delay proper environmental controls for these materials is decreasing their life expectancy. A state-of-the-art Archives/Special Collections area with room for a public exhibit and museum-like display area would cost approximately \$1,725,000. Remodeling and expansion of the current site could be done for \$500,000-\$750,000 in addition to \$500,000 for environmental controls.

Approximately \$1,000,000 would be needed to add necessary levels of electrical power and air conditioning in the Head End Room, as well as to replace the outdated sprinkler system with a fire suppression system more appropriate to a room housing so much high-tech equipment. We have been fortunate in avoiding major system failures or fires in that room to date, but the safety risks and the potential for system failure are of continued concern.

The Halle Library is now thirteen years old, and was used heavily this past year as "swing space" Worn carpeting was noted as far back as the 2006 program review of the library, and carpeting is even more worn by the end of the "swing space." Furniture has worn out, and paint has faded. There has been continual rethinking of the use of space, but minimal monies available to do the changes in a manner that befits the stature of the building on the campus. Approximately \$1,000,000 will be needed after "swing space" is over to catch up on the routine maintenance of the building that has been delayed.

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**ENROLLMENT AND FACULTY/STAFF**

EXECUTIVE SUMMARY  
CURRENT STUDENT ENROLLMENT  
ENROLLMENT PATTERNS  
STAFFING  
AVERAGE CLASS SIZE

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## EXECUTIVE SUMMARY

Eastern Michigan University has a strong history of commitment to high student access to quality programs. It is even more vital today to keep the doors of opportunity open to all of Michigan's citizens. The University plans to aggressively attract student of opportunity, both traditional college-age youth who benefit significantly from EMU's rich on-campus life and commitment to holistic student development, and less traditional student populations requiring advanced degrees, programs tailored to employment needs, and distributed online courses, which are so essential for the information-age economy.

The University's enrollment consists of three major categories: First Time in Any College (FTIAC); transfer students; and graduate students. For the last decade and a half, the State of Michigan had seen an increase in the number of high school graduate. Unfortunately, starting in the fall of 2008, the population of FTIACs in the State of Michigan has declined and is expected to continue to decline over the next few years. In contrast, the transfer population has been on the rise. The fall of 2009 brought the University' first increase in the number of students and student credit hours in five years. This increase continued in the fall of 2010.

Eastern Michigan University is strongly committed to working with southeastern Michigan community colleges to enhance access to four year public universities. Initiatives underway at the University include improved collaboration with community colleges, expansion of the number of transfer articulation agreements and improvements in the overall transfer process for community college students. The fall of 2010 saw the highest number of transfer students the University has witnessed in over twenty years.

Eastern Michigan University places a high value on the retention of its students. One of the many outcomes of the strategic planning process has been to implement a comprehensive, campus-wide approach to the retention of students. This approach includes the following initiatives:

- The development of a retention tracking system.
- Student use of the Holman Learning Center.
- Review of the general education curriculum.
- Creation of academic advising office in each college.
- Mandatory freshman orientation.
- First-year mentorship and freshman advising.
- Expansion of summer incentive program.
- Continuation of the Commuter and Transfer Student Admission Team.
- The creation of a Recruitment Council

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**CURRENT STUDENT ENROLLMENT BY LEVEL AND PROGRAM**

In Fall 2011, among the total enrollment of 23,341 students, 16,408 (or 70%) registered courses at main campus only, 711 are at satellite campus only, 1,411 are online only, and 4,811 are combination of courses from main campus, satellite campus or online.

LEVL_CODE	Combination	Main campus only	Online only	Satellite only	Grand Total
UG	3,937	13,701	722	209	18,569
GR	874	2,707	689	502	4,772
Grand Total	4,811	16,408	1,411	711	23,341

**Fall 2011 Opening Term Undergraduate Headcount**

<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>Academic Affairs</b>				
Continuing Education Total	Continuing Education		15	15
University - General Studies	Cross Disciplinary Studies	1		1
	Early College Alliance	132	121	253
	ESL Intensive English Language	19		19
	Guest/Self Improvement	23	55	78
	Individualized Studies Program	26	26	52
	Undeclared	810	348	1,158
University - General Studies Total		1,011	550	1,561
Academic Affairs Total		1,011	565	1,576
<b>College of Arts and Sciences</b>				
African American Studies Total	African American Studies	16	4	20
Art	Art	165	95	260
	Art - 30 Hour	21	9	30
	Art - Teaching		2	2
	Art History	23	11	34
	Visual Arts Education	53	20	73
	Visual Arts Education - Intent	3	2	5
Art Total		265	139	404
Biology	Biology	354	159	513
	Biology - Teaching	17	2	19
	Pre-Chiropractic	7		7
	Pre-Medicine/Osteopathy	139	23	162
	Pre-Optometry/Podiatry	3		3
	Pre-Veterinary	39	4	43
Biology Total		559	188	747
Chemistry	Biochemistry/Toxicology	16	6	22

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	Chemistry	57	26	83
	Chemistry - Teaching	7	2	9
	General Biochemistry	36	17	53
	Pre-Dentistry	39	4	43
	Pre-Mortuary Science	2	1	3
	Pre-Pharmacy	20	8	28
	Professional Biochemistry	18	6	24
	Professional Chemistry	9	8	17
<b>Chemistry Total</b>		<b>204</b>	<b>78</b>	<b>282</b>
Comm, Media & Theatre Arts	Arts Management	20	2	22
	Comm, Theatre Arts - Teaching	11	7	18
	Communication	294	121	415
	Communication and Theatre Arts	34	14	48
	Electronic Media-Film Studies	165	55	220
	Public Relations	24	8	32
	Theatre Arts	71	12	83
<b>Comm, Media &amp; Theatre Arts Total</b>		<b>619</b>	<b>219</b>	<b>838</b>
Computer Science	Computer Science	84	39	123
	Computer Science - Teaching	5	4	9
	Computer Science Applied	48	33	81
<b>Computer Science Total</b>		<b>137</b>	<b>76</b>	<b>213</b>
Economics	Economics	31	9	40
	Economics - BBA	1	3	4
	Economics - BBA Intent	5	1	6
<b>Economics Total</b>		<b>37</b>	<b>13</b>	<b>50</b>
English	Child Lit/Drama/Thtr for Young	12	6	18
	Creative Writing	65	19	84
	English Language	46	9	55
	English Linguistics	40	11	51
	Journalism	101	27	128
	Language, Literature and Writg	62	27	89
	Language, Litr, Writg - Tchrs	167	33	200
	Literature	30	15	45
	Professional Writing	6	1	7
	Public Relations	50	20	70
	Technical Communications	4	1	5
Written Communication	15	8	23	
<b>English Total</b>		<b>598</b>	<b>177</b>	<b>775</b>
Geography & Geology	Earth Science	23	4	27
	Earth Science - Teaching	11	5	16
	Geography	23	21	44
	Geography - Teaching	1	2	3
	Geology	24	9	33
	Urban and Regional Planning	29	10	39
<b>Geography &amp; Geology Total</b>		<b>111</b>	<b>51</b>	<b>162</b>
History & Philosophy	History	117	57	174
	History - Teaching	33	7	40
	Philosophy	26	19	45
	Social Science	1	2	3
	Social Studies	9	9	18
	Social Studies - Secndry Tchng	131	34	165
<b>History &amp; Philosophy Total</b>		<b>317</b>	<b>128</b>	<b>445</b>
Mathematics	Actuarial Science and Economic	27	8	35

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	Mathematics	51	19	70
	Mathematics/ConcentrStatistics	5	1	6
	Mathematics-Elementary Educ	65	14	79
	Mathematics-Secondary Educ	89	22	111
<b>Mathematics Total</b>		<b>237</b>	<b>64</b>	<b>301</b>
Music and Dance	400 level Music approved	1		1
	Dance	23	2	25
	Music	68	18	86
	Music Education - Intent	41	6	47
	Music Education, Instrumental	61	11	72
	Music Education, Vocal	12	4	16
	Music Performance	11	6	17
	Music Therapy	43	19	62
<b>Music and Dance Total</b>		<b>260</b>	<b>66</b>	<b>326</b>
Physics and Astronomy	General Science	7	4	11
	Integrated Science Sec Teach	13	6	19
	Physical Science Compr Tchg	1		1
	Physics	20	8	28
	Physics - Teaching	8		8
	Physics:Engineering	21	5	26
	Physics-Research	25	3	28
	Pre-Engineering	24		24
<b>Physics and Astronomy Total</b>		<b>119</b>	<b>26</b>	<b>145</b>
Political Science	International Affairs	49	13	62
	Political Science	138	41	179
	Pre-Law Undeclared	52	2	54
	Public Administration	11	13	24
	Public Law and Government	29	7	36
	Public Safety Administration	20	15	35
<b>Political Science Total</b>		<b>299</b>	<b>91</b>	<b>390</b>
<b>Psychology Total</b>		<b>645</b>	<b>231</b>	<b>876</b>
Sociology/Anthro/Criminology	Anthropology	69	24	93
	Criminology and Criminal Justc	438	131	569
	Sociology	56	34	90
	Sociology - Teaching	8	1	9
<b>Sociology/Anthro/Criminology Total</b>		<b>571</b>	<b>190</b>	<b>761</b>
<b>Women's and Gender Studies Total</b>		<b>21</b>	<b>7</b>	<b>28</b>
World Languages	French	13	4	17
	French - Teaching	4		4
	German Lang, Lit - Teaching	5		5
	German Language and Literature	6	3	9
	Japanese Lang, Cult -Teaching	4	2	6
	Japanese Language & Culture	72	12	84
	K12 Certification in French	3	1	4
	K12 Certification in Spanish	10	3	13
	Language and Internatnl Trade	18	8	26
	Spanish	22	15	37
	Spanish - Teaching	18	4	22
<b>World Languages Total</b>		<b>175</b>	<b>52</b>	<b>227</b>
<b>College of Arts and Sciences Total</b>		<b>5,190</b>	<b>1,800</b>	<b>6,990</b>

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<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Business</b>				
Accounting & Finance	Accounting	88	74	162
	Accounting Information Sys-Int	9	2	11
	Accounting Information Systems	2	6	8
	Accounting/Accounting 150 hrs	47	28	75
	Accounting/Accounting 150 Int	7	1	8
	Accounting-Int	177	78	255
	AIS/Accounting 150 hrs	2	2	4
	Finance	73	38	111
	Finance-Intent	82	22	104
Accounting & Finance Total		487	251	738
Business Administration	Business Administration-Undecl	291	116	407
	International Business	17	8	25
	International Business-Intent	55	10	65
Business Administration Total		363	134	497
Computer Information Systems	Computer Information Sys-Intnt	57	22	79
	Computer Information Systems	28	29	57
Computer Information Systems Total		85	51	136
Management	Entrepreneurship	15	8	23
	Entrepreneurship-Intent	52	19	71
	General Business	19	34	53
	General Business-Intent	116	32	148
	Management	120	80	200
	Management-Intent	152	77	229
Management Total		474	250	724
Marketing	International Bus/Finance	1		1
	International Bus/Gen Bus	2		2
	International Bus/Management		1	1
	International Bus/Marketing	3		3
	Marketing	83	51	134
	Marketing-Intent	160	50	210
	Supply Chain Management	17	17	34
	SupplyChain Management Intent	24	12	36
Marketing Total		290	131	421
College of Business Total		1,699	817	2,516

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<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Education</b>				
Special Education	Elem Cognitive Impairment	67	62	129
	Elem Emotional Impairment	22	30	52
	Elem Hearing Impairment	12	3	15
	Elem Phy/Other Health Impair		2	2
	Elem Speech/Language Impair	11	9	20
	Elem Visual Impairment	1	1	2
	Secdry Cognitive Impairment	47	20	67
	Secdry Emotional Impairment	23	12	35
	Secdry Hearing Impairment	2	1	3
	Secdry Phy/Other Health Impair		1	1
	Secdry Speech/Language Impair	11	1	12
	Secdry Visual Impairment	4		4
	Special Education-Undeclared	146	46	192
	Speech/Lang Imp - Clinical	67	15	82
<b>Special Education Total</b>		<b>413</b>	<b>203</b>	<b>616</b>
Teacher Education	Elementary Education-Intent	382	110	492
	Integrated Science-Teaching	37	14	51
	Language Arts Group	42	32	74
	Liberal Arts Elementary Tchg	365	57	422
	Reading	38	48	86
	Secondary Education-Intent	251	46	297
	Social Studies Grp for El Educ	28	10	38
	Teacher Prep - Elementary	27	24	51
	Teacher Prep - Secondary	60	60	120
	Three Minors - Elem Ed	12	9	21
<b>Teacher Education Total</b>		<b>1,242</b>	<b>410</b>	<b>1,652</b>
<b>College of Education Total</b>		<b>1,655</b>	<b>613</b>	<b>2,268</b>

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<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Health &amp; Human Services</b>				
School of Health Sciences	Clinical Lab Sciences (Clinic)	49	31	80
	Clinical Lab Sciences (Profes)	11	3	14
	Dietetics	49	5	54
	Dietetics-Intent	71	121	192
	Health Administration	161	138	299
	Occupational Therapy	12	9	21
	Pre-OT	142	43	185
	Therapeutic Recreation	29	16	45
	Therapeutic Recreation-Intent	6	3	9
<b>School of Health Sciences Total</b>		<b>530</b>	<b>369</b>	<b>899</b>
School of Hlth Prom/Human Perf	Athletic Training	28	4	32
	Exercise Science	27	22	49
	Intent - Sport Management	16	8	24
	Physical Education	31	14	45
	Physical Education Teaching	40	21	61
	Sport Management	65	20	85
	Sports Medicine-Intent	234	70	304
<b>School of Hlth Prom/Human Perf Total</b>		<b>441</b>	<b>159</b>	<b>600</b>
School of Nursing	Nursing	196	45	241
	Nursing - 2nd Bachelor	46	17	63
	Nursing - BSN Completion	5	171	176
	Nursing (Completion)-Intent	3	14	17
	Nursing Intent	498	261	759
<b>School of Nursing Total</b>		<b>748</b>	<b>508</b>	<b>1,256</b>
School of Social Work	Social Work	175	89	264
	Social Work - Intent	213	113	326
<b>School of Social Work Total</b>		<b>388</b>	<b>202</b>	<b>590</b>
<b>College of Health &amp; Human Services Total</b>		<b>2,107</b>	<b>1,238</b>	<b>3,345</b>

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<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Technology</b>				
School of Engineering Tech	Applied Tech (Transfer)	11	33	44
	Computer Engineering Tech	60	23	83
	Construction Management	91	69	160
	Electronic Engineering Technol	49	20	69
	Industrial Technology-Undeclrd	4	2	6
	Interior Design	70	27	97
	Mechanical Engineering Technol	98	28	126
	Polymers and Coatings Technlgy	6	3	9
	Pre-Architecture	24	2	26
	Pre-Engineering	3	1	4
	Product Design & Development	44	28	72
<b>School of Engineering Tech Total</b>		<b>460</b>	<b>236</b>	<b>696</b>
School of Technology Studies	Administrative Management		1	1
	Apparel, Textile Merchandising	75	35	110
	Aviation Flight Tech	86	34	120
	Aviation Managemnt Technology	38	17	55
	Bus, Mgmt, Mktg, Tech	8	6	14
	Communication Technology	49	19	68
	Hotel and Restaurant Mgmt	102	57	159
	Industrial Distribution	14	18	32
	Information Assurance	137	65	202
	Information Assurance Intent	9	2	11
	Legal Assistant	19	24	43
	Legal Assistant Intent	21	20	41
	Network, Info Tech Admin Pgm	37	22	59
	Simulation, Animation & Gaming	89	26	115
	Technology Management	28	105	133
	Technology, Design Education	6	9	15
<b>School of Technology Studies Total</b>		<b>718</b>	<b>460</b>	<b>1,178</b>
<b>College of Technology Total</b>		<b>1,178</b>	<b>696</b>	<b>1,874</b>

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Eastern Michigan University Undergraduate Totals	12,840	5,729	18,569
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## Fall 2011 Opening Term Graduate Headcount

<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>Academic Affairs</b>				
Continuing Education Total	Continuing Education	2	98	100
Undeclared Total	Undeclared	18	197	215
University - General Studies	Guest/Self Improvement	1	6	7
	Individualized Studies Program	9	85	94
University - General Studies Total		10	91	101
Academic Affairs Total		30	386	416
<b>College of Arts &amp; Sciences</b>				
African American Studies Total	African American Studies		4	4
Art	Studio Art - MA		10	10
	Studio Art - MFA	17	3	20
	Visual Arts Education		3	3
Art Total		17	16	33
Biology	Biology General	7	11	18
	Ecology & Organismal Biology		9	9
	Molecular/Cellular Biology	4	20	24
Biology Total		11	40	51
Chemistry Total	Chemistry	2	27	29
Comm, Media & Theatre Arts	Communication	16	34	50
	Drama/Theatre for Young		2	2
	Drama/Theatre for Young - MFA	2	6	8
	Interp/Performance Studies	1	2	3
	Theatre Arts	7	7	14
	Theatre Arts- Arts Admin	7	13	20
Comm, Media & Theatre Arts Total		33	64	97
Computer Science	Artificial Intelligence	1		1
	Computer Science	11	17	28
Computer Science Total		12	17	29
Economics	Applied Economics	1	9	10
	Economics	16	14	30
	International Econ & Devlpmnt	4	2	6
	Medical Economics		1	1
	Trade & Development	3	5	8
Economics Total		24	31	55
English	Children's Literature	3	8	11
	Creative Writing	3	10	13
	English Linguistics	17	14	31
	English Studies for Teachers		12	12
	Literature	5	25	30
	Technical Communications		3	3
	Written Communication	5	33	38

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English Total		33	105	138
Geography & Geology	Earth Science Education	2	11	13
	Geographic Info Systems	13	26	39
	Geography		1	1
	GIS Professional		3	3
	Heritage Interp/Tour/Admin	1	6	7
	Hist Pres Conservation/Tech		3	3
	Historic Preservation	9	44	53
	Historic Preservation Planning	1	10	11
	Urban and Regional Planning	3	16	19
Geography & Geology Total		29	120	149
History & Philosophy	History	9	56	65
	Soc Sci & American Culture	1	4	5
	Social Science	1	15	16
History & Philosophy Total		11	75	86
Mathematics	Applied Statistics	4	6	10
	Mathematics	11	28	39
	Mathematics Computer Science	1	1	2
Mathematics Total		16	35	51
Music and Dance	Music Composition	1	4	5
	Music Education	1	10	11
	Music Performance	5	5	10
	Piano Pedagogy	1		1
Music and Dance Total		8	19	27
Physics and Astronomy	General Science		2	2
	Physics	3	8	11
	Physics/Physics Education		2	2
Physics and Astronomy Total		3	12	15
Political Science	General Public Mgmt		2	2
	Local Govt Management		1	1
	Political Science Bach/MPA		1	1
	Public Admin Bach/MPA	2	1	3
	Public Administration	19	120	139
Political Science Total		21	125	146
Psychology	Clinical Behavioral Psychology	16	9	25
	Clinical Psychology	17	6	23
	Clinical Psychology - PhD	16	31	47
	Psychology	2	3	5
Psychology Total		51	49	100
Sociology/Anthro/Criminology	Criminology and Criminal Justc	4	33	37
	Gerontology	1	13	14
	Schools, Society and Violence	1	2	3
	Sociology	7	11	18
Sociology/Anthro/Criminology Total		13	59	72
Women's and Gender Studies Total	Women's and Gender Studies	1	14	15
World Languages	French		2	2
	German		1	1
	Japanese Language Teaching		1	1
	Language and Internatnl Trade	1	4	5
	Spanish		8	8
	TESOL	6	44	50
World Languages Total		7	60	67

## Eastern Michigan University Capital Outlay Request FY2013

College of Arts & Sciences Total 292      872      1,164

<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Business</b>				
Accounting & Finance	Accounting	34	33	67
	Accounting/Accounting 150 hrs	20	10	30
	AIS/Accounting 150 hrs	1	3	4
<b>Accounting &amp; Finance Total</b>		<b>55</b>	<b>46</b>	<b>101</b>
Business Administration	Business Administration	32	94	126
	E-Business	2	9	11
	Enterprise Bus Intelligence	1	5	6
	Entrepreneurship	2	7	9
	Finance	11	25	36
	Human Resources	4	59	63
	Information Systems	5	9	14
	Information Tech Governance		1	1
	Internal Auditing	4	6	10
	International Business	3	1	4
	Management	1	6	7
	Marketing	7	19	26
	Nonprofit Management		3	3
	Organizational Development		8	8
Supply Chain Management	9	34	43	
<b>Business Administration Total</b>		<b>81</b>	<b>286</b>	<b>367</b>
Computer Information Systems Total	Information Systems	37	27	64
Management	Entrepreneurship		3	3
	Human Resource/Org Developmnt	29	51	80
<b>Management Total</b>		<b>29</b>	<b>54</b>	<b>83</b>
Marketing Total	Integreated Marketing Comm	20	48	68
<b>College of Business Total</b>		<b>222</b>	<b>461</b>	<b>683</b>

**Eastern Michigan University  
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<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Education</b>				
Leadership & Counseling	Academic Advising		2	2
	Basic School Admin		34	34
	College Counseling	8	12	20
	Community Counseling	9	37	46
	Educational Leadership	3	171	174
	Higher Ed General Admin	2	16	18
	Higher Ed Student Affairs	14	65	79
	K12 Administration	1	121	122
	School Counseling	6	45	51
<b>Leadership &amp; Counseling Total</b>		<b>43</b>	<b>503</b>	<b>546</b>
Special Education	Autism Spectrum Disorders		24	24
	Cognitive Impairment	15	37	52
	Emotionally Impaired	5	16	21
	Hearing Impaired	1		1
	Learning Disabilities	2	21	23
	Physic,Otherwise Hlth Impaired		4	4
	SEM-T EI Ed Cognitive Impair	4	1	5
	SEM-T EI Ed Emotional Impair	5	2	7
	SEM-T Sec Ed Cognitive Impair	2	3	5
	SEM-T Sec Ed Emotional Impair		1	1
	Sp Ed Admin & Supervision	1	18	19
	Sp Ed Curriculum Development		1	1
	Special Education	14	26	40
	Speech & Language Pathology	61	28	89
<b>Special Education Total</b>	<b>110</b>	<b>182</b>	<b>292</b>	
Teacher Education	Curriculum & Instruction	1	33	34
	Early Childhood Education		67	67
	Ed Psy - Developing Learner	1	53	54
	Ed Psy - Research/Assmnt	1	3	4
	Educational Media & Technology		63	63
	Educational Studies		40	40
	Elementary Education	1	11	12
	K-12 Curriculum		1	1
	Middle School Education		3	3
	Prof Cert Elementary Ed		4	4
	Prof Cert Secondary Ed		5	5
	Reading	2	75	77
	Scdary Tchng - Math Conc	6		6
	Scdary Tchng - Physics Conc	2		2
	Secondary School Teaching	1	6	7
	Social Foundations	3	12	15
	Teacher Certification Renewal		13	13
	Teacher Endorsement	5	45	50
	Urban/Diversity Education	1	6	7
	<b>Teacher Education Total</b>	<b>24</b>	<b>430</b>	<b>464</b>

## Eastern Michigan University Capital Outlay Request FY2013

College of Education Total 177 1,125 1,302

<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Health &amp; Human Services</b>				
Interdis Health & Human Serv Total	Nonprofit Management		4	4
School of Health Sciences	Clinical Research Admin	19	60	79
	Combined OT (BS/MOT)	17	17	34
	Dietetics	16	1	17
	Dietetics - Coordinated	2	1	3
	Health Administration	11	56	67
	Human Nutrition	5	51	56
	Occupational Therapy	35	6	41
School of Health Sciences Total		105	192	297
School of Hlth Prom/Human Perf	Exercise Physiology	22	39	61
	Health Education	1	16	17
	Orthotics/Prosthetics	35	4	39
	Physical Education Pedagogy		7	7
	Sport Management	14	46	60
School of Hlth Prom/Human Perf Total		72	112	184
School of Nursing	Health Care Systems Teaching		7	7
	Nursing	2	24	26
	Quality Improv Health Care		1	1
School of Nursing Total		2	32	34
School of Social Work	Dementia		3	3
	Family & Children's Services	5	112	117
	Mental Health & Chemical Dep	6	57	63
	Services to the Aging	1	25	26
School of Social Work Total		12	197	209
College of Health & Human Services Total		191	537	728

**Eastern Michigan University  
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<u>College/Department</u>	<u>Major</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Total</u>
<b>College of Technology</b>				
Coll of Technology Interdisc Total	Technology Doctorate	2	59	61
School of Engineering Tech	Computer Aided Engineering	4	13	17
	Construction Management	12	16	28
	Engineering Management	14	86	100
	Interior Design	11	17	28
	Polymer Technology	3	11	14
	Quality		4	4
	Quality Management	2	93	95
School of Engineering Tech Total		46	240	286
School of Technology Studies	Apparel, Textile Merchandising	1	15	16
	Hotel and Restaurant Mgmt	4	6	10
	Information Assurance Mgmt	2		2
	Technology Studies	12	92	104
School of Technology Studies Total		19	113	132
College of Technology Studies Total		67	412	479
Eastern Michigan University Undergraduate Totals		979	3,793	4,772

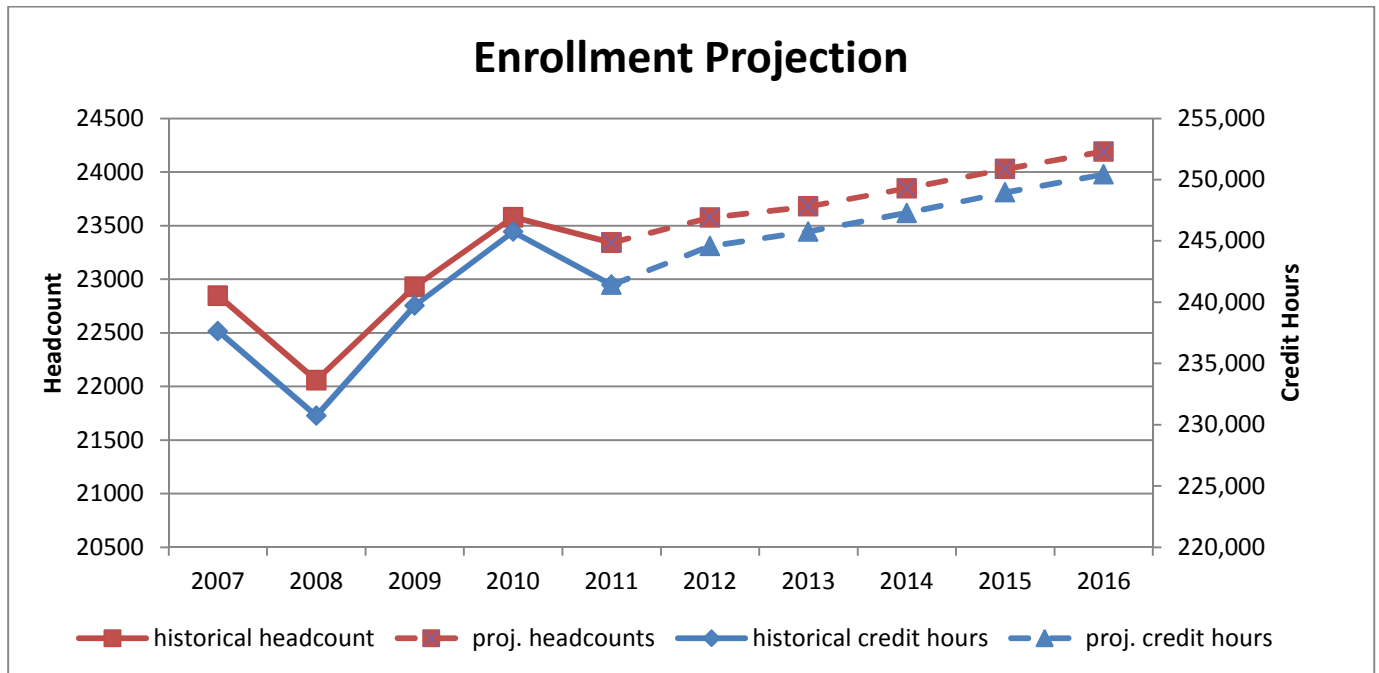
# Eastern Michigan University Capital Outlay Request FY2013

## ENROLLMENT PATTERNS

### PROJECTED ENROLLMENT PATTERNS

Eastern Michigan University expects to see student enrollment increase slowly over the course of the next five years. Additionally, the continuously increase of online courses and external programs over the last few years should attract more non-traditional students to further their education at different locations. The undergraduate enrollment of First Time In Any College (FTIAC) students for Fall 2011 has increased 6.1% and the retention rate of FTIAC students was up 5% compared to Fall 2010 enrollment. The retention rates of 2010 and 2011 remained the highest two years in the past ten years.

The total enrollment is expected to increase 3.6% (or 850 students) for the next five years. Student credit hours are expected to increase 3.7% by Fall 2016.



**Eastern Michigan University  
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**PRIOR ENROLLMENT PATTERNS**

The detailed information of enrollment patterns over the last five years is listed below. The enrollment of undergraduate students had shown a stable increase of 3.4% since 2007, whereas the enrollment of graduate students varied over the past years, generally with a decrease of 2.3% since 2007. The credit hours were reported at the course level of undergraduate- and graduate-level courses. Undergraduate level courses had increased 1.14% and graduate level courses increased 2.88% since 2007. Graduate level courses had higher increase rate than undergraduate courses which may partly due to the increase of distance-learning programs which might have attracted those students with full-time jobs.

<b>Fall Headcount Enrollment</b>			<b>Fall Credit Hours</b>	
<b>Fall</b>	<b>Undergraduate Students</b>	<b>Graduate Students</b>	<b>Undergraduate Credit Hours</b>	<b>Graduate Credit Hours</b>
<b>2007</b>	17,962	4,886	213,582	24,062
<b>2008</b>	17,283	4,774	206,194	24,543
<b>2009</b>	17,780	5,151	213,653	26,078
<b>2010</b>	18,554	5,025	219,588	26,165
<b>2011</b>	18,569	4,772	216,657	24,754

## Eastern Michigan University Capital Outlay Request FY2013

### INSTRUCTIONAL STAFF/STUDENT AND ADMINISTRATIVE STAFF/STUDENT RATIOS

#### Fall 2010 Official Record

FACULTY FTE			Total	Ratio
College Description	FT Headcount	PT FTE	Faculty FTE	Student FTE to Faculty FTE
College of Arts & Sciences	417	222.39	639.39	10.88
College of Business	83	11.2	94.20	27.63
College of Education	108	16.06	124.06	21.28
College of Health & Human Serv	105	30.33	135.33	22.13
College of Technology	57	16.24	73.24	24.18
Academic Affairs				n/app
Grand Total	770	296.22	1,066.22	17.13

Instructional Faculty FTE includes full-time faculty, full-time lecturers, part-time lecturers, and instructional graduate assistants.

Full-time Headcount equals 1 FTE

Part-time FTE equals the sum of the percent of appointments

STAFF FTE			Total	Ratio
College Description	FT Headcount	PT FTE	Staff FTE	Student FTE to Staff FTE
College of Arts & Sciences	84	107	191	36.42
College of Business	16	20.94	36.94	70.47
College of Education	32	32	64	41.24
College of Health & Human Serv	23	15.89	38.89	76.99
College of Technology	18	27	45	39.36
Grand Total	173	202.83	375.83	48.59

Instructional Staff FTE includes administrative, professional-technical, clerical and non-instructional graduate assistants.

Full-time Headcount equals 1 FTE

Part-time FTE equals the sum of the percent of appointments

Eastern Michigan University will strategically look and evaluate the need to increase staffing based on the enrollment increases expected. Both areas that are projected to increase and areas that are expected to decrease will be looked at critically to see if changes in staffing are necessary. The expected increase in on-line courses may help offset any expected increase in staffing based on enrollment growth.

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**AVERAGE CLASS SIZE**

The average class size is based on total course enrollment divided by the total number of course sections, excluding courses which are lecture-based or involve individual advising. The overall trend of class size is decreasing slowly for undergraduate courses whereas the class size of graduate courses is increasing, with the exception of this past year.

<b>Average Class Size</b>			
<b>Fall</b>	<b>Undergraduate Courses</b>	<b>Graduate Courses</b>	<b>Total</b>
<b>2007</b>	25.24	10.88	22.08
<b>2008</b>	24.69	11.20	21.72
<b>2009</b>	24.25	11.41	21.46
<b>2010</b>	24.38	12.07	21.89
<b>2011</b>	24.29	11.77	21.81

The expected increase in enrollment over the next few years combined with the number of distance-learning courses being taught may slightly increase the overall class size in future years.

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**FACILITY ASSESSMENT**

EXECUTIVE SUMMARY  
BUILDING AND CLASSROOM UTILIZATION RATES  
ARCHITECTURAL SYSTEMS  
MECHANICAL SYSTEMS  
ELECTRICAL SYSTEMS (BUILDINGS)  
ELEVATOR SYSTEMS  
FIRE PROTECTION SYSTEMS  
ELECTRIC SUPPLY AND DISTRIBUTION SYSTEMS  
SITE WORK AND DRAINAGE SYSTEMS  
ENERGY PLAN GOALS  
ROADS, PARKING LOTS AND STRUCTURES

# Eastern Michigan University Capital Outlay Request FY2013

## EXECUTIVE SUMMARY

The Physical Plant department at Eastern Michigan University continues to develop and implement what is clearly stated in our slogan: “providing *an environment for education first*”.

Our comprehensive approach to managing the facilities portfolio starts with conceptual campus planning reflective of our collegian mission. We recognize and embrace the benefits of efficiency, by constructing, augmenting and maintaining facilities that are functional, adaptable and energy efficient. This results in the implementation of construction and renovation projects that take into consideration all the operational aspects of building and facilities management for years to come.

Our administrative team understands the real constraints associated with available funding and recognizes the potential to financially neglect the facility’s needs to meet available budget funding. Consequently, we have collectively formulated a plan to prioritize and balance our facility’s needs with budget. This remains a prudent path to take, both financially and operationally.

The tendency to ignore or postpone the needs of the University’s physical assets as we go through these times of fiscal constraint is recognized by this same team. In support of our mission today, and for years to come, our team emphasizes and promotes the need to retain a realistic financial commitment to the relative long-term soundness and effectiveness of our facilities.

By establishing a detailed base line database that is reflective of our existing facilities conditions, we have completed the essential first step in developing a sound facilities management strategy. Our database is well organized, realistic, defensible, and is used as our foundation to plan, fund and execute realistic and meaningful facilities improvements for the benefit of our students, faculty and staff.

Primarily based upon the recent renovations to both the Mark Jefferson and Pray-Harrod buildings, the accumulated deferred maintenance calculation has dropped significantly from \$69.8M to \$51.9M. We have field verified this deferred maintenance calculation by undergoing a rigorous review of the existing facilities conditions.

It is important to emphasize that this auditing process is ongoing and that the adjustments that were made within this Capital Outlay submission were based on actual conditions found.

As a part of a continuous improvement process, all identification and documenting of existing conditions of University equipment and building components continues to be recorded within the Asset Preservation module of our Computerized Maintenance Management System.

## **Eastern Michigan University Capital Outlay Request FY2013**

Hence, the establishment of our detailed base line database that is reflective of our existing facilities conditions.

As was mentioned before, unique to this year's submission is the construction of two major renovation projects on campus, the Mark Jefferson Science building and the Pray-Harrold Modernization Project. These two projects have made a significant dent into the University's deferred maintenance schedule. Our goal now is to continue this reduction in deferred maintenance by modernizing Strong Hall.

Lastly, this Capital outlay submission, as with others in the past, is inclusive of over \$1M dollars in capital that is considered essential for the day to day operations of the University's facilities. Mandated actions, required for code compliance, such as the testing of life safety equipment, and in some cases chemical treatments that are required to operate and maintain essential equipment and building components, have been itemized and included within this report.

## Eastern Michigan University Capital Outlay Request FY2013

### BUILDING AND CLASSROOM UTILIZATION RATES

Identify building/classroom usage rates for peak (M-F, 10-3), and off-peak (M-F, 8-10am, 3-5pm), evening, and weekend periods.

During 2008 and 2009, a Space Utilization study was conducted regarding building and classroom utilization rates; that is, the percentage of rooms used and the percentage that are at capacity relative to academic facilities. Results of the study, based on student enrollment counts from the Fall 2007 semester are as follows:

	<u>Average %</u>	<u>Range in %</u>
Peak Hours (M to F, 10 am to 3 pm)	63% <sup>1</sup>	5% (F at 3) to 78% (T at 11)
Non Peak Mornings (M to F, 8 to 10 am)	36%	16% (F at 8) to 60% (T at 9:30)
Non-Peak Afternoon (M to F, 3 to 5 pm)	46% <sup>2</sup>	5% (F at 3) to 63% (T at 3)
Non-Peak Evenings (M to F, after 5 pm)	50% <sup>3</sup>	4% (F at 8) to 75% (T at 6:30)
Non-Peak Weekends (Sat. and Sun.)	3%	0% to 10% (St at 10)

Notes: <sup>1</sup> = Classes are primarily scheduled Monday through Thursday, which for the same time period has an average utilization rate of 71%. The Friday utilization is significantly lower due to fewer classes on these days.

<sup>2</sup> = Classes are primarily scheduled Monday through Thursday, which for the same time period has an average utilization rate of 57%. The Friday utilization is significantly lower due to fewer classes on these days.

<sup>3</sup> = Classes are primarily scheduled Monday through Thursday, which for the same time period has an average utilization rate of 61%. The Friday utilization is significantly lower due to fewer classes on these days.

In Fall 2009, the overall University average seat capacity in classrooms is 71%. The consultant preparing this study indicated that “when an institution reaches and exceeds the 80% level of classroom use, the more difficult it becomes to find available classrooms in the right geographical locations with the right classroom capacities.”

Currently, due to the ongoing construction activities of the two largest classroom buildings on campus, Pray-Harrold and Mark Jefferson, the Space Utilization rates are slightly skewed to heavier uses than normal conditions. Furthermore, a centralized room scheduling system has been implemented and the utilization rates classroom seat capacities is estimated over 80% for traditional classrooms. Once Pray-Harrold and the Science Complex are both completed, a more naturalized utilization rate can be developed. Now that Pray-Harrold has reopened, classroom utilization rates are adjusting, but will not be “normalized” until the completion of the Science Complex project in 2012. Examples of increased and adjusted utilization rates include:

	<u>Average % Occupancy for Fall 2011</u>
Peak Hours (M to F, 10 am to 3 pm)	95% rooms scheduled for use
Non Peak Mornings (M to F, 8 to 10 am)	77% of rooms scheduled for use

# Eastern Michigan University Capital Outlay Request FY2013

## General Fund Building Age/Replacement Report Table 1

Name	Floors	Sq./ft.	Date Built	Architectural	Mechanical	Electrical	2013 Building Replacement Value
Alexander	4	86,900	1980	1980	1998	1980	\$23,999,894.28
Boone Hall	3	45,210	1914	2000	2000	2000	\$12,486,020.95
Bowen	2	89,220	1955	1955	1955	1955	\$24,640,627.95
Briggs	1	9,500	1937	1990	1990	1990	\$2,623,693.85
Central Stores	1	10,140	1972	1972	1972	1972	\$2,800,447.97
Convocation Center	3	198,385	1998	1998	1998	1998	\$54,789,632.08
Cooper	2	12150	1984	1984	1984	1984	\$3,355,566.33
Corporate Education Cntr**	2	37,200	1989	1989	1989	1989	\$11,463,055.56
Everett C. Marshall	3	70,324	2000	2000	2000	2000	\$19,421,962.78
Fletcher	1	39,200	1963	1963	1963	1963	\$4,200,000.00
Ford Hall	2	33,333	1929	1968	1968	1968	\$9,205,851.27
Greenhouse & Aquatic Biol.	1	5,200	1998	1998	1998	1998	\$1,436,127.15
Halle Library	5	273,715	1998	1998	1998	1998	\$75,594,143.44
Heating Plant**	3	23,856	1951	1951	1951	1951	\$45,918,031.65
Hover***	2	11,021	1941	2002	2002	2002	\$4,247,790.10
John W. Porter	3	143,775	1966	1999	1999	1999	\$39,707,535.11
King	4	61,450	1939	1939	1939	1939	\$18,843,781.69
Kresge Center	1	12,606	1974	1974	1974	1974	\$3,481,503.65
Mark Jefferson**/****	5	262,273	1969	2011	2011	2011	\$104,556,555.77
McKenny Union	4	107,103	1931	1992	1992	1992	\$29,579,524.46
Oestrike Stadium**	1	1,312	1968	1968	1968	1968	\$1,909,901.43
Olds\Robb Center	5	180,631	1984	1984	1984	1984	\$49,886,362.53
Owen C.O.B**	5	126,000	1990	1990	1990	1990	\$42,086,402.16
Paint Research**	1	8,000	1987	1987	1987	1987	\$3,084,443.81
Pease	2	30,181	1914	1994	1994	1994	\$8,335,337.26
Physical Plant	1	25,300	1995	1995	1995	1995	\$6,987,310.98
Physical Plant Storage Gar.	1	8,500	1995	1995	1995	1995	\$2,347,515.54
Pierce Hall	4	61,275	1948	1990	1990	1990	\$16,922,825.35
Pray Harrold***	7	237,108	1967	2011	2011	2011	\$65,484,084.38
Quirk	2	58,205	1959	1959	1959	1959	\$16,074,957.96
Rackham	2	45,890	1938	1938	1938	1938	\$12,673,822.21
Roosevelt	2	75,639	1924	1973	1973	1973	\$20,889,850.45
Rynearson Stadium**	3	49,595	1968	1968	1968	1968	\$16,565,675.50
School House**	1	900	1905	1988	1988	1988	\$692,660.09
Sculpture Studio	1	4,648	1959	1959	1959	1959	\$1,283,676.74
Sherzer***	3	35,253	1903	1990	2011	1990	\$9,736,113.63
Sill Hall	2	92,635	1965	1965	1965	1965	\$25,583,776.83
Snow**	2	30,035	1959	1959	1959	1959	\$11,869,662.69
Starkweather Hall	2	8,706	1896	1996	1991	1991	\$2,404,408.27
Strong	3	80,713	1957	1957	1957	1957	\$22,291,179.13
Student Union	3	176,000	2006	2006	2006	2006	\$43,606,823.57
Team Building	1	13,536	1995	1995	1995	1995	\$3,738,349.46
University House	2	10,700	2003	2003	2003	2003	\$3,543,423.67
Warner	2	95,349	1964	1964	1964	1964	\$26,333,324.75
Welch Hall	4	36,840	1896	1986	1986	1986	\$10,174,408.59
West Cross Street, 611	2	4050	1970	1970	1970	1970	\$1,118,522.12
<b>TOTAL</b>		<b>3,029,562</b>					<b>\$917,976,565.14</b>
					<b>Average Cost/sq. ft. =</b>		<b>\$303.00</b>

<b>Average Year Built</b>	<b>1961</b>			
<b>Average Building Age (Years)</b>	<b>50</b>			
<b>Average Year Built Weighted by Sq. Ft.</b>	<b>1970</b>	<b>1989</b>	<b>1990</b>	<b>1989</b>
<b>Average Age Weighted by Sq. Ft. (Years)</b>	<b>41</b>	<b>22</b>	<b>21</b>	<b>22</b>
<b>Average Arch., Elect., Mech. Years</b>	<b>22</b>			

\*\* Indicates unique Building Replacement Costs

\*\*\*Recent Major Renovation/Addition

Note:

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*Replacement costs reflect the cost to replace a building with "like-kind" systems. They do not include system upgrades to deliver more sophisticated curriculum or the "soft costs" and staging/phasing costs.*

## Building Deficiencies Priorities by Category Table 2

### I. Consequences of the Problem

1. Hazards: Presents hazards to life, health or safety
2. Interruption: Potential for interruption of essential services
3. Deterioration: Conditions causing premature deterioration of property
4. Utility: Conditions that reduce the functional utility of facilities
5. Energy: Conditions that result in excessive consumption of energy

### II. Need

1. Critical: If not accomplished, will result in serious and irrevocable loss or damage
2. Urgent: If not accomplished, will shortly deteriorate into a Category 1
3. Necessary: If not accomplished, may jeopardize the continued usefulness of the facility
4. Desirable: All other projects necessary to renew or restore the facility
5. A.D.A.: Project necessary to improve/meet handicap accessibility needs

### III. Frequency of Use

1. Constant: Such as hospitals, prisons, police posts
2. Frequent: Offices, dormitories
3. Occasional: Classrooms, laboratories
4. Infrequent: Arenas, auditoriums, storage
5. Meager: Dead storage; to be repaired only if scheduled for retention and possible re-use (Do not include unused buildings or those which are scheduled to be vacated, abandoned, or demolished)

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**Table 3**

**General Fund Building Deficiency Cost Summary for FY 2013 by System**

	<u>Architectural</u>	<u>Electrical</u>	<u>Elevators</u>	<u>Fire Protection</u>	<u>Mechanical</u>	<u>Site Work</u>	<u>Total</u>
General Fund Buildings	\$13,577,000	\$11,345,000	\$2,145,000	\$2,175,000	\$21,683,000	\$1,022,000	\$51,947,000

**General Fund Building Deficiencies Cost Summary for FY 2013 by Priority**

<u>Table 3 Point Rating System</u>	<u>3 - 6</u>	<u>7 - 8</u>	<u>9 - 10</u>	<u>11</u>	<u>12 and above</u>	<u>Total</u>
Total Campus Deficiencies Incl; Sitework, Drains & Utility	\$450,000	\$7,859,000	\$30,000,000	\$9,518,000	\$4,120,000	\$51,947,000

# Eastern Michigan University Capital Outlay Request FY2013

## General Fund Building Deficiency Cost Summary by System

**Table 4**

<u>Building</u>	<u>Architectural</u>	<u>Electrical</u>	<u>Elevators</u>	<u>Life Safety</u>	<u>Mechanical</u>	<u>Site Work</u>	<u>Grand Total</u>
611 W. Cross Street	\$115,000	\$20,000	\$0	\$0	\$42,000	\$0	\$177,000
Alexander	585,000	0	150,000	0	1,627,000	0	\$2,362,000
Boone	0	0	55,000	0	120,000	0	\$175,000
Bowen	461,000	100,000	40,000	105,000	976,000	0	\$1,682,000
Briggs	260,000	0	0	50,000	36,000	0	\$346,000
Campus Buildings	950,000	135,000	0	0	0	800,000	\$1,885,000
Central Stores	140,000	0	0	25,000	40,000	0	\$205,000
Convocation Center	85,000	10,000	20,000	10,000	315,000	0	\$440,000
Cooper Building	251,000	0	0	0	120,000	0	\$371,000
Coral Sub	0	1,980,000	0	0	0	0	\$1,980,000
Fletcher	30,000	10,000	0	35,000	48,000	15,000	\$138,000
Ford Hall	238,000	95,000	0	0	570,000	0	\$903,000
Halle Library	230,000	0	55,000	0	340,000	0	\$625,000
Heating Plant	100,000	8,200,000	0	60,000	653,000	0	\$9,013,000
Hover	30,000	0	25,000	0	20,000	0	\$75,000
King	210,000	0	230,000	50,000	160,000	0	\$650,000
Kresge Center	45,000	0	0	0	45,000	0	\$90,000
Mark Jefferson	0	0	0	0	0	0	\$0
Marshall	20,000	0	15,000	0	0	0	\$35,000
McKenny Union	160,000	335,000	225,000	300,000	2,005,000	0	\$3,025,000
Oestrike Stadium	105,000	0	0	0	0	0	\$105,000
Olds\Robb Center	642,000	30,000	250,000	100,000	2,625,000	0	\$3,647,000
One Room School House	20,000	0	0	0	2,000	0	\$22,000
Owen	1,150,000	55,000	120,000	210,000	1,055,000	15,000	\$2,605,000
Paint Research	160,000	0	0	0	30,000	0	\$190,000
Pease	100,000	0	10,000	0	475,000	0	\$585,000
Phys Plant Storage	25,000	0	0	0	40,000	0	\$65,000
Physical Plant	0	30,000	0	0	180,000	0	\$210,000
Pierce Hall	130,000	0	60,000	160,000	151,000	0	\$501,000
Porter	45,000	0	0	0	210,000	0	\$255,000
Pray Harrold	465,000	0	0	0	100,000	0	\$565,000
Quirk	475,000	0	65,000	0	785,000	0	\$1,325,000
Rackham	1,135,000	0	350,000	0	920,000	0	\$2,405,000
Roosevelt	315,000	0	10,000	140,000	1,263,000	50,000	\$1,778,000
Rynearson Football	435,000	115,000	10,000	50,000	105,000	22,000	\$737,000
Sculpture Studio	160,000	45,000	0	0	13,000	0	\$218,000
Sherzer	245,000	0	15,000	50,000	30,000	0	\$340,000
Sill Hall	1,050,000	35,000	125,000	180,000	1,037,000	0	\$2,427,000
Snow	400,000	20,000	0	160,000	1,035,000	0	\$1,615,000
Starkweather Hall	305,000	10,000	0	80,000	125,000	0	\$520,000
Strong	1,095,000	0	270,000	250,000	1,460,000	0	\$3,075,000
Student Union	0	0	0	0	0	0	\$0
Team Building	65,000	0	0	0	70,000	0	\$135,000
Tunnels	0	0	0	0	1,125,000	120,000	\$1,245,000
University House	0	0	0	0	0	0	\$0
Warner	895,000	110,000	0	160,000	1,315,000	0	\$2,480,000
Welch Hall	250,000	10,000	45,000	0	415,000	0	\$720,000
<b>Total Building Deficiencies</b>	<b>\$13,577,000</b>	<b>\$11,345,000</b>	<b>\$2,145,000</b>	<b>\$2,175,000</b>	<b>\$21,683,000</b>	<b>\$1,022,000</b>	<b>\$51,947,000</b>

## Eastern Michigan University Capital Outlay Request FY2013

**General Fund Building Deficiency Cost Summary by Priority**  
**Table 5**

	<u>3 - 6 Totals</u>	<u>7 - 8 Totals</u>	<u>9 - 10 Totals</u>	<u>11 Totals</u>	<u>12 or Greater</u>	<u>Grand Totals</u>
611 W. Cross Street	\$0	\$10,000	\$167,000	\$0	\$0	\$177,000
Alexander	0	510,000	1,335,000	517,000	0	\$2,362,000
Boone	0	0	105,000	70,000	0	\$175,000
Bowen	0	525,000	385,000	701,000	71,000	\$1,682,000
Briggs	0	50,000	86,000	190,000	20,000	\$346,000
Campus Buildings	400,000	300,000	1,185,000	0	0	\$1,885,000
Central Stores	0	0	55,000	50,000	100,000	\$205,000
Convocation Center	0	0	150,000	280,000	10,000	\$440,000
Cooper Building	0	0	251,000	120,000	0	\$371,000
Coral Sub	0	0	0	0	1,980,000	\$1,980,000
Fletcher	0	0	35,000	103,000	0	\$138,000
Ford Hall	0	410,000	300,000	113,000	80,000	\$903,000
Halle Library	0	0	625,000	0	0	\$625,000
Heating Plant	0	660,000	8,353,000	0	0	\$9,013,000
Hover	0	0	75,000	0	0	\$75,000
King	0	160,000	490,000	0	0	\$650,000
Kresge Center	0	0	45,000	45,000	0	\$90,000
Mark Jefferson	0	0	0	0	0	\$0
Marshall	0	0	15,000	20,000	0	\$35,000
Mckenny Union	0	195,000	2,830,000	0	0	\$3,025,000
Oestrike Stadium	0	0	0	25,000	80,000	\$105,000
Olds\Robb Center	0	2,050,000	320,000	585,000	692,000	\$3,647,000
One Room School House	0	0	0	2,000	20,000	\$22,000
Owen	0	0	2,500,000	105,000	0	\$2,605,000
Paint Research	0	0	170,000	20,000	0	\$190,000
Pease	0	0	345,000	55,000	185,000	\$585,000
Phys Plant Storage	0	0	25,000	40,000	0	\$65,000
Physical Plant	0	0	180,000	30,000	0	\$210,000
Pierce Hall	0	21,000	455,000	25,000	0	\$501,000
Porter	0	0	0	255,000	0	\$255,000
Pray Harrold	0	0	240,000	325,000	0	\$565,000
Quirk	0	590,000	590,000	145,000	0	\$1,325,000
Rackham	0	25,000	1,195,000	1,185,000	0	\$2,405,000
Roosevelt	50,000	763,000	330,000	635,000	0	\$1,778,000
Rynearson Football	0	0	80,000	360,000	297,000	\$737,000
Sculpture Studio	0	0	58,000	160,000	0	\$218,000
Sherzer	0	70,000	210,000	60,000	0	\$340,000
Sill Hall	0	570,000	1,105,000	752,000	0	\$2,427,000
Snow	0	470,000	670,000	0	475,000	\$1,615,000
Starkweather Hall	0	0	430,000	90,000	0	\$520,000
Strong	0	90,000	2,110,000	875,000	0	\$3,075,000
Student Union	0	0	0	0	0	\$0
Team Building	0	0	65,000	10,000	60,000	\$135,000
Tunnels	0	260,000	985,000	0	0	\$1,245,000
University House	0	0	0	0	0	\$0
Warner	0	130,000	870,000	1,430,000	50,000	\$2,480,000
Welch Hall	0	0	580,000	140,000	0	\$720,000
<b>Total Campus Deficiencies</b>	<b>\$450,000</b>	<b>\$7,859,000</b>	<b>\$30,000,000</b>	<b>\$9,518,000</b>	<b>\$4,120,000</b>	<b>\$51,947,000</b>

# Eastern Michigan University Capital Outlay Request FY2013

**Total System Deficiencies by Building Age**  
**Table 6**

<u>Building Name</u>	<u>Bldg. Sq. Ft</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Anticipated 2013 Backlog Deficiency</u>	<u>Facility Condition Index</u>
<u>Before 1900</u>					
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ 520,000	0.2163
Welch Hall	36,840	1896	10,174,409	720,000	0.0708
Total	45,546	2	\$ 12,578,817	\$ 1,240,000	
<u>1900-1949</u>					
Sherzer	35,253	1903	\$ 9,736,114	\$ 340,000	0.0349
School House	900	1905	692,660	22,000	0.0318
Boone	45,210	1914	12,486,021	175,000	0.0140
Pease	30,181	1914	8,335,337	585,000	0.0702
Roosevelt	75,639	1924	20,889,850	1,778,000	0.0851
Ford Hall	33,333	1929	9,205,851	903,000	0.0981
Mckenny Union	107,103	1931	29,579,524	3,025,000	0.1023
Briggs	9,500	1937	2,623,694	346,000	0.1319
Rackham	45,890	1938	12,673,822	2,405,000	0.1898
King	61,450	1939	18,843,782	650,000	0.0345
Pierce Hall	61,275	1948	16,922,825	501,000	0.0296
Total	505,734	11	\$ 141,989,481	\$ 10,730,000	
<u>1950-1969</u>					
Heating Plant	23,856	1951	\$ 45,918,032	\$ 9,013,000	0.1963
Bowen	89,220	1955	24,640,628	1,682,000	0.0683
Strong	80,713	1957	22,291,179	3,075,000	0.1379
Quirk	58,205	1959	16,074,958	1,325,000	0.0824
Sculpture Studio	4,648	1959	1,283,677	218,000	0.1698
Snow	30,035	1959	11,869,663	1,615,000	0.1361
Fletcher	39,200	1963	4,200,000	138,000	0.0329
Warner	95,349	1964	26,333,325	2,480,000	0.0942
Sill Hall	92,635	1965	25,583,777	2,427,000	0.0949
John W. Porter	143,775	1966	39,707,535	255,000	0.0064
Pray Harrold	237,108	1967	65,484,084	565,000	0.0086
Oestrike Stadium	1,312	1968	1,909,901	105,000	0.0550
Rynearson Football Stadium	49,595	1968	16,565,676	737,000	0.0445
Mark Jefferson	262,273	1969	104,556,556	-	0.0000
Total	1,207,924	14	\$ 406,418,990	\$ 23,635,000	
<u>1970-1979</u>					
West Cross Street, 611	4,050	1970	\$ 1,118,522	\$ 177,000	0.1582
Central Stores	10,140	1972	2,800,448	205,000	0.0732
Kresge Center	12,606	1974	3,481,504	90,000	0.0259
Total	26,796	3	\$ 7,400,474	\$ 472,000	
<u>1980-1989</u>					
Alexander	86,900	1980	\$ 23,999,894	\$ 2,362,000	0.0984
Cooper Building	12,150	1984	3,355,566	371,000	0.1106
Olds\Robb Center	180,631	1984	49,886,363	3,647,000	0.0731
Paint Research	8,000	1987	3,084,444	190,000	0.0616
Corporate Education Center	37,200	1989	11,463,056	-	0.0000
Total	324,881	5	\$ 91,789,323	\$ 6,570,000	
<u>1990-1999</u>					
Owen C.O.B.	126,000	1990	\$ 42,086,402	\$ 2,605,000	0.0619
Physical Plant	25,300	1995	6,987,311	210,000	0.0301
Physical Plant Storage	8,500	1995	2,347,516	65,000	0.0277
Team Building	13,536	1995	3,738,349	135,000	0.0361
Convocation Center	198,385	1998	54,789,632	440,000	0.0080
Greenhouse & Aquatic	5,200	1998	1,436,127	-	0.0000
Halle Library	273,715	1998	75,594,143	625,000	0.0083
Total	650,636	7	\$ 186,979,481	\$ 4,080,000	
<u>Post 2000</u>					
Everett C. Marshall	70,324	2000	\$ 19,421,963	\$ 35,000	0.0018
Hover	11,021	1941/2002	4,247,790	75,000	0.0177
University House	10,700	2003	3,543,424	-	0.0000
Student Union	176,000	2006	43,606,824	-	0.0000
Total	268,045	4	\$ 70,820,000	\$ 110,000	
<u>Sitework, Drains, &amp; Infrastructure</u>					
Campus Buildings	n/a	n/a	n/a	\$ 1,885,000	
Coral Sub	n/a	n/a	n/a	1,980,000	
Tunnels	n/a	n/a	n/a	1,245,000	
Total	n/a	n/a	n/a	\$ 5,110,000	
<b>Total Building Deficiencies</b>					
	<b>3,029,562</b>	<b>46</b>	<b>\$ 917,976,565</b>	<b>\$ 51,947,000</b>	

Memo: Av. Cost Per Sq. Ft.

\$ 303.00

# Eastern Michigan University Capital Outlay Request FY2013

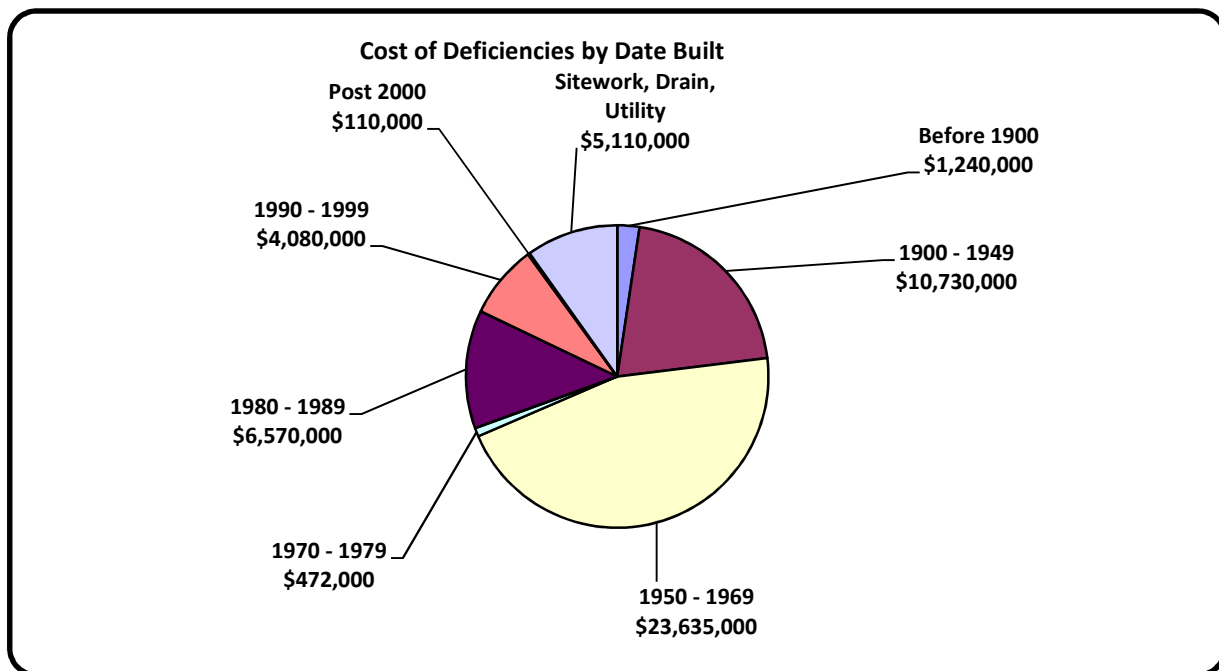
## Building System Deficiencies by Age Table 7

### General Fund Building Profile Data

Total number of General Fund Facilities	46
Current Replacement Value	\$917,976,565
Total Gross Sq. ft.	3,029,562
Total Cost of General Fund Building Deficiencies (to date)	\$51,947,000

### General Fund Building Age Summary

Date Built	No. of Facilities	Gross Sq. Ft.	Cost of Deficiencies
Before 1900	2	45,546	\$1,240,000
1900 - 1949	11	505,734	\$10,730,000
1950 - 1969	14	1,207,924	\$23,635,000
1970 - 1979	3	26,796	\$472,000
1980 - 1989	5	324,881	\$6,570,000
1990 - 1999	7	650,636	\$4,080,000
Post 2000	4	268,045	\$110,000
Sitework, Drain, Utility	n/a	n/a	\$5,110,000



# Eastern Michigan University Capital Outlay Request FY2013

## Facility Condition Index (FCI) Table 8

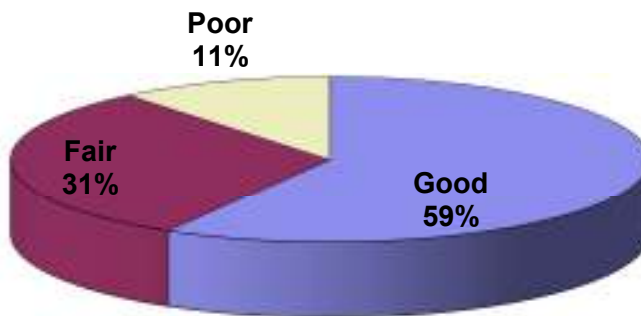
### General Fund Facility Condition Index

	$\text{Facility Condition Index} = \frac{\text{Backlog Deficiency}}{\text{Current Replacement Value}} = \frac{\$51,947,000}{\$917,976,565}$	
Facility Condition Index (All Facilities) =	0.06	

### General Fund Facility Condition Index Summary

	Facility Condition Index		
	Good (Under .05)	Fair (.05 - .10)	Poor (Over .10)
Number of Facilities	22	14	10
Gross Square ft.	1,778,526	924,385	326,651
Percentage of Campus Gross Sq. ft.	59%	31%	11%

**Campus Condition Based On Gross Sq. Ft.**



# Eastern Michigan University Capital Outlay Request FY2013

**Facility Condition Index (FCI) by Building  
Table 9**

<u>Building Name</u>	<u>Bldg. Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Building Deficiencies (All Systems)</u>	<u>Facility Condition Index</u>
<b>Good (Under .05)</b>					
Student Union	176,000	2006	\$ 43,606,824	\$ -	0.0000
University House	10,700	2003	3,543,424	-	0.0000
Greenhouse & Aquatic	5,200	1998	1,436,127	-	0.0000
Corporate Education Center	37,200	1989	11,463,056	-	0.0000
Mark Jefferson	262,273	1969	104,556,556	-	0.0000
Everett C. Marshall	70,324	2000	19,421,963	35,000	0.0018
John W. Porter	143,775	1966	39,707,535	255,000	0.0064
Convocation Center	198,385	1998	54,789,632	440,000	0.0080
Halle Library	273,715	1998	75,594,143	625,000	0.0083
Pray Harrold	237,108	1967	65,484,084	565,000	0.0086
Boone	45,210	1914	12,486,021	175,000	0.0140
Hover	11,021	1941/2002	4,247,790	75,000	0.0177
Kresge Center	12,606	1974	3,481,504	90,000	0.0259
Physical Plant Storage	8,500	1995	2,347,516	65,000	0.0277
Pierce Hall	61,275	1948	16,922,825	501,000	0.0296
Physical Plant	25,300	1995	6,987,311	210,000	0.0301
School House	900	1905	692,660	22,000	0.0318
Fletcher	39,200	1963	4,200,000	138,000	0.0329
King	61,450	1939	18,843,782	650,000	0.0345
Sherzer	35,253	1903	9,736,114	340,000	0.0349
Team Building	13,536	1995	3,738,349	135,000	0.0361
Rynearson Football Stadium	49,595	1968	16,565,676	737,000	0.0445
<b>Total</b>	<b>1,778,526</b>	<b>22</b>	<b>\$ 519,852,890</b>	<b>\$ 5,058,000</b>	
<b>Fair (.05 -.10)</b>					
Oestrike Stadium	1,312	1968	\$ 1,909,901	\$ 105,000	0.0550
Paint Research	8,000	1987	3,084,444	190,000	0.0616
Owen C.O.B.	126,000	1990	42,086,402	2,605,000	0.0619
Bowen	89,220	1955	24,640,628	1,682,000	0.0683
Pease	30,181	1914	8,335,337	585,000	0.0702
Welch Hall	36,840	1896	10,174,409	720,000	0.0708
Olds\Robb Center	180,631	1984	49,886,363	3,647,000	0.0731
Central Stores	10,140	1972	2,800,448	205,000	0.0732
Quirk	58,205	1959	16,074,958	1,325,000	0.0824
Roosevelt	75,639	1924	20,889,850	1,778,000	0.0851
Warner	95,349	1964	26,333,325	2,480,000	0.0942
Sill Hall	92,635	1965	25,583,777	2,427,000	0.0949
Ford Hall	33,333	1929	9,205,851	903,000	0.0981
Alexander	86,900	1980	23,999,894	2,362,000	0.0984
<b>Total</b>	<b>924,385</b>	<b>14</b>	<b>\$ 265,005,587</b>	<b>\$ 21,014,000</b>	
<b>Poor (Over .10)</b>					
McKenny Union	107,103	1931	\$ 29,579,524	\$ 3,025,000	0.1023
Cooper Building	12,150	1984	3,355,566	371,000	0.1106
Briggs	9,500	1937	2,623,694	346,000	0.1319
Snow	30,035	1959	11,869,663	1,615,000	0.1361
Strong	80,713	1957	22,291,179	3,075,000	0.1379
West Cross Street, 611	4,050	1970	1,118,522	177,000	0.1582
Sculpture Studio	4,648	1959	1,283,677	218,000	0.1698
Rackham	45,890	1938	12,673,822	2,405,000	0.1898
Heating Plant	23,856	1951	45,918,032	9,013,000	0.1963
Starkweather Hall	8,706	1896	2,404,408	520,000	0.2163
<b>Total</b>	<b>326,651</b>	<b>10</b>	<b>\$ 133,118,087</b>	<b>\$ 20,765,000</b>	
<b>Sitework, Drains, Utilities I/F</b>					
Campus Buildings	n/a	n/a	n/a	\$ 1,885,000	
Coral Sub	n/a	n/a	n/a	1,980,000	
Tunnels	n/a	n/a	n/a	1,245,000	
<b>Total</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>\$ 5,110,000</b>	
<b>Total Building Deficiencies</b>	<b>3,029,562</b>	<b>46</b>	<b>\$ 917,976,565</b>	<b>\$ 51,947,000</b>	<b>0.0566</b>

Memo: Avg.Cost Per Sq. Ft.

\$ 303.00

# Eastern Michigan University Capital Outlay Request FY2013

## ARCHITECTURAL SYSTEMS

### Overview

Architectural systems are primary building systems and components such as foundations, substructure, superstructure and building envelope. Secondary “exterior” systems include roofing, siding, glass, glazing, windows, exterior doors, flashings, painting and caulking. Secondary “interior” systems include interior partitions, doors, walls, wall finishes, floors, floor finishes, ceilings and ceiling finishes. Maintaining integrity in the primary systems is fundamental to long-term preservation of a building. Architectural systems not only protect the more sensitive mechanical and electrical systems but also reflect on the image of the owner and the quality of the activities and programs performed within the building.

### System Condition and Adequacy

The average age of the general fund buildings architectural systems is 22 years. The oldest systems date back to 1896 and include Starkweather and Welch Halls. Both buildings, however, have been restored several times since their construction. Every campus building more than 20 years old has had major roofing repairs or new roofing at least once. All but the newest buildings have some building envelope deficiencies. Deficiencies in buildings renovated or newly constructed since 1990 are limited primarily to interior walls, doors, floors and finishes. Of particular note is the Mark Jefferson building envelope, which is nearing the end of its useful life and is experiencing accelerated deterioration. Renovation of this building continues to be a critical need of the University and will be addressed when the University proceeds with its renovation.

Since 2006 the University has spent over \$6 million preserving and renewing the architectural assets of campus facilities. EMU’s future investments in the architectural systems of campus buildings are detailed in the 2013-2017 Asset Preservation Listing within the Implementation Plan later in this document.

### Improvements Completed

Recent Architectural System improvements on campus include, but are not limited to the following:

- |   |                          |
|---|--------------------------|
| • Convocation Center Meeting Room                       | Completed February 2006  |
| • Heating Plant Partial Re-Roof                         | Completed June 2006      |
| • Sill Hall Partial Re-roof                             | Completed August 2006    |
| • Alexander 2 <sup>nd</sup> Floor Ceiling Tile Replaced | Completed September 2006 |
| • Boone Re-Roof   | Completed January 2007   |
| • Roosevelt Steps                                       | Completed September 2007 |

## Eastern Michigan University Capital Outlay Request FY2013

- |                                    |                          |
|------------------------------------|--------------------------|
| • Pierce New Roof                  | Completed September 2008 |
| • Cooper Building New Roof         | Completed May 2008       |
| • Pease New Roof                   | Completed October 2008   |
| • Pierce Re-roof                   | Completed September 2008 |
| • Bowen Windows                    | Completed April 2009     |
| • Heating Plant High Roof          | Completed November 2009  |
| • Central Stores                   | Completed December 2009  |
| • Roosevelt Re-Roof                | Completed May 2010       |
| • Ford Re-Roof                     | Completed May 2010       |
| • Starkweather Foundation Repairs  | Completed June 2010      |
| • Welch Foundation Repairs         | Completed July 2010      |
| • Halle Library Foundation Repairs | Completed August 2010    |
| • McKenny Union Foundation Repairs | Completed September 2010 |
| • Pray-Harrold Re-Roof             | Completed August 2011    |
| • Pray-Harrold Windows             | Completed August 2011    |

The University has completed a number of ADA Improvements as follows:

- |  |                          |
|--|--------------------------|
| • Quirk ADA Chair Lift                 | Completed August 2006    |
| • Major Sidewalk Replacement           | Completion December 2006 |
| • Quirk North Entrance                 | Completed June 2008      |
| • Intramural Main Entrance             | Completed August 2008    |
| • Bowen ADA Ramp                       | Completed July 2009      |
| • Ford ADA Ramp                        | Completed August 2010    |
| • Pray-Harrold Chair Lifts             | Completed October 2011   |
| • Power Assist Doors Various Buildings | Ongoing                  |

# Eastern Michigan University Capital Outlay Request FY2013

Architectural System Deficiencies by Building  
Table 10

<u>Building Name</u>	<u>Building Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Architectural System Deficiencies</u>
<b>Before 1900</b>				
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ 305,000
Welch Hall	36,840	1896	10,174,409	250,000
<b>Total</b>	<b>45,546</b>	<b>2</b>	<b>\$ 12,578,817</b>	<b>\$ 555,000</b>
<b>1900-1949</b>				
Sherzer	35,253	1903	\$ 9,736,114	\$ 245,000
School House	900	1905	692,660	20,000
Boone	45,210	1914	12,486,021	-
Pease	30,181	1914	8,335,337	100,000
Roosevelt	75,639	1924	20,889,850	315,000
Ford Hall	33,333	1929	9,205,851	238,000
Mckenny Union	107,103	1931	29,579,524	160,000
Briggs	9,500	1937	2,623,694	260,000
Rackham	45,890	1938	12,673,822	1,135,000
King	61,450	1939	18,843,782	210,000
Pierce Hall	61,275	1948	16,922,825	130,000
<b>Total</b>	<b>505,734</b>	<b>11</b>	<b>\$ 141,989,481</b>	<b>\$ 2,813,000</b>
<b>1950-1969</b>				
Heating Plant	23,856	1951	\$ 45,918,032	\$ 100,000
Bowen	89,220	1955	24,640,628	461,000
Strong	80,713	1957	22,291,179	1,095,000
Quirk	58,205	1959	16,074,958	475,000
Sculpture Studio	4,648	1959	1,283,677	160,000
Snow	30,035	1959	11,869,663	400,000
Fletcher	39,200	1963	4,200,000	30,000
Warner	95,349	1964	26,333,325	895,000
Sill Hall	92,635	1965	25,583,777	1,050,000
John W. Porter	143,775	1966	39,707,535	45,000
Pray Harrold	237,108	1967	65,484,084	465,000
Oestrike Stadium	1,312	1968	1,909,901	105,000
Rynearson Football Stadium	49,595	1968	16,565,676	435,000
Mark Jefferson	262,273	1969	104,556,556	-
<b>Total</b>	<b>1,207,924</b>	<b>14</b>	<b>\$ 406,418,990</b>	<b>\$ 5,716,000</b>
<b>1970-1979</b>				
West Cross Street, 611	4,050	1970	\$ 1,118,522	\$ 115,000
Central Stores	10,140	1972	2,800,448	140,000
Kresge Center	12,606	1974	3,481,504	45,000
<b>Total</b>	<b>26,796</b>	<b>3</b>	<b>\$ 7,400,474</b>	<b>\$ 300,000</b>
<b>1980-1989</b>				
Alexander	86,900	1980	\$ 23,999,894	\$ 585,000
Cooper Building	12,150	1984	3,355,566	251,000
Olds\Robb Center	180,631	1984	49,886,363	642,000
Paint Research	8,000	1987	3,084,444	160,000
Corporate Education Center	37,200	1989	11,463,056	-
<b>Total</b>	<b>324,881</b>	<b>5</b>	<b>\$ 91,789,323</b>	<b>\$ 1,638,000</b>
<b>1990-1999</b>				
Owen C.O.B.	126,000	1990	\$ 42,086,402	\$ 1,150,000
Physical Plant	25,300	1995	6,987,311	-
Physical Plant Storage	8,500	1995	2,347,516	25,000
Team Building	13,536	1995	3,738,349	65,000
Convocation Center	198,385	1998	54,789,632	85,000
Greenhouse & Aquatic	5,200	1998	1,436,127	-
Halle Library	273,715	1998	75,594,143	230,000
<b>Total</b>	<b>650,636</b>	<b>7</b>	<b>\$ 186,979,481</b>	<b>\$ 1,555,000</b>
<b>Post 2000</b>				
Everett C. Marshall	70,324	2000	\$ 19,421,963	\$ 20,000
Hover	11,021	1941/2002	4,247,790	30,000
University House	10,700	2003	3,543,424	-
Student Union	176,000	2006	43,606,824	-
<b>Total</b>	<b>268,045</b>	<b>4</b>	<b>\$ 70,820,000</b>	<b>\$ 50,000</b>
<b>Sitework, Drains, &amp; Infrastructure</b>				
Campus Buildings	n/a	n/a	n/a	\$ 950,000
Coral Sub	n/a	n/a	n/a	0
Tunnels	n/a	n/a	n/a	0
<b>Total</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>\$ 950,000</b>
<b>Total Building Deficiencies</b>	<b>3,029,562</b>	<b>46</b>	<b>\$ 917,976,565</b>	<b>\$ 13,577,000</b>

Memo: Avg. Cost Per Sq. Ft.

\$ 303.00

# Eastern Michigan University Capital Outlay Request FY2013

## **MECHANICAL SYSTEMS**

### **Overview**

Mechanical systems and sub-systems are vital, diverse and complex building systems. Preventative and predictive maintenance programs have been developed and implemented to preserve these critical systems and provide a quality learning environment. Failure in any one of the multiple sub-systems can create reactive deficiencies in other sub-systems and seriously detract from the quality of the learning environment and lead to premature depletion of a building.

### **Mechanical sub-systems include:**

- Heating, Ventilation, Air Conditioning and Refrigeration (HVACR)
- Storm and Sanitary Drain Systems
- Chilled Water Systems
- Domestic Water Supply Systems

### **Heating Ventilating and Air Conditioning Sub-System**

#### **Overview**

Heating Ventilation and Air Conditioning (HVAC) systems encompass a broad, complex, intertwined array of equipment and components including exhaust fans, laboratory fume hoods, air handling units, steam absorbers, electric chillers, rooftop units, base board heat, heating coils, cooling coils, heat exchangers, duct work, fire dampers, direct expansion chillers, radiant ceiling panels, pneumatic controls, electro-mechanical controls, direct digital controls, programmable controllers, thermostats, transducers, and others too numerous to mention. The HVAC systems operate in concert with the building envelope, interior floor plan, and the space utilization program to maintain a comfortable environment for the end user (students, faculty, and staff) of the various areas of the building. Alterations or failures of any one of these systems and/or components can adversely impact occupant comfort and potentially shorten the useful life of the building.

#### **System Condition and Adequacy**

A partial deferred maintenance list showing major components of HVAC systems for the state buildings on campus has been compiled. Based on useful service life expectancy, the total deferred maintenance cost for the HVAC systems for these buildings exceeds \$21 million. Normal life expectancy of various HVAC system components ranges from 10 to 30 years. Currently there are six (6) buildings that have been renovated or newly constructed since 2001 that have HVAC systems in good working condition. Some components of these systems are approaching the end of their useful life and will begin to require maintenance, repair, upgrades, or replacement to maintain system functionality. All of these systems must have ongoing

## Eastern Michigan University Capital Outlay Request FY2013

preventative maintenance programs to avoid costly renovations, premature deterioration and untimely system failure.

The remaining buildings have equipment which has exceeded or is nearing the end of its useful life. These buildings are being kept in service through extraordinary efforts, but are beginning to compromise the quality of the learning environment. EMU's future investments in the mechanical systems of campus buildings are detailed in the 2013-2017 Asset Preservation Listing within the Implementation Plan later in this document.

### Improvements Completed

The Physical Plant has been replacing and upgrading HVAC system components as permitted by budgetary constraints. Recent improvements in the HVAC systems on campus include, but are not limited to the following:

Pray Harrold 560 ton chiller rebuild/upgrade	Completed	January 2007
Quirk AHU-1 Replacement	Completed	July 2007
Quirk AHU-4 Replacement	Completed	October 2007
Corp. Ed. Center Replaced two (2) rooftop HVAC units	Completed	October 2007
Pierce water main repair	Completed	February 2008
Halle Library cooling tower repair and pump replacement	Completed	March 2008
Mark Jefferson AHU-4 Replacement	Completed	May 2008
Pierce condensate receiver replacement	Completed	November 2008
Olds/Rec I.M. upgrade pool filtration system per DEQ	Completed	January 2009
Eagle Crest Club House replacement of 8 furnaces	Completed	March 2009
Olds/Rec I.M. make-up air unit vfd replacement	Completed	March 2009
Pierce chilled water piping repair/replacement	Completed	April 2009
Welch chilled water piping repair	Completed	April 2009
Corp. Ed. Center replaced six (6) rooftop HVAC units	Completed	June 2009
Halle rebuilt chilled water and cooling tower pumps	Completed	August 2009
Hoyt Conference Center remodel, new HVAC for DPS	Completed	January 2010
South Tunnel partial replacement of chilled water lines Between Pierce and Ford Halls	Completed	February 2010
Student Center replaced the exhaust fan for the hood	Completed	April 2010
Welch partial steam and condensate piping replacement	Completed	June 2010
Welch partial chilled water line piping replacement	Completed	June 2010
Briggs Hall steam station automated	Completed	July 2010
Owen COB AHU-1 supply fan vfd replacement	Completed	July 2010
Warner club pool filter system pump replacement	Completed	July 2010
Boone Hall AHU-1 supply fan vfd replacement	Completed	September 2010
Roosevelt auditorium cooling system compressor repl.	Completed	September 2010
Warner domestic hot water circulating pump replacement	Completed	September 2010
Strong Hall condensate pump replacement	Completed	November 2010

# Eastern Michigan University Capital Outlay Request FY2013

## Storm Drain Sub-Systems

### Overview

The University storm drain system consists of 15,500 feet of storm sewer that drains rain water from 480 acres. This system catches all the surface water from roofs, parking lots, and streets on campus. The campus storm system is tied at various points to the City and County systems that eventually drain into the Huron River. City and County systems include a 24-inch main running down Cross Street, which borders the main campus to the south and the 66-inch Owen Drain that runs through the center of campus and collects water from, and intersects with, the 24-inch main, as well as other lines on the northern perimeter.

### System Condition and Adequacy

In recent years the University has been experiencing storm water backup into some of its buildings during heavy rains. Initial observations indicate that some building roof drains and perimeter footing drains are backing up because the main lines into which they drain are at capacity. The University is concerned that the storm drainage system has reached or exceeded the design capacity; and that the City and County lines have also become overloaded and exceed their design capacity. Consequently, water pressure builds and forces drains to discharge water rather than accept it and carry it away.

The following engineering studies have been performed on selected portions of campus:

- Map the existing system to include GPS location of manholes
- Review the capacity of the existing storm system
- Determine the elevations of the inverts and building basements
- Calculate the required system capacity
- Compare inlet and outlet capacities at each manhole

Dialogue continues regarding a plan of action and the associated costs for the recommendations of these studies.

A hydrology study was completed for the Owen 66-inch storm system with recommended modifications to divert water prior to entering campus. Modifications were completed in November 2009. Local storm system issues associated with the Mark Jefferson Building are being addressed as part of the entire Science Complex Project.

# Eastern Michigan University Capital Outlay Request FY2013

## Chilled Water Sub-Systems

### Overview

The University Chilled Water system is a major component of the HVAC system and is used to provide air conditioning for a large portion of campus. The system is composed of seven main loops utilizing eight (8) steam absorption units totaling 3,233 tons and eleven (11) electric chillers totaling 5,039 tons. Buildings are connected to the loops via chilled water supply and return piping running through the steam tunnels or buried underground. Most University pumping systems include a backup condenser water pump and a backup chilled water pump. Cooling is typically needed from mid-April through the end of October. Halle Library and Mark Jefferson require year-round cooling.

Chilled Water System maintenance requires chiller tube bundles be serviced each winter to keep heat transfer surfaces clean; cooling tower water and chilled water require a constant, active water treatment program to control biological growth and prevent scaling and corrosion; steam absorbers require overhauls at three year intervals to maintain proper operation; and testing is performed every five years on both electric and absorption units to verify the integrity of the internal tubes.

### System Condition and Adequacy

The campus chilled water loop system lacks redundancy. Many of the components are approaching the end of their useful lives creating the potential for disruption of service. In particular, cooling towers are requiring more costly repairs due to their age and conditions. Because the components are so inter-dependent, any single equipment failure could take a loop out of service causing the loss of one or more buildings.

Loop 1 is the Pierce Loop and serves nine (9) buildings. Loop 1 cooling includes three (3), 250-ton steam absorption units with three cooling towers located at Pierce Hall. Absorber 1 experienced multiple tube failures this season and the entire tube bundle had to be replaced. All units appear to be in good condition. The distribution piping for Loop 1 has experienced several failures and will require repair to other sections which are in poor condition. If any one of the three chillers is out of commission, the loop capacity will be greatly less than the estimated peak demand.

Loop 2 is the Mark Jefferson Loop. It consists of one (1) 781-ton steam absorber and one (1) 1,000-ton electric chiller (installed as part of the Mark Jefferson Project) both located at Mark Jefferson; one 300-ton electric chiller located at McKenny Hall; and one (1) 852-ton steam absorber located at Halle Library. This loop serves seven (7) buildings. A large portion of this system is being refurbished as part of the Mark Jefferson Project; however, significant portions of the distribution piping remain which are in poor condition

## **Eastern Michigan University Capital Outlay Request FY2013**

Loop 3 is the Porter Loop and serves seven buildings. Chillers included in this loop are located in Pray-Harrold and Porter College of Education Building. Porter C.O.E. has one (1), 590-ton steam absorber and one (1), 600-ton electric chiller, both in good condition. Pray Harrold has one (1), 560-ton electric chiller which had undergone a major retrofit and upgrade in 2007 and one (1), 500-ton electric chiller which was installed as part of the building renovation. The cooling towers for the units at Porter C.O.E. are in poor condition.

Loop 4 is the Alexander Loop. This loop currently serves two buildings. It consists of three chillers located in Alexander Music Building – one (1), 255-ton electric chiller which is in good condition, and (2) 130-ton steam absorption units, which have exceeded their useful life, are in poor condition, and are currently non-functional. The cooling towers for this loop are in poor condition and require frequent repairs.

Loop 5 is the College of Business Loop and serves one building. It contains one (1), 320-ton electric chiller. A ten (10) year major overhaul was completed in July of 2006. This unit uses Freon 11 which has environmental issues. The cooling tower for this chiller is in very poor condition and is in need of replacement.

Loop 6 is the Convocation Center Loop and serves one building. It contains two (2), 380-ton electric chillers which are in good condition.

Loop 7 is the New Student Center Loop. It contains two (2), 372 ton centrifugal chillers utilizing R 134-a. This was put into operation in November 2006 and is in good condition.

**Eastern Michigan University  
Capital Outlay Request FY2013**

**Chilled Water Loop  
Equipment Data Sheet  
Table 11**

Building		CHILLER MODEL & SERIAL NUMBERS		Chiller Type				Cooling Tower		
		Model Number	Serial Number	Electrical (Tonnage)	(Year)	Absorption (Tonnage)	(Year)	(Tonnage)	(Type)	(Year)
Loop 1	Pierce	ABSC022ALP01AAFA	L99M04867M-TRANE			250	1999	250	Marley	1999
		ABSC022A0101AAADA	L95C03092-TRANE			250	1994	250	Marley	1994
		ABSC022A0101AAADA	L95C03091-TRANE			250	1994	250	Marley	1994
	<b>Loop 1 Total</b>		<b>Loop 1 Total</b>			<b>750</b>		<b>750</b>		
Loop 2	Halle Library	ABTE093FLD01AAABAB	L96K07725-TRANE			852	1998	1000	BAC	1997
	Mark Jefferson	ABSC085FLP01AAA	L98H05010-TRANE			781	1998	1600	Marley	2004
		YDHE-70VDD	SNVM-441170	1000	2009					
	McKenny	RTHA300FCN0LDUI2LF	U91C03742-TRANE	300	1991			300	Marley	1991
		<b>Loop 2 Total</b>	<b>1300</b>		<b>1633</b>		<b>2900</b>			
Loop 3	John C. Porter	CVHF064FAIB03UT	L98L06781-TRANE	600	1998			499	Marley	1998
		ABSC05J0LGIFI	L92E13549-TRANE			590	1992	400	Marley	1992
								400	Marley	1992
	Pray-Harold	CVHF050FAF2RB2571	L84M2478U-TRANE	560	1984			400	Marley	1992
		CVHF485	L10M07001	500	2011			860	Marley	2000
		<b>Loop 3 Total</b>	<b>1660</b>		<b>590</b>		<b>2559</b>			
Loop 4	Alexander	RTHB255FLC00EN	U95C06249-TRANE	255	1994			250	Marley	1994
		ABSC01C4SG6BCE	L79E01587-TRANE			130	1977	250	Marley	1994
		ABSC01C4SG6BCE	L79E01588-TRANE			130				
		<b>Loop 4 Total</b>	<b>255</b>		<b>260</b>		<b>500</b>			
Loop 5	College of Business	CVHE032FAV2JC233	L89K03460-TRANE	320	1989			300	Evapco	1989
		<b>Loop 5 Total</b>	<b>320</b>		<b>0</b>		<b>300</b>			
Loop 6	Convocation Center	RTHB380FLF00	U97K05886-TRANE	380	1997			400		1997
		RTHB380FMF00	U97K05887-TRANE	380	1997			400		
		<b>Loop 6 Total</b>	<b>760</b>		<b>0</b>		<b>800</b>			
Loop 7	New Student Center	E2612BE2-A	WA5310045	372	2006			375	Evapco	2006
		E2612BE2-A	WA5310046	372	2006			375	Evapco	2006
		<b>Loop 7 Total</b>	<b>744</b>		<b>0</b>		<b>750</b>			
		<b>Combined loop totals</b>	<b>5039</b>		<b>3233</b>		<b>8559</b>			

# Eastern Michigan University Capital Outlay Request FY2013

## Domestic Water Supply Sub-Systems

### Overview

The University water supply system consists of approximately 13,700 feet of supply line (pipe). Included in this system is a 1,650 foot section of line running through the center of campus. This section was replaced in 1988 in collaboration with the Ypsilanti Community Utilities Authority and is in excellent condition.

### System Condition and Adequacy

The remaining lines on campus are old, and are believed to be in satisfactory condition with the exception of the following sections:

- Line extending West from Porter on West Circle Drive approximately 900 feet.
- Line extending South from Porter on West Circle Drive approximately 600 feet
- Line extending North from Goddard to East Circle approximately 1200 feet in length
- Line extending West from Goddard to West Circle Drive about 750 feet in length. There are 10 water main shut off valves associated with these that need to be replaced plus 5 additional water-main shut-off valves on campus that are in need of repair.

It should be noted that several of the water mains listed above have had “temporary” repairs made on them; as such, the risk of failures increases with time. The future plan is to phase the replacement of these line section and valves to minimize the impact on connected building.

# Eastern Michigan University Capital Outlay Request FY2013

Mechanical System Deficiencies by Building  
Table 12

Building Name	Building Sq. Ft.	Date Built/ Number	2013 Building Replacement Value	Mechanical System Deficiencies
<b>Before 1900</b>				
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ 125,000
Welch Hall	36,840	1896	10,174,409	415,000
Total	45,546	2	\$ 12,578,817	\$ 540,000
<b>1900-1949</b>				
Sherzer	35,253	1903	\$ 9,736,114	\$ 30,000
School House	900	1905	692,660	2,000
Boone	45,210	1914	12,486,021	120,000
Pease	30,181	1914	8,335,337	475,000
Roosevelt	75,639	1924	20,889,850	1,263,000
Ford Hall	33,333	1929	9,205,851	570,000
Mckenny Union	107,103	1931	29,579,524	2,005,000
Briggs	9,500	1937	2,623,694	36,000
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Pierce Hall	61,275	1948	16,922,825	151,000
Total	505,734	11	\$ 141,989,481	\$ 5,732,000
<b>1950-1969</b>				
Heating Plant	23,856	1951	\$ 45,918,032	\$ 653,000
Bowen	89,220	1955	24,640,628	976,000
Strong	80,713	1957	22,291,179	1,460,000
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Sculpture Studio	4,648	1959	1,283,677	13,000
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Warner	95,349	1964	26,333,325	1,315,000
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<b>1990-1999</b>				
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Physical Plant Storage	8,500	1995	2,347,516	40,000
Team Building	13,536	1995	3,738,349	70,000
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<b>Post 2000</b>				
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University House	10,700	2003	3,543,424	-
Student Union	176,000	2006	43,606,824	-
Total	268,045	4	\$ 70,820,000	\$ 20,000
<b>Sitework, Drains, &amp; Infrastructure</b>				
Campus Buildings	n/a	n/a	n/a	\$ -
Coral Sub	n/a	n/a	n/a	0
Tunnels	n/a	n/a	n/a	1,125,000
Total	n/a	n/a	n/a	\$ 1,125,000
<b>Total Building Deficiencies</b>				
	3,029,562	46	\$ 917,976,565	\$ 21,683,000

Memo: Avg. Cost Per Sq. Ft.

\$ 303.00

# Eastern Michigan University Capital Outlay Request FY2013

## Steam Supply and Distribution System

### Steam Supply

#### Overview

The EMU Heating Plant supplies steam to campus for all of its heating requirements and that portion of the cooling requirements not supplied with electric chillers. The following steam production equipment is located in the Heating Plant:

- Two (2) 1967 Erie City conventional forced draft boilers rated at 120,000 pounds/hour.
- One (1) 1951 Wickes conventional forced draft boiler rated at 50,000 pounds/hour.
- One (1) 1987 Deltak cogeneration heat recovery boiler rated at 50,000 pounds/hour.

The conventional boilers are capable of burning Natural Gas, No. 6, and No. 2 fuel oil. Presently No. 2 fuel oil is used as a backup because sulfur content of No. 6 oil exceeds the Renewal Operating Permit emissions limitations. The University installed a new fuel storage system in the summer of 2008 consisting of 4 – 40,000 gallon double wall fiberglass tanks with a leak monitoring system including a fill station with a spill collection reservoir; and is now fully code compliant. With completion of the installation of 160,000 gallons of fuel oil capacity, the University is protected from a natural gas interruption which could result in millions of dollars of damage from frozen water lines and heating coils. In addition to physical damage to University assets, without heat normal business operations and classes would have to be canceled, and residents would not be able to stay in the residence halls. EMU affords significant benefits by having an alternative fuel capability available in the event of primary fuel supply loss. Eastern Michigan University's exposure and risks are greatly reduced by the oil tank farm.

#### System Condition and Adequacy

The two (2) Erie City boilers are 44 years old but serviceable. Experience has shown that at production rates above 85,000 lbs/hours they shake and vibrate to the point that operating staff are using that as the upper limit for each unit. If operated at higher rates it is expected that service problems would rise exponentially and the life expectancy of these unit would be seriously impacted. Smoke stacks on both units are experiencing deterioration and will require replacement before the boilers need to be replaced.

The 1951 - 50,000 lb/hr Wickes Boiler while still operable must be fired in a manual base load state. It is inefficient, difficult to operate and control, and is only called into production if no other option is available. This boiler needs to be replaced. Estimated replacement cost is \$3.8 million dollars.

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The 50,000 lb/hr Deltak cogeneration boiler can only be use when the cogeneration unit is running. The recent decline in natural gas prices has allowed the University to purchase gas for a one year period to run the cogeneration unit below the electrical purchase cost. It is used as back-up to DTE in the event DTE loses one of its two (2) supply lines to campus or during storms for reliability and stability. The boiler is in very good condition.

Auxiliary systems within the plant which are required during steam production are old, but serviceable; or are being replaced on an as needed basis.

### **Improvements Completed or Scheduled for Completion are as follows:**

- |   |                |
|---|----------------|
| • Emergency Black Start Generator Rebuilt | June 2007      |
| • SCADA System Upgrade                    | October 2007   |
| • Feed water Pump5 replacement            | December 2007  |
| • Water Softeners                         | June 2008      |
| • Tank Farm Replacement                   | November 2008  |
| • Public Safety/DC#3 complex Boiler Plant | October 2009   |
| • Feed water Pump #5 replacement & VFD    | December 2009  |
| • Compressed Air Dryer System             | September 2010 |
| • Compressed Air Cooling System           | October 2010   |
| • Feed water Pump #5 Replacement & VFD    | November 2010  |
| • Solar Turbine Engine Replacement        | February 2011  |

### **Steam Distribution Sub-Systems**

#### **Overview**

The steam distribution system is a major component of the campus mechanical systems supplying the energy needed to heat the majority of the main campus building from a central Heating Plant. The steam distribution piping runs from the Heating Plant through two tunnel systems: 1) the North loop running from the Heating Plant eastward to Alexander Music Building serves most of the buildings on the North half of campus and is approximately 5,000 feet in length including a six inch spur line serving the Student Center, and 2) the South loop which is approximately 4,600 feet in length and runs from the Heating Plant southeast toward Sherzer then branching off in two directions to Pease and Goddard Hall.

In 2009, the steam tunnel and distribution between the Heating Plant and the Mark Jefferson building was re-routed to make way for the Mark Jefferson building addition.

In 2009, a boiler plant was added in conjunction with the renovation/conversion of the Hoyt Conference Center into the Public Safety building. This new boiler plant allowed a leaking direct buried 2,000 foot 6" steam line to be abandoned; thus removing 7-10% of the steam load from the Heating Plant.

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The steam lines transport the steam at 40 pounds per square inch (psi) and vary in diameter from fourteen inches at the Heating Plant to six inches at the far extremity between Goddard and Alexander. While the North and South tunnels are not connected, the steam lines are joined between Goddard and Alexander by this six-inch line. Additionally, an eight inch steam line provides 120 psi steam to the two-stage steam absorber at Halle Library via the South tunnel.

### **System Condition and Adequacy**

The North and South tunnels are cast-in-place concrete, which appears to be in fair condition with the exception of some isolated areas showing structural distress in the form of varying degrees of reinforcement corrosion and concrete spilling due to water infiltration. There is water seepage in the tunnel at various expansion joints. Drainage and ventilation needs to be improved. Pipe support systems are comprised of painted steel frames, located at a twelve to fifteen foot interval. These frames are experiencing varying stages of corrosive deterioration. The steam lines, expansion joints, and condensate return lines are in serviceable condition. The asbestos insulation was surveyed and areas of deterioration were either removed and reinsulated, or encapsulated. All remaining lines are original and insulated with asbestos. The ingress and egress points also need repair and modification, as well as security system renovation.

### **A listing of repairs required in the tunnels includes:**

- Repair spawled concrete and corroded reinforcement steel
- Improve drainage by cutting a wider trench and removing mineral deposits
- Install new and/or repair existing sump pumps
- Install new and/or repair existing ventilation fans
- Repair condensate leaks
- Repack steam line expansion joints
- Replace corroded pipe support frames and exposed steel (painted)
- Selective sealing of exterior joints
- Repair the lighting system
- Encapsulate insulation systems
- Repair manhole steps and lock down system
- Repair mechanical room entry and exit doors
- Repack/rebuild leaking steam and condensate valves
- Install new isolation valves as needed
- Repair traps as needed

### **Improvements Completed:**

- Two (2) -100 sections of the tunnel were cleaned and refurbished
- Repaired/replaced ninety six (96) pipe support stanchions

## **Eastern Michigan University Capital Outlay Request FY2013**

- North Loop lighting/power circuit repair
- Repaired eleven (11) Steam Line expansion joints
- Welch Steam/Condensate Line Replaced
- Replaced one hundred twenty (120) feet of 2" air piping
- Installed new flash tanks in the tunnel at Munson
- Replaced forty (40) feet of 8" fire system piping at Olds Rec-IM building
- Installed new storm drain on the West side of Brown
- Repaired multiple leaks on the steam/condensate system in the crawl space of King
- Modified/Repaired pipe support stanchions in South Tunnel Pierce to Ford
- Physical Plant steam and condensate lines replaced
- Tunnel condensate leaks near Halle and Mark Jefferson repaired.

# Eastern Michigan University Capital Outlay Request FY2013

## ELECTRICAL SYSTEMS (BUILDINGS)

### Overview

The electrical system components within each building include: power transformers, switchgear, power distribution panel main breakers, electric distribution wiring, branch circuit breaker panels, motor control fuse switches and starters, receptacles, and lighting. Like mechanical systems, these systems are vital, complex and intra-dependent. Failure in one component can result in complete system failure.

### System Condition and Adequacy

The average age of Electrical Systems in General Fund buildings is 22 years (18 buildings have electrical systems at least 30 years old). As these electrical systems age, replacement parts have become increasingly difficult to obtain. Furthermore, the older systems were not designed to meet contemporary technology demands. In many instances the systems are at maximum capacity limiting the University's ability to support new educational programs. Electric distribution system deficiencies include outdated inefficient lighting systems, an inadequate number of distribution circuits and panels with no spare breakers, or electric capacity. EMU's future investments in the electrical systems of campus buildings are detailed in the 2013-2017 Asset Preservation Listing within the Implementation Plan later in this document.

### Improvements Completed

- |  |                          |
|--|--------------------------|
| • Pierce Data Cable Upgrade                  | Completed September 2007 |
| • Campus Video Surveillance                  | Completed April 2008     |
| • Cogeneration Generator Rebuild             | Completed May 2009       |
| • Starkweather Feeder Replacement            | Completed June 2009      |
| • Rynearson score board 4800V cable replaced | Completed September 2010 |
| • Warner Gymnasium break panel replaced      | Completed June 2011      |

# Eastern Michigan University Capital Outlay Request FY2013

Electrical System Deficiencies by Building  
Table 13

<u>Building Name</u>	<u>Building Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Electrical System Deficiencies</u>
<b><u>Before 1900</u></b>				
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ 10,000
Welch Hall	36,840	1896	10,174,409	10,000
Total	45,546	2	\$ 12,578,817	\$ 20,000
<b><u>1900-1949</u></b>				
Sherzer	35,253	1903	\$ 9,736,114	\$ -
School House	900	1905	692,660	-
Boone	45,210	1914	12,486,021	-
Pease	30,181	1914	8,335,337	-
Roosevelt	75,639	1924	20,889,850	-
Ford Hall	33,333	1929	9,205,851	95,000
Mckenny Union	107,103	1931	29,579,524	335,000
Briggs	9,500	1937	2,623,694	-
Rackham	45,890	1938	12,673,822	-
King	61,450	1939	18,843,782	-
Pierce Hall	16,275	1948	16,922,825	-
Total	505,734	11	\$ 141,989,481	\$ 430,000
<b><u>1950-1969</u></b>				
Heating Plant	23,856	1951	\$ 45,918,032	\$ 8,200,000
Bowen	89,220	1955	24,640,628	100,000
Strong	80,713	1957	22,291,179	-
Quirk	58,205	1959	16,074,958	-
Sculpture Studio	4,648	1959	1,283,677	45,000
Snow	30,035	1959	11,869,663	20,000
Fletcher	39,200	1963	4,200,000	10,000
Warner	95,349	1964	26,333,325	110,000
Sill Hall	92,635	1965	25,583,777	35,000
John W. Porter	143,775	1966	39,707,535	-
Pray Harrold	237,108	1967	65,484,084	-
Oestrike Stadium	1,312	1968	1,909,901	-
Rynearson Football Stadium	49,595	1968	16,565,676	115,000
Mark Jefferson	262,273	1969	104,556,556	-
Total	1,207,924	14	\$ 406,418,990	\$ 8,635,000
<b><u>1970-1979</u></b>				
West Cross Street, 611	4,050	1970	\$ 1,118,522	\$ 20,000
Central Stores	10,140	1972	2,800,448	-
Kresge Center	12,606	1974	3,481,504	-
Total	26,796	3	7,400,474	20,000
<b><u>1980-1989</u></b>				
Alexander	86,900	1980	\$ 23,999,894	\$ -
Cooper Building	12,150	1984	3,355,566	-
Olds\Robb Center	180,631	1984	49,886,363	30,000
Paint Research	8,000	1987	3,084,444	-
Corporate Education Center	37,200	1989	11,463,056	-
Total	324,881	5	\$ 91,789,323	\$ 30,000
<b><u>1990-1999</u></b>				
Owen C.O.B.	126,000	1990	\$ 42,086,402	\$ 55,000
Physical Plant	25,300	1995	6,987,311	30,000
Physical Plant Storage	8,500	1995	2,347,516	-
Team Building	13,536	1995	3,738,349	-
Convocation Center	198,385	1998	54,789,632	10,000
Greenhouse & Aquatic	5,200	1998	1,436,127	-
Halle Library	273,715	1998	75,594,143	-
Total	650,636	7	\$ 186,979,481	\$ 95,000
<b><u>Post 2000</u></b>				
Everett C. Marshall	70,324	2000	\$ 19,421,963	\$ -
Hover	11,021	1941/2002	4,247,790	-
University House	10,700	2003	3,543,424	-
Student Union	176,000	2006	43,606,824	-
Total	268,045	4	\$ 70,820,000	\$ -
<b><u>Sitework, Drains, &amp; Infrastructure</u></b>				
Campus Buildings	n/a	n/a	n/a	\$ 135,000
Coral Sub	n/a	n/a	n/a	1,980,000
Tunnels	n/a	n/a	n/a	0
Total	n/a	n/a	n/a	\$ 2,115,000
<b>Total Building Deficiencies</b>				
	3,029,562	46	\$ 917,976,565	\$ 11,345,000

Memo: Avg. Cost Per Sq. Ft.

\$ 303.00

# Eastern Michigan University Capital Outlay Request FY2013

## ELEVATOR SYSTEMS

### Overview

The elevator equipment at Eastern Michigan University varies in age and condition. The oldest General Fund building elevator car still in service was installed in 1936. Elevators are a vital component to meet the ADA requirements and provide access to our campus buildings and facilities. There are a total of 47 elevators in General Fund buildings.

### System Condition and Adequacy

All 47 elevators in General Fund building that are maintained by the Physical Plant staff and are continuously evaluated for condition safety. Nine (9) elevators need to be updated to meet current ADA compliance. There are five buildings of two or more stories that do not have elevators.

Funding was allocated for separate elevator modernization projects in the Mark Jefferson (\$0.61 million), Pray-Harrold (\$0.82 million) and Snow Health Center (\$0.18 million) buildings. Snow Elevator was funded from the FY2005 Asset Preservation. Mark Jefferson and Pray-Harrold elevator modernization projects were funded with Facility Fee Funds. Since 2006, the University has spent nearly \$2 million preserving the elevator assets of campus facilities.

The University has identified over \$2 million in Elevator System deficiency needs in the General Fund buildings. EMU's future investments in the elevator systems of campus buildings are detailed in the 2013-2017 Asset Preservation Listing within the Implementation Plan later in this document.

### Improvements Completed

Recent Elevator System improvements on campus include, but are not limited to, the following:

- COE Porter Hydraulic Jack Replacement
- Owen COB Park. Structure Hydraulic Jack Repl.
- Ford Hall new elevator installed
- Mark Jefferson new elevator installed with project
- Strong Hall new elevator installed with MJ project
- Strong Hall hydraulic jack replacement on existing elevator

# Eastern Michigan University Capital Outlay Request FY2013

Elevator System Deficiencies by Building  
Table 14

<u>Building Name</u>	<u>Building Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Elevator System Deficiencies</u>
<b><u>Before 1900</u></b>				
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ -
Welch Hall	36,840	1896	10,174,409	45,000
<b>Total</b>	<b>45,546</b>	<b>2</b>	<b>\$ 12,578,817</b>	<b>\$ 45,000</b>
<b><u>1900-1949</u></b>				
Sherzer	35,253	1903	\$ 9,736,114	\$ 15,000
School House	900	1905	692,660	-
Boone	45,210	1914	12,486,021	55,000
Pease	30,181	1914	8,335,337	10,000
Roosevelt	75,639	1924	20,889,850	10,000
Ford Hall	33,333	1929	9,205,851	-
Mckenny Union	107,103	1931	29,579,524	225,000
Briggs	9,500	1937	2,623,694	-
Rackham	45,890	1938	12,673,822	350,000
King	61,450	1939	18,843,782	230,000
Pierce Hall	61,275	1948	16,922,825	60,000
<b>Total</b>	<b>505,734</b>	<b>11</b>	<b>\$ 141,989,481</b>	<b>\$ 955,000</b>
<b><u>1950-1969</u></b>				
Heating Plant	23,856	1951	\$ 45,918,032	\$ -
Bowen	89,220	1955	24,640,628	40,000
Strong	80,713	1957	22,291,179	270,000
Quirk	58,205	1959	16,074,958	65,000
Sculpture Studio	4,648	1959	1,283,677	-
Snow	30,035	1959	11,869,663	-
Fletcher	39,200	1963	4,200,000	-
Warner	95,349	1964	26,333,325	-
Sill Hall	92,635	1965	25,583,777	125,000
John W. Porter	143,775	1966	39,707,535	-
Pray Harrold	237,108	1967	65,484,084	-
Oestrike Stadium	1,312	1968	1,909,901	-
Rynearson Football Stadium	49,595	1968	16,565,676	10,000
Mark Jefferson	262,273	1969	104,556,556	-
<b>Total</b>	<b>1,207,924</b>	<b>14</b>	<b>\$ 406,418,990</b>	<b>\$ 510,000</b>
<b><u>1970-1979</u></b>				
West Cross Street, 611	4,050	1970	\$ 1,118,522	\$ -
Central Stores	10,140	1972	2,800,448	-
Kresge Center	12,606	1974	3,481,504	-
<b>Total</b>	<b>26,796</b>	<b>3</b>	<b>\$ 7,400,474</b>	<b>\$ -</b>
<b><u>1980-1989</u></b>				
Alexander	86,900	1980	\$ 23,999,894	\$ 150,000
Cooper Building	12,150	1984	3,355,566	-
Olds\Robb Center	180,631	1984	49,886,363	250,000
Paint Research	8,000	1987	3,084,444	-
Corporate Education Center	37,200	1989	11,463,056	-
<b>Total</b>	<b>324,881</b>	<b>5</b>	<b>\$ 91,789,323</b>	<b>\$ 400,000</b>
<b><u>1990-1999</u></b>				
Owen C.O.B.	126,000	1990	\$ 42,086,402	\$ 120,000
Physical Plant	25,300	1995	6,987,311	-
Physical Plant Storage	8,500	1995	2,347,516	-
Team Building	13,536	1995	3,738,349	-
Convocation Center	198,385	1998	54,789,632	20,000
Greenhouse & Aquatic	5,200	1998	1,436,127	-
Halle Library	273,715	1998	75,594,143	55,000
<b>Total</b>	<b>650,636</b>	<b>7</b>	<b>\$ 186,979,481</b>	<b>\$ 195,000</b>
<b><u>Post 2000</u></b>				
Everett C. Marshall	70,324	2000	\$ 19,421,963	\$ 15,000
Hover	11,021	1941/2002	4,247,790	25,000
University House	10,700	2003	3,543,424	-
Student Union	176,000	2006	43,606,824	-
<b>Total</b>	<b>268,045</b>	<b>4</b>	<b>\$ 70,820,000</b>	<b>\$ 40,000</b>
<b><u>Sitework, Drains, &amp; Infrastructure</u></b>				
Campus Buildings	n/a	n/a	n/a	\$ -
Coral Sub	n/a	n/a	n/a	\$ -
Tunnels	n/a	n/a	n/a	\$ -
<b>Total</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>\$ -</b>
<b>Total Building Deficiencies</b>				
	<b>3,029,562</b>	<b>46</b>	<b>\$ 917,976,565</b>	<b>\$ 2,145,000</b>
Memo: Avg. Cost Per Sq. Ft.			\$ 303.00	

# Eastern Michigan University Capital Outlay Request FY2013

## FIRE PROTECTION SYSTEMS

### Overview

The Fire Protection category, formerly referred to as Life Safety, within the building includes the fire alarm system, central alarm reporting system, fire sprinkler system, fire pumps, standpipes, portable fire extinguishers, special hazard protection systems, components of the means of egress such as exit signs and emergency lighting systems, fire doors, and eye wash/shower systems and exterior Mass Mall Notification Speaker Array System.

### Systems Condition and Adequacy

The University Fire Protection systems are functional but many have aged to the point of requiring repair or replacement. The University's central reporting (Fireworks) system that reports fire and trouble alarms to the Department of Public Safety (DPS) has been updated and is complete. The University continues to schedule buildings with old conventional systems to be upgraded giving DPS the ability to receive point-specific information from buildings having addressable fire alarm systems. This information will allow DPS to know the location and nature of the alarm prior to arrival at the facility. This upgrade system will have improved reliability and redundancy with loop connectivity between all buildings.

The following buildings are completed with the ability to send this point-specific information to DPS:

### General Fund

- Alexander Music Building
- Boone
- Convocation Center
- Ford
- Hover
- Mark Jefferson
- Marshall
- Porter
- Pray-Harrold
- Public Safety Building
- Rackham
- Terrestrial & Aquatics
- Warner
- Student Center
- University House

The University has completed the installation of an exterior Mass Mall Notification Speaker Array System. The system has been installed and is online in several University buildings (Buell, Downing, Goddard, Pittman, Wise, Ford, Warner, Alexander, Cooper, Halle Library, Best,

## **Eastern Michigan University Capital Outlay Request FY2013**

Convocation Center, Dining Commons III, Hill, Hoyt, Mark Jefferson, Parking Structure, Quirk, Rackham, and the Student Center and the Sculpture Studio). The exterior Mass Mall Notification Speaker Array System is up and fully functional.

The University has identified nearly \$2.2 million in Fire Protection System deficiency needs in General Fund buildings. EMU's future investments in the Fire Protection systems of campus buildings are detailed in the 2013-2017 Asset Preservation Listing within the Implementation Plan later in this document.

# Eastern Michigan University Capital Outlay Request FY2013

Fire Protection System Deficiencies by Building  
Table 15

<u>Building Name</u>	<u>Building Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Fire Protection System Deficiencies</u>
<b><u>Before 1900</u></b>				
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ 80,000
Welch Hall	36,840	1896	10,174,409	-
<b>Total</b>	<b>45,546</b>	<b>2</b>	<b>\$ 12,578,817</b>	<b>\$ 80,000</b>
<b><u>1900-1949</u></b>				
Sherzer	35,253	1903	\$ 9,736,114	\$ 50,000
School House	900	1905	692,660	-
Boone	45,210	1914	12,486,021	-
Pease	30,181	1914	8,335,337	-
Roosevelt	75,639	1924	20,889,850	140,000
Ford Hall	33,333	1929	9,205,851	-
Mckenny Union	107,103	1931	29,579,524	300,000
Briggs	9,500	1937	2,623,694	50,000
Rackham	45,890	1938	12,673,822	-
King	61,450	1939	18,843,782	50,000
Pierce Hall	61,275	1948	16,922,825	160,000
<b>Total</b>	<b>505,734</b>	<b>11</b>	<b>\$ 141,989,481</b>	<b>\$ 750,000</b>
<b><u>1950-1969</u></b>				
Heating Plant	23,856	1951	\$ 45,918,032	\$ 60,000
Bowen	89,220	1955	24,640,628	105,000
Strong	80,713	1957	22,291,179	250,000
Quirk	58,205	1959	16,074,958	-
Sculpture Studio	4,648	1959	1,283,677	-
Snow	30,035	1959	11,869,663	160,000
Fletcher	39,200	1963	4,200,000	35,000
Warner	95,349	1964	26,333,325	160,000
Sill Hall	92,635	1965	25,583,777	180,000
John W. Porter	143,775	1966	39,707,535	-
Pray Harrold	237,108	1967	65,484,084	-
Oestrike Stadium	1,312	1968	1,909,901	-
Rynearson Football Stadium	49,595	1968	16,565,676	50,000
Mark Jefferson	262,273	1969	104,556,556	-
<b>Total</b>	<b>1,207,924</b>	<b>14</b>	<b>\$ 406,418,990</b>	<b>\$ 1,000,000</b>
<b><u>1970-1979</u></b>				
West Cross Street, 611	4,050	1970	\$ 1,118,522	\$ -
Central Stores	10,140	1972	2,800,448	25,000
Kresge Center	12,606	1974	3,481,504	-
<b>Total</b>	<b>26,796</b>	<b>3</b>	<b>\$ 7,400,474</b>	<b>\$ 25,000</b>
<b><u>1980-1989</u></b>				
Alexander	86,900	1980	\$ 23,999,894	\$ -
Cooper Building	12,150	1984	3,355,566	-
Olds\Robb Center	180,631	1984	49,886,363	100,000
Paint Research	8,000	1987	3,084,444	-
Corporate Education Center	37,200	1989	11,463,056	-
<b>Total</b>	<b>324,881</b>	<b>5</b>	<b>\$ 91,789,323</b>	<b>\$ 100,000</b>
<b><u>1990-1999</u></b>				
Owen C.O.B.	126,000	1990	\$ 42,086,402	\$ 210,000
Physical Plant	25,300	1995	6,987,311	-
Physical Plant Storage	8,500	1995	2,347,516	-
Team Building	13,536	1995	3,738,349	-
Convocation Center	198,385	1998	54,789,632	10,000
Greenhouse & Aquatic	5,200	1998	1,436,127	-
Halle Library	273,715	1998	75,594,143	-
<b>Total</b>	<b>650,636</b>	<b>7</b>	<b>\$ 186,979,481</b>	<b>\$ 220,000</b>
<b><u>Post 2000</u></b>				
Everett C. Marshall	70,324	2000	\$ 19,421,963	\$ -
Hover	11,021	1941/2002	4,247,790	-
University House	10,700	2003	3,543,424	-
Student Union	176,000	2006	43,606,824	-
<b>Total</b>	<b>268,045</b>	<b>4</b>	<b>\$ 70,820,000</b>	<b>\$ -</b>
<b><u>Sitework, Drains, &amp; Infrastructure</u></b>				
Campus Buildings	n/a	n/a	n/a	\$ -
Coral Sub	n/a	n/a	n/a	0
Tunnels	n/a	n/a	n/a	0
<b>Total</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>\$ -</b>
<b>Total Building Deficiencies</b>				
	<b>3,029,562</b>	<b>46</b>	<b>\$ 917,976,565</b>	<b>\$ 2,175,000</b>
Memo: Avg. Cost Per Sq. Ft.			\$ 303.00	

# Eastern Michigan University Capital Outlay Request FY2013

## ELECTRIC SUPPLY AND DISTRIBUTION SYSTEMS

### Overview

The Electrical Supply and Distribution System consists of an electric substation (Coral Substation) containing two 15/20/25,000 kVa transformers supplied by two separate DTE 40 kV feeder lines. The substation is supplying the campus with power at 13,200-volts (13.2 kV). Two new 13.2 kV distribution loops are served directly from the new substation, and two 13.2 kV tie lines connect the new substation to the Heating Plant 4800-volt buss through 2 step-down transformers. One distribution loop served from the Heating Plant is operated at 4,800-volts. The Heating Plant includes a 3.5-megawatt turbine cogeneration unit. These improvements were the result of a University \$5.5 million dollar self-funded project in fiscal year 1999. This phase I electrical distribution project relieved many of the critical deficiencies in the Electrical Supply and Distribution system.

### System Condition and Adequacy

The University has taken steps to limit or contain increased loading on the all campus feeders, by selective use of steam versus electric chillers during the expected peak period, and load shedding selective motors and chillers. The University has a lighting retrofit program that will reduce energy consumption. Additionally, an Energy Conservation and Sustainability Manager has been tasked with reducing energy consumption. Campus electrical peak demand and loop loading is reported below. Evidence of efforts in load control is shown by the decrease in coincident demands since 2002. Non-coincident Peak Demand is 10.40 MW.

Campus Coincident Peak Demand		Loop Non-Coincident Peak Demand		
Year	Demand (MW)		(MW)	
1998	9.200	Loop 1	2.033	9/7/2005
1999	9.130	Loop 2	2.405	5/30/2007
2000	9.231	Loop 3	3.701	4/18/2002
2001	9.259	Loop 4	2.262	11/9/2007
2002	9.482			
2003	8.818	Total Non – Coincident	10.40	
2004	8.487			
2005	8.820			
2006	8.612			
2007	8.864			
2008	8.946			
2009	8.787			
2010	8.825			

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The 1999 Utility Master Plan prepared by Stanley Consultants, Inc. identified a number of deficiencies in the electric supply and distribution system. Master Plan recommendations included a phased construction approach, to meet the long-term projected campus load growth. Future planning includes:

- Extend the new 13.2 kV distribution circuits to supply all existing and new loads on the Main Campus. – Implementation in Progress
- All new construction will be developed using the 13.2 kV sub-station.
- Mapping to include manhole surveys with GPS locations on as-built drawings. - Completed
- Continue to implement a power monitoring system. - Completed
- Conversion of the Heating Plant, all conductors, and all building transformers in the campus distribution system. A phased approach will be used to avoid disruptions in normal business.
- Future building additions on main campus at EMU will require conversion of the Loop serving the project in order to insure the electrical system will have adequate capacity during the peak loading period and provide a reliable source of power for the building project.

Construction of the new 40/13.2 kV Coral substation with two 15/20/25,000 kVa transformers fed from two (2) DTE Energy 40 kV transmission lines, construction of the 12-cell duct bank between the substation and the Heating Plant and installation of two new 13,200-volt feeders from Coral Substation to the Heating Plant eliminated the first major issue of DTE Supply capacity and reliability. Additionally, conversion of Campus Loops 2, 3 and 4 to 13.2 kV served directly from the Coral substation eliminated another identified deficiency.

Loop 1 continues to supply main campus from the Heating Plant at 4800-volts, with the loop being normally open at its mid-point. Loop cables in the underground duct bank are the old 450-kcmil lead paper insulation cable. The 4800-volt distribution cables have outlived their useful lives. Each building has its own 4800-volt service transformer and loop switches, which require upgrading to 13.2 kV.

Loop loading continues to be a concern for Loop 1. Loop metering has been upgraded at the Heating Plant on Loop 1 in order to more accurately track loop loading. The new metering connects to the Heating Plant SCADA system which was installed with the Coral Substation. Loop 1 has minimal growth capacity. Construction of new facilities on this distribution feeder will necessitate upgrading the feeder to 13,200 volts to eliminate the potential for overloading, and ultimately cable failure.

As a result of these deficiencies and recommendations the University constructed a new 13.2 kV loop from Coral substation to serve the Mark Jefferson and Pray-Harrold buildings. This new loop, funded by a combination of self and state funds, was completed during the summer of 2010. Additionally, the University self-funded the conversion of the remaining Loop 2 buildings from 4800-volts to 13.2 kilovolts in 2011. In 2012, the University will continue the utility

## Eastern Michigan University Capital Outlay Request FY2013

infrastructure upgrade by converting the West Campus Athletics facilities to 13.2 kV. In 2014, the Generator Turbotronics Control package will be upgraded. Loop 1 conversion to 13.2 kV is currently scheduled for 2016.

### Funding Requirements:

**Phase I            \$5.5 million            Complete**

**Phase II            \$2.7 million**

Loop 2 - As part of the Pray Harrold and Mark Jefferson renovation projects, a new 13.2 kV was constructed in 2010

Loop 2- Continuation of Loop 2 building conversion with conversion of 8 additional buildings was completed in 2011.

Loop 2 - Continuation of Arc Flash Study for Loop 2 is in progress for 2011.

West Campus Athletics/(Loop 4) is scheduled for 2012.

**Phase III            \$ 2.1 million**

Loop 1 conversion – 15 Building Transformers and 10,600 ft cable.

Loop 1 - Continuation of Arc Flash Study for Loop 1.

**Phase IV            \$ 2.3 million**

Conversion of the following:

- Heating Plant Switchgear
- Generator

### Improvements Completed

Campus Electrical Metering/Monitoring	Completed	September 2006
Electric System Mapping	Completed	September 2007
Fault Current and Arc Flash Study	Completed	July 2009

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## SITE WORK and DRAINAGE SYSTEMS

### Overview

Site work and drainage systems are integral components of primary building systems and include sidewalks, loading docks, exterior ADA improvements, and signage. An assessment of these systems has identified over \$1 million in needed improvements. Improving these systems will protect the University's assets and enhance the image of the owner and the quality of life on campus.

### System Condition and Adequacy

Since 2008, the University has spent over \$1 million preserving the site work and draining assets of the campus systems. These systems have been continually evaluated and consequently five (5) miles of sidewalks has been replaced in the past three (3) years with another one (1) mile to be completed in the next year. Drainage repairs have been accomplished to prevent flooding, minimize damage to building system and landscaping. This work has included installation of new drain tile, repair of catch basins, curbing, and re-grading of certain areas. A continual campus landscape evaluation takes places to install new trees, repair turf, and revitalize landscaping on an as needed basis. Improvements adhere to ADA and building code requirements, resulting in a safer and more accessible campus.

- |                                 |                     |                |
|---------------------------------|---------------------|----------------|
| • Warner Retaining Wall         | Completed           | August 2008    |
| • Westview Rain Garden          | Completed           | Spring 2009    |
| • Eateries Plaza and Steps      | Completed           | July 2009      |
| • Snow/ReclIM Plaza and Steps   | Completed           | September 2009 |
| • Miscellaneous Retaining Walls | Partially completed | Summer 2010    |

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Site Work and Drainage System Deficiencies by Building  
Table 16

<u>Building Name</u>	<u>Building Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2013 Building Replacement Value</u>	<u>Site Work &amp; Drainage System Deficiency</u>
<b><u>Before 1900</u></b>				
Starkweather Hall	8,706	1896	\$ 2,404,408	\$ -
Welch Hall	36,840	1896	10,174,409	-
Total	45,546	2	\$ 12,578,817	\$ -
<b><u>1900-1949</u></b>				
Sherzer	35,253	1903	\$ 9,736,114	\$ -
School House	900	1905	692,660	-
Boone	45,210	1914	12,486,021	-
Pease	30,181	1914	8,335,337	-
Roosevelt	75,639	1924	20,889,850	50,000
Ford Hall	33,333	1929	9,205,851	-
Mckenny Union	107,103	1931	29,579,524	-
Briggs	9,500	1937	2,623,694	-
Rackham	45,890	1938	12,673,822	-
King	61,450	1939	18,843,782	-
Pierce Hall	61,275	1948	16,922,825	-
Total	505,734	11	\$ 141,989,481	\$ 50,000
<b><u>1950-1969</u></b>				
Heating Plant	23,856	1951	\$ 45,918,032	\$ -
Bowen	89,220	1955	24,640,628	-
Strong	80,713	1957	22,291,179	-
Quirk	58,205	1959	16,074,958	-
Sculpture Studio	4,648	1959	1,283,677	-
Snow	30,035	1959	11,869,663	-
Fletcher	39,200	1963	4,200,000	15,000
Warner	95,349	1964	26,333,325	-
Sill Hall	92,635	1965	25,583,777	-
John W. Porter	143,775	1966	39,707,535	-
Pray Harrold	237,108	1967	65,484,084	-
Oestrike Stadium	1,312	1968	1,909,901	-
Rynearson Football Stadium	49,595	1968	16,565,676	22,000
Mark Jefferson	262,273	1969	104,556,556	-
Total	1,207,924	14	\$ 406,418,990	\$ 37,000
<b><u>1970-1979</u></b>				
West Cross Street, 611	4,050	1970	\$ 1,118,522	\$ -
Central Stores	10,140	1972	2,800,448	-
Kresge Center	12,606	1974	3,481,504	-
Total	26,796	3	\$ 7,400,474	\$ -
<b><u>1980-1989</u></b>				
Alexander	86,900	1980	\$ 23,999,894	\$ -
Cooper Building	12,150	1984	3,355,566	-
Olds\Robb Center	180,631	1984	49,886,363	-
Paint Research	8,000	1987	3,084,444	-
Corporate Education Center	37,200	1989	11,463,056	-
Total	324,881	5	\$ 91,789,323	\$ -
<b><u>1990-1999</u></b>				
Owen C.O.B.	126,000	1990	\$ 42,086,402	\$ 15,000
Physical Plant	25,300	1995	6,987,311	-
Physical Plant Storage	8,500	1995	2,347,516	-
Team Building	13,536	1995	3,738,349	-
Convocation Center	198,385	1998	54,789,632	-
Greenhouse & Aquatic	5,200	1998	1,436,127	-
Halle Library	273,715	1998	75,594,143	-
Total	650,636	7	\$ 186,979,481	\$ 15,000
<b><u>Post 2000</u></b>				
Everett C. Marshall	70,324	2000	\$ 19,421,963	\$ -
Hover	11,021	1941/2002	4,247,790	-
University House	10,700	2003	3,543,424	-
Student Union	176,000	2006	43,606,824	-
Total	268,045	4	\$ 70,820,000	\$ -
<b><u>Sitework, Drains, &amp; Infrastructure</u></b>				
Campus Buildings	n/a	n/a	n/a	\$ 800,000
Coral Sub	n/a	n/a	n/a	0
Tunnels	n/a	n/a	n/a	120,000
Total	n/a	n/a	n/a	\$ 920,000
<b>Total Building Deficiencies</b>	<b>3,029,562</b>	<b>46</b>	<b>\$ 917,976,565</b>	<b>\$ 1,022,000</b>

Memo: Avg. Cost Per Sq. Ft.

\$ 303.00

# Eastern Michigan University Capital Outlay Request FY2013

## ENERGY PLAN GOALS

The goals of the Eastern Michigan University Energy Plan are as follows:

Conserve electricity on campus by using the following methods:

- Encourage conservation by educating campus community on energy efficiency, usage reduction opportunities, and tips on alternatives to electricity use.
- Invest in projects that reduce electrical use. (See building audits Table 17). Projects may include:
  - Lighting retrofits
  - Lighting controls
  - Motor replacements
  - Equipment scheduling
  - Building use optimization
  - Computer upgrades
  - Variable frequency drive installations
  - Cooling system upgrades
- Measure and monitor electricity use throughout campus. (See Table 18).
- Monitor and limit peak electrical demand on campus.

Conserve natural gas on campus by using the following methods:

- Educating campus community on energy efficiency, usage reduction opportunities, and tips on alternatives to natural gas use.
- Invest in projects that will result in reduced natural gas use (see Table 17). Projects may include:
  - Steam trap repairs/replacements
  - Insulation of piping and ductwork
  - Heat recovery
  - Equipment scheduling
  - Building use optimization
  - Boiler replacements
  - Boiler control upgrades
  - Heat exchanger replacements
  - Conversion of steam to hot water
  - Heating reset schedules
  - Window replacements

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- The primary use on campus of natural gas is steam production. Because of this, Eastern Michigan University closely measures and monitors steam use on campus by metering campus steam production as well as sub-metering. (Refer to Table 19).

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General Fund Building Audit Schedule  
Table 17

Building	2012	2013	2014	2015
Student Center	X			
McKenny	X			
Warner	X			
Sill Hall	X			
Bowen	X			
Alexander	X			
Roosevelt	X			
Marshall	X			
Rackham	X			
Boone	X			
Welch	X			
Sherzer	X			
Pray-Harrold		X		
Mark Jefferson		X		
Strong		X		
King		X		
Pierce		X		
Quirk Theatre		X		
Fletcher		X		
Corp. Education Center		X		
Ford		X		
Pease Auditorium		X		
Snow		X		
Physical Plant		X		
Parsons		X		
Hover		X		
Greenhouse & Aquatic		X		
Heating Plant		X		
Halle Library			X	
Convocation Center			X	
Olds/Robb Center			X	
Porter			X	
Owen COB			X	
Paint Research			X	
Physical Plant Garage			X	
Cooper				X
University House				X
Central Stores				X
Briggs				X
Starkweather				X
Sculpture Studio				X
611 W. Cross				X
Schoolhouse				X

# Eastern Michigan University Capital Outlay Request FY2013

## Electrical Meter List Table 18

Coral Substation (Entire Main Campus)  
Gas Turbine Generator  
Electrical Loop 1  
Electrical Loop 2  
Electrical Loop 3  
Electrical Loop 4  
Alexander Music Building  
    Alexander Music Building Chiller  
Boone Hall  
Bowen Field House  
Briggs  
Buell Hall  
Coatings Research Lab  
Department of Public Safety  
Dining Commons I  
Dining Commons II  
Dining Commons III  
Ford Hall  
Hover Building  
Indoor Practice Facility  
Jones/Goddard Halls  
Mark Jefferson 208V  
Mark Jefferson 480V  
Mark Jefferson T1  
Mark Jefferson T2  
Marshall Building  
McKenny 208V  
McKenny 480V  
Parking Garage  
Pease Auditorium  
Physical Plant  
Pierce Hall  
Porter Building  
Pray-Harrold T1  
Pray-Harrold T2  
Pray-Harrold Emergency  
Pray-Harrold Chiller 1  
Pray-Harrold Chiller 2  
Quirk Building  
Rackham Building  
Recreation/Intramural Building  
Roosevelt Building  
Sculpture Studio  
Sherzer Building  
Sill Hall  
Snow Health Center  
Strong Building  
Student Center East  
Student Center West  
University House  
Warehouse (Central Receiving)  
Warner Building  
Welch Hall

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Steam Meter List  
Table 19

Boiler #1  
Boiler #2  
Boiler #3  
Boiler #4  
North Loop  
South Loop  
Alexander Music Building  
Boone Hall  
Bowen Field House  
Briggs Hall  
Dining Commons I  
Dining Commons II  
Ford  
Halle Library  
Jones/Goddard Halls  
Mark Jefferson  
    Mark Jefferson Chiller  
Marshall Building  
McKenny  
Pease Auditorium  
Physical Plant  
Porter Building  
Pray-Harrold Building  
Quirk Building  
Recreation/Intramural Building  
Roosevelt Building  
Sherzer Building  
Sill Hall  
Snow Health Center  
Strong Hall  
Student Center  
Warner Building

# Eastern Michigan University Capital Outlay Request FY2013

## ROADS, STREETS, PARKING LOTS AND STRUCTURES

### Overview

The University Parking and Roadway System contain twenty-eight primary parking lots, multiple specialized parking lots, and two parking structures for a total of 10,402 parking spaces. The System also contains 5.2 miles of roads, 10.4 miles of curbs, and 23 miles of sidewalks, providing access to all points on campus for pedestrian and vehicular traffic.

#### *System Condition and Adequacy*

The overall condition of the System is fair to good. The tables that follow evaluate the present condition of pavements within the system, estimate future performance trends, determine the asset preservation and repair needs, and identifies a single and five-year prioritized pavement maintenance plan for the system.

The plan consists of several distinct steps to obtain the baseline inventory and condition information and to evaluate the data to create the single and five-year maintenance plan:

- Prepare a single-year and integrated five-year pavement and architectural civil plan
- Divide the overall pavement system into a series of distinct branches and sections based on their location, design, usage, and estimated construction or major maintenance dates
- Perform visual surveys of the paved areas
- Evaluate the field condition survey data
- Develop maintenance policies that can be used to identify repair and maintenance procedures/strategies, determine schedule and budget priorities, and establish serviceability levels for the various pavements

EMU's future investments in the University Parking and Roadway System are detailed in the Conditions Assessments Table, the University Parking 5 Years Plan, and the Annual Parking Maintenance Tables that follow:

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**CONDITION ASSESSMENT**

**University Roads**

**Table 20**

Street Name	Condition	Fiscal Year of Replacement/Improvement	Estimated Cost	Proposed Funding Source
Ainsley Extension	Poor	2012	\$284,000	General Fund
Convocation Center Service Drive	Fair	2017	\$61,000	Auxillaries
East Circle Drive	Poor	2012	\$473,000	General Fund
Jones-Goddard Drive	Fair	2017	\$156,000	Auxillaries
Lyman Street	Poor	2015	\$53,000	General Fund
Mayhew Street	Fair	2017	\$334,000	General Fund
McKenny Drive	Fair	2017	\$161,000	General Fund
Oakwood Street - West Circle to Washtenaw	Fair	2012	\$473,000	MDOT/General Fund
Oakwood Street -West Circle Roundabout	Fair	2013	\$499,000	General Fund
Oakwood Street - Structure Drive Roundabout	Poor	2014	\$525,000	General Fund
Oakwood Street -West Circle to Mayhew	Poor	2017	\$263,000	General Fund
Oakwood Street - Mayhew Roundabout	Poor	2015	\$473,000	General Fund
Oakwood Street -West Circle to Huron River*	Fair	2017	\$263,000	General Fund
Oakwood Street - Huron River Intersection	Fair	2014	\$719,000	General Fund
Parking Structure Drive	Fair	2017	\$161,000	General Fund
Phelps-Sellers Service Drive	Good	2017	\$72,000	General Fund
Team Building	Fair	2018	\$105,000	General Fund
West Circle Drive - North	Fair	2018	\$239,000	General Fund
West Circle Drive - South	Poor	2018	\$262,000	General Fund
Westview Entrance Drive	Good	2018	\$163,000	Auxillaries
Westview Apartments - North	Good	2020	\$56,000	Auxillaries
Westview Apartments - West	Good	2020	\$78,000	Auxillaries
<b>Total</b>			<b>\$6,338,000</b>	
(1) Reflected in 2011 Dollars				
(2) Inflation Rate 5% over 2010 Dollars				

\* Includes the metered parking near the Towers. Does not include intersections at Mayhew & Oakwood and Oakwood and Huron River Drive

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**CONDITION ASSESSMENT  
University Parking Lots  
Table 21**

Parking Lot Name	Condition	Fiscal Year of Replacement/Improvement	Estimated Cost
526 St. Johns	Fair	2020	\$ 28,000
600 W. Forest	Poor	2017	\$ 17,000
611 W. Cross	Fair	2020	\$ 83,000
Alexander	Very Good	2020	\$ 195,000
Ann Street	Poor	2010	\$ 634,000
Bowen	Fair	2011	\$ 488,000
Bowman	Poor	2012	\$ 263,000
Central Stores	Fair	2015	\$ 158,000
Children's Center	Fair	2017	\$ 89,000
College of Business Parking Structure	Fair	2017	\$ 6,344,000
Convocation Center	Fair	2017	\$ 2,783,000
Convocation Center Dock	Fair	2020	\$ 134,000
Cooper	Poor	2017	\$ 173,000
Cornell Courts	Good	2017	\$ 167,000
DC-1 Dock	Fair	2017	\$ 83,000
Department of Public Safety	Excellent	2009	\$ 79,000
Downing Meters	Fair	2017	\$ 56,000
Fletcher	Fair	2020	\$ 53,000
Ford Lot	Fair	2018	\$ 779,000
Halle Dock	Very Good	2020	\$ 56,000
Hoyt Lot	Good	2018	\$ 378,000
Mayhew #1	Very Good	2025	\$ 378,000
Mayhew #2	Good	2017	\$ 89,000
McKenny	Poor	2013	\$ 893,000
McKenny Dock	Fair	2017	\$ 56,000
Normal Street	Fair	2020	\$ 167,000
North Campus #1 East	Good	2020	\$ 2,449,000
North Campus #1 - West	Fair	2020	\$ 2,226,000
North Campus #2	Poor	2016	\$ 1,260,000
Oakwood DPS Visitor	Excellent	2009	\$ 53,000
Oakwood Meters	Fair	2018	\$ 45,000
Oakwood North - Paid	Good	2017	\$ 195,000
Oakwood South	Fair	2019	\$ 1,050,000
Oakwood Staff	Good	2017	\$ 195,000
Oestrike Stadium	Poor	2013	\$ 158,000
Parking Structure	Fair	2019	\$ 21,704,000
Pease	Very Good	2019	\$ 557,000
Phelps-Putnam Meters	Fair	2019	\$ 111,000
Physical Plant Paid	Good	2018	\$ 28,000
Physical Plant Staff	Good	2018	\$ 83,000
Pierce	Poor	2011	\$ 105,000
Pray-Harrold Dock	Good	2017	\$ 61,000
Pray-Harrold Meters	Good	2017	\$ 13,000
Quirk	Fair	2019	\$ 74,000
Roosevelt	Fair	2012	\$ 105,000
Ryneerson Stadium	Poor	2020	\$ 2,560,000
Sculpture Studio	Poor	2015	\$ 168,000
Sellers	Poor	2017	\$ 78,000
Sill	Very Good	2017	\$ 167,000
Smith	Poor	2015	\$ 168,000
Snow	Excellent	2009	\$ 140,000
Softball Complex	Poor	2012	\$ 557,000
Student Center	Very Good	2020	\$ 367,000
Student Center Dock	Very Good	2020	\$ 56,000
Student Center North	Good	2020	\$ 301,000
Walton	Fair	2020	\$ 111,000
West Circle Drive (North)	Fair	2020	\$ 142,000
West Circle Drive (South)	Excellent	2009	\$ 289,000
Westview Apartments	Fair	2018	\$ 445,000
<b>Total</b>			<b>\$ 50,644,000</b>
(1) Reflected in 2011 Dollars			
(2) Inflation Rate 5% over 2010 Dollars (FY1112 Plan)			

**Eastern Michigan University  
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**University Parking  
5-year Plan  
2013-2017  
Table 22**

<u>Lot Name</u>	<u>Lot Condition</u>	<u>Action</u>	<u>Est. Cost</u>
<b><u>Fiscal Year 1 - 2012-2013</u></b>			
Bowman	Poor	Replacement	\$280,000
Roosevelt	Fair	Restoration	\$120,000
Estimated Year Total			\$400,000
<b><u>Fiscal Year 2 - 2013-2014</u></b>			
McKenny	Fair	Replacement	\$825,000
Estimated Year Total			\$825,000
<b><u>Fiscal Year 3 - 2014-2015</u></b>			
Ainsely Extension	Poor	Replacement	\$270,000
Softball Complex	Poor	Replacement	\$530,000
East Circle Drive	Poor	Replacement	\$450,000
Estimated Year Total			\$1,250,000
<b><u>Fiscal Year 4 - 2015-2016</u></b>			
Oakwood South	Fair	Restoration	\$500,000
Oakwood Drive (West Circle Drive Roundabout)	Fair	Restoration	\$475,000
Oestrike Stadium	Poor	Replacement	\$250,000
Estimated Year Total			\$1,225,000
<b><u>Fiscal Year 5 - 2016-2017</u></b>			
Smith	Fair	Replacement	\$160,000
Lyman Street (Central Stores Access)	Poor	Replacement	\$50,000
Oakwood Drive (Mayhew Roundabout)	Fair	Restoration	\$450,000
Oakwood Drive (Structure Drive Roundabout)	Fair	Restoration	\$500,000
Estimated Year Total			\$1,160,000
<b>Five Year Project Total</b>			<b>\$4,860,000</b>

**Eastern Michigan University  
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**Annual Parking Maintenance Funding  
Table 23**

<b>PARKING STRUCTURES</b>							
Name	Year Constructed or Replaced	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
COB Parking Structure	1990	356	\$ 114,000	\$ 570,000	\$ 6,064,800	2021	\$ 267,862
Main Parking Structure	1992	780	\$ 390,000	\$ 1,950,000	\$ 20,748,000	2021	\$ 956,212
<b>Total Parking Structures</b>		<u>1136</u>					<u>\$ 1,224,074</u>

<b>PARKING LOTS</b>							
Name	Year	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
Ann Street Lot	2010	426	\$ 12,080	\$ 60,400	\$ 604,000	2024	\$ 24,625
Bowen Lot	2011	149	\$ 7,520	\$ 37,600	\$ 400,000	2025	\$ 26,500
Bowman Lot	1985	87	\$ 4,500	\$ 22,500	\$ 240,000	2012	\$ 9,086
Children's Center Lot	1990	16	\$ 1,600	\$ 8,000	\$ 84,800	2017	\$ 3,457
Convocation Center Lot	1998	958	\$ 50,000	\$ 250,000	\$ 2,650,000	2017	\$ 156,056
Department of Public Safety	2009	12	\$ 1,500	\$ 7,500	\$ 75,000	2030	\$ 3,786
Ford Lot	1994	335	\$ 14,000	\$ 70,000	\$ 742,000	2018	\$ 32,772
Hoyt Parking Lot	1986	250	\$ 6,800	\$ 34,000	\$ 360,400	2018	\$ 11,938
Mayhew Lot	1998	356	\$ 6,800	\$ 34,000	\$ 360,400	2019	\$ 21,224
McKenny Lot	1993	388	\$ 16,000	\$ 80,000	\$ 848,000	2013	\$ 40,858
Alexander Lot	2002	72	\$ 3,500	\$ 17,500	\$ 185,500	2020	\$ 10,924
Normal Street Lot	1992	71	\$ 3,000	\$ 15,000	\$ 159,000	2020	\$ 6,019
North Campus Lot #1- East	1991	896	\$ 44,000	\$ 220,000	\$ 2,332,000	2020	\$ 85,239
North Campus Lot #1 -East Addition	2002	856	\$ 40,000	\$ 200,000	\$ 2,120,000	2020	\$ 124,844
North Campus Lot #2	1986	407	\$ 22,000	\$ 110,000	\$ 1,166,000	2016	\$ 44,141
Oakwood DPS Visitor Lot	2009	6	\$ 1,000	\$ 5,000	\$ 53,000	2030	\$ 2,675
Oakwood Lot	1998	494	\$ 18,000	\$ 90,000	\$ 954,000	2015	\$ 59,485
Oakwood North	1998	100	\$ 3,500	\$ 17,500	\$ 185,500	2017	\$ 10,349
Oakwood Staff	1995	107	\$ 4,500	\$ 22,500	\$ 238,500	2015	\$ 12,039
Pease Lot	2005	287	\$ 10,000	\$ 50,000	\$ 530,000	2019	\$ 40,129
Pierce Lot	1988	9	\$ 1,000	\$ 5,000	\$ 53,000	2011	\$ 2,443
Rackham Lot	1989	11	\$ 1,590	\$ 7,950	\$ 84,270	2018	\$ 3,080
Roosevelt Lot	2000	66	\$ 4,000	\$ 20,000	\$ 212,000	2012	\$ 17,286
Rynearson Lot	1987	962	\$ 46,000	\$ 230,000	\$ 2,438,000	2020	\$ 78,312
Sill Lot	2002	75	\$ 3,000	\$ 15,000	\$ 159,000	2017	\$ 11,236
Softball Complex Lot	2003	356	\$ 10,000	\$ 50,000	\$ 530,000	2014	\$ 37,453
Smith Lot	1992	68	\$ 2,500	\$ 12,500	\$ 160,000	2016	\$ 7,049
Snow Lot	2009	45	\$ 2,000	\$ 10,000	\$ 133,000	2023	\$ 7,049
Student Center Lot	2006	207	\$ 6,600	\$ 33,000	\$ 349,800	2020	\$ 26,485
Student Center Loading Dock Drive	2006	7	\$ 1,000	\$ 5,000	\$ 53,000	2020	\$ 4,013
<b>Total Parking Lots</b>		<b>8079</b>					<b>\$ 920,550</b>

**Eastern Michigan University  
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**Annual Parking Maintenance Funding  
Table 23 (Continued)**

<b>OTHER PARKING AREAS</b>							
Name	Year	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
611 W. Cross Central Receiving Gravel Lot	1969	39	\$ 1,500	\$ 7,500	\$ 79,500	2019	\$ 1,793
Cooper Parking Lot	1985	4	\$ 240	\$ 1,200	\$ 12,720	2016	\$ 499
East Circle Drive Parking (South Segment)	1984	69	\$ 3,100	\$ 15,500	\$ 164,300	2020	\$ 5,442
Heating Plant - Library Service Area	1994	24	\$ 1,000	\$ 5,000	\$ 53,000	2012	\$ 3,745
Jones-Goddard Drive Parking	1998	12	\$ 1,000	\$ 5,000	\$ 53,000	2020	\$ 2,554
Mayhew Drive Parking	1992	25	\$ 1,060	\$ 5,300	\$ 56,180	2019	\$ 2,707
McKenny Loading	2001	55	\$ 1,600	\$ 8,000	\$ 84,800	2019	\$ 6,421
North Rynearson	1993	6	\$ 1,000	\$ 5,000	\$ 53,000	2013	\$ 2,443
Oestrike Parking Lot	1987	11	\$ 600	\$ 3,000	\$ 31,800	2024	\$ 1,204
Parking Structure Drive	1975	34	\$ 2,000	\$ 10,000	\$ 106,000	2013	\$ 2,881
Physical Plant Meters	1995	7	\$ 500	\$ 2,500	\$ 26,500	2021	\$ 1,405
Physical Plant Yard and Parking	1995	49	\$ 2,000	\$ 10,000	\$ 106,000	2021	\$ 5,914
Pray Harrold Meters	1995	74	\$ 3,500	\$ 17,500	\$ 185,500	2021	\$ 9,832
Quirk-Sponberg Theatre Entrance	2002	13	\$ 500	\$ 2,500	\$ 26,500	2012	\$ 1,873
Sculpture Studio Lot	1985	3	\$ 1,200	\$ 6,000	\$ 63,600	2019	\$ 2,497
University Computing Loading Dock	1994	12	\$ 1,100	\$ 5,500	\$ 58,300	2015	\$ 3,433
West Circle Drive ADA Parking	1994	3	\$ 150	\$ 750	\$ 7,950	2020	\$ 324
West Circle Drive Parking	2009	30	\$ 5,500	\$ 27,500	\$ 291,500	2025	\$ 19,312
West Circle Drive Parking	2001	37	\$ 2,500	\$ 12,500	\$ 132,500	2019	\$ 10,032
<b>Total Other Parking Areas</b>		<u>507</u>					<u>\$ 84,309</u>

**Eastern Michigan University  
Capital Outlay Request FY2013**

**Annual Parking Maintenance Funding  
Table 23 (Continued)**

<b>HOUSING PARKING LOTS</b>							
Name	Year	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
526 St. Johns	1985	3	\$ 530	\$ 2,650	\$ 28,090	2022	\$ 1,027
600 W. Forest	1985	3	300	15,000	15,900	2022	581
Cornell-Bellows	1982	25	1,500	7,500	79,500	2023	2,554
Cornell - Estabrook	1985	10	1,500	7,500	79,500	2023	2,809
DC I	1985	10	1,500	7,500	79,500	2020	2,906
Downing Meter	1989	26	1,000	5,000	53,000	2012	2,161
East Circle Drive - Best	1989	24	1,000	5,000	53,000	2012	2,675
East Circle Drive (W & N Segment)	1989	45	2,000	10,000	106,000	2012	5,107
Goddard Meter	1989	15	1,000	5,000	53,000	2018	2,161
Jones Meters	1985	8	500	2,500	26,500	2018	936
Walton Parking	1989	46	2,000	10,000	106,000	2019	4,161
Sellers Parking	1989	29	1,400	7,000	74,200	2022	3,146
St. Johns Parking Lot	1985	8	500	2,500	26,500	2015	936
Towers Parking - West	1998	27	1,000	5,000	53,000	2018	2,809
Westview Apartments - Northeast Lot	1986	57	2,000	10,000	106,000	2024	4,013
Westview Apartments - Northwest Lot	1986	59	2,000	10,000	106,000	2024	4,013
Westview Apartments - South Lot	1991	53	2,000	10,000	106,000	2024	4,885
Westview Apartments - West Lot	1986	<u>56</u>	2,000	10,000	106,000	2024	<u>4,013</u>
Total Housing Parking Lots		504					\$ 50,893
Less Housing Contribution (75%)							\$ 38,170
Revised Housing Parking Lot Total							\$ 12,723

<b>TOTAL PARKING</b>			
PARKING STRUCTURES		1136	\$ 1,224,074
PARKING LOTS		8079	920,550
OTHER PARKING AREAS		507	84,309
HOUSING PARKING LOTS		<u>504</u>	<u>12,723</u>
OVERALL TOTAL		<u>10226</u>	<u>\$ 2,241,657</u>

**Eastern Michigan University  
Capital Outlay Request FY2013**



**IMPLEMENTATION PLAN**

STRONG HALL RENOVATION

BACKLOG DEFICIENCIES

ASSET PRESERVATION LISTINGS

BUILDING MAINTENANCE PROJECTS > \$1 MILLION

# Eastern Michigan University Capital Outlay Request FY2013

## STRONG HALL RENOVATION

<i>Is the Project a Renovation or New Construction?</i>	Ren	(X)	New	( )
<i>Is there a 5-Year Master Plan available?</i>	Yes	(X)	No	( )
<i>Are Professionally-Developed Program Statements and/or Schematic Plans Available Now?</i>	Yes	(X)	No	( )
<i>Are Match Resources Currently Available?</i>	Yes	(X)	No	( )
<i>Has the University Identified Available Operating Funds?</i>	Yes	(X)	No	( )

### Introduction

Established in 1849, Eastern Michigan University has one of the oldest campuses in the State of Michigan. By the mid 2000's, the Pray-Harrold classroom building, having been built in 1969 as the largest classroom building in the country, was in need of repair. It had been Eastern's number one capital outlay project for years. The University was pleased that for the first time since 1996, the state included the Pray-Harrold Renovation project in the State's FY2009 Capital Outlay Bill. Eastern is now proud to say that thanks to this inclusion, that on September 20, 2011, it held the grand-reopening of the Pray-Harrold classroom, 1 ½ years ahead of schedule.

Eastern is now excited to submit the Strong Hall Renovation as its FY2013 Capital Outlay Project Request.

### A. Project Description Narrative

Strong Hall houses the departments of Geology & Geography and Physics & Astronomy, part of Eastern Michigan University's largest college, the College of Arts and Science. Strong Hall, along with the newly renovated and addition to Mark Jefferson, make up Eastern's Science Complex. Built in 1957, Strong Hall has not received any significant improvements or renovations since its construction. Eastern has invested \$90 million in renovation of Mark Jefferson and construction of 80,000 square feet of new academic science facilities including a planetarium. Based on its age, use, and wear, Strong Hall now has several deficiencies, including;

- Outdated and overcrowded classrooms and laboratory space;
- Mechanical systems are obsolete and in need of replacement;
- Plumbing systems are in need of replacement;
- Electrical systems are in need of replacement;
- Energy inefficient original windows and other building envelope maintenance issues;
- Inadequate technology infrastructure;
- Inadequate handicap accessibility;
- Interior systems and finishes have long exceeded their life cycle;
- Outdated departmental and faculty offices.

## Eastern Michigan University Capital Outlay Request FY2013

The project will include renovation of the entire existing structure including; classrooms, lecture halls, student commons areas, and faculty offices. The renovation to the 87,500 gross square foot building will include; reconfiguration of the existing space to modernize classrooms and labs spaces with new technology and flexible use spaces for both research and instruction; updating of the fire suppression system; replacement of the existing HVAC, plumbing and electrical systems to improve energy efficiency and help reduce existing operating costs. All renovations are designed to meet LEED Silver Criteria and are in compliance with the Americans with Disabilities Act.

The modernized and reconfigured space will provide the students with much needed gathering spaces for impromptu meetings with faculty and other classmates. These improvements will also provide flexibility in classroom configuration to adapt to the changing instructional environment.

The total project is estimated to cost \$40,000,000 broken down in the following components:

Renovation	\$21,000,000
Technology	\$ 500,000
Fees, Contingencies, Permits and Administrative Costs	\$ 9,000,000
Owner Costs	<u>\$ 9,500,000</u>
Total	\$40,000,000

It is estimated that the project can begin as early as January 2012, and would be completed within 36 months.

Annual operating costs are estimated to be unchanged as energy efficiencies will offset the added technology infrastructure. The operating costs are funded from the University's General Fund.

### **B. Other Alternatives Considered**

Demolition and replacement of Strong Hall was considered and abandoned for numerous reasons. The cost implications of replacement versus renovation were considered during the preliminary programming and it is expected that replacement could cost up to 25% more than the renovation. Secondly, the University's effort to maintain sustainable practices supports the revitalization of existing facilities as opposed to new structures.

Strong Hall is centrally located on campus, close to residence halls, other academic facilities, library, and parking. There is no other space on central campus that can accommodate the collaboration needed with the rest of the science complex and integrated courses of study. Relocating the building to another site loses its proximity to the core campus and would require additional parking and new infrastructure for utilities at costs that far exceed renovation costs.

## **Eastern Michigan University Capital Outlay Request FY2013**

The building's structure is in good condition and therefore warrants renovation rather than a new building. Strong Hall would still have to be renovated or razed should a new building be constructed.

Eastern Michigan University is the second oldest campus in the State of Michigan. The state's investment in buildings and infrastructure should be preserved when possible and financially feasible to do so. The construction costs associated with a new building were carefully studied and found not to be fiscally prudent, given the constraints on available state and institutional funds for capital projects. We believe, when possible, existing buildings that are structurally sound should be renovated and modernized as opposed to razing buildings for new structures.

### **C. Programmatic Benefit to State Taxpayers and Specific Clientele or Constituencies**

The programmatic benefit of this project will be to better serve current and future students through enhanced learning spaces and technology and to help the University recruit and retain students and faculty. The state of the art Science Complex will make Eastern Michigan University the University of choice for science students across the state of Michigan.

The Strong Hall Renovation Project will provide economic benefit to the City of Ypsilanti and the eastern Washtenaw County area, both economically depressed areas, through the creation of critically needed new construction jobs over three years. EMU has a significant impact on the local economy. For this area of Washtenaw County, it is imperative that EMU remain a vital and vibrant institution.

### **D. Funding Resources**

Eastern Michigan University currently has the ability to provide the required matching funds.

**Eastern Michigan University  
Capital Outlay Request FY2013**

**Campus Facility Condition Index  
BACKLOG DEFICIENCY -- EXCLUDING MAJOR BUILDING RENEWALS**

**Table 24**

**Campus Systems Repair vs. Replacement model**

(Architectural, Mechanical, Electrical, Elevators, Fire Protection)

**Parameters:**

Current Replacement Value	CRV	\$917,976,565
Systems Replacement Value (50% of CRV)	SRV	\$458,988,283
Deficiencies Backlog, current total campus	DB	\$51,947,000
General Fund Square Footage, total campus		3,029,562
Net Replacement Value	NRV	\$866,029,565
Average Annual Deterioration Rate	ADR	1.50%
Accelerated Annual Deterioration Rate	AcDR	0.00%
Producer Price Index	PPI	3.00%
Useful Life	UL	30
Rate of Appreciation	A	1.20%
Current Campus Facilities Condition Index	FCI	0.06
Estimated Asset Preservation Spending FY12		\$2,100,000
Estimated Asset Preservation Spending FY13		\$1,455,000
Estimated Asset Preservation Spending FY14		\$5,875,000
Estimated Asset Preservation Spending FY15-24		\$4,100,000

<u>Fiscal Year</u>	<u>Backlog Deficiency</u>	<u>FCI</u>	<u>Current Facility Replacement Value (CRV)</u>	<u>System Replacement Value (SRV)</u>	<u>Net System Value</u>	<u>Annual Asset Preservation Expense</u>
2012	\$51,947,000	0.06	\$917,976,565	\$458,988,283	\$407,041,283	\$2,100,000
2013	\$58,227,234	0.06	\$956,862,052	\$478,431,026	\$420,203,792	\$1,455,000
2014	\$65,651,867	0.07	\$997,394,729	\$498,697,364	\$433,045,498	\$5,875,000
2015	\$69,050,633	0.07	\$1,039,644,370	\$519,822,185	\$450,771,552	\$4,100,000
2016	\$74,696,485	0.07	\$1,083,683,705	\$541,841,853	\$467,145,368	\$4,100,000
2017	\$80,842,007	0.07	\$1,129,588,547	\$564,794,273	\$483,952,266	\$4,100,000
2018	\$87,516,182	0.07	\$1,177,437,918	\$588,718,959	\$501,202,777	\$4,100,000
2019	\$94,749,451	0.08	\$1,227,314,188	\$613,657,094	\$518,907,643	\$4,100,000
2020	\$102,573,791	0.08	\$1,279,303,217	\$639,651,609	\$537,077,817	\$4,100,000
2021	\$111,022,779	0.08	\$1,333,494,501	\$666,747,251	\$555,724,471	\$4,100,000
2022	\$120,131,671	0.09	\$1,389,981,328	\$694,990,664	\$574,858,993	\$4,100,000
2023	\$129,937,481	0.09	\$1,448,860,937	\$724,430,469	\$594,492,987	\$4,100,000
2024	\$140,479,063	0.09	\$1,510,234,687	\$755,117,343	\$614,638,280	\$4,100,000

**Eastern Michigan University  
Capital Outlay Request FY2013**

**Campus Facility Condition Index  
BACKLOG DEFICIENCY -- INCLUDING MAJOR BUILDING RENEWALS  
Table 24a**

**Campus Systems Repair vs. Replacement model**

(Architectural, Mechanical, Electrical, Elevators, Life Safety)

**Parameters:**

Current Replacement Value	CRV	\$917,976,565
Systems Replacement Value (50% of CRV)	SRV	\$458,988,283
Deficiencies Backlog, current total campus	DB	\$51,947,000
General Fund Square Footage, total campus		3,029,562
Net Replacement Value	NRV	\$866,029,565
Average Annual Deterioration Rate	ADR	1.50%
Accelerated Annual Deterioration Rate	AcDR	0.00%
Producer Price Index	PPI	3.00%
Useful Life	UL	30
Rate of Appreciation	A	1.20%
Current Campus Facilities Condition Index	FCI	0.06
Estimated Asset Preservation Spending FY12		\$2,100,000
Estimated Asset Preservation Spending FY13		\$1,455,000
Estimated Asset Preservation Spending FY14		\$5,875,000
Estimated Asset Preservation Spending FY15-24		\$4,100,000

<u>Fiscal Year</u>	<u>Backlog Deficiency</u>	<u>FCI</u>	<u>Current Facility Replacement Value (CRV)</u>	<u>System Replacement Value (SRV)</u>	<u>Net System Value</u>	<u>Annual Asset Preservation Expense</u>
2012	\$51,947,000	0.06	\$917,976,565	\$458,988,283	\$407,041,283	\$2,100,000
2013	\$58,227,234	0.06	\$956,862,052	\$478,431,026	\$420,203,792	\$4,030,000*
2014	\$62,999,617	0.06	\$997,394,729	\$498,697,364	\$435,697,748	\$5,875,000
2015	\$66,318,816	0.06	\$1,039,644,370	\$519,822,185	\$453,503,369	\$4,100,000
2016	\$71,882,713	0.07	\$1,083,683,705	\$541,841,853	\$469,959,140	\$4,100,000
2017	\$77,943,822	0.07	\$1,129,588,547	\$564,794,273	\$486,850,451	\$4,100,000
2018	\$84,531,051	0.07	\$1,177,437,918	\$588,718,959	\$504,187,908	\$4,100,000
2019	\$91,674,767	0.07	\$1,227,314,188	\$613,657,094	\$521,982,327	\$4,100,000
2020	\$99,406,866	0.08	\$1,279,303,217	\$639,651,609	\$540,244,742	\$4,100,000
2021	\$107,760,846	0.08	\$1,333,494,501	\$666,747,251	\$558,986,404	\$4,100,000
2022	\$116,771,880	0.08	\$1,389,981,328	\$694,990,664	\$578,218,784	\$4,100,000
2023	\$126,476,897	0.09	\$1,448,860,937	\$724,430,469	\$597,953,572	\$4,100,000
2024	\$136,914,661	0.09	\$1,510,234,687	\$755,117,343	\$618,202,683	\$4,100,000

Memo:

\* Lowers significantly the backlog deficiency for Strong in 2012-13.

**Eastern Michigan University  
Capital Outlay Request FY2013**

**Campus Facility Condition Index  
BACKLOG DEFICIENCY -- INCL. MAJOR BLDG. RENEWALS & UNFUNDED ASSET PRESERVATION**

**Table 24b**

**Campus Systems Repair vs. Replacement model**

(Architectural, Mechanical, Electrical, Elevators, Life Safety)

**Parameters:**

Current Replacement Value	CRV	\$917,976,565
Systems Replacement Value (50% of CRV)	SRV	\$458,988,283
Deficiencies Backlog, current total campus	DB	\$51,947,000
General Fund Square Footage, total campus		3,029,562
Net Replacement Value	NRV	\$866,029,565
Average Annual Deterioration Rate	ADR	1.50%
Accelerated Annual Deterioration Rate	AcDR	0.00%
Producer Price Index	PPI	3.00%
Useful Life	UL	30
Rate of Appreciation	A	1.20%
Current Campus Facilities Condition Index	FCI	0.06
Estimated Asset Preservation Spending FY12		\$2,100,000
Annual Asset Preservation needed FY13 - 24		\$8,100,000

<u>Fiscal Year</u>	<u>Backlog Deficiency</u>	<u>FCI</u>	<u>Current Facility Replacement Value (CRV)</u>	<u>System Replacement Value (SRV)</u>	<u>Net System Value</u>	<u>Annual Asset Preservation Expense</u>
2012	\$51,947,000	0.06	\$917,976,565	\$458,988,283	\$407,041,283	\$2,100,000
2013	\$58,227,234	0.06	\$956,862,052	\$478,431,026	\$420,203,792	\$10,675,000
2014	\$56,155,267	0.06	\$997,394,729	\$498,697,364	\$442,542,098	\$8,100,000
2015	\$56,977,385	0.05	\$1,039,644,370	\$519,822,185	\$462,844,800	\$8,100,000
2016	\$58,141,039	0.05	\$1,083,683,705	\$541,841,853	\$483,700,813	\$8,100,000
2017	\$59,669,898	0.05	\$1,129,588,547	\$564,794,273	\$505,124,375	\$8,100,000
2018	\$61,588,909	0.05	\$1,177,437,918	\$588,718,959	\$527,130,049	\$8,100,000
2019	\$63,924,361	0.05	\$1,227,314,188	\$613,657,094	\$549,732,733	\$8,100,000
2020	\$66,703,948	0.05	\$1,279,303,217	\$639,651,609	\$572,947,660	\$8,100,000
2021	\$69,956,841	0.05	\$1,333,494,501	\$666,747,251	\$596,790,410	\$8,100,000
2022	\$73,713,755	0.05	\$1,389,981,328	\$694,990,664	\$621,276,909	\$8,100,000
2023	\$78,007,028	0.05	\$1,448,860,937	\$724,430,469	\$646,423,441	\$8,100,000
2024	\$82,870,695	0.05	\$1,510,234,687	\$755,117,343	\$672,246,648	\$8,100,000

Memo:

1. Lowers significantly the backlog deficiency for Strong in 2012-13.

# Eastern Michigan University Capital Outlay Request FY2013

## Asset Preservation Listing Fiscal Year 2013

Building	Project No.	Budget	Project Name	Con	Need	Freq	Total	System Type
Campus	3119	\$ 100,000	CAMP - ADA Improvements	01	01	02	04	Architectural
Campus	3101	\$ 250,000	CAMP - Landscape Restoration	04	04	02	10	Site Work Drainage
Campus	3126	\$ 125,000	CAMP - Sitework and Sidewalk Restoration	03	03	03	09	Architectural
Heating Plant		\$ 500,000	HEAT - Boiler Replacement Design	05	04	01	10	Electrical
Owen	2237	\$ 110,000	OWEN - Cooling Tower Repairs	04	04	02	10	Mechanical
Quirk	3115	\$ 270,000	QUIR - Roof Replacement	03	03	03	09	Architectural
Sill	2408	\$ 100,000	SILL - Roof Replacement Phase 2 to NE Side of Roof	03	03	03	09	Architectural

Total	\$1,455,000
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**Eastern Michigan University  
Capital Outlay Request FY2013**

**Asset Preservation Listing  
Fiscal Year 2014**

<b>Building</b>	<b>Project No.</b>	<b>Budget</b>		<b>Con</b>	<b>Need</b>	<b>Freq</b>	<b>Total</b>	<b>System Type</b>
Campus	3120	\$ 100,000	CAMP - ADA Improvements	01	01	02	04	Architectural
Campus	3102	\$ 250,000	CAMP - Landscape restoration	04	04	02	10	Site Work Drainage
Campus	3127	\$ 125,000	CAMP - Sitework and Sidewalk Restoration	03	03	03	09	Architectural
Heating Plant		\$ 5,400,000	HEAT - Boiler Replacement Installation	05	04	01	10	Electrical

Total	\$5,875,000
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# Eastern Michigan University Capital Outlay Request FY2013

## Asset Preservation Listing Fiscal Year 2015

Building	Project No.	Budget	Project Name	Con	Need	Freq	Total	System Type
611 W. Cross Street	0460	\$ 80,000	611 - Masonry Repairs	04	03	02	09	Architectural
Alexander	2905	\$ 70,000	ALEX - Chlled Water and Cooling Tower Pumps Replacement	02	03	02	07	Mechanical
Bowen	2462	\$ 220,000	BOWE - Roof Repairs	03	03	04	10	Architectural
Briggs	2927	\$ 50,000	BRIG - Fire Alarm Replacement	02	02	03	07	Fire Protection
Ford	0163	\$ 380,000	FORD - Air Handling Unit #1 and #2 Replacement	02	03	02	07	Mechanical
Ford	2573	\$ 40,000	FORD - Heat System Upgrades	04	03	03	10	Mechanical
Heating Plant	0184	\$ 510,000	HEAT - Generator Turbotronics Control Package	05	04	01	10	Electrical
Heating Plant	2925	\$ 60,000	HEAT - Fire Alarm Replacement	02	02	03	07	Fire Protection
Heating Plant	0182	\$ 50,000	HEAT - Flash Tank Replacement Include Ash	04	04	01	09	Mechanical
King	2965	\$ 100,000	KING - AHU #1 Replacement	03	03	04	10	Mechanical
Owen	3163	\$ 170,000	OWEN - Elevator Repairs	04	03	03	10	Mechanical
Pease	3157	\$ 30,000	PEAS - Steam Condensate Replacement	04	04	04	12	Mechanical
Quirk	0297	\$ 290,000	QUIR - Replace AHU #2, #3	02	03	02	07	Mechanical
Quirk	2970	\$ 300,000	QUIR - AHU #5, #6 Replacement	02	03	02	07	Mechanical
Roosevelt	2553	\$ 30,000	ROOS - Condensate Receiver Replacement	04	04	03	11	Mechanical
Roosevelt	0510	\$ 140,000	ROOS - Fire Alarm Repairs	04	03	03	10	Fire Protection
Rynearson Football	0511	\$ 50,000	RYNE - Fire Alarm Repairs	04	03	04	11	Fire Protection
Sill	0514	\$ 180,000	SILL - Fire Alarm System Replacement	04	03	03	10	Fire Protection
Sill	2952	\$ 80,000	SILL - Heat Exchanger #1 and #2 Replacement	04	04	03	11	Mechanical
Sill	2414	\$ 350,000	SILL - Window Replacement	03	03	03	09	Architectural
Snow	2523	\$ 460,000	SNOW - AHU #1 thru #4 Replacement	02	03	02	07	Mechanical
Snow	378	\$ 100,000	SNOW - Roof Replacment	04	04	02	10	Architectural
Tunnels	2493	\$ 110,000	TUNN - Structural, Mechanical & Lighting Repairs	03	03	01	07	Mechanical
Warner	2413	\$ 250,000	WARN - Roof Repairs	03	04	03	10	Architectural

Total	\$4,100,000
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# Eastern Michigan University Capital Outlay Request FY2013

## Fiscal Year 2016 Asset Preservation Listing

Building	Project No.	Budget	Project Name	Con	Need	Freq	Total	System Type
Alexander	2411	\$ 320,000	ALEX - Roof Replacement	03	03	03	09	Architectural
Bowen	0031	\$ 50,000	BOWE - Doors & Hardware	04	04	04	12	Architectural
Bowen	2552	\$ 210,000	BOWE - Electric VAV Replacement	04	03	04	11	Mechanical
Bowen	2908	\$ 210,000	BOWE - 8 Unit Ventilator Replacement	04	03	04	11	Mechanical
Bowen	2546	\$ 420,000	BOWE - AHU 13,14,15,16, Exhaust Fan & BMS Controls Replace	03	03	02	08	Mechanical
Briggs	0038	\$ 70,000	BRIG - Doors & Windows	04	03	03	10	Architectural
Campus	3124	\$ 100,000	CAMP - ADA Improvements	01	01	02	04	Architectural
Campus	3103	\$ 100,000	CAMP - Landscape Restoration	04	04	02	10	Site Work Drainage
Campus	2999	\$ 100,000	CAMP - Sitework and Sidewalk Restoration	03	03	02	08	Site Work Drainage
Heating Plant	0186	\$ 600,000	HEAT - Deaerator Tank Replacement	03	04	01	08	Mechanical
Olds\Robb Center	2575	\$ 900,000	OLDS - AHU #5 through #8 Replacement	03	03	02	08	Mechanical
Olds\Robb Center	2439	\$ 160,000	OLDS - Masonry Repairs	03	03	04	10	Architectural
Olds\Robb Center	0246	\$ 150,000	OLDS - Roof Repairs	04	04	04	12	Architectural
Rackham	0765	\$ 190,000	RACK - Roof Repairs	04	04	03	11	Architectural
Rynearson Football	0336	\$ 30,000	RYNE - Doors & Hardware Replacement	04	04	04	12	Architectural
Rynearson Football	2412	\$ 80,000	RYNE - Water Proofing	03	03	04	11	Architectural
Sherzer	2489	\$ 70,000	SHER - Roof Repairs	02	03	03	08	Architectural
Sill	3159	\$ 50,000	SILL - PPC14 Replacement	03	03	02	08	Mechanical
Sill	3158	\$ 210,000	SILL - ASV16 Replacement	03	03	02	08	Mechanical
Starkweather	0515	\$ 80,000	STAR - Fire Alarm Repairs	04	03	02	09	Fire Protection

Total	\$4,100,000
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# Eastern Michigan University Capital Outlay Request FY2013

## Asset Preservation Listing

**Fiscal Year 2017**

Building	Project No.	Budget	Project Name	Con	Need	Freq	Total	System Type
Alexander	2516	\$ 50,000	ALEX - Humidification System Replacement	04	04	03	11	Mechanical
Bowen	0494	\$ 105,000	BOWE - Fire Alarm Upgrade/Repairs	02	02	03	07	Fire Protection
Bowen	2432	\$ 100,000	BOWE - Light Replacement	03	03	04	10	Electrical
Campus	0066	\$ 100,000	CAMP - Landscape Restoration	04	04	02	10	Site Work Drainage
Campus	2463	\$ 100,000	CAMP - Site Work & Sidewalk Repairs	03	03	03	09	Architectural
Coral Substation	3125	\$ 1,980,000	CORA - Loop 1 Conversion	05	04	03	12	Electrical
Ford	2570	\$ 70,000	FORD - HVAC Controls & Fan Coil Units	04	03	03	10	Mechanical
Ford	0161	\$ 25,000	FORD - Tuck Point and Seal	04	03	03	09	Architectural
McKenny Union	0230	\$ 160,000	MCKE - Roof Repairs - Shingle	04	04	02	10	Architectural
Olds\Robb Center	2575	\$ 1,040,000	OLDS - AHU #1 through #4 and #9 Replacement	03	03	02	08	Mechanical
Owen	0241	\$ 100,000	OWEN - Masonry Repairs	03	03	03	09	Architectural
Snow	0374	\$ 160,000	SNOW - Fire Alarm Repairs	04	03	02	09	Fire Protection
Starkweather	0386	\$ 50,000	STAR - Heating System Replacement	04	03	02	09	Mechanical
Welch	2563	\$ 60,000	WELC - Heating System Upgrade	04	04	02	10	Mechanical

Total	\$4,100,000
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**Eastern Michigan University  
Capital Outlay Request FY2013**

**Building Maintenance Projects Greater than \$1 Million**

<b>Projects (FY 2013 - 2017)</b>	<b>Amount</b>
Heating Plant	\$7,120,000
Olds\Robb Center	\$2,250,000
Coral Substation	\$1,980,000
Campus	\$1,450,000
Bowen	\$1,315,000
<b>Total Building Projects Greater Than \$1 Million</b>	<b>\$14,115,000</b>

**Eastern Michigan University  
Capital Outlay Request FY2013**



**APPENDIX**  
LIST OF TABLES & EXHIBITS

**Eastern Michigan University  
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