

## Instructional Programming

- A. *Description of existing academic programs and projected programming changes during the next 5 years, in so far as academic programs are affected by specific structural considerations (i.e., laboratories, classrooms, current and future distance learning initiatives).*

Lake Michigan College (LMC) has served Southwestern Michigan for over fifty years. The College officially offers one baccalaureate degree in Energy Production and Distribution and 40 distinct programs of study at the Associate Degree level and prepares students for a wide variety of other academic majors through its Associate in Arts and Associate in Science transfer degree options.

### **Existing Academic Programs**

The College's credit academic programs are offered through two instructional divisions (Arts and Sciences and Career and Workforce Education) that serve the Napier Avenue Campus in Benton Harbor as well as three branch campuses: South Haven, Bertrand Crossing, and the M-TEC. South Haven and Bertrand Crossing are approximately a half hour drive from the Napier Campus and serve the northern and southern portions of LMC's district, respectively. The M-TEC is located near downtown Benton Harbor and houses the College's industrial and skilled trades programs.

The Arts and Sciences Division consists of five departments, with courses in the following disciplines:

#### **Transitional Studies**

Transitional Studies Math, Transitional Studies English, Transitional Studies Reading and College Life Studies

#### **Natural Sciences and Education**

Biology, Chemistry, Physics, Physical Science, Early Childhood Education, Elementary Education, Engineering/Manufacturing Engineering, and Natural Science

#### **Language Arts**

Communication, English, Foreign Languages

#### **Mathematics and Physical Education and Wellness**

Mathematics, Physical Education

#### **Social Science, Humanities, and the Creative Arts**

Geography, History, Political Science, Psychology, Sociology, Honors, Art, Dance, Drama/Theatre, Humanities, Music, Philosophy, Social Work

The Career and Workforce Education Division is comprised of five departments, with courses in the following disciplines:

#### **Agriculture, Business, and Hospitality**

Accounting, Administrative Office Systems, Agriculture (Commercial Horticulture, Landscape Horticulture), Business Administration, Business (Sales and Customer Service, Small Business Management, Supervision, Supply Chain Management), Casino Management, Criminal Justice

(Corrections, Protection, and Parole; Law Enforcement), Culinary Management, Energy Production and Distribution Management (BAS), Enology and Viticulture, and Hospitality Management

### **Health Sciences**

Dental Assisting, Healthcare Education Institute (Emergency Medical Technician, First Aid/CPR, Medical Assisting, Paramedic), Medical Imaging (Diagnostic Medical Sonography, Magnetic Resonance Imaging, Radiologic Technology), and Nursing

### **Advanced Manufacturing, Energy, and Information Technology and Transportation**

Apprenticeship, Computer Numerical Control (CNC), Energy Production, Energy Production – HPRP, General Technology, Skilled Trades, Welding, Computer Information Systems (Networking, Programming, Graphic Design, Web)

### **Apprenticeship Training**

Thirty-six area employers are active partners with LMC in the Apprentice Training Program, which combines classroom study with work-based learning. Over 100 apprentices in thirty-five occupational areas fill much needed area jobs. The Bureau of Apprenticeship and Training, U.S. Department of Labor approves the apprenticeship training programs. Career areas include drafting/design, machine building, maintenance, metalworking, mold making, quality control, and other skilled trade classifications.

### **Community Education, Customized Training, and Career Pathways Education**

Centrally located at the M-TEC facility in a fully wireless environment, Community Education, Customized Training, and Career Pathways Education uses non-credit to credit pathway strategies to provide community outreach services, business solutions and customized training. Classrooms, labs, and conference rooms are available to support the activities of the Community Education, Customized Training, and Career Pathways Education team. This unit provides numerous services that are integrated into various segments of its operation. Programs offered include: Community Education, Customized Training, and Career Pathways Education and Training (Certified Nurse Assistant, Electronics, Health Records, Patient Registrar, Phlebotomy).

Services include:

- A workforce readiness course entitled Short Term Training Preparation is a prerequisite to many of LMC's programs. This online, self-paced program helps prepare the learner for the rigor of a college program and gives them tools to prepare for their career search. Students also have the opportunity to earn the National Career Readiness Certificate.
- Wrap Around courses which target basic academic skills and assist low-skilled adults in acquiring competencies necessary to succeed in postsecondary education and attain credentials of value in the workplace
- Internships, externships, and job shadowing experiences coordinated through the Manager of Work-based Learning
- Third-party certification testing
- ServSafe Examinations

Community Education, Customized Training, and Career Pathways Education also provide outreach activities that support community needs and build important relationships with the

College's service area. Staff monitors the needs of business, industry, and community organizations and advocates for workforce development and education by participating in regional advisory boards and public forums and seeking other opportunities to connect and network with the community.

Customized Training staff provides customized training by drawing from the resources of the College and outside individuals with relevant expertise and experience working with business and industry. Programming created through this unit can involve academic credit, with training delivered at the client's location or on-campus. Whirlpool and Four Winds Casino are two customers currently offering classes for academic credit at their sites. Lake Michigan College is also an authorized site for Pearson Vue certifications, WorkKeys assessment testing, and GED testing. Over 100 computer certification exams are available through Pearson Vue Testing.

Other courses offered by this unit include:

- Advanced Manufacturing Fundamentals: Welding, CNC, Blueprint Reading, Mechanical or Technical Math, and OSHA Safety Training
- Retail Customer Service
- Soft Skills Training
- Leadership and Supervisory Skills
- SHRM Learning System Course for Professional Human Resource Management

Healthcare Education Institute (HEI)

Created in Fall 2013, the HEI delivers short-term programming in both credit and non-credit formats. A primary purpose of the HEI is to create a unit responsible for researching and creating programs that fill gaps in workplace needs for the ever-changing healthcare industry. The design of the HEI allows for a unique integration of non-credit and experiential learning with more traditional credit offerings, and provides maximum flexibility for students to enter and exit programs as their life circumstances permit. Students can be admitted directly into credit programs in Emergency Medical Technician (EMT), Paramedic, and Medical Assisting, or they can enter HEI credit programs with advanced standing after completing short-term training in Certified Nurse Aide (CNA), Electronic Health Records, Patient Registrar, Pharmacy Technician, and Phlebotomy. All programs offered through the Healthcare Education Institute (HEI) are designed to provide students with opportunities to learn and gain practical experience in a hands-on, interactive environment. Each of these programs also prepares students to sit for a state, national, and/or industry recognized certification.

### **Auxiliary Academic Support Services**

#### **Distance Learning**

Recognizing that not all students, especially adult learners, can attend regularly scheduled classes because of conflicting work and family responsibilities, the College has offered distance education courses since 1989. Distance learning has steadily increased in importance as a means of providing access to higher education in Southwest Michigan.

Lake Michigan College was the **first** Michigan community college to offer two-way interactive courses. While the College still maintains an electronic classroom capable of originating and receiving two-way interactive (ITV) classes between all three sites simultaneously, ITV plays a

minimal role today in technology-mediated instruction at a distance. Online courses now comprise the largest type of distance learning at LMC, as well as the fastest growing segment of our student population. In Fall, 2013, 534 students took at least one online course. These students enrolled in 2,443 billing hours, accounting for 6% of tuition revenue. Demand for online instruction continues to grow. Fall unduplicated headcount was up from this time last year by 7%.

The College invests significantly in the technical and human resources infrastructure needed to support distance education. Its newest Learning Management System (LMS), Canvas, was fully implemented this Fall and is the primary platform for delivering distance education course content. Housed and administered in the Teaching and Learning Center (TLC) on the Napier Campus, Canvas training is provided to both full-time and adjunct instructors by two TLC staff. As the College expands its distance education inventory, involving more faculty, integrating more student service support, and maintaining its focus on a high quality distance education product, the existing TLC space is in considerable need of substantial capital improvements in the near-term to meet student demand for more flexible course offerings.

### **The Teaching and Learning Center**

Created in Fall 1996 with the aid of a federal Title III grant, the purpose of LMC's Teaching and Learning Center is to introduce new teaching methods and classroom technology, to provide training and support for the College's Learning Management System (LMS), and to offer year-round professional development activities for 57 full-time faculty and over 200 adjunct faculty. The Center is staffed by one full-time Director and one full-time Instructional Technologist. It is located on the Napier Campus but routinely provides on-site faculty training and support services to the Bertrand Crossing, South Haven, and M-TEC campuses. The Center is comprised of a 13-station computer lab, an adjacent gathering room with an additional 6 computing spaces, and three offices. Center staff provide support for a large number of software applications and instructional technologies, including audience response systems ("clickers"), screencasting, blogs, wikis, and webinars, as well as the administration of the College's LMS.

The College's LMS system supports not only traditional classroom teaching, but is also the primary platform for the LMC's distance education program. Demand for distance learning opportunities has steadily grown each year with all online course sections filling first and fastest each term. Enrollments in distance education have grown by 33% over the last two years. As enrollments increase in distance education, the TLC staff have become increasingly involved in both the administration and training aspects of a maturing distance education program.

Finally, the TLC provides additional professional development activities crucial to assuring student success in LMC classrooms. These activities have included hosting various webinars on a wide variety of instructional topics, topical training requested by individual departments, and meetings or training activities with various publishers (Cengage, McGraw Hill, Pearson) that integrate with Canvas. Spirited discussions, collective problem-solving, and learning the art and science of teaching take place daily in LMC's Teaching and Learning Center.

### **Career Services**

Lake Michigan College offers a variety of services to help students and community members prepare for the future. Career Services maintains an on-line job board free of charge to employers and job seekers, and posts the jobs in strategic locations listing a variety of available part-time and full-time

local jobs. In addition, the Career and Transfer Center provides resources to help individuals choose or reaffirm the career best suited to their interests and talents, assists individuals with Cover Letter and Resume Writing and Interviewing Skills and presents these topics as workshops and in-class presentations. The Career Center facilitates the Work Study program, assists students with Transfer and Articulation and is responsible for helping students who are struggling to access State benefits and wrap-around services. The Career Center has established a laptop loan program where students can borrow a laptop, TI-84 and TI-34 calculators and digital recorders at no charge to them for two weeks at a time. As the Career and Transfer Center broadens its services and the number of students served, additional space needs are being identified.

### **Projected Programming Needs for Next 5 Years**

The need for new programs and academic support services are identified in a variety of ways. In addition to environmental scanning conducted during the College's regular strategic planning activities, advisory committees routinely assist the College in identifying regional employment needs and trends. Faculty also play a key role in proposing new programming by staying abreast of developments in their fields of expertise, helping to assure that LMC students are prepared for the future as well as the present.

#### **Enology, Viticulture, and Culinary Arts**

Of particular note in emerging programming, the College conducted a series of discussions to develop programs that support regional and statewide economic development efforts in hospitality and tourism. Southwest Michigan, already well known for its robust fruit and vegetable agribusiness industry, is also home to a growing number of vineyards and small wine producers. In states such as Washington, California, Oregon, and New York, the expansion of the wine industry has led to increased tourism and has stimulated significant job creation in agriculture, hospitality, culinary arts, and entertainment. Southwest Michigan is well-positioned for growth in the wine and tourism industries. With its unique combination of climate, soil conditions, and a well-established tourism base, enology and viticulture programming at Lake Michigan College could well be a game-changer for the region's economy. Development of our new Enology and Viticulture Program is complete and we are now preparing for Higher Learning Commission approval.

A natural companion to enology and viticulture is the development of culinary programming. The strong tourism base in southwest Michigan has attracted a number of culinary entrepreneurs eager to capitalize on the thousands of tourists who come to experience the beauty of Lake Michigan and sample the products of a maturing wine industry. Lake Michigan College's existing Hospitality Program is one of the largest and fastest growing majors in our program inventory. The College receives constant requests to expand the culinary option within that program, but lacks the facilities to respond adequately to the demand. The physical space exists within the current footprint of its Napier Campus; however, the budgetary commitment required to renovate the space and outfit the instructional area with commercial kitchen equipment is substantial and, thus far, out of reach under current fiscal conditions.

Despite current budgetary constraints, the College has worked diligently with local wine growers, area restaurateurs, other educational institutions, Kinexus, and state and local economic development agencies to find a way to bring focus and funding to the planning required to carry out these large scale projects. LMC staff and Board members have held numerous meetings, visited teaching wineries, explored curriculum, and strengthened partnerships with organizations that have similar interests in meeting regional educational needs. The College has invested in renovating space within

its Mendel Center for an interim Viticulture and Enology Lab while funds can be identified for a permanent structure.

The College's long-standing relationship with Michigan State University (MSU) is an excellent example of results that can be attained through partnership. LMC already offers joint programming in several agriculture technology certificates with MSU and is currently working on an agreement to use MSU's experimental vineyard in Benton Harbor as a laboratory for LMC students to learn to grow and tend vineyards as part of our new Enology and Viticulture Program.

The combined programming of Enology, Viticulture, Culinary Arts, and Hospitality — all of which have an existing base at LMC — has enormous potential for economic growth in southwest Michigan. Currently, that potential is only limited by funding for capital improvements.

### **Baccalaureate in Energy Production and Distribution Management**

Lake Michigan College received approval from the Higher Learning Commission in Spring 2014 to offer a new baccalaureate program in Energy Production and Distribution Management. Authorized by the Michigan State Legislature in December 2012, LMC launched this new program in the Fall 2014 Semester. This degree program was heavily requested by local nuclear power producers who helped build the College's associate degree program in Energy Production in 2009. The Associate Degree program provides employers with graduates well-trained in the technical skills required in the energy production industry. The Bachelor's Degree of Applied Science in Energy Production and Distribution Management Program builds upon this strong technical foundation by adding a junior and senior level tier of business-oriented courses that will address an ever-expanding gap in leadership and management skills created in the industry by record numbers of retirements. It is projected that within the next eight years, 57% of the nuclear power workforce will retire. In addition, the United States Energy Information Administration reports that Michigan's natural gas fields are among the largest in the United States. Michigan has the largest residential liquefied petroleum gases (LPG) market in the nation and is a major corn producer with substantial ethanol production capacity. The American Wind Energy Association (AWEA) ranks Michigan tenth in the United States for number of wind related jobs.

The Energy Production and Distribution Program is uniquely suited to delivery by a community college in a variety of ways. First, its existing technical base through the current Associate Degree program provides students with essential applied skill sets not found in traditional four-year degrees. Although infused with general education, its core is focused on technical skills required in all sectors of the industry, including fossil fuels, nuclear, hydroelectric, wind, and other alternative energy systems. Second, the combination of applied technical skills and applied management and supervision competencies reflects the real-world experience of shift managers and mid-level personnel who must also navigate the complexities of supervision in industrial settings. Third, since many prospective students are incumbents in the energy industry or have a military background with energy-related job responsibilities, LMC's program includes multiple opportunities to incorporate credit for prior learning based on national standards such as ACE and CAEL. Providing credit for learning that has already occurred and can be currently validated will assist many students in decreasing their time to graduation.

In summary, the new baccalaureate in Energy Production and Distribution Systems program offers new students and incumbent workers in the energy industry the education they need to advance into management positions. Our graduates will help meet growing energy workforce needs as large

portions of the industry's workforce retires. LMC's new baccalaureate in Energy Production and Distribution program has been uniquely designed with significant input from energy industry partners to meet the needs of the energy workforce. Space needs to support this expanded program have been identified.

**Other Projected Programming**

The following academic and support programs are proposed or expected to undergo feasibility studies within the next five years at LMC:

<b>Academic Program</b>	<b>Requires Structural Needs</b>	<b>Distance Learning Component Included</b>
Computer/Applications Development		X
Agriculture		
• Enology and Viticulture	X	X
• Biotechnology/Food Safety		X
Emerging Technologies		
• Engineering Technology		
• Automotive Technology	X	
• Geographic Information Systems (GIS)		X
• Instrumentation and Process Control	X	
• Mechatronics	X	
• Energy Production and Distribution	X	
Health Sciences		
• Pharmacy Technician	X	
• Physical Therapy Assistant	X	X
• Occupational Therapy Assistant	X	X
• Medical Coding		
• Surgical Technology	X	
Manufacturing Technologies		
• Advanced Manufacturing	X	X
• Prototype Design	X	
Culinary Arts	X	X
Academic Support Programming		
• Career Services		
• Work-based Learning		
• Interview Skills		X
• Placement Assistance		
• Student Success Center	X	

*B. Unique characteristics of each institution's academic mission*

- The College district consists of Berrien County and contiguous Covert Township and South Haven in neighboring Van Buren County. Located in the southwest corner of the State, Berrien County has a population of 161,734 and a workforce of 82,100. The three largest cities include Benton Harbor, Niles, and St. Joseph. In 1997-98, the College expanded its service area to include the northern Indiana counties of Elkhart, St. Joseph, and LaPorte. In 2003, the College added South Haven to its service area.
- Lake Michigan College's primary educational sites include the Napier Campus in Benton Harbor and branch campuses in South Haven, Bertrand Crossing (Niles), and the M-TEC, located near downtown Benton Harbor. As of mid-October, Fall 2013, the Bertrand Crossing campus had enrolled 532 students; South Haven, 624 students; and M-TEC, 256 students. The Napier Campus had enrolled 2,662 students. The Napier Campus and M-TEC are the only campuses where full degrees can be earned. The M-TEC campus was built in Fall 2000 and provides space for the College's advanced manufacturing, apprenticeship, and energy technology programs. Bertrand Crossing and South Haven are staffed with a Campus Executive Dean, as well as Student Services personnel, and some dedicated full-time faculty. The M-TEC is managed through the College's Instructional Division. Each of these sites provides convenient access to higher education with a wide variety of programming options. As the Bertrand Crossing and South Haven campuses grow, full degree programs become more viable adding to the facilities issues that LMC must plan for over time.
- In addition, the College has extended its programming into two unserved counties, Ottawa and Van Buren outside of South Haven, at their request. Through the Allegan and Van Buren Tech Centers, LMC delivers high quality, career-focused programming through its Early College program. Allegan County signed a formal agreement with LMC in 2013 that acknowledges this on-going relationship and the benefits it provides for its rural communities. The Allegan agreement also provides adult credit classes supported by advising and other student services provided by the South Haven Campus.
- The College participates in a statewide consortium of Magnetic Resonance Imaging programs with four other Michigan community colleges as well as Grand Valley University. This consortium graduated 20 students this year, four of whom were from LMC. Each community college contributes instructors, courses, and collaborates on the development and oversight of clinical experiences for students. LMC has contributed five of the 13 courses developed for use in the consortium.
- LMC operates one of the largest Early College program in the State. Its purpose is to provide talented high school students with college credit to encourage participation in higher education post-graduation. It also serves to provide extra support to young students in the transition from high school to college with an emphasis on behaviors that promote student success. Offering both direct credit (taught by qualified high school teachers at high school sites) and dual credit (taught by LMC faculty at an LMC facility), the Early College program serves approximately 2,000 students annually in over 30 regional high schools and tech centers. Demand for Early College programs continues to increase. Fall 2013 enrollment data indicates an increase of 15% in unduplicated headcount, a 20% increase in credit hours, and a 23% increase in billing hours for



this program.

- Located on-site at the Napier Campus, Siena Heights University (SHU) has partnered with Lake Michigan College for over thirty years to offer a degree completion center on the Napier Avenue Campus. The LMC/SHU partnership was the first of its kind in Michigan when it started in 1982. Currently six bachelor degree programs and two online master's degree programs are available to LMC students and area residents. A unique "3 + 1" academic model allows students to transfer up to 90 semester hours from LMC into their baccalaureate degree with SHU, saving students significant tuition expense. With a focus on meeting the needs of the adult learner, Siena Heights University is an important and valuable partner in raising college education attainment rates in southwest Michigan.
- Western Michigan University (WMU) operates a 40,000 square foot regional center located on the LMC Napier Avenue Campus, known as its Southwest Regional Campus. The facility opened October 25, 2002. WMU-SW offers two undergraduate programs that can be completed at this site, in addition to post-baccalaureate degrees.
- A large part of LMC's service area is comprised of a rural and economically disadvantaged population. The Educational Opportunity Center (EOC) at Lake Michigan College serves a minimum of 1,095 participants each year. The EOC receives funding from the U.S. Department of Education, and serves individuals in the Michigan counties of Berrien, Cass, and Van Buren, Allegan, and the Indiana counties of La Porte and St. Joseph. The EOC provides information and assistance to adults (19 years and above) who are interested in furthering their education. Services to eligible participants include academic tutoring (in preparation for GED or college assessment testing), career assessment, assistance completing applications toward college entrance, referrals to appropriate adult education centers, and/or community assistance agencies. The goal of the EOC program is to increase the number of adult participants who enroll in postsecondary education institutions.
- In August 2012, the College, the Berrien RESA, and Brandywine Community Schools combined resources, physical locations, and machine tool equipment to provide efficiencies in the career path of students entering machine tool and manufacturing professions. The new LMC at Brandywine provides a space for high school juniors and seniors to earn college credits in the morning, freshmen and sophomores learn about careers in machine tool in the afternoon, and then in the evening college students and apprentices, many of them sponsored by local manufacturers, work toward skilled trade degrees and journeymen cards. Curriculum has been developed so that high school juniors attend two years of manufacturing academy and then complete an associate's degree in just one more year of college at LMC.
- College outreach also extends to the Career Tech Center at Niles High School. The FABLab (Fabrication Laboratory) program is now located in the middle of other career tech programs. A variety of students from ages 6-60 from all over the area attend the classes designed to encourage creativity, inventiveness, and entrepreneurialism in manufacturing. Growing interest demonstrates the need for additional FABLab space, preferably centrally located on the Napier Avenue Campus.

Elementary and middle school students also participate in classes, after school clubs, and team competitions for First Lego League, First Tech Challenge, Vex, SeaPerch and FRC at the Youth Robotics programs.

- Niles Community Schools created a "school within a school" at their high school in 2011. The first class of this Niles New Tech Entrepreneurial Academy incorporates many college credits for those who are college ready. Currently 89 students are taking at least two college classes per semester each at the Bertrand Crossing campus.
- The College annually hosts the Business Professionals of America (BPA) Region 10 District Competition on its Napier Avenue campus. Over 500 students from fourteen regional high schools compete to advance to the BPA state competition. Not only is the College privileged to assist these students in developing their business acumen; but it also offers the opportunity to introduce potential College students to our campus and programs.
- Lake Michigan College continues to apply best-practices, derived from national (Achieving the Dream) and state (MCAN) initiatives, to move students from college entrance to high quality degree or credential completion. LMC is determined to combine greater 'access' with better student 'preparedness' to achieve student outcomes. The following summary outlines our efforts to support and enhance the access afforded students through the Benton Harbor Promise Zone.
  - 2011 – Data Gathering - The implementation of the Benton Harbor Promise Zone (BHPZ) brought a 73% increase in students from Benton Harbor to Lake Michigan College. As the fall, 2011 semester ended, there was anecdotal feedback from College faculty and staff that this cohort of students was struggling to engage in behaviors linked to college success. Following the spring semester, an assessment of this cohort's college outcomes revealed an achievement gap that begged for the College's development of innovative interventions and new energy to address this success gulf. The College applied for grant resources from the Upton Foundation to develop a pilot, the 'Start to Finish' program, to bring best practices for college access and completion to BHPZ students.
  - 2012 – Start to Finish Pilot – First Interventions and Early Success – 45 students from the Benton Harbor Promise Zone became the pilot cohort for the Start to Finish program. Interventions were focused on Advising/Mentoring, Supplemental Instruction, Life Barrier Problem-solving, and Study Skill Development. Results at the conclusion of the first year of the pilot suggested some impact on student success for the 2012 BHPZ cohort, as compared to the 2011 cohort after their first year at the college.
  - The Start to Finish Program includes, as support services:
    - Summer Success 2-Credit Intensive College Preparation Course
    - Intervention and Success Building
    - Early Placement Testing with designing "catch up" plans
    - Financial Aid Planning
    - Career Exploration and Planning
    - "College 101" Content (for building understanding/confidence with College Culture
    - Lifeworks Skill Building
  - The Promise Zone Class of 2012 has shown significantly higher Fall to Spring, and Fall to Fall retention and persistence. Attendance has been better and movement from Transition Studies pre-college to college-level courses has been higher. The College is

now serving over 75 students in Fall 2014, with continued positive metrics.

- The College has a Student Support Services program through a five-year U.S. Department of Education grant. Designed to help 200 students overcome class, social, academic, and cultural barriers to higher education, the program is intended to help first generation, low income students and students with a disability persist until they earn a certificate or associate degree; or earn a certificate or associate degree and transfer to a four-year institution to complete a baccalaureate degree or higher.
- The College partners with Benton Harbor Area Schools to serve 73 students in the Upward Bound Program. The Upward Bound Program focuses on preparing high school students to graduate from high school, enroll in, and complete a program of postsecondary education. Benton Harbor High School is the target school.

C. *Planned initiatives which may impact facilities usage*

Three planned initiatives will have a major impact on use of College facilities and property. The initiatives include:

- Renovation and upgrade of the Napier Avenue Campus Academic Facility
- Introduction of Enology, Viticulture and Culinary Programs
- Construct a new Technology Center on the Napier Avenue Campus

A summary of the three projects follows.

**Renovation and upgrade of the Napier Avenue Campus Academic Facility**

This project is identified as our #1 FY '16 Capital Outlay Request. An investment in a 45+ year existing facilities and infrastructure (scoring criteria a), the project includes a sustainable design (scoring criteria d) which will save approximately \$290,000 in energy costs annually (scoring criteria g). Project will address current safety deficiencies caused by regular HVAC system breakdowns (scoring criteria b). The Napier Avenue Campus Academic facility is operating at capacity, making temporary space rental necessary at our WMU-SW partner's facility on our campus (scoring criteria c). We are also restricted currently from adding additional programs and services, including a planned Student Success Center and a Faculty Service Center. Estimated cost for this project is \$16,954,646 (scoring criteria e), of which the College can assume 50% of the cost (scoring criteria f). Operating costs would decrease with the efficiencies achieved through this renovation, both in energy and rental expenses (scoring criteria g). We do not anticipate any increase in tuition due to this project (scoring criteria h).

Besides the immediate positive job impact due to construction, we anticipate energy production and distribution program and regional growth supported by the new HVAC system serving as a learning laboratory and employment support due to the creation of a Career and Transfer Center (scoring criteria i). Lake Michigan College has not received any State of Michigan capital funding for **11** years (scoring criteria j).

A summary of this project follows.

# FY '16 CAPITAL OUTLAY PROJECT REQUEST



**Project Request:** \$17.0 million  
**State Funding:** \$8.5 million  
**College Share:** \$8.5 million

The College's classrooms have been little changed in more than 40 years and no longer support current teaching, learning and student communication methods.

**NOTE:** In the past four years, the College has invested \$7.3 million in general funds to renovate its science labs. This project closed the over four decade gap between current classroom spaces and the spaces needed to deliver classroom content in a fast paced, multi-media and technology driven world. The project helped double the retention rate of students enrolled in the sciences, from 35% to 70%.

## PROJECT REQUESTS

### 1. Classroom Modernization and Infrastructure Upgrades \$12.8 million

The College proposes modernizing 50 classrooms and 2 lecture halls in its 44-year-old classroom facility along with several areas for student engagement and learning. **The project will complement a 3-year, \$7.3M College funded renovation** of its science laboratories in support of our Science, Technology, Engineering and Math (STEM) initiative.

#### Classroom and Lecture Lab features will include:

- Flexible seating to accommodate multiple teaching and learning strategies
- Smart Boards
- White Boards
- Access to power outlets for Internet and mobile technology
- Improved heating, ventilation and acoustics
- Safety features on doors, connected to emergency communication network
- Average classroom capacity: 24/Lecture Lab capacity: 80-100
- Lecture and lab educational spaces designed to serve as Business Education Center that will support College business classes, entrepreneurial education, and corporate training, as well as business education events, such as guest speakers sharing business experiences and expertise with students and community members.

### 2. Energy Infrastructure Installation: \$4.2 million

**With the replacement of the 40+ year HVAC system annual energy savings are projected to be nearly \$290,000 in today's dollars.** Project elements include replacement of mechanical infrastructure and support systems with new sustainable, energy- efficient mechanical and support systems, including heating, cooling, air distribution, building control systems, supporting electrical and ceiling systems, fire alarm system, and security systems.

#### Instructional impact:

Incorporated into the Energy project is a plan to use the College's physical plant as a learning laboratory. Energy simulation modeling through campus redesign will allow for buildings to serve as teaching tools, technology, operations and maintenance tools, educational and policy outcomes learning tools.

\*The last Capital Outlay project was more than 11 years ago and was used to support the construction of the College's South Haven Campus. That campus now enrolls more than 500 students.

During the past six years (FY 2009-FY 2014) the College has invested more than \$11 million of College resources to address critical infrastructure and facility improvement needs. In FY 15 the College will invest an additional \$9.3 million in other facility needs.

### **Introduction of Enology, Viticulture and Culinary Arts Program**

New instructional programs in viticulture, enology, and culinary arts will support the growing wine and tourism economy in southwest Michigan. In states such as Washington, California, Oregon, and New York, the growing wine and tourism economies have stimulated significant job creation in agriculture, hospitality, tourism, and entertainment. In Walla Walla, Washington alone, wine cluster jobs grew from 200 to 1,100 in the last seven years. Southwest Michigan, which is already a well-established tourist destination, has great wine sector growth potential. New viticulture, enology, and culinary arts programs at Lake Michigan College are needed to support and stimulate regional economic growth in wine cluster sectors. A summary of this project follows.

### **Possible Reutilization of Existing Structure (Historic Barn) on Napier Avenue Campus**

#### **Design Program**

Over All Concept: Reutilization of existing 110 year old barn as the central feature in an agricultural compound of architecturally sympathetic contemporary structures interconnected with covered open and enclosed walkways overlooking display vineyard.

**Existing Conditions** – 110 year old barn is structurally sound but needs more analysis of the footings and foundations. The heavy timber wood structure can support reutilization. The existing barn frame has four bays established by five bents. This type is known as a Yankee or Connecticut barn. The posts of the bents are connected by horizontal timbers called girts space four feet apart to accept vertical siding. Canted queen posts, or inclined purlin struts are used to transfer the roof load to the tie beams. All timbers are in good condition. The roof has been repaired; the siding is distressed. A fourteen by fourteen shed roof addition was added to the northwest corner. It also is in good condition.

The interior has two lofts. The west loft without flooring is six feet off the ground floor surface. The east loft with a floor is seven and a half feet off the ground floor surface. The floor supports are unmilled.

The barn has four doors: two in the east center bay, one on the north, and one on the south. These are fourteen feet high. Two additional doors eight feet high are in the west bay one on the north and one on the south. On the east side there are four framed two foot by two foot window openings.

#### **Exterior:**

**Massing** – The barn is forty by sixty feet with eighteen foot high walls and five/twelve slope roof (thirty degrees). The proportions are classic. The building is well sighted on a slight rise with a greater slope to the south and west. It cuts a great silhouette.

**Access** – Building site has good access from Empire Avenue; access possible to the south from Yore Avenue using the existing lane off of the Mendel Center north parking.

**Entry** - Current access to the building is through major sliding doors on the east center bay on the north and south and minor sliding doors on the west bay on the north and south (the north is through the shed addition).

**Interior:**

**Structure** - Existing aged timbers provide incredible character. The system of post and beams are in a workable pattern providing fourteen by twenty foot bays sixteen feet high with horizontal beams at twelve and sixteen feet both on the center bays and six feet on the west bay and seven and a half feet on the east bay (supporting the loft area). The loft horizontal floor supports present a problem because of head room below eight feet.

**Design Considerations:**

The complex is to provide space for the Lake Michigan College Viticulture, Enology and Culinary Arts Center. LMC is in a unique position to combine its wine program with those of hospitality and tourism. The center’s main purpose is to provide a state of the art educational facility for LMC’s Viticulture and Wine Technology degree, a program that emphasizes hands on experience in all aspects of winemaking and vineyard management. The center houses classrooms and lab area; winemaking lab, aging rooms, wine storage, crush pad, bottling and labeling rooms. The overall site development includes an adjacent rotating vineyard with vines in stages of production, the Mendel Center’s kitchen garden and in-ground wine storage facility. The reuse of LMC’s historic barn as an attraction for visitors to learn about wine making, tasting, and food paring is a special opportunity to integrate the Hospitality and Culinary Arts Program with enology. At the heart of southwest Michigan’s wine trails, just off I-94, the ability to offer light meals or catered events is a special feature. The Center’s proximity to the LMC’s Mendel Center kitchens limits the need for a full service food preparation area.

- 1. Space Requirements (size/possible configuration)
  - a. 1 Classroom (20X30) Note: possible multi use for additional dining
  - b. 1 Classroom/Lab (20X28)
  - c. Offices: 1 Manager’s Office (10X10); 2 Offices (10X10); 1 Lab Tech (10X10)
  - d. Winemaking: 1 Winemaking Lab (17X50); 3 Aging Rooms (10X10); and 1 Bottling Area/Labeling (10X20)
  - e. Storage: 1 On Site (10X20); 2 In Ground/Nearby (TBD)
  - f. Equipment/Shop (20X40)
  - g. Crush Pad (20X40)
  - h. Tasting Room (20X30)
  - i. Kitchen – Grill/Warming Kitchen (15X20) Note: food preparation is be provided by Mendel Center
  - j. Dining Area (TBD) Note: between 30 to 75
  - k. Service Access – Empire
  - l. Public Access – Yore (off of Mendel Center North Entry)
  - m. Parking (30 to 40 vehicles)
  - n. Rotating Vineyard (1/2 to 1 acre)
  - o. Vegetable Gardens (TBD)

2. Budget	
a. Land Acquisition	\$ 0
b. Construction Costs	
i. Academic Classroom & Lab Spaces (includes barn/warming kitchen)	\$1,530,000.00
ii. Wine Making Lab	\$ 826,000.00
iii. Shop and Storage	\$ 80,000.00
iv. Site Work (parking and access)	\$ 365,000.00

	Subtotal Direct Construction Costs	\$2,801,000.00
v.	Design/Construction Contingencies @ 20%	\$ 560,000.00
vi.	Escalation @ 3%	\$ 84,000.00
vii.	Design Fees	\$ 325,000.00
	Total Construction Costs	\$3,770,000.00
c.	Summary of Soft Costs	
i.	Rotating Vineyard	\$ 20,000.00
ii.	Wine Making Equipment	\$ 105,000.00
iii.	Vineyard Equipment	\$ 80,000.00
iv.	IT and Security Equipment	\$ 32,000.00
v.	Academic Space Equipment/Furniture	\$ 58,000.00
vi.	Kitchen Equipment	\$ 150,000.00
vii.	Permit/Legal	\$ 50,000.00
	Total Soft Costs	\$ 495,000.00
	Total Project Costs	\$4,365,000.00

### **Technology Building**

Components of this project include the construction of a 38,997 square-foot Technology Building, on the Napier Avenue Campus. Construction is proposed for 2015 and will be immediately preceded by a project to address soil contaminants identified in a limited Phase II Environmental Study.

Project components include:

- Advanced Manufacturing Lab
- Welding Lab
- Advanced Technology Lab
- Fabrication Lab
- Simulation Training Room
- Manufacturing Training and Display Space
- Building Support, Office and Administration Spaces

The targeted programs include Apprenticeship, Energy Production Technology (General Energy Production, Health Physics/Radiation Protection), Welding, CAD/CAM, Industrial Maintenance, Machine Tool (CNC, Rigging), and Electronics (Hydraulics, Pneumatics). Newly targeted programs made possible through the construction of this facility include Robotics, Engineering Technology, Prototype and Design Technology, Creative Welding, Innovations and Fabrications, Mechatronics and a Bachelors of Applied Science program in Energy Production and Distribution Management.

The Technology Building is designed with new, sustainable energy-efficient systems. The facility itself will be used as a learning tool for students, demonstrating the use of natural building materials and sustainable methods. The College will connect its STEM initiative, training development and delivery with the physical plant by bringing the energy data into the training rooms, using the building as a real life learning lab. Graduates will be better prepared by using critical thinking skills with real time data provided at a central kiosk.

A square footage breakdown of the Technology Building is:

Labs	
Fab Lab	3,250 sf
Advanced Mfg 1	5,000
Advance Mfg 2	6,000
Welding	3,200
<u>Simulation Lab</u>	<u>1,800</u>
Total Lab Space	19,250 sf

Training Rooms	
Training Room #1	1,200 sf
Training Room #2	785
Training Room #3	785
Training Room #4	1,200
<u>Training Room #5</u>	<u>1,200</u>
Total Training Rooms	5,170 sf

Remainder of Facility includes storage, restrooms, offices and support, and circulation.

*D. Demonstration of economic development impact of current/future programs*

The economic impact of current and projected academic programming at Lake Michigan College is substantial and critical to the growth of southwest Michigan's regional economy.

- Current and projected programming described in this document is designed to create a workforce prepared to meet the needs of the existing employers as well as to attract new jobs, businesses, and industries to our area. Studies have repeatedly revealed the availability of an educated workforce as a primary factor in the decisions of employers to create jobs or to relocate and/or expand their business or service organizations. Highly qualified graduates in manufacturing, energy, computer information systems, agriculture, enology and viticulture, hospitality and culinary, and health sciences are critically needed to expand the economic base of southwest Michigan. Eighty-five percent (85%) of LMC graduates currently remain employed locally, boosting Michigan employment.
- Updated science and health sciences labs and facilities, made possible by a federal Title III grant and substantial College capital investments, produced state-of-the-art science facilities for LMC students over the past five years. As a result, the College has seen a 50% increase in the number of STEM majors. As the number of students who successfully complete rigorous science and math courses increase, LMC's service region will greatly benefit from a steady stream of qualified and skilled workers able to contribute to needed change processes and emerging technologies.
- The baccalaureate degree in Energy Production and Distribution Management will significantly impact the availability of workers in a targeted industry for both our region and our state. Local plants will have a larger pool of locally qualified candidates for needed positions and improve the competencies of incumbent workers now on the job site.
- New advanced manufacturing and energy technology facilities will support the College's opportunities to offer proposed programs in Advanced Manufacturing and Engineering Technology. Manufacturing growth has been identified as one of the key factors to economic recovery in Michigan. Creation of well-equipped and safe learning environments for students



engaged in these programs is necessary to support manufacturing growth in our region.

- New instructional programs in enology, viticulture, and culinary will support the growing wine and tourism economies in southwest Michigan. In states such as Washington, California, Oregon, and New York, the growing wine and tourism economies have stimulated significant job creation in agriculture, hospitality, tourism, and entertainment. Southwest Michigan, which is already a well-established tourist destination, has great wine sector growth potential. New enology, viticulture, and culinary programs at Lake Michigan College are needed to support and stimulate regional economic growth in wine cluster sectors.