



FERRIS STATE UNIVERSITY

Five-Year Capital Outlay Plan FY 2019 – FY 2023

October 2017

Five-Year Capital Outlay Plan
Ferris State University
FY 2019 – FY 2023

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I. Mission Statement

Ferris State University prepares students for successful careers, responsible citizenship, and lifelong learning. Through its many partnerships and its career-oriented, broad-based education, Ferris serves our rapidly changing global economy and society.

II. Instructional Programming

- a) Ferris' Academic Plan is provided in response to this item. The information can be found on Ferris' Academic Affairs website under [Initiatives](#).

That plan describes academic program planning, including distance education, at the University. Ferris intends to pursue growth with our online graduate level programs, including a new Doctorate in Nursing Practice, which was approved by the Higher Learning Commission (HLC) on October 31, 2016 – and began August of 2017.

- b) Unique characteristics of Ferris State University include its focus on career-oriented, technical and professional programming. With the merger of Kendall College of Art and Design, Ferris has the largest college of design and technology in the region. Ferris is also serves a statewide function to share expertise in the areas of career decision-making and workforce development.

Ferris offers programs from certificate and associate degree levels through the first professional and doctoral degrees. In addition to our extensive bachelor, graduate and professional programs, Ferris serves a community college function for its five-county area through participation in Federal Perkins programming, the State Tuition Incentive Program, as well as through curricular offerings.

- c) Initiatives which may impact facilities usage:
- *Digital Forensics*
Ferris is a national leader in information security and intelligence and in preparation of criminal justice professionals. There is a strong need to grow these two programs together to prepare students for the growing field of digital forensics. A variety of laboratory and digital facilities are needed to support this growing area.
 - *Virtual Learning*
Ferris offers charter schools, teacher education, and a doctorate in community college leadership. There is a strong need to embed

virtual learning within each of these fields in both the delivery and preparation. This will require a significant update to education facilities and development of new classrooms and learning laboratories which enable and take advantage of this technology.

– *Digital Media*

The continued growth and demand for video technology are creating space needs for programs in Television and Digital Media Production. The hands-on nature of this program requires additional laboratory, classroom and equipment space.

– *Career and Technical Education*

For many years, Ferris State University has been the state leader for career and technical education programs and hosts many of the resources for technical education in Michigan. There is a strong need to enhance this educational component, connecting it with technical education programs at the community college and secondary level.

– *Welding Engineering Technology*

The Ferris Welding Program is recognized as one of the finest in the country. Michigan has a critical need for highly skilled welders. Presently, Ferris' Welding Program is operating at full capacity. It has a waiting list to enter the core program into the fall of 2018. The addition/expansion to the Swan Annex currently underway will include updating the welding and manufacturing facilities and is expected to be completed by September 2018. Increasing the size of the welding facilities allows Ferris to meet a larger part of the demand of Michigan manufacturers. Furthermore, the resulting 67% increase in capacity, along with subsequently higher graduation rates, will enable us to move students directly into the program and eliminate the need for a wait list.

– *Advanced Manufacturing*

Manufacturing industries are growing in West Michigan where there exists a critical need for educated workers in the machine tool and die industry. Sustaining the growth of this industry will require improved "design to build" capacity, automation, quicker process change-overs, and development of newer technologies such as 3-D production printing. The addition/expansion to the Swan Annex allows us to expand Ferris' advanced manufacturing capacity, facilitating the growth of the West Michigan economy and beyond.

– *Automotive*

There is a strong and ever-growing demand for a skilled, professional workforce in the automotive industry. Current career pathways include automotive service technicians, supervisors and managers. Ferris associate degree graduates are highly prepared to work in these positions, or to continue on to complete our fully accredited bachelor's degree, which is unique in the United States.

Faculty who teach in this program regularly engage in revising our curriculum to better meet the continuous demands of this industry,

while providing the type of laboratory experiences required to support a successful hybrid program.

Our programs are available in both face-to-face and online formats. For example, the Automotive Engineering Technology program is offered on the Big Rapids campus, while Automotive Management (a dealership management program) is now available entirely online.

Recent upgrades to our facilities have allowed us to offer courses in alternative fuels and modern braking and engine induction systems. These enhancements help us to better prepare our future graduates to compete for professional positions in the national marketplace.

- *Master of Science in Social Work*
Ferris has created a Master's Degree in Social Work and is working with its third cohort of students. Additional space is needed for classes and faculty offices.
- *Informatics: Graduate and Undergraduate Programs*
This program will provide marketable skills to any program of study from healthcare to history. With our ability to collect and create massive amounts of data, we need to prepare our students to analyze and present these data. Informatics is an interdisciplinary program that uses computational sciences, humanities, natural and social sciences to solve problems through analyzing these data. Informatics uses algorithmic techniques and the power of computing to acquire and manipulate data, extract new knowledge, enabling us to examine problems from broader perspectives. This program is a collaboration between the Colleges of Arts & Sciences, Pharmacy, Business, and Health Professions. These programs will impact online and on-campus facilities.
- Faculty in the College of Health Professions have created a Bachelor of Science degree in Dental Hygiene to go into effect May, 2019.
- Conceptual changes currently being planned as part of an upcoming renovation to the Pharmacy building are designed to support a more active learning culture with a high-degree of integration of materials across multiple course offerings.
- *Scientific and Pharmaceutical Research*
Ferris is a national leader in providing career training to our students in a variety of fields. Students in the sciences and pharmacy have impactful research experiences with faculty solving real-world problems (e.g., microbial resistance). Faculty and students have been awarded National Institutes of Health (NIH) grants and have submitted NIH and National Science Foundation (NSF) grants to fund their research. There are three major needs to continue this work:
 - emergency power back-up for the Science Building and the Pharmacy animal care facilities
 - alarm systems for the Science Lab walk-in refrigeration unit and the sub-zero refrigeration unit renovation of laboratory spaces in the

Science and Pharmacy Buildings to accommodate cutting-edge interdisciplinary research with students

d) Economic development impact of current/future programs:

- As a career-oriented University, Ferris is a major driver of the economy in West Michigan and throughout the State. Each of the technical programs previously mentioned represents areas of present and future economic growth.

Ferris' hands-on engineering programs—architecture and facilities management; automotive technology; CAD drafting and tool design; computer

networks and systems; construction management; electrical\electronics technology; heating, ventilation, air conditioning and refrigeration; heavy equipment technology; industrial technology and management; manufacturing; mechanical technology; plastics; product design technology; quality technology; rubber

engineering technology; surveying; and welding—provide technical fields for new professionals, but also provide retraining and upgrades for current professionals.

- Ferris' educational leadership in charter schools, teacher preparation, and a doctorate in community college leadership continues to provide the resources needed to develop the educated workforce for a knowledge-based, technological economy.
- Programs in health professions provide numerous opportunities for employment and support the growing field of healthcare. In the last three years, the University has started master's level programs in Health Administration Leadership and Public Health. In addition to professional doctoral programs in Pharmacy and Optometry, Ferris launched a new Doctorate in Nursing Practice in August 2017.
- The Ferris State University process of Academic Program review and new academic program development is a national leader in best practice. Ferris faculty are committed to developing new programs to support developing trends and needs. The nimbleness of these academic initiatives created more than 25 new academic programs in the past five years. At the same time, an equal or greater number of academic programs have been eliminated.

e) Development of College-Wide Quality Initiatives

During the 2016-17 academic year, the colleges and other academic affairs units developed quality initiative projects as part of the institution's HLC reaffirmation of accreditation processes to address learning, retention, and learning environment. The primary goal of the quality initiative is to create an increasingly effective Ferris environment that is focused on holistic student development, innovative pedagogy, and commitment to students' success in all areas of literacy in support of their capabilities to be effective. These, in turn, will lead to more learning, higher completion, and higher satisfaction with the learning environment. The projects are

underway, and results will be reported to HLC in the spring of 2020, in advance of the reaffirmation of accreditation visit the following fall.

III. Staffing and Enrollment

- a) Ferris' academic mission - to provide hands-on career oriented instruction that meets the business and industry needs of our State - continues to attract students to our institution. Over the past decade, the number of Michigan high school graduates has declined by 12.68% (FY 07 to FY 17), while Ferris' enrollment grew by 12.8% during this same time period. While recent enrollment at the University reflects the impact of declining high school graduates, we are confident that our programs will continue to attract new and transfer students, and maintain steady enrollment.

Ferris continues to attract students to the Big Rapids campus for the hands-on, career focused instruction that requires specialized equipment and face-to-face instruction. The University provides bachelor degree completion to place-bound students throughout the State through strong partnerships with community colleges, offering upper level program opportunities to students in the communities where they live. In this we utilize the facilities of the community college and ladder a bachelor's degree on top of the associate degrees offered at the site. At the same time, Ferris continues to increase its online offerings to provide instruction to students on their schedule where those offerings are appropriate for this delivery method. Specific enrollment information by program and site can be found in our online [Fact Books](#).

- b) Ferris anticipates ongoing demand for its career-focused programs. Academic planning supports continued modest enrollment growth over the next five years. This will result from a combination of new freshmen and transfer students, and from improved retention and success rates for continuing students.
- c) Staffing ratios are available through the HEIDI database.
- d) Depending upon the academic program area, student-to-faculty ratios will vary based upon whether the course is a hands-on, equipment dependent laboratory, or a general lecture class. The 2016-2017 University student-to-faculty ratio of 16 to 1 indicates that classroom space has been, and continues to be, a major planning factor for the University. This is due to our unique programming mix requiring small class sizes dictated by the equipment-intensive nature of many of our programs.
- e) Current average class size for fall of 2017 is 17 students per class. Again, this small class size reflects the University's mission of providing hands-on education.

IV. Facility Assessments

Ferris completed an update to the facility Master Plan in May 2015. The master plan can be found on Ferris' [Strategic Planning](#) page.

- a) A 2010 Facility Condition Assessment Report is in the process of being updated and completion is projected at year's end 2017.

Ferris' classrooms are highly utilized. The unique programming requirements of our curricula make cross-utilization of some facilities challenging. Many hands-on laboratories (automotive, welding, HVAC, etc.) are specifically designed with the special equipment these disciplines require.

- b) The University believes all special laboratory and specialty classrooms conform to federal/industry standards and hired a Director of Laboratory Safety to ensure safe practices and compliance in our classroom and research laboratories.
- c) The functionality of existing structures is addressed in the Master Plan document.
- d) The replacement value of existing facilities is detailed in the Current Facilities Property Value report. A copy of this report is available on Ferris' website by going to the *transparency reporting* button located near the bottom of Ferris' homepage and then clicking *information* located on the left.
- e) The most recent documentation on the condition of physical plant systems is detailed in the 2010 Facility Condition Assessment. The University completed a comprehensive assessment of its underground sanitation and waste water system during 2016 as part of the Michigan DEQ SAW Grant Program. A copy of this report is available upon request.
- f) In most cases the most up-to-date information we have on facility infrastructure is detailed in the 2005 Utility Infrastructure Study which is available through hard copy in multiple three-ring binders. Some of this information is also available on the Physical Plant's GIS System.
- g) Existing utilities and infrastructure systems are sufficient and adequate to support the five-year Master Plan.
- h) Ferris approved an Energy and Water Use Policy June 2012. The policy can be found on Ferris' website under the [Business Policies>Facilities](#) page. As part of our 2012-2017 five-year capital renewal and deferred maintenance plan, \$2,500,000 was allocated for energy related improvements. Our 2017-2018 plan will include another \$250,000 for additional energy saving projects.

- i) The Master Plan document also provides detail as to land use and capacity.
- j) Detail on the bonded indebtedness of our facilities is included in the financial statements.

V. Implementation Plan

The Master Plan document comments on specific needs of the various plant facilities.

- a) Ferris' top priority for capital projects is summarized below:

Priority One: ***Center for Virtual Learning***

- b) The backlog of current deferred maintenance projects is included in the campus facility condition assessment report. The report is located on Ferris' website on the Physical Plant's page under [Planning Documents](#).

The University maintains a comprehensive facilities assessment database that identifies the deferred maintenance costs for each building. The 2010 report is being updated and completion is projected by year's end 2017.

- c) Ferris continues to expect significant return on planned capital expenditures. As a career-oriented and applied university, Ferris is a major economic driver for West Michigan and throughout the State.
- d) Ferris continues to upgrade its technology infrastructure. This includes conventional network infrastructure, wireless capacity, and capacity for additional online learning. Ferris currently offers 11 bachelor's, four master's, one doctorate, 16 undergraduate and two graduate certificates online. These include degrees in Allied Health Science, Automotive Management, Business Administration, Dental Hygiene, Healthcare Administration, Health Information Management, HVACR Engineering Technology and Energy Management, Integrative Studies, Nursing (RN-BSN, MSN, DNP), Public Health, Respiratory Therapy, Technical Education Pro-Mo-Ted; and Certificates in Cancer Information Management, Digital Marketing, Direct Marketing, Facility Management, Geographic Information Systems, Gerontology, Human Resource Management, International Business, Leadership and Supervision, Lean Healthcare, Long Term Care, Professional E-Commerce Marketing, Project Management, Small Business Management, and Vascular Ultrasound. A complete list of these online offerings is available on Ferris' website under [Online Program Index](#).

For fall 2017, 1,005 students were enrolled in programs that are presented entirely online. Additionally, many courses at Ferris are presented in a hybrid

format, which requires some attendance on campus, but where the majority of the work is completed online. Ferris plans to accommodate growth in online offerings and continue to evolve. However, in doing so, we also recognize that hands-on instruction in some career-oriented academic disciplines is not suited to distance learning technologies at this time.

- e) Ferris major maintenance items in excess of \$1 million include (but are not limited to):
 - Automotive Technology Center. This facility was constructed in 1956 and requires a major renovation to keep pace with the electrical and digital nature of the profession. The University funded and completed Phase 1 of a \$1.5 million investment two years ago for South Wing improvements to faculty offices, classroom enhancements, and a modern fuels lab.
 - Pharmacy building renovation.
 - \$28.15 million new North Hall residence that opened in August 2017.
 - \$5.2 million Athletic and Intramural Field renovations and East Campus Apartments demolition was completed summer 2017.
 - Ferris is home to the first Professional Golf Management program in the country (now called PGA Golf Management) and is still one of the only 20 such programs in the country. The University is finalizing the designs to construct a new \$3.5 million high-tech PGA Learning Center at Ferris' Katke Golf Course for this academic program. The goal is to start this construction in 2018.
 - Fundraising is underway for a \$6.5 million addition to and partial renovation of our Sports Complex. Our strength and conditioning space in the Sports Complex is undersized and underequipped, and in many cases is less than our student athletes used in their high schools. This project also includes an expanded women's volleyball arena and renovation to outdated locker room facilities.

- f) Ferris recently completed a second five-year capital renewal and deferred maintenance plan with \$1,800,000 annual general fund support and \$1,200,000 annual housing and dining funds, for a combined total over five years of \$15,000,000.