

Educational institutions worldwide are investing in the development of sophisticated technologies to provide advanced learning and student service environments. This global competition represents a very real and imminent threat as web technologies allow education providers to offer learners anywhere a high-quality education at a competitive price. AU's reputation and the quality of its offerings are determined in this global context. AU, Alberta and Canada cannot stand still but must constantly innovate to retain a competitive position and leadership standing in online distance learning.

Opportunities

Investing in AU's Open Personalized Learning Environment

Over the past several years, AU has been striving to achieve the vision of the Open Learning Environment, an innovative online post-secondary system in which technologies integrate with advanced pedagogical practice to form a supportive, world-class learning environment. The word open not only embodies AU's mission of removing barriers that restrict access to and success in university-level study, it also reflects AU's open admission policy, continuous enrolment model and access to learning facilitated through ICTs.

The OLE vision, however, has now evolved to reflect the fact that a system's core purpose is to provide information and functional capabilities to accomplish people's personal objectives. These objectives will vary among learners, teachers, researchers and administrators, but the ideal learning environment (comprised of multiple integrated systems, services and resources) will respond according to the needs, preferences and behaviours of each user. This is the vision behind AU's Open Personalized Learning Environment: an environment that tailors technological functionality, services and information to optimize experiences and facilitate completion of an each person's individual objectives.

As envisioned, AU's OPLE is no small undertaking, and it will require significant capital investments over the next five years. Its realization, however, will establish a new standard for online learning, address significant knowledge gaps across multiple industries and reposition Alberta and AU as pioneers and innovators in distance education and research. AU's intention is to share these innovations with other members of Campus Alberta, allowing partners to benefit from world-class distance education research, and allowing Albertans to access world-class personalized learning—anywhere, any time.

ICT Capital Investment Plans for the Open Personalized Learning Environment

An overview of a five-year investment plans for the development and renewal of AU's OPLE is presented below. AU is requesting that the Government of Alberta provide project funding to support holistic development of the environment to ensure the continued provision of high- quality learning opportunities for Albertans and online learners, and to create new distance education knowledge and innovations.

Table 10 provides a breakdown of the estimated annual investment costs for each program within the OPLE portfolio over the duration of the five-year plan. All proposed technology projects will follow AU's ICT Investment Governance Framework. This framework assesses the value of ICT investments, their alignment with the university's strategic goals and the value returned upon their completion. Table 11 provides a summary of the proposed funding sources to collectively develop the OPLE. Over the next five years, AU plans to contribute \$19 million to develop and strengthen the OPLE and is requesting that the Government of Alberta or other potential funding sources contribute \$21 million.

Table 10: Estimated Annual Investment Cost by OPLE Program (5 Year Plan)

| | Estimated* ICT Project Costs Per Fiscal Year | | | | | Program Totals* |
|---|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | |
| Interfaces Program | \$ 1,050,000 | \$ 1,225,000 | \$ 900,000 | \$ 1,550,000 | \$ 900,000 | \$ 5,625,000 |
| Application Suite: Pedagogy and Research Program | 1,567,000 | 520,000 | 750,000 | 350,000 | 790,000 | 3,977,000 |
| Application Suite: Student Service and Administration Program | 4,713,000 | 960,000 | 920,000 | 1,905,000 | 1,155,000 | 9,653,000 |
| Application Suite: Enterprise Resource Planning Program | 820,000 | - | 510,000 | - | 1,850,000 | 3,180,000 |
| Analytical Platform Program | 350,000 | 4,270,000 | 2,100,000 | 2,500,000 | 920,000 | 10,140,000 |
| Infrastructure Operations Support Program | 188,000 | 440,000 | 790,000 | 690,000 | 540,000 | 2,648,000 |
| Infrastructure Renewal Program | 1,683,000 | 90,000 | 741,000 | 100,000 | 740,000 | 3,354,000 |
| Enterprise Architecture Planning Program | 450,000 | - | 135,000 | - | 300,000 | 885,000 |
| Totals | \$10,821,000 | \$ 7,505,000 | \$ 6,846,000 | \$ 7,095,000 | \$ 7,195,000 | \$39,462,000 |

* Based on the Rough Order of Magnitude Estimates (External Costs).

Table 11: Summary of Proposed Funding Sources for OPLE Program Development

| | Program Totals* | Proposed Funding Sources | |
|---|----------------------|--------------------------|----------------------|
| | | AU ** | Government or Other |
| Interfaces Program | \$ 5,625,000 | \$ 1,050,000 | \$ 4,575,000 |
| Application Suite: Pedagogy and Research Program | 3,977,000 | 3,977,000 | - |
| Application Suite: Student Service and Administration Program | 9,653,000 | 9,653,000 | - |
| Application Suite: Enterprise Resource Planning Program | 3,180,000 | 3,180,000 | - |
| Analytical Platform Program | 10,140,000 | - | 10,140,000 |
| Infrastructure Operations Support Program | 2,648,000 | - | 2,648,000 |
| Infrastructure Renewal Program | 3,354,000 | 750,000 | 2,604,000 |
| Enterprise Architecture Planning Program | 885,000 | - | 885,000 |
| Totals | \$ 39,462,000 | \$ 18,610,000 | \$ 20,852,000 |

* Based on the Rough Order of Magnitude Estimates (External Costs).

** Based on FY16 operating grant, amortization and \$1M IMP annually.

Capital Program Development Summaries (2016-20)

The key development goals for each of the OPLE's programs over the next five years and the associated risks should insufficient investment occur are detailed below.

Interfaces Program

The interfaces program addresses projects aimed at renewing or establishing new capabilities related to the primary web-based interfaces that users use for effective access to information, systems, services and resources within the OPLE. The program has three primary goals. The first is to provide users of the OPLE with intuitive and consistently designed interfaces that tailor content based on the user's role and needs, including redesign and renewal of AU's student and staff portals. The second is to improve access to that content by providing users with the ability to access information from both desktop and mobile computing platforms. Achieving this goal will require creation of a suite of mobile applications and the underlying ICT infrastructure to support effective access and security. The third goal is to strengthen AU's reputation for expertise in distance education by establishing an Alberta Distance Education Innovation Centre, a virtual space where students, faculty, researchers and staff from both AU and other Alberta post-secondary institutions can work with industry leaders to assess emergent technology, share knowledge and collaborate. The interfaces program deals with the initial stages of this proposed investment to establish the required portal to build community and serve as an innovation incubator. The virtual computing space itself is addressed in the Infrastructure Renewal Program (See page 47).

Risk Statement: The usability and effectiveness of interfaces is paramount to creating a quality user experience and maximizing efficiencies. Poor user experiences and the lack of required functionality can have a direct impact on student and staff recruitment and retention, particularly in a virtual organization like AU where users are served remotely and are reliant upon these interfaces to access the OPLE's online offerings. AU must also invest in mobile computing technologies as web statistics clearly indicate a rise in mobile devices. Users increasingly expect to be able to use their phones and tablets for anywhere, any time access to AU services. All Alberta post-secondary institutions need to pilot emergent technologies. Realization of the Alberta Distance Education Innovation Centre will maximize provincial investments by sharing knowledge, experience and infrastructure. Without this space, the dissemination of research, lessons learned and expertise will be difficult, and the potential for forging new Alberta partnerships will be limited by reliance on traditional channels that do not leverage the capabilities and economic benefits of ICTs.

Applications Suite: Pedagogy and Research Program

The pedagogy and research program addresses projects aimed at renewing capabilities or establishing new capabilities within the OPLE related to teaching, learning and research-related systems and services. The first goal of this program is the continued modernization of AU's learning management system. Currency and integration of the LMS with core systems and services is required to transform and personalize the distance learning experience and support the success of learners from varied backgrounds, degrees of preparation and geographic locations. Integrations between LMS functions and other systems within the OPLE facilitate the collection and assessment of information about learners' progress and timely intervention with appropriate supports. The second goal is to establish capabilities to streamline the development, delivery and invigilation of exams, a particular challenge given AU's virtual learning environment. The final goal is to create a virtual toolkit or e-lab for students, providing access to software and resources to aid them in their studies or creating temporary spaces from which to collaborate with other community members.

Risk Statement: The LMS is a core component of AU's OPLE and is critical to sustaining the university's reputation as a leader in online and distance education in Alberta and the global community. Distance education students expect the delivery of quality learning materials, and the benchmark is continually rising as more institutions compete in the global distance education market. Failure to deliver a high-quality online experience achieved through a fully integrated LMS will result in student dissatisfaction, lower academic success rates, poorer learning outcomes and loss of reputation and competitiveness for AU, culminating in

enrolment decline. An online exam system is an essential component of online courses. Students increasingly regard the requirement to write exams in pre-authorized exam centres as problematic source of frustration and expense. Moreover, process delays and administration costs associated with existing exam capabilities represent an increasing financial and reputational burden to the university.

Applications Suite: Student Service and Administration Program

The student service and administration program addresses projects aimed at renewing capabilities or establishing new capabilities related to the suite of student service and administrative systems. The emphasis of this program to ensure the continued provision of quality student services, a goal which will require significant investment in the implementation or renewal of a broad range of capabilities, including course content and records management, relationship management, contact management, web publishing, social networking, portfolio development, and communication and collaboration. The key is not only to deliver these functions independently but to make logical integrations among them to create a unified, service-oriented user experience. A second goal is to ensure these integrations are optimized for future scalability, adaptability and performance. Achievement of this goal will be facilitated by implementing standards and removing redundant data sources or shadow systems, allowing AU's suite of applications to respond effectively to change.

Risk Statement: AU prides itself on high student satisfaction rates. Unless its student service and administrative systems are renewed, the university will be unable to serve students or provide for enrolment growth without disproportionately increasing overhead costs. Services to students and other stakeholders will be compromised, and AU will lose its competitive advantage in terms of price and quality of service, resulting in a significant reduction in the university's market strength.

Applications Suite: Enterprise Resource Planning Program

The enterprise resource planning program addresses projects aimed at renewing capabilities or establishing new capabilities related to the ERP suite and its related system modules (e.g., finance, human resources/payroll system, student information systems). AU operates in an environment of fiscal restraint and increasing competition from traditional universities in the delivery of online distance education. Efficient operations and planning are critical to AU's ability to achieve the goals set forth in its Strategic University Plan and ICT Strategic Plan and, ultimately, its ability to provide a flexible, high-quality and innovative learning environment. AU has successfully implemented an enterprise resource planning solution (Ellucian Banner) with the recent addition of finance and human resource/payroll modules to its existing student module. However, the student module is highly customized and out-of-date. These customizations were made years ago based on AU's unique continuous enrolment business model; however, many of these functions have since been incorporated into the baseline versions of these products. AU requires capital investment to re-engineer business processes in parallel with student de-customization efforts to leverage new features, to integrate the ERP with other core systems in the OPLE and to enable effective data collection, analytics and reporting capabilities.

Risk Statement: Enterprise resources planning systems are critical business enablers. Failure to invest in the ERP program risks inaccuracy and inefficiency in data collection and reporting. It also jeopardizes a broad range of business processes and sub-systems that are reliant on ERP data and functionality.

Analytical Platform Program

The analytical platform program addresses projects aimed at establishing data mining, analytics, reporting and enabling system personalization capabilities. The analytical platform is the heart of the OPLE. Establishing a data warehouse and an operational data store and aligning and integrating critical data sources are foundational aspects of creating robust analytical capabilities. The platform will facilitate data mining and the creation of student information and learning content information warehouses or hubs. Analytical interfaces to these hubs will provide insights into course design and delivery, service

improvements and research. In particular, data collected about a learner's ability to achieve learning objectives can be used to adjust teaching resources or tactics to meet the individual's learning preferences and improve outcomes and experiences. The analytical platform can also be used to collect information on knowledge gaps or skilled labour shortages across markets to inform the development of new courses or learning resources.

Risk Statement: If AU does not invest in its analytical platform, it will not be able to achieve the vision underlying the OPLE. Evidence-based research, strategic and operational decision-making, and the delivery of personalized solutions rely on the collection and analysis of data from across the entire environment.

Infrastructure Operations Support Program

The Infrastructure Operations Support Program addresses projects aimed at ensuring effective business operations and continuity for all users across the OPLE. AU has a dispersed staff and a distributed student body, and both require consistently performing systems to carry out their respective activities. The goal of this program is to provide the necessary support capabilities to ensure continuous operations, including investing in intrusion detection capabilities, establishing robust system monitoring capabilities, standardizing identity management and continuing expansion of the virtual desktop computing environment. Another key development goal is to establish remote system recovery capabilities. AU has been collaborating with the University of Alberta and has successfully achieved a small-scale proof-of-concept in this regard. The next step is to attain provincial funding, solidify the partnership and expand the pilot project with the goal of achieving continuous operational capabilities for critical systems. This collaboration has the potential to significantly reduce the capital requirements of implementing a second AU site.

Risk Statement: Monitoring the ICT infrastructure environment and intervening in a timely manner to ensure systems availability are critical ongoing activities. Without the supporting systems to ensure operational support, AU risks unauthorized access to information or loss of data, jeopardizing the university's reputation and exposing it to legal or regulatory consequences. Without sufficient system recovery capabilities, AU's business could be crippled. In its Report to the Audit Committee for the Year Ended March 31, 2010, the Office of the Auditor General of Alberta underlined this risk: "The university relies heavily on its IT systems and infrastructures to deliver online student services, including course materials and course evaluations as well as daily corporate financial activities. Failure to recover promptly from a disaster affecting the data centre at the main campus in Athabasca would affect the university's ability to continue providing these services."

Infrastructure Renewal Program

The infrastructure renewal program addresses projects aimed at ensuring that the foundational infrastructure or utility layer (e.g., network, servers, storage, power) is capable of supporting the OPLE's technological requirements. Innovation and ongoing improvement across the OPLE is enabled by enhanced computing performance, capability and reliability. AU's existing storage, server and network solutions are antiquated and insufficient to address current and future needs. The goal is to renew AU's ICT infrastructure, bringing improved data transmission and network connectivity, improved application performance and reliability, optimized storage, increased functionality, improved interoperability, and greater security and data integrity. This program also encompasses the creation of a virtual research environment in which students, faculty, researchers and staff from other post-secondary institutions can work together to assess emergent technologies, share knowledge and collaborate. This environment, coupled with the proposed innovation portal (See Interfaces Program, page 45) are key to the realization of an Alberta Distance Education Innovation Centre, an innovation incubator.

Risk Statement: Failure to renew ICT infrastructure substantially increases the risk to AU's capacity to perform its day-to-day operations. Failure to invest in this program will instigate an ongoing decline in the state of the OPLE's physical ICT infrastructure, resulting in more frequent breakdowns, inability to support newer versions of software, lack of compatibility with the needs of operating systems, lack of vendor support

and a high probability of catastrophic failure. In addition, the OPLE's enterprise architecture would become increasingly heterogeneous and inefficient. Lack of system integrity could also limit the university's ability to satisfy legal requirements to safeguard information and user privacy.

Enterprise Architecture Planning Program

The enterprise architecture program addresses projects aimed at renewing capabilities or establishing new capabilities to better design, manage and plan the OPLE's enterprise architecture. AU requires a comprehensive inventory and a living architectural design of its ICT assets. The scale, complexity and diversity of the OPLE requires the acquisition and implementation of enterprise architecture technologies, which would facilitate mapping of existing strategic and operational processes to the underlying enabling technologies and infrastructural components that support their efficient development and delivery. Attaining an enterprise architecture perspective is critical to establishing standards in an effort to reduce costs and to revealing vulnerabilities or deficiencies in processes, systems and services. Of particular importance is attaining a clear understanding of how to best integrate the necessary components of the OPLE to establish data collection and analytical capabilities. These capabilities are foundational to the realization of the OPLE vision and to informing the creation of personalized learning solutions, new course and service offerings, and distance education innovations.

Risk Statement: Establishing an enterprise architecture framework and supporting technologies is critical to effective ICT investment planning, risk management, resource management and security management and to ensuring that AU's enterprise architecture is responsive to the ever-changing needs of the university community. The need for AU to formalize "IT architecture standards to guide the university to develop common IT infrastructure that would reduce the university's long-term IT operating costs" was noted in the Report to the Audit Committee for the Year Ended March 31, 2010 by the Auditor General of Alberta. Alberta Innovation and Advanced Education's ITM Control Framework has also recommended adoption of enterprise architecture standards and controls.

Facility and Physical Infrastructure Projects

Although AU's pedagogical platform is based on open and distance education, delivered largely through the Internet to students dispersed across Canada and around the world, it still requires physical facilities for the operations of its faculties and administrative and support services. Over the past three years, the university has focused on upgrading existing aging infrastructure and on relocating departments from one leased location to another in Calgary and from a leased location in St. Albert to another in northwest Edmonton. The Main Campus Space Configuration Project, funded through the Government of Alberta's Infrastructure Maintenance Program, was also completed, and the Main Campus Building emergency electrical infrastructure was upgraded and fortified, including installation of a larger and more reliable emergency generator to support the AU main server complex.

AU's Athabasca campus was constructed in 1983. Facilities there require renewal and upgrading to reflect current building codes and building management technologies and the demands of sustainable operations. AU must also address the effects of 30 years of infrastructure degradation to ensure that existing facilities continue to provide the infrastructure necessary to maintain the university's ability to serve its students.

The additional facilities called for by this long-term capital plan will support the university's goals of expanding its academic reach, of significantly increasing its environmental research capacity and of making better use of operating grants and other funding by gradually moving away from leased spaces in its main urban market locations.

Except for the buildings on its Athabasca campus (Main Campus Building, Academic Research Centre) and the nearby Tim Byrne Centre (course materials production facility), AU leases all of its facilities, including spaces in Edmonton and Calgary. As leasing costs in major downtown urban centres are expected to rise significantly, securing appropriate university-owned, cost-effective consolidated space to ensure long-term

continuity and sustainability of educational services to students (or participating with partner institutions in a Campus Alberta project to achieve the same goals) is critical. Securing a single stand-alone site for the university's now dispersed Capital Region operations is a high priority.

If AU is to continue to succeed in the twenty-first century, its facilities must

- enable learning and research
- accommodate growth
- anchor and support the objective scientific study of environmental impacts of oilsands and other resource development in northern Alberta
- be environmentally sustainable
- equip the university to become an integral part of the Athabasca regional economic engine and a contributor to northern Alberta's growing economic clout
- be flexible and adaptive to evolving technology and networking
- provide spaces for collaborative activities and encourage collegiality and interaction
- meet current building code and building systems standards
- provide a hospitable work environment attractive to prospective employees
- promote wellness and social progress within the AU community, the Town and County of Athabasca and the Indigenous communities in the surrounding area

In pursuit of these goals, AU has developed a clear vision for steady, sustainable growth over the coming decade. Realization of this vision requires significant investment in the development of AU's lands and physical assets and in the creation of essential educational and research facilities.

AU's Facility and Physical Infrastructure Plan, outlined below, focuses on preserving the university's existing facilities and physical assets and includes one expansion or replacement project, and one proposal for a facility of major economic benefit to Alberta. Table 12 provides a breakdown of the estimated annual investment costs for facilities and physical infrastructure projects over the duration of the five-year plan. Table 13 provides a summary of the proposed funding sources. Over the next five years, AU plans to contribute about \$1.1 million to facilities and physical infrastructure projects and is requesting that the Government of Alberta or other potential funding sources contribute \$20.5 million.

Table 12: Facility and Physical Infrastructure Projects (Five-Year Plan)

| | Estimated Facility and Other Projects Costs Per Fiscal Year | | | | | Program Totals |
|--|---|---------------------|---------------------|---------------------|---------------------|----------------------|
| | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | |
| AU Main Campus Building Major Systems Upgrade | \$ - | \$ 500,000 | \$ 500,000 | \$ 1,500,000 | \$ 2,000,000 | \$ 4,500,000 |
| AU Main Campus Internal Roads, Parking Lots and Trail System | - | 500,000 | 1,250,000 | - | 750,000 | 2,500,000 |
| ARC Building Deficiencies Follow-Up | - | 400,000 | 1,200,000 | 400,000 | - | 2,000,000 |
| Library Collections | 50,000 | 75,000 | 75,000 | 75,000 | 75,000 | 350,000 |
| Equipment Renewal | 135,000 | 150,000 | 150,000 | 150,000 | 150,000 | 735,000 |
| Consolidated Edmonton Space (integrated Learning Centre) | - | 250,000 | 3,750,000 | - | 2,000,000 | 6,000,000 |
| Field Research Station | 5,568,000 | - | - | - | - | 5,568,000 |
| Totals | \$ 5,753,000 | \$ 1,875,000 | \$ 6,925,000 | \$ 2,125,000 | \$ 4,975,000 | \$ 21,653,000 |

Table 13: Summary of Proposed Funding Sources for Facility and Physical Infrastructure Projects

| | Program Totals | Proposed Funding Sources | |
|--|----------------------|--------------------------|----------------------|
| | | AU | Government or Other |
| AU Main Campus Building Major Systems Upgrade | \$ 4,500,000 | \$ - | \$ 4,500,000 |
| AU Main Campus Internal Roads, Parking Lots and Trail System | 2,500,000 | - | 2,500,000 |
| ARC Building Deficiencies Follow-Up | 2,000,000 | - | 2,000,000 |
| Library Collections | 350,000 | 350,000 | - |
| Equipment Renewal | 735,000 | 735,000 | - |
| Consolidated Edmonton Space (integrated Learning Centre) | 6,000,000 | - | 6,000,000 |
| Field Research Station | 5,568,000 | - | 5,568,000 |
| Totals | \$ 21,653,000 | \$ 1,085,000 | \$ 20,568,000 |

Preservation of Existing Facilities and Physical Assets

Main Campus Building Major Systems Upgrade

The Main Campus Building is 30 years old, and many of its core structural, mechanical and electrical systems are based on the original construction. Although occasional repairs and alterations have been carried out over the past three decades, systems and structures have not been significantly upgraded to accommodate changes in technology, environmental compliance, health and safety regulations or the provincial building code. Given that the life span of many of these systems is typically 25 to 30 years, the building is fast approaching the point at which key systems will have to be replaced. Failure to do so would be to risk a catastrophic failure of heating, ventilation, or other structural, mechanical or electrical systems, including boilers, main HVAC Units, the cooling tower, the glass roof system and the building envelope.

The building needs major systems overhauls and physical upgrades. Over the next 10 years, the rate of significant electrical, mechanical and structural systems failures is expected to increase as systems continue to age. A February 2012 Facility Assessment Report commissioned by Alberta Infrastructure identified a number of core systems that need upgrading or replacement in the coming five years and pegged the cost at approximately \$8.5 million dollars. Although certain aspects of the structure's physical condition and systems were rated acceptable at the time of the evaluation, the report made clear that significant upgrades are necessary if the building is to continue to serve the university in meeting its mandate.

Risk Statement: Failure to bring the Main Campus Building key infrastructure systems up to standard will result in increased exposure to legal liability, loss of capital investment value and significant increases in ongoing maintenance and operational costs at times when IMP funding is drastically curtailed. Such failure would also limit AU's ability to provide a proper working environment to the approximately 350 employees working in the building. Should the building deteriorate to the point that existing systems can no longer serve the university's technological and physical needs, AU would be unable to continue to provide educational services.

Main Campus Internal Roads, Parking Lots and Trail System

The Athabasca campus, landscaped using local vegetation and incorporating the 10-kilometre Muskeg Creek Trail System, was developed when the Main Campus Building was constructed in the early 1980s. High use and the impact of the elements have led to significant deterioration of the internal roads, surface parking lots and internal trail systems, creating a number of potential safety hazards. The campus is very much in need

of an upgrade as the roads are failing from a geotechnical perspective and the continued sediment erosion of top lift asphalt and concrete, and the below surface substrata road base is in a state of collapse in many locations. The bases of roads and parking lots must be re-established and strengthened, asphalt top lift must be applied throughout the paved areas, and concrete work must be carried out on main pathways, curbs and gutters, and other areas where concrete pads are used to house large infrastructure systems if safe access for vehicle and pedestrian traffic is to be maintained on the campus.

Risk Statement: Failure to enhance trails and walkways will result in degradation of the campus in terms of both aesthetics and safety. Hazards to personal safety due to unsafe walkways, parking surfaces and access roads will likely result in increased personal injury incidents and loss of employee time and increased medical benefits costs. Accidental injuries and inadequate wheelchair access will expose the university to a risk of litigation.

ARC Building Deficiencies Follow-up

AU is encountering systemic and functional deficiencies in the structural, electrical and mechanical systems of the Academic and Research Centre completed in late 2011, on the Athabasca campus. At the request of representatives of Alberta Infrastructure and with the support of colleagues with building expertise from the University of Alberta, a thorough review of the issues was undertaken in the first quarter of 2015, and a report with recommendations for a proper course of remedial action is expected soon. Funding for the necessary remedial work will be required. It is difficult to estimate the cost until the report is received, but it is estimated that replacement or repair of systems that are consistently failing will cost at least \$2 million.

Risk Statement: The risk associated with not dealing with systemic deficiencies in the mechanical, electrical and structural systems of this building range from a severe impact on staff comfort and working conditions to significant safety issues and the potential for catastrophic failure of key basic building systems. The longer remedial actions are delayed, the worse the situation will become in terms of the need for additional scarce building maintenance and operational resources, leading eventually to significantly higher repair costs and damage to the university's reputation for providing a safe work environment.

Library Collections

Major development of AU's digital repository is planned to increase the depth and breadth of online reference works and on-site collections. This development will include acquisition of a deep archive of online journal back files to meet the digital reference demands of students and to support expansion of master's programs and development of new doctoral programs.

Risk Statement: If AU does not meet the digital reference demands of its students and the research needs of its faculty members, it will lose its competitive position and risk losing market share of students and revenue.

Equipment Renewal

Proposed preservation activities for research and other equipment are estimated at \$735,000.

Risk Statement: Failure to renew equipment in a timely fashion would keep obsolete equipment in use, resulting in non-compliance with standards of practice and workplace health and safety requirements.

Expansion or Replacement Projects

Consolidated AU Space in the Greater Edmonton Area (Integrated Learning Centre)

AU's Edmonton location occupies approximately 2,542 m² of space in the Peace Hills Trust Building in downtown Edmonton, and the Faculty of Business occupies approximately 1,312 m² of space in the Trail Business Centre in northwest Edmonton. For the past several years, the university has been exploring options

for an AU-owned facility, in St. Albert or elsewhere in the Greater Edmonton Area, that would eliminate ongoing operating lease costs and consolidate all of AU's Capital Region operations in one Integrated Learning Centre. The expected benefits of this project include

- administrative efficiencies in registration, financial and support functions
- improved student access to registration, examination and career counselling services
- enhancement of AU's presence in the Greater Edmonton Area
- increased opportunities for collaboration with Edmonton-based post-secondary institutions on research and teaching
- increased commercialization opportunities for technological research
- improved working environment and support for Edmonton area employees
- better control over operating expenses attributable to the continually increasing rental rates and location changes associated with occupancy of leased space
- an increase to the university's long-term asset base

Consolidation of AU's Capital Region leased space (now planned for circa 2020) has been a strategic goal since 2006. However, to date, no suitable location and means of consolidation have materialized simultaneously to permit realization of this goal. The main obstacle to its realization has been the lack of capital grant support from the Government of Alberta to completely or partially fund purchase or development of the needed physical space. Other challenges have included finding a suitable location and determining whether AU wishes to own or enter into a long-term leasing agreement for a consolidated space. Furthermore, given the success of the Campus Alberta approach in Calgary, provincial government officials have indicated that AU should seek a similar Campus Alberta arrangement in the Greater Edmonton Area; however, efforts to work with other post-secondary institutions on such a solution have so far proven futile.

Given the current fiscal challenges faced by the Government of Alberta and state of the Alberta economy, the AU Board of Governors recognizes that funding for such an enterprise may have to be derived from a combination of provincial capital grants and capitalizing of AU's operating funds earmarked for lease costs over the coming 25 years. As a result, the capital request submitted under this plan is for approximately 25 per cent of total development costs to serve as seed funding and down payment. A grant of this size will allow the university to purchase a building or secure a suitable site and initiate development, and the remainder of the required financing would come from capitalizing future operating lease dollars.

Construction of the required 4,645 m² building or the purchase and conversion of an existing building at current market rates, can be achieved only with approval for borrowing through the Alberta Capital Finance Authority, and in turn, net present valuing AU's future lease operating costs (as suggested by ministry representatives). Based on estimates by Colliers International, a newly developed 4,645 m² building would cost about \$4,305 per square metre (all in), or \$20 million in total at current development prices, once soft costs and land costs are incorporated. Escalating operating lease costs for the next 25 years have been projected by AU, with assistance from Colliers International, to determine that, based on those lease rate projections, AU could assume a mortgage of up to \$15 million dollars. A capital request of \$6 million is therefore submitted under this plan, to allow for a \$5 million dollar down payment, plus initial costs such as realtor fees, feasibility studies, planning and project initiation.

Risk Statement: The risk associated with not consolidating the Greater Edmonton Area AU satellite locations within a university-owned building is primarily financial, although this situation also gives rise to some operational challenges and limits the university's ability to make long-term plans. While the availability of office space in St. Albert and Edmonton has remained relatively stable, lease rate increases are anticipated, placing an undue burden on operating budgets. Rates doubled when AU last renegotiated its existing leases. It is important for the university to make progress on this project as it can take four to five years (by which time existing leases will be due for renewal) from conception to occupancy.

New Facilities of Major Economic Benefit to Alberta

Field Research Station

The recent permanent closure of the Meanook Scientific Field Research Station, 10 kilometres south of Athabasca, after 40 years of operation, has created an opportunity to fill the resulting void and establish a replacement scientific field research station on AU grounds, under the auspices of AU's Faculty of Science and Technology. The development of a scientific field research station will underscore the viability of a faculty that is collaborative and interdisciplinary and align well with AU's mission, vision and strategic directions. The proposed research station would inform the activities of academics, community members and decision-makers, and support the ongoing work of the Athabasca River Basin Research Institute and the development of sound policies that will benefit all who have a stake in the river basin.

Creation of a scientific field research station is estimated to require a relatively modest capital investment of approximately \$5.5 million dollars. Once all approvals are in place, the facility can be constructed and ready for operation within 12 months. The planned 1,672 m² field research station, with minimal amenities, can be constructed for approximately \$3,290 per square metre, with remaining funding required for soft costs and furniture, fixtures and equipment.

Total annual operating costs for this facility are estimated at \$600,000. AU would require government support for 50 per cent of operating costs, with the remainder to be recovered through user fees.

A modern field research station, designed and built in accordance with principles of energy efficiency and green technology, would not only foster research but also provide temporary accommodations for researchers and students and facilities for processing, analyzing and documenting their fieldwork. In addition, this scientific field research station could serve as a location for scientific conferences, workshops, retreats and short courses. Creation of this facility will underscore AU's leadership in promoting and supporting field research and promoting ecological stewardship in northern Alberta.

Risk Statement: Failure to develop the scientific field research station would limit the ability of many scientists and institutions to undertake scientific research related to ecological and environmental issues in northern Alberta. It would also represent a lost opportunity to create a research hub to enhance scientific outreach by AU's Faculty of Science and Technology and to establish a northern Alberta centre for science-related gatherings and consultations.

Table 14: Summary – Projected Infrastructure Expenditures and Revenue Sources

For the year ended March 31
(thousands of dollars)

| | BUDGET 2015-16 | PLAN 2016-17 | PLAN 2017-18 | TOTAL |
|--|---------------------------|-------------------------|-------------------------|-------------------------|
| CAPITAL AND ICT INFRASTRUCTURE EXPENDITURES | | | | |
| Buildings, leaseholds and site improvements | \$ 5,568 | \$ 1,650 | \$ 6,700 | \$ 13,918 |
| Information technology | 10,821 | 7,505 | 6,846 | 25,172 |
| Equipment | 135 | 150 | 150 | 435 |
| Library and art collections | 50 | 75 | 75 | 200 |
| | <u>\$ 16,574</u> | <u>\$ 9,380</u> | <u>\$ 13,771</u> | <u>\$ 39,725</u> |
| External Capital contributions | | | | |
| Provincial and other: | | | | |
| Building | \$ 5,568 | \$ 1,650 | \$ 6,700 | \$ 13,918 |
| Information technology | 5,243 | 1,830 | 1,171 | 8,244 |
| EXPENDITURES, EXTERNALLY FUNDED | <u>\$ 10,811</u> | <u>\$ 3,480</u> | <u>\$ 7,871</u> | <u>\$ 22,162</u> |
| Internal Capital contributions | | | | |
| Accumulated Surpluses (amortization) | \$ 3,770 | \$ 4,900 | \$ 4,901 | \$ 13,571 |
| Infrastructure Maintenance Program (IMP) | 1,993 | 1,000 | 1,000 | \$3,993 |
| EXPENDITURES, INTERNALLY FUNDED | <u>\$ 5,763</u> | <u>\$ 5,900</u> | <u>\$ 5,901</u> | <u>\$ 17,564</u> |
| | <u>\$ 16,574</u> | <u>\$ 9,380</u> | <u>\$ 13,771</u> | <u>\$ 39,725</u> |

Table 15: Detail – Projected Infrastructure Expenditures and Revenue Sources

For the year ended March 31
(thousands of dollars)

| | BUDGET 2015-16 | PLAN 2016-17 | PLAN 2017-18 | TOTAL |
|--|-------------------|-----------------|------------------|------------------|
| Buildings, leaseholds and site improvements | | | | |
| EXTERNALLY FUNDED | | | | |
| Main Campus Building Major Systems Upgrade | \$ - | \$ 500 | \$ 500 | \$ 1,000 |
| Main Campuses Roads, Parking Lots and Trails | - | 500 | 1,250 | 1,750 |
| Academic and Research Centre Building Deficiencies | - | 400 | 1,200 | 1,600 |
| Intergrated Learning Centre - Greater Edmonton | - | 250 | 3,750 | 4,000 |
| Field Research Station | 5,568 | - | - | 5,568 |
| Total buildings, leaseholds and site improvements | \$ 5,568 | \$ 1,650 | \$ 6,700 | \$ 13,918 |
| Information Technology – major projects | | | | |
| EXTERNALLY FUNDED | | | | |
| Infrastructure | \$ 583 | \$ - | - | \$ 583 |
| Systems Development | 4,660 | 1,830 | 1,171 | 7,661 |
| | 5,243 | 1,830 | 1,171 | 8,244 |
| INTERNALLY FUNDED | | | | |
| Infrastructure | \$ 1,278 | \$ 530 | \$ 360 | \$ 2,168 |
| Systems Development | 4,300 | 5,145 | 5,315 | 14,760 |
| | \$ 5,578 | \$ 5,675 | \$ 5,675 | \$ 16,928 |
| Total hardware and software | \$ 10,821 | \$ 7,505 | \$ 6,846 | \$ 25,172 |
| Equipment | | | | |
| INTERNALLY FUNDED | | | | |
| Research and other equipment | \$ 135 | \$ 150 | \$ 150 | \$ 435 |
| Total equipment | \$ 135 | \$ 150 | \$ 150 | \$ 435 |
| Library and art collections | | | | |
| Library | \$ 50 | \$ 75 | \$ 75 | \$ 200 |
| Total library and art collections | \$ 50 | \$ 75 | \$ 75 | \$ 200 |
| TOTAL EXPENDITURES | \$ 16,574 | \$ 9,380 | \$ 13,771 | \$ 39,725 |

Appendix A

EXISTING AU PROGRAMS

Graduate Programs

AU offers the following nine graduate degrees as well as 12 graduate-level diplomas and certificates:

- Doctor of Education (Distance Education)
- Doctor of Business Administration
- Master of Arts (Integrated Studies)
- Master of Business Administration
- Master of Counselling
- Master of Education (Distance Education)
- Master of Health Studies
- Master of Nursing
- Master of Science (Information Systems)

Undergraduate Programs

In addition to 20 undergraduate certificate and diploma programs, AU offers the following undergraduate degrees, many of which are available through both regular and post-diploma programs:

- Bachelor of Arts, four-year (with a major in anthropology, Canadian studies, English, French, history, humanities, information systems, labour studies, political economy, political science, psychology, sociology or women's and gender studies or a combined major)
- Bachelor of Arts, three-year (general or with a concentration in English, French, history, humanities, information systems, labour studies, political economy, political science, psychology, sociology or women's and gender studies)
- Bachelor of Commerce (general or with a major in accounting, e-commerce or financial services)
- Bachelor of General Studies (in arts and science or applied studies)
- Bachelor of Health Administration
- Bachelor of Human Resources and Labour Relations
- Bachelor of Management, four-year (general or with a major in human resource management, marketing, or Indigenous nations and organizations)
- Bachelor of Management, three-year
- Bachelor of Nursing (post LPN or post RN)
- Bachelor of Professional Arts (with a major in communication studies, criminal justice, human services or governance, law and justice)
- Bachelor of Science (general, or with a major in human science or architecture)

Appendix B

PROGRAM REVIEW CYCLE

Table 1: Degree Program Reviews in Progress

| Program | Status of Review |
|--|--------------------------------|
| Doctor of Education (Distance Education) | Self-study in progress |
| Bachelor of Nursing (Post LPN and Post RN) | Self-study in progress |
| Bachelor of Arts | Site visit October 22-23, 2015 |
| Master of Business Administration | ASC report April 22, 2014 |
| Master of Counselling | ASC report April 22, 2014 |

Table 2: Planned Degree Program Reviews

| Program | Scheduled Review | Last Review |
|---|------------------|-------------|
| Master of Arts (Integrated Studies) | 2014-15 | 2008 |
| Doctor of Business Administration | 2014-15 | 2009 |
| Master of Science (Information Systems) | 2015-16 | 2008 |
| Bachelor of General Studies | 2015-16 | 2008 |
| Bachelor of Commerce | 2016-17 | 2008 |
| Bachelor of Management | 2016-17 | 2009 |
| Bachelor of Science in Computing and Information Systems | 2016-17 | 2009 |
| Bachelor of Professional Arts: Human Services | 2017-18 | 2010 |
| Master of Education (Distance Education) | 2017-18 | 2011 |
| Bachelor of Human Resources and Labour Relations | 2017-18 | 2011 |
| Bachelor of Professional Arts: Communication | 2017-18 | 2012 |
| Bachelor of Professional Arts: Governance, Law and Management | 2017-18 | 2012-13 |
| Bachelor of Professional Arts: Criminal Justice | 2017-18 | 2012-13 |
| Master of Health Studies | 2019-20 | 2012 |
| Master of Nursing | 2019-20 | 2012 |
| Bachelor of Health Administration | 2019-20 | 2012 |
| Bachelor of Science | 2021-22 | 2013 |

Table 3: Planned Reviews of Research Institutes

| Institute | Scheduled Review |
|--|------------------|
| Athabasca River Basin Research Institute (ARBRI) | 2015-16 |
| Technology Enhanced Knowledge Research Institute (TEKRI) | 2015-16 |
| Project Research Institute (PRI) | 2015-16 |



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