

Title

Enhance ICT Environment to Enable and Support Teaching and Learning

University Themes Supported

- Enhance the Student Experience
- Practice Effective Enrolment Management
- Foster an engaged university

Description of Initiative

Context

The use of technology in teaching and learning (often called e-learning) has increased rapidly. In just a few years, the range of tools used in instruction on this campus has increased dramatically to include in-class student response systems, online mathematics testing, surveys, online synchronous collaboration, lecture capture and streaming, blogs, wikis, PAWS course tools, electronic course content delivery (e.g., Blackboard, iHelp), podcasting, wireless, etc. Furthermore, the number of instructors and students to be supported and assisted in using such software has also increased. The demand continues unabated for new tools (e.g., online exams, e-portfolios, simulations) and support to meet the expectations of instructors and students.

The Initiative

This initiative will enhance the University's teaching and learning ICT environment. The service enhancements will support both face-to-face and online instruction; some of the enhancements will introduce new capability; others will help streamline the testing process. As a result, this initiative will help enhance the student experience, help attract and retain graduate students and faculty, enable electronic communications and collaboration, support experiential learning and help fosters University engagement.

ITS consults with the ULC, colleges, Library, EMAP, CCDE, the E-learning Priorities Committee, the Academic Support Committee of Council, individual instructors, and instructional designers to determine the e-learning services and support required on-campus. ITS also collaborates with the units listed above, as appropriate, to deliver these services. Staff also participate in Campus Saskatchewan, are involved with faculty in research related to teaching technologies and keep abreast of new applications of technology by formal sources such as EDUCAUSE.

This initiative has two components.

The first component seeks to maintain existing service levels for core services (e.g., help desk, training), fulfill recently made service commitments, and to continue to support the new technologies recently adopted by instructors and students (e.g., student response systems). These service improvements were primarily funded from one-time ("soft") monies (including ITS contingency) without an increase in operating budget. ITS intends to use contingency to continue to provide those services this year and during the 4 –year planning cycle. This funding will be used for staff salaries and benefits (primarily to extend existing term positions) to:

- Augment the base budget positions providing core support services in the help desk and training groups with three existing staff positions to maintain current service levels;
- Continue partnership with the College of Medicine for IT support related to their curriculum redesign and accreditation-related initiatives;
- Develop a web application to accommodate the Provost's Office and colleges' needs for campus-side, online course evaluation as well as the analysis and reporting of results;
- Continue to support and provide funding for staff to support and evolve existing and new services that support instruction;
- Enable and support online pre-testing or placement exams;
- Support online collaborations with an improved set of ICT tools.

The second component of this initiative further enhances the University's ICT teaching and learning environment as outlined in the table below. New funding will be required to:

- Provide on-going maintenance and support of web application to support Student Evaluation of Educational Quality (SEEQ) online evaluations;
- Provide appropriate tools and services to support the use of online exams. Includes exam databank and automatic exam creation;
- Provide appropriate tools and services to support the use of electronic portfolios for students;
- Provide additional tools for delivering and managing online course elements integrated with PAWS and course management systems;
- Extend hours of support for core ICT services;
- Provide flexible platform to support image database applications;

Objectives/Outcomes by 2012

The institution needs to be responsive to the changing needs of instructors and learners in seeing, trying and using e-learning technologies, and to assist with attaining institutional objectives related to teaching and learning.

By Theme

Enhance the Student Experience

- **Teaching and learning in the classroom**
 - Help improve the quality of instruction, as well as accountability, by supporting systematic, efficient online course evaluations
 - Implement and support Student Response Systems (clickers) in order to increase student engagement and participation
 - Provide tools and assistance to support in-term (formative) surveys (using the web or using clickers) which can provide valuable feedback to instructors
 - Support the creation and presentation of electronic format teaching portfolios (e-portfolios) as part of instructors' efforts to examine and improve their teaching practices
 - Provide online technologies, as well as appropriately equipped team rooms, to support student group work and collaborative efforts
- **Experiential learning**

- Support the documentation of learning in work placements, and support students in taking control of their own learning, by providing tools and training for journals, blogs and E-portfolios.
- Help students in experiential learning situations support each other by providing and supporting community-building applications (such as discussion forums, and social networking software).
- **E-learning**
 - Provide tools which make it easy to put lecture recordings and lecture content online with little additional faculty preparation effort and effectively no post-production effort. This facilitates making additional courses available for students online, as well as adding flexibility for students to review or catch up.
 - Provide online collaboration tools for student-instructor discussions, after-hours help, and to make group work feasible for distributed education students that can't easily meet at the same time and location.
 - Enrich assessment, and improve the documentation of assessment, by providing e-portfolio applications which facilitate inclusion of a wide variety of student work artifacts into the student record (e.g., video of dramatic productions; X-rays and treatment plans in health sciences field of study)
 - Provide and support online examination software to facilitate delivering exams to distance education students, provide instant feedback to students, and reduce some of the marking load.

Practice Effective Enrolment Management

- **International and out of Province recruitment**
 - UofS participation in online education consortia (e.g., COHERE (Canada's Collaboration for Online Higher Education and Research), University of the Arctic, Prairie Studies Program) will increase the opportunity for new students to enroll at this University for at least some of their courses.
 - Opening up access, by offering appropriate courses online, will increase exposure to our faculty and assist with attracting graduate students to programs here.
- **Retention**
 - Provide and support placement exams to get students into courses where they can succeed. online placement exams require little marking effort, can be graded quickly, and can potentially be delivered through regional colleges and high schools, or even internationally, prior to registration.
- **Viable enrolments**
 - Streaming, lecture capture, online courses, synchronous tools can all extend, and shift, the times when students can participate. Clickers can help improve student engagement in large class sizes. Recorded lectures can obviate the need for large classrooms at all, if properly combined with tutorials or discussion groups, etc.
 - Provide IT tools and services to assist with managing large classes. Clickers can be used to take attendance in seconds, and also to make frequent in-class quizzes feasible to deliver and grade. Software can facilitate managing the tasks of assigning students to lab or tutorial groups, and gathering together exam, lab, and tutorial grades.

Foster an engaged university

- **Engaged scholarship**

- The same technologies used to create and deliver online courses can also be used to effectively deliver continuing professional development opportunities for practicing professionals. This is part of effective knowledge transfer and exchange, and assists directly parts of the provincial economy.

Additionally, extending hours of support for core ICT services will address many of the themes.

Revenues and Costs

Costs

As outlined in the Initiative Description section above, ITS contingency will be used to fund the first component of this initiative. The funding requirements for this component are significant. The specific allocations from contingency for this initiative will be finalized as the initiatives and priorities of the University's next 4-year plan are finalized. It should be noted that funding the University's teaching and learning environment from contingency is not sustainable in the long-term.

New funding will be required to further enhance the ICT teaching and learning environment as outlined in the table below.

ICT Teaching and Learning Environment Enhancements Requiring New Funding	One-Time Development Cost	Yearly Operations Cost
Ongoing operations, evolution, and support of online evaluations.		\$30,000
Provide appropriate tools and services to support the use of online exams, exam databank and automatic exam creation. There are a variety of needs pending on campus. This requires a high-reliability service.	\$40,000	\$60,000
Provide appropriate tools and services to support the use of electronic portfolios for students.		\$50,000
Provide tools for delivering and managing online course elements integrated with PAWS and the Blackboard course management system. Increased integration with PAWS and other systems are simply expected by students.		\$200,000
Within the planning timeline, it is expected that a major change in online course management systems (sometimes called learning management systems) may be necessary. New functionality and more flexibility are already being demanded to support what instructors want to do. Selection and planning will require a great deal of collaboration and coordination. A significant transition will be required that includes training for faculty and designers, conversion of course content, overlapping effort and cost for maintaining and supporting two entire systems	\$200,000	

ICT Teaching and Learning Environment Enhancements Requiring New Funding	One-Time Development Cost	Yearly Operations Cost
<p>Extend hours of support for core ICT services to include evenings and weekends.</p> <p>Core services include the network, Internet access, e-mail, web services, PAWS, Blackboard, as well as operating the servers that run SiRIUS, About-US and e-payments. The extended hours of support would include evenings and weekends. The support will include help desk staff to help resolve student, faculty and staff ICT problems and other staff to monitor and fix networks, servers, application software and databases in order to restore service as quickly as possible.</p> <p>This objective also supports other initiatives such as enhancing the research ICT environment and improving online business services. However, it most directly supports the themes supported by this initiative. Hence the budget is requested here.</p>		\$280,000
<p>Provide a platform of disk space, servers, databases (i.e., DSpace), to support applications required in numerous contexts to store, tag, and retrieve images (histology slides, image of archive documents, x-rays or CAT scans). Key uses are for teaching.</p>		\$60,000
Total	\$240,000	\$680,000

Revenues

University revenue for teaching and learning activities is primarily achieved through enrolments (recruitment, retention, student success). online education and distance education are opportunities to increase enrolments.

Additionally, the reputation of good teaching at the UofS can lead to improved enrolment and retention of students. Ways in which technology can help improve teaching (in the hands of skilled instructors and through properly supported services) have been enumerated above. The UofS receives good public news coverage for things like PAWS, clickers, and podcasting.

As well as increased enrolment, efficiencies (ability to serve more students without increasing classroom space, instructor or staff complement) are possible via:

- Distributed education technologies may reduce need for lecture room space. Technologies could expand the effective class size that an instructor addresses—important given expected faculty shortages. Lectures can be “broadcast” simultaneously to several rooms. Lectures could be recorded and made available only virtually, reducing, or changing the nature of, face-to-face meetings.
- Distributed education techniques could permit flexibility in course starting dates and duration.

- Collaboration and distributed education technologies could help alleviate demand for office space. Instructors and TAs could work from home or elsewhere. These technologies can also be used to provide the kind of student support to off-campus students as are provided to on-campus students (a direction of the ULC.)

The Provincial Technology Enhanced Learning (TEL) program itself has brought in money to create and deliver online content and also to conduct associated research.

Performance Measures/Metrics

- Number and value of research grants funded that study technology in teaching and learning.
- Lowering full cost per student per course (including all costs such as class room construction and maintenance costs, etc.)
- Number of additional students that can enroll in courses *because* they are offered online or otherwise supported using technologies.
- Survey student and instructor satisfaction with the level and use of technology in their courses.
- Number of courses offered online and number of students enrolled in online offerings
- Reduction in effort and turnaround time resulting from conducting course evaluations online
- Number of lectures recorded and number of accesses to those lectures
- *EDUCAUSE Core Data Service* can be used as benchmark for a number of measures regarding IT use by faculty and students

Responsibility

- Ed Pokraka, Director, Information Technology Services Division
- Keith Jeffrey, Manager, Educational and Research Technology Services

Timeline

The portion of this initiative that is funded from ITS contingency builds upon recent improvements to, and expansion of, the ICT teaching and learning environment. As such, this component of the initiative is in progress and will continue pending continued funding.

The remaining initiatives will be undertaken once the required funding is available.

Comments