“Higher education is seeing significant advancement in the use of technology to aid teaching and learning across the board. Whether we are talking about technology-aided interaction in the classroom, video and audio lecture capture for later viewing, remote control of experimental apparatus, or computer simulations to augment hands-on activities, faculty and students alike are using more and more IT every day.” (IT@Cornell Strategic Plan May 2013)

A Message from Clare van den Blink, Director, Academic Technologies

In the past year, Academic Technologies worked in collaboration with campus partners to simplify access to course technologies, extend learning technology options with mobile apps and eTextbook explorations, and plan for the next generation of learning technologies through the development of the IT Strategic Plan. Our annual report notes key trends from the past year: making existing technology more straightforward and simpler to use, enabling exploration of new technologies for teaching, and supporting the development of new types of digital course materials and approaches.

Several new innovative tools were piloted, such as mobile polling, digital lab notebooks and eTextbook options. Each pilot project explored new ways of collaborating and interacting with digital materials. As new learning technologies are introduced, we typically ask, “How do we know it works? What is the impact?” It can be challenging to “prove” that emerging technologies are effective, therefore, each pilot project included a research component to inform future adoption decisions.

The coming year will focus on experimentation with classroom technologies, and development of innovative approaches to teaching with technology, based on initiatives outlined in the IT Strategic Plan. We invite you to contact Academic Technologies when asking questions such as “Where do I go for learning technologies...?” or “Where can I find out more about classroom technologies that will...?” Often, questions from faculty provide the basis for explorations and research into innovative technology development.
Areas of focus in 2012/2013

Many of Academic Technologies' efforts focus on simplifying, innovating and transforming classroom, learning and teaching technologies.

Expanding and enhancing Cornell's digital learning infrastructure and services

- **Managed Enrollment** – Blackboard was updated to synchronize student enrollments with official class rosters. A new tab in Faculty Center, added August 2012, allows faculty to make course selection and submit requests through one interface, simplifying the process. Once the course is created in Blackboard, instructors and admins associated with the course are able to access it.

- **Media use in Blackboard is Simplified** (Kaltura) – When adding audio or video to Blackboard, faculty can now upload video files (under the Tools tab) directly using Kaltura Media, introduced in January 2012. Kaltura Media automatically compresses files to several formats and bitrates, making it easier to view on a variety of devices, including mobile. No special account is needed.

- **Piazza** is an innovative kind of online forum. Any student in a class can ask a question or contribute a response to a question that has been posted by someone else. Instructors and TAs are able to moderate posted items, and may choose to answer a question or endorse or correct a response that a student has posted. Piazza can be used independently of Blackboard by visiting piazza.com; however, adding a link to Piazza in a Blackboard course allows instructors and students to use it without an additional sign-in.

- During the Fall 2012 semester, Academic Technologies and Cornell University Library piloted Blackboard’s xpLor, a cloud-based Learning Object Repository (LOR). Learning Objects can be files (documents, PDFs, media clips), quizzes, assignments, discussions, rubrics, and learning modules. The goal of a LOR is to provide an environment where content can easily be imported into Blackboard Learn and other learning management systems such as Angel, Joule, and Moodle. Pilot participants created and shared content and provided feedback to Blackboard through webinars and user forums. At the end of the pilot, a determination was made not to move forward with xpLor at this time.

Teaching and learning with mobile devices

- **Blackboard Mobile Learn for Access on the Go** – Students and faculty now have more options for staying connected with Blackboard courses. The Blackboard Mobile app allows simple access and the ability to post and view announcements, update class assignments and grades, participate in discussions and create or reply to discussion threads.

- **A Poll Everywhere** pilot took place during Fall 2012 to evaluate the tool for possible use campus-wide. Ten instructors had students use their own mobile devices as part of an Academic Technologies polling technology pilot. The instructors displayed questions and students responded using their smart phones, laptops, tablets, and even text-only cell phones. In-class polling is a well-documented teaching tool that can increase student engagement and comprehension. Instructors liked the ease of use and reporting capabilities, and students appreciated being able to use their own familiar device, instead of having to purchase a clicker.
• The **Lecture Capture service** offers several methods for instructors to record lectures, either at their desks for distributed learning and flipped classrooms, or in the classroom to provide review opportunities for students. Academic Technologies is in the process of introducing a no-fee, do it yourself option to make this service readily available.

• **iPad Research** - During Fall 2012, Academic Technologies conducted a pilot program, lending iPads to faculty for use in the classroom; eight iPads were loaned to instructors in the sciences and humanities. Project goals included field testing of iPad technology in support of teaching, assessing user experience, and developing recommendations, training and documentation. The result – access to online resources during class supported productive, spontaneous discussions and spur-of-the-moment teaching decisions. Faculty reported adding new materials to course websites, assigning new tasks during class and modeling key behaviors, such as how to locate materials, cite, and post to the course blog. Spontaneous provision of supplemental materials, like audio, video, definitions, or images, aided student comprehension, and instructors were able to cover more material.

### Supporting the development and use of digital learning resources

• **eTextbooks/eContent Pilot** to become a service in 2014. The 2012 pilot continued into 2013 and included a partnership with Internet2’s Net+ division and EDUCAUSE. The pilot involved eTextbooks for 40 course selections and 1,600 students. Now Academic Technologies is partnering with the Cornell Store and the University Library to define a business model for handling eTextbooks across campus starting in 2014. This model will use Courseload eTextbook software, and will let faculty share annotations with students, who can share them with each other.

• **ePortfolios** provides an online record of student achievement and provides students a platform to collect content that represents themselves and the work they produce. The digital format extends the range beyond traditional paper-based assignments and includes video, audio, links and better quality images. It bridges the gap between offline and online learner content.

• **lynda.com pilot** is an online video training library with more than 1,900 training titles that can be accessed from anywhere. Faculty at other institutions have used lynda to supplement curricula, assign tutorials for a project or course work. It has also provides a resource for those who teach online. Available to the first 1,000 faculty, students and staff who request participation in the pilot from June – December 2013.

### Supporting faculty projects and learning technology for research

• **New help websites for Blackboard, polling and video** are now available. They provide help for faculty who want to use these services for their courses; for example, Videohelp provides information about creating video recordings, uploading videos to a Blackboard course, posting video online, and captioning videos.

• More options for managing **class computers in labs - new software**, that allows instructors to see what’s displayed on student computers, broadcast their display to student computers, and limit student browsers to specific web sites, has been installed in several computer labs.

• **Electronic Lab Notebook software – LabArchives** can be used by students and researchers to organize laboratory data, save historical versions of files, and share information and collaborate. It can be used in engineering, chemistry, biology, and other types of laboratories. A pilot conducted by Cornell University Library and Academic Technologies during the spring, indicated that *LabArchives should be offered as a regular service campus-wide* in Fall 2013.

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Academic Technology services can be found at:

http://www.it.cornell.edu/teaching/