Library & Technology Services
Annual Report
2013 - 2014

LTS had another very productive year in FY14, and the staff's hard work was evident in all that was accomplished. The underlying goal beneath everything we have done and continue to do is to provide the best services possible to all Wellesley College community members. We do this by aligning our work with four strategic priorities that were outlined in our strategic plan: expanding access; strengthening partnerships; providing a scalable, sustainable and agile infrastructure; and mitigating risks. In the last year we added a new strategic goal focused on online and blended learning. Our achievements from the past year are summarized below according to these five priorities. It should be noted that none of these successes would be possible without the ongoing support and collaboration of our fellow community members.

Online and Blended Learning

Wellesley successfully entered the world of online learning with its first two courses in Fall 2013 and Spring 2014: *ANTH207x, Introduction to Human Evolution,* and *HIST229x, Was Alexander Great?* Both courses were extremely well received with over 30,000 students enrolled. Our Media Services staff worked closely with the EdX team to film live student-professor classroom interactions, as well as interviews with experts in the respective fields. As a part of this course development, LTS staff developed best practices for the support of MOOC creation at Wellesley and worked with the faculty and EdX to push the current boundaries of the EdX platform to accommodate new technologies and modes of instruction.

In addition to these two MOOCs, the edX platform was used to create a Small Private Online Course (SPOC) for introductory Italian: *Wellesley College 100: Intensive Beginning Italian Language and Culture*. This summer 2014 course enrolled more than 50 incoming first-years. Our Media Services staff and students filmed and edited 39 sketches and 16 interviews for this course. This SPOC then transformed the teaching of one section of Introductory Italian on campus this fall as it became Wellesley's first fully blended course for Wellesley students. The course meets 3 days a week for in-person classes and 2 days a week online.

Expanding Access

LTS continues to increase access to the vast holdings of the library through new audio and video streaming services, by licensing and acquiring large new collections of e-books, by continuing to build the print collection with important scholarly monographs, and by digitizing some of the unique or rare holdings in the Archives and Special Collections. As always, LTS strives to build collections that best support the curriculum and scholarship at the College, and has been successful in partnering with several faculty members to acquire specific titles--often quite rare--for new courses. In addition, LTS has digitized a number of unique collections in order to enhance student access in her coursework. Some examples of this work include the following:
- In support of the Digital Scholarship Initiatives (DSI) program, Omeka software was installed and customized for the launch of Dear Home: the letters of Anne Whitney transcription project.
- 185 volumes of works designed by printer Bruce Rogers (gift of Charles Rheault to Special Collections) were digitized, uploaded to the Internet Archive, and are now cataloged. In the

Library's online catalog, these digital versions can be found by searching [Bruce Rogers online collection (Wellesley College Special Collections)](#).

- 14 manuscripts from the English Poetry, Plimpton, and general manuscripts collections held in Special Collections have been scanned and can be viewed [online](#) in the Wellesley College Digital Scholarship and Archive. The original manuscripts date from the 1400s to 1700s.
- 640 descriptive catalog records of Special Collections manuscripts (1600 to the present) were added to the Library's online catalog this year.
- In partnership with the Music Department, we have subscribed to Films on Demand, which includes educational films on music and dance, as well as a large collection of education films on historical subjects.

On the administrative side, a key priority for our work is data liberation - providing easy access to the institutional data that resides within Banner, while relying more heavily on business analytics to access that data. As part of this strategy, we have further developed an analytical reporting environment that allows non-technical staff to ask and easily answer data related questions. We also continue to expand our use of document imaging to replace paper documents and build automated administrative work flows to allow easy access to the electronic documents. We expanded our identity management system to automate work previously done by account administrators. We are also working to replace many of the vendor supplied (self-service) web front ends with forms developed using a custom developed PHP framework that are more accessible and functional for our end-users.

To further enhance student access to technology in support of their academic needs, a one-year subscription to Office 365 was made available for free to students through June 2015, which includes both the online version and full program suite.

Strengthening Partnerships

In pursuit of our service goals, we continually reach out to our academic and administrative colleagues to determine how best we can support their information technology needs. As a result of these ongoing conversations, many fruitful collaborations emerged. The highlights over the past year include:

- The Archives and Special Collections worked with the Art Department and the Provost's Office to commemorate the centennial of the College Hall Fire, which included a campus wide event, an exhibition installed in the Davis Museum, and a number of community presentations.
- LTS is supporting a collaborative campus initiative to extend the life of our desktop computing resources. *[WISC (Wellesley's Initiative for Sustainable Computing)](#)* is working with LTS to identify and prepare computers removed from offices, classrooms and labs for donation to students interested in learning Linux as well as non-profit organizations. (See [daily shot](#) featured article.)
- We supported a unique history course on Chinese-American Relations taught by Pat Giersch in collaboration with a colleague's class at Hong Kong University. Tools used

included Google Docs, Google Hangouts, and WebEx.
- We designed an affordable solution for Nick Rodenhouse and his student to record and live stream a unique ornithology opportunity (wild ravens nesting in the SCI fire escape) 24 hours/day for 2 months. While the initial intent was to support an academic program, there was an unintended benefit of providing access to this rare event to the broader community. LTS worked closely with Public Affairs to publish a special website for the project, which had 10,0000 views in the first three days.
- We have restructured our project priorities group to provide better partnerships with senior departmental managers.

In FY14 a cross-constituency group including representatives from LTS, Facilities, the PLTC, the Writing Program and the QR Program investigated the potential for an Academic Commons in Clapp Library. The team conducted site visits and calls, considered unique opportunities for space and collaboration at Wellesley and produced a Proposal for an Academic Commons which was reviewed by the Advisory Committee on Library and Technology Policy and the Campus Committee for Facilities and Planning. The proposal outlines a Commons which would re-invigorate Clapp as an intellectual anchor on campus by bringing the Writing and QR Programs into the building, rethinking student study and collaboration spaces, providing space for collaboration around a "cafe", and revitalizing the options for experimentation and risk in Clapp by updating the Knapp Center as a new Makerspace and providing a new classroom which would support project based learning and experimental teaching technologies. Based on the success of this proposal, money was made available for a feasibility study in FY15.

The Digital Scholarship Initiatives program had a successful launch this year in three key areas: program building, project work, and communication and outreach. Projects such as the crowdsourced transcription project of the letters of sculptor Anne Whitney and the Mediterranean Antiquities Teaching Collection highlight the College's unique collections, allowing students and faculty to engage and interact with content in new ways. A Showcase of the innovative work being done by LTS can be seen at http://www.wellesley.edu/lts/research/projects.

The Guthman Instructional Technology Intern Program was also launched this year. Seven Guthman IT Interns were hired to work with our Digital Scholarship Initiatives program and the Quantitative Analysis Institute, expanding our support capacity for faculty and students.

LTS hosted several events in which the College community engaged with new and existing information and technical resources:

- Digital Scholarship Day: Faculty, staff and students presented 13 lightning talks from a variety of disciplines including "Solar Panel Project", "A Digital Timeline of Anne Whitney's Life", and "Mapping the Anthropocene: Archaeology, global change, and geospatial technology." More information can be found in our feature in **EDUCAUSE Review Online**.
- Summer Faculty Instructional Technology Workshop: Twenty-five faculty from a wide range of disciplines came together for two days to work with and talk about current and potential uses for technologies in course preparation, classrooms and assignments. Topics ranged from iterative publishing and annotation to interactive classroom technologies, and options

for creating blended learning materials. Based on faculty feedback for this program, LTS will be providing additional workshops in FY15.

- [Quantitative Analysis Institute Events](#), includes guest lecture with faculty from Harvard University Statistics Department, and faculty workshops on Propensity Score Methods for Observational Study Design and the statistical software R
- [Spring Break Sandbox Series](#): Inspired by hackathons and playing to learn, we held a sandbox series during spring break where students, staff, and faculty experimented with eBook creation, makerspace tools, mapping, zines, and app building during self-guided, project-based, learning modules.

Providing a Scalable, Sustainable & Agile Infrastructure

In Spring 2014, the College made the decision to move from a decentralized administrative technology support model to a centralized approach within LTS. Through this reorganization, five of the nine functional analysts located in various administrative departments moved into positions in LTS. This was a strategic effort to provide more efficient and consistent technology support for the administrative departments. During the transition, it became apparent that are many opportunities to improve the attention given to several disparate systems and the infrastructure that supports them. Support of administrative departments includes a shift from report writing using enterprise data to more flexible analytic tools. This has resulted in necessary and beneficial re-examination of reporting needs.

One of our primary objectives is to continually look for ways to improve the efficiency and ease-of-use of internal processes, for both administrative departments and academic users. In web application development, major projects include:

- Moving our benefits open enrollment to an online portal and its subsequent data transfer to vendors
- Developing a campus events scheduling tool
- Making many improvements to existing applications that are now embedded in the work of the College, including faculty management activities, major on-campus conference management, study abroad management, admissions notecard, a database of test material for use in exam/quiz creation, as well as apps that improve communication and sensitive data transfer with vendors and contractors.

In our support of the college website, we have moved our Drupal environments to a cloud version hosted by Acquia. We already had 24/7 availability, but this will also allow content providers continued access. We have also continued to work on the main College website, shifting the Davis Museum website from Wordpress to Drupal, rolling out a new Art department website, and hosting a new robust Wellesley Magazine site created by exterior designers. We have begun the investigation of migrating our current website to a responsive design to better support use on mobile devices.

Wellesley continues to move towards open source software solutions wherever possible and away from expensive vendor supplied tools such as the Luminis Portal and Oracle reporting tools. We are moving away from the Luminis (Ellucian) portal to one with a Drupal (open source) front end

and a yet to be determined custom developed back end.

Our equipment collection continues to expand and circulate widely. On campus students engaged in Cinema and Media Studies, Music, Sports Medicine and Education worked with iPads to create content for their assignments. Technology travelled with students to Russia, Costa Rica and Greece with students creating video blogs, filming documentary footage and creating aerial images of an archeological dig with our new drone. Students and faculty began using two new 3-D printers for experimentation and course work, and our Instructional Technology staff laid plans for a new Makerspace "Toy Box". This portable Makerspace aims to make the College community aware of the Makerspace in Clapp Library, to promote learning through play, to help these tools feel more accessible to students who have not encountered them before and to inspire new ideas for the use the tools.

In response to the growing need for students to have mobile technology for their academic work, we expanded our circulating collection to include Chromebooks. The spring 2014 pilot provided 26 chromebooks to students for the full semester in return for feedback on their usefulness. Based on the overwhelmingly positive feedback from students who worked with GoogleApps and Office Online (among other online tools), we expanded the collection for FY15. Because the chromebooks are low-cost alternative laptops for students not requiring specialized academic software, we will be able to expand the collection to accommodate basic student computing needs.

We have piloted Chromeboxes and Google Cloud Print in the Clapp Reference Room, a computer lab that has been used predominantly for email and printing the last few semesters. These devices are cost-effective (1/4 to 1/3 the cost of traditional laptops or desktop devices), fast, and simplify the Google Apps experience on the go. Office 365 can be used to access most Microsoft Office features on the web from a Chromebox or mobile device.

In our continuing effort to provide more flexible classroom spaces, we piloted Apple TV in four classrooms during the Spring semester, allowing faculty to wirelessly project from their iPads and laptops and students to present more efficiently. LTS can now equip many classrooms less expensively than using ceiling-mounted projectors. Region-free DVD or Bluray players are now standard in every classroom, and LTS staff actively digitize VHS and other legacy sources by request in the interest of further streamlining the equipment in each classroom. An interactive LED was installed in Clapp 346, mobile SMART Board in FND 225 and a mobile SMART board was added to the PERA conference room in the Sports Center in collaboration with PERA.

LTS supported the renovation of three classrooms in GRH this summer, all of which feature an 80" LED screen and streamlined instructor desk with minimal wires and simple touch-screen interface. GRH 330 features an interactive LED and all rooms have an AppleTV. Department conferences, such as in the Spanish department also received LED screens, to provide additional classroom "swing space" during the multi-year renovation process.

We streamlined the network infrastructure by retiring Cisco Clean Access/NAC and the Administrative Firewall. Network authentication now occurs when you log into a College computer with your domain account on the wired network, or when you connect your mobile device to the Wellesley Secure wireless network. This method supports restricted access to secure systems, but also vastly simplifies login time for faculty and staff.

We replaced a number of critical systems and equipment, most of which were 6+ years old. In the final phase of upgrading the network switches on campus, the last ~100 "edge" switches were replaced. This equipment provides wired network connections to classrooms and office desktops. In addition, all legacy wireless access points (802.11g) have been upgraded so the entire campus wireless network runs on the same standard (802.11n).

A number of improvements were made to the wireless network. Wellesley Secure is the new, encrypted wireless network that replaced the non-encrypted "Wellesley" network. Wellesley Guest is the new guest network; the initial rollout leveraged a built-in guest portal from Cisco, which we simplified drastically in August to further improve our guest experience. Futhermore, we now participate in **eduroam**. Eduroam provides secure wireless access from any participating educational institution. If you are visiting one of these institutions **worldwide**, all you need to do is to connect to the wireless network called eduroam and use your Wellesley domain account.

The central server environment has been reduced in physical size by over 60%, reducing power and maintenance costs, by leveraging more virtual solutions on campus as well as hosted cloud solutions.

We created an interactive Google map for Wellesley's most complex building, the Science Center, allowing users to see floor plans and different levels on their mobile devices as they walk around.

We also expanded the digital signage in several locations across campus: four residence hall dining halls, Keohane Sports Center, Schneider, and Green Hall.

Mitigating Risk

We did not previously have a process in place for purging social security numbers from the database records in Banner. The retention of large numbers of SSNs greatly increased our risk for a large-scale data breach.   This past summer we removed approximately 205,000 SSNs from Banner, retaining only about 25,000 that are necessary for business processes.   We also established a routine purge process going forward - SSNs will be purged on an annual basis, according to established retention schedules for different populations.

In order to comply with state security regulations regarding employee education, we rolled out SANS security training to all administrative staff, campus police union staff, and other community members that have access to Confidential Data (including admission readers). These staff are required to take the training on an annual basis. We also implemented a policy that requires the security training for phishing victims within two weeks of their account compromise. Almost 600 employees have completed the training in the past year.

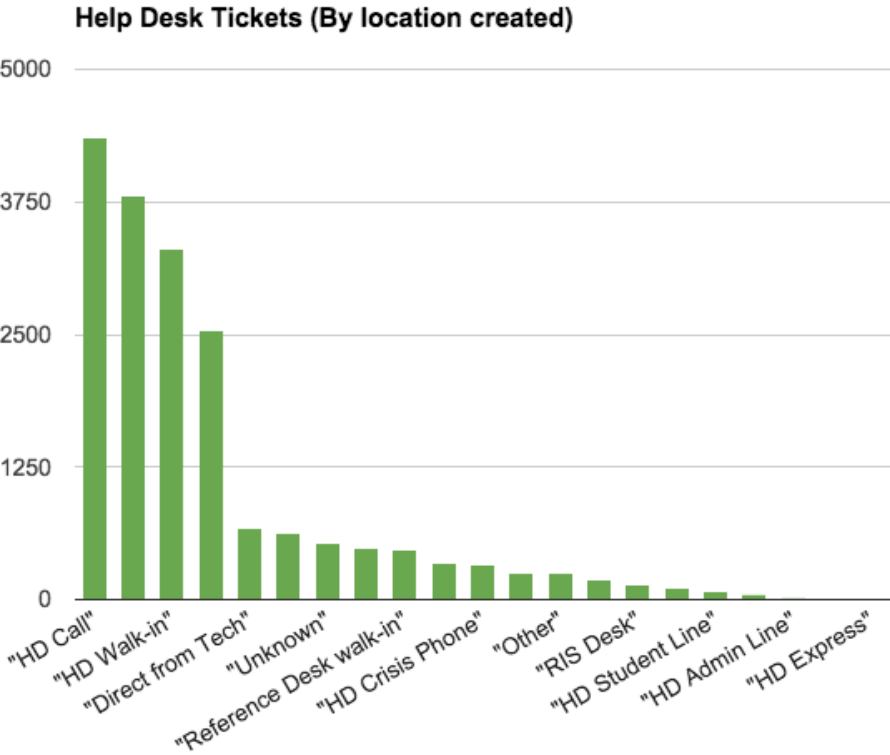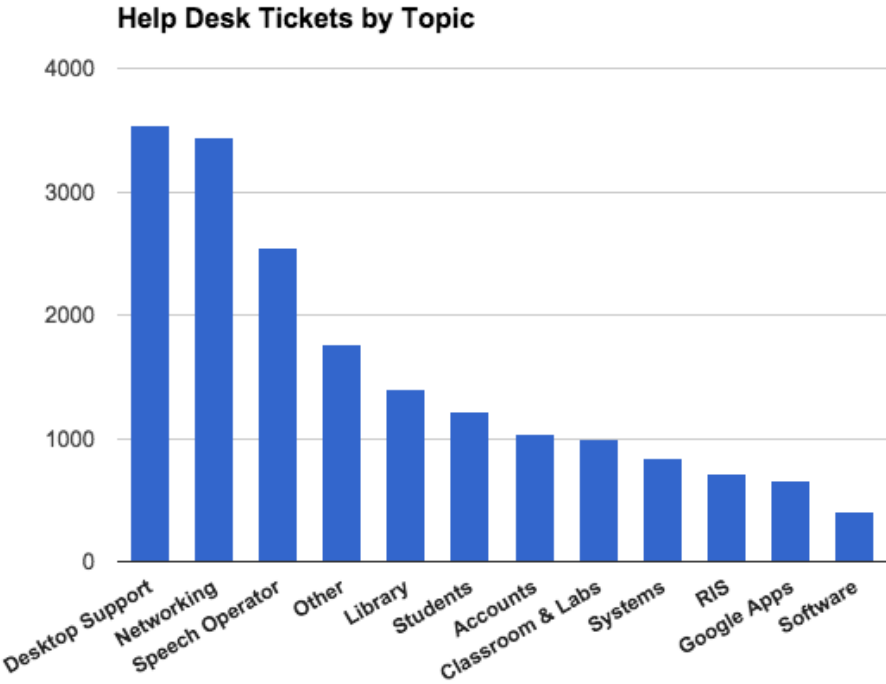Following an external information security assessment that was conducted the previous year, we successfully implemented the majority of the remaining recommendations. Responsive actions to these recommendations are as follows:
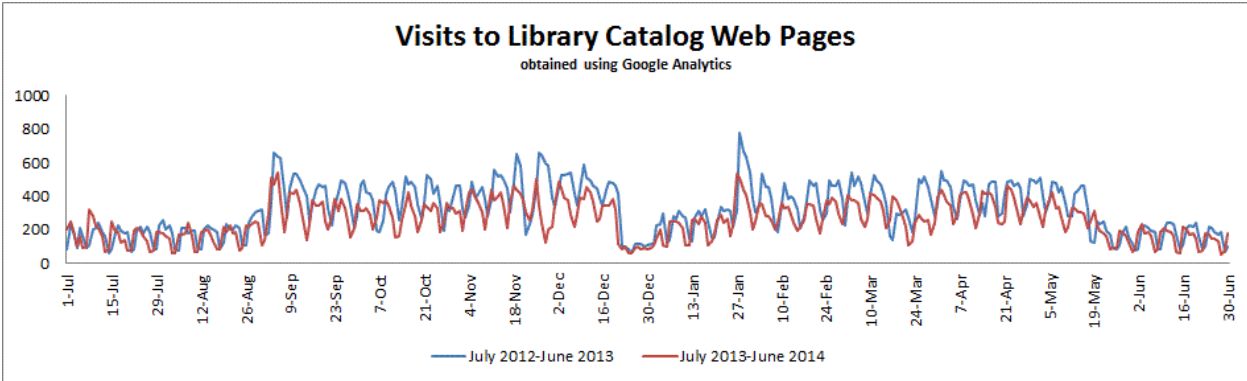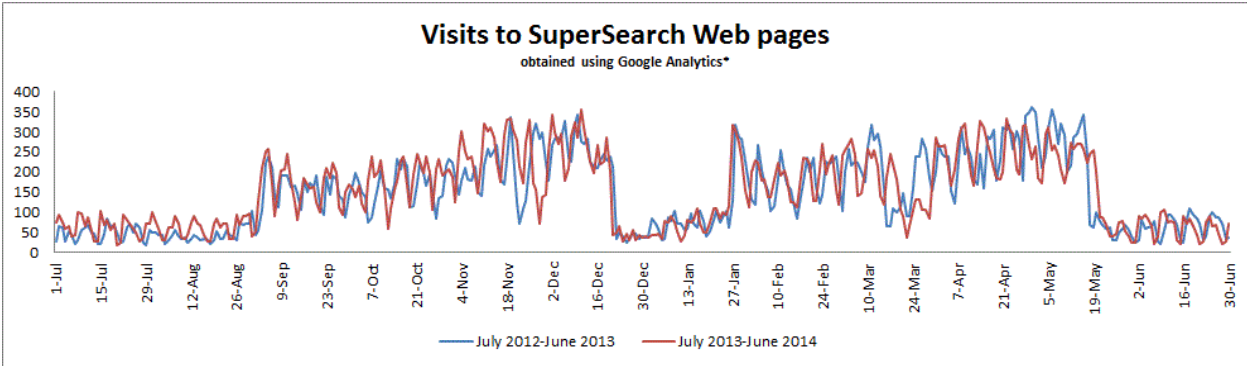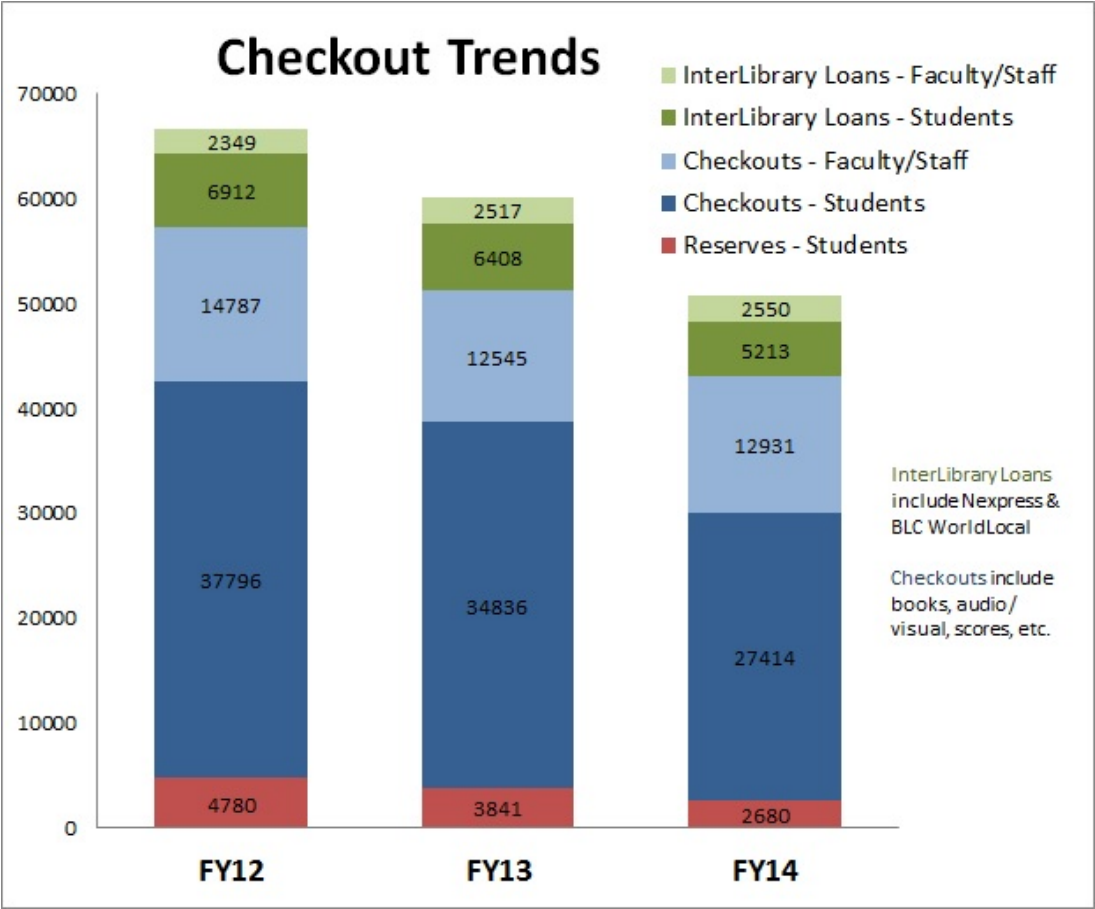- Restricted vendor access - Vendors are now supplied with unique login IDs that are normally disabled and only enabled when needed and set with an automatic expiration date. Vendors

are also required to complete the SANS security training and sign a Secure Data Agreement.

- Restricted student access to proprietary College data - Students now have their own credentials based on job function, rather than using their employers' credentials
- Implemented data access review policy - We provide data stewards details of who have access to data on an annual basis; also document requests for changes and approvals and alert data steward
- Established rules for developers to reduce Cross Site Scripting vulnerabilities
- Implemented role-based access control for all systems - WIDM, Banner, Datamart all have role-based security
- Incorporated security into application development process - Use objective QA process to assess security of in-house applications; require third-party developers to conduct security testing
- Data classification - Classification of sensitive data was revised in the latest version of the Written Information Security Program to simplify the definitions for our users. Using this data classification, we developed a [Data Storage Guideline](#) to clearly outline the safeguard requirements for the different types of data.

LTS by the Numbers 2013-2014

Help Desk Tickets by Topic

Categories (left to right): Desktop Support, Networking, Speech Operator, Other, Library, Students, Accounts, Classroom & Labs, Systems, RIS, Google Apps, Software

Y-axis: 0 to 4000

Help Desk Tickets (By location created)

Categories (left to right): "HD Call", "HD Walk-in", "Direct from Tech", "Unknown", "Reference Desk walk-in", "HD Crisis Phone", "Other", "RIS Desk", "HD Student Line", "HD Admin Line", "HD Express"

Y-axis: 0 to 5000

Checkout Trends

Legend	
InterLibrary Loans - Faculty/Staff	
InterLibrary Loans - Students	
Checkouts - Faculty/Staff	
Checkouts - Students	
Reserves - Students	

	FY12	FY13	FY14
InterLibrary Loans - Faculty/Staff	2349	2517	2550
InterLibrary Loans - Students	6912	6408	5213
Checkouts - Faculty/Staff	14787	12545	12931
Checkouts - Students	37796	34836	27414
Reserves - Students	4780	3841	2680

InterLibrary Loans include Nexpress & BLC WorldLocal

Checkouts include books, audio/ visual, scores, etc.

Visits to SuperSearch Web pages
obtained using Google Analytics*

July 2012-June 2013 — July 2013-June 2014

Visits to Library Catalog Web Pages
obtained using Google Analytics

July 2012-June 2013 — July 2013-June 2014

Library Checkouts by Location
FY2014 vs FY2013

Location	July 2013-June 2014	July 2012-June 2013
Art Library	7636	8386
Clapp Library	32167	37501
Music Library	6161	7856
Science Library	2353	2805
Recreational Reading	1816	2188
Off Campus Storage	76	100
NExpress	2393	4590
InterLibrary Loan	3855	3458
WorldCat Local	1423	911
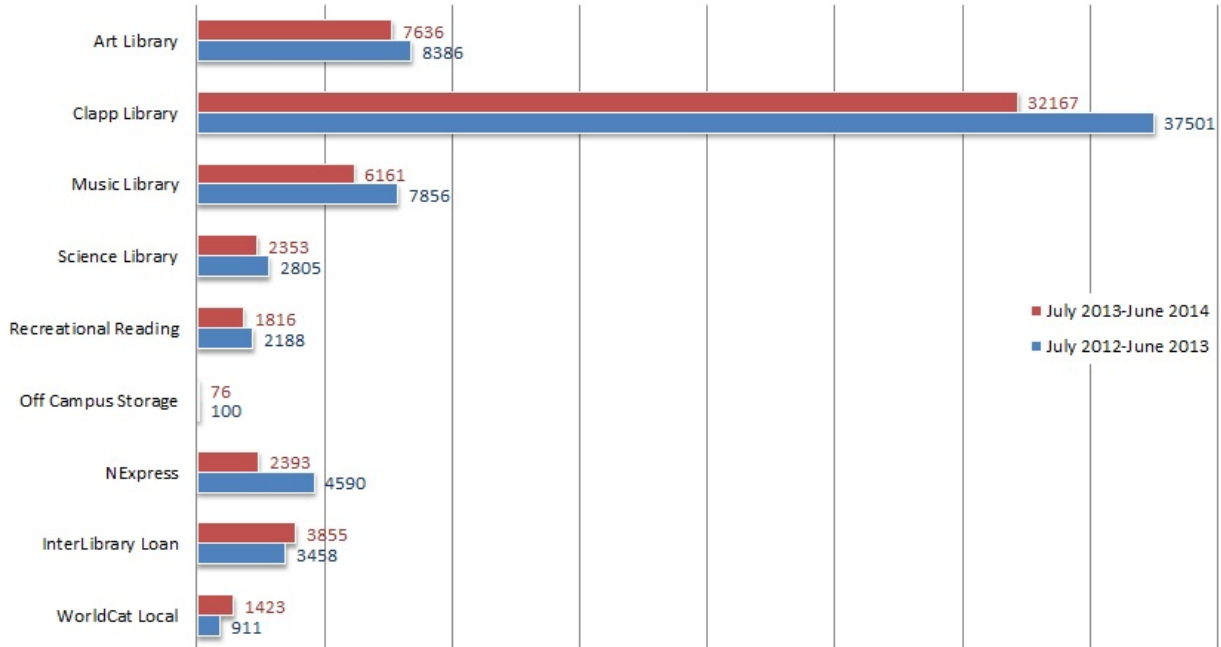
Circulating equipment: % days in use during academic semesters (most popular equipment)

Legend:
- Mac Laptops
- PC laptops
- iPads
- Video/Still Cameras
- Tascams
- LCD Projectors
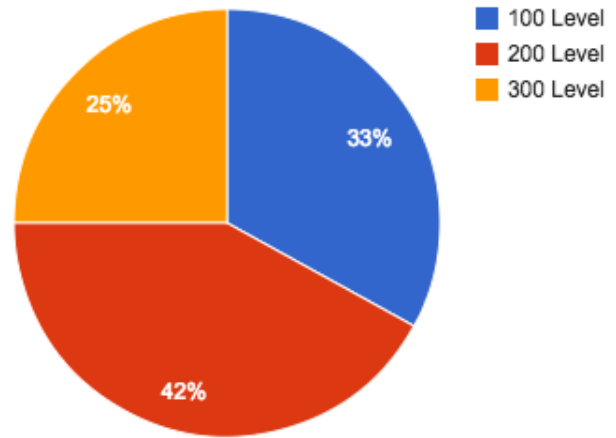
Axis: 50%, 63%, 75%, 88%, 100%
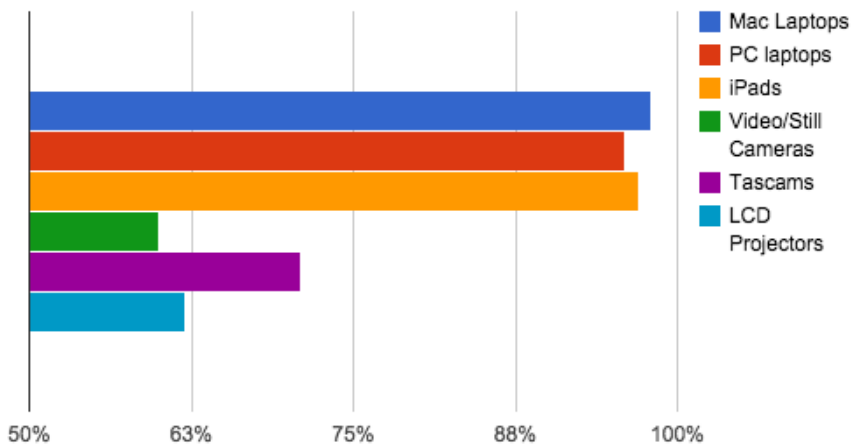
Instructions stats for Research & Instruction and Library Collections
(not including credit-bearing classes)

Total classes by year

FY14 Classes by level

Legend:
- 100 Level
- 200 Level
- 300 Level
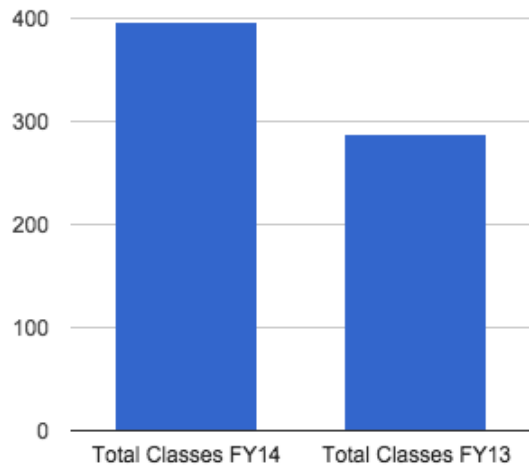
Pie chart values: 33% (100 Level), 42% (200 Level), 25% (300 Level)

FY14 Classes by department

Classes by dept.

Departments (left to right): WRIT, HIST, CAMS, ARTS, FREN, POL, BISC, CHEM, MUS, PHIL, AFR, PEAC, REL, SUST, ITAS, BIOC, MER, EALL, CS
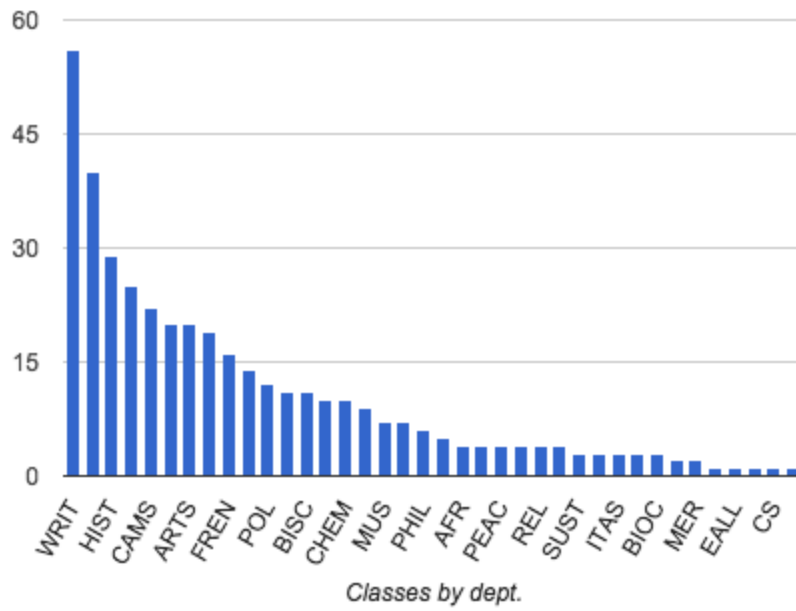
Most Popular Banner Self-Service Applications
(including total page views)

Legend:
- Application Status (23,485)
- View Unofficial Transcript (21,896)
- View Account Info (27,227)
- Student Course Schedule (17,454)
- Course Registration (17,248)
- Class Lists (14,570)
- View Grades (11,716)
- Student Course Schedule Detail (6708)
- SEQ Information (6395)
- Time Sheets (6175)
- Course Search (5682)
- Dispersement Aid Award (4678)
- Finaid Requirements Tracking (4307)
- Term Selection (4034)
- P.E. Registration (3883)
- Finaid Award (3854)
- View Leave Balances (3728)
- Student Timesheets (3302)

Pie chart percentages: 12.6%, 11.8%, 14.6%, 9.4%, 9.3%, 7.8%, 6.3%, 3.6%, 3.4%, 3.3%, 3%, 2.5%, 2.3%, 2.2%, 2.1%, 2.1%, 2%, 1.8%

Presentations and Publications

Invited Presentations

Ballantyne, S Terry and Donna Volpe Strouse. "Project Management in Higher Ed: Common Challenges and How to Overcome Them," with Susan Zaslaw, NERCOMP, Norwood, MA, June 5, 2014.

Ballantyne, S Terry and Donna Volpe Strouse. "Project Management in Higher Ed: Common Challenges and How to Overcome Them," with Susan Zaslaw, NERCOMP, Norwood, MA, November 7, 2013.

Bartle, Jenifer and Kara Hart. "Supporting Digital Scholarship with Omeka," NERCOMP Annual Conference, Providence, RI, March 25, 2014.

Brooks, Megan A. "Monitoring and Promoting the Impact of Pedagogically-Related Scholarship," with Adele J. Wolfson, panel presentation at "Altmetrics: Help Your Researchers Measure Their Full Impact - ACRL New England Chapter Scholarly Communications Interest Group Fall Program," Northeastern University, November 14, 2013.

Darling, Rebecca. "Doing Pedagogy on a Shoestring Budget: Digital Storytelling Using iPads" NERCOMP PDO Doing Digital Humanities on a Shoestring Budget, June 5, 2014.

Ferwerda, Carolin and Cassandra W. Pattanayak. "Data Visualization Introduction Panel," with Jean Bauer and Amy Papaelias, NERCOMP Data Visualization for the Humanities (Organizer: Rebecca Darling), UMass Amherst, June 16, 2014.

Pattanayak, Cassandra W. "Inferring Causation without Randomization: A matched design to assess the number of embryos to transfer during in vitro fertilization," Amherst College Math Department, Amherst, MA, September 23, 2013.

Pattanayak, Cassandra W. "Inferring Causation without Randomization: A matched design to assess the number of embryos to transfer during in vitro fertilization," Union College Math Department, Schenectady, NY, October 15, 2013.

Pattanayak, Cassandra W. "A Potential Outcomes, and Typically More Powerful, Alternative to 'Cochran-Mantel-Haenszel,'" University of Connecticut Department of Statistics, April 2, 2014.

Pattanayak, Cassandra W. "Causal Inference in a Partially Randomized Preference Trial with Small Samples," with Katharine L. Loeb, Sue M. Marcus and Diana Schron, New England Statistics Symposium, Harvard School of Public Health, April 26, 2014.

Pattanayak, Cassandra W. "Reaching Students Outside the Statistics Classroom: Integrating statistics into the coursework and research experiences of non-statistics majors" and "Panel on Bridging the Disciplines," Second Biennial Electronic Conference on Teaching Statistics, Consortium for the Advancement of Undergraduate Statistics Education, May 23, 2014.

Pattanayak, Cassandra W. "Data Visualization can be Beautiful and Useful - Graphic Design for Data Visualizations," with Amy Papaelias, NERCOMP Data Visualization for the Humanities (Organizer: Rebecca Darling), UMass Amherst, June 16, 2014.

Pattanayak, Cassandra W. "The Statistician's Role: Evaluating legal aid, guiding infertility clinics, and developing a statistical consulting service," Panel Presentation on "The Crucial Role of Cross-Disciplinary Communication" (Organizer: Cassandra W. Pattanayak), Mixed Methods International Research Association Conference, Boston College, June 28, 2014.

Ravishanker, Ravi. "New England Banner Users Group", CIO Roundtable, September 23, 2013.

Ravishanker, Ravi, Sandra L. Miller, Deputy CIO , William Paterson University of New Jersey, and Jesse Schreier, Instructional Designer, Brown University. "MOOC CHALLENGES: PEDAGOGY, LOGISTICS, & STUDENT SUCCESS", NERCOMP Annual COnference, Tuesday, March 25, 2014.

Ravishanker, Ravi, with five other CIOs. "A COLLABORATIVE APPROACH TO SECURING YOUR CAMPUS", NERCOMP Annual Conference, Wednesday, March 26, 2014.

Stahura, Dawn. "Exhibiting Awesome Outreach", presentation at NERCOMP professional development opportunity: "Partnering with Student Affairs and Other Campus Colleagues: New Opportunities for Student Outreach and Engagement", UMass Amherst, December 9, 2013.

Papers Published or Delivered

Bartle, Jenifer (forthcoming, 2014). "The Letters of Anne Whitney: Using Archives in Digital Scholarship." _Feminist Collections: A Quarterly of Women's Studies Resources._

Darling, Rebecca. (30 June 2014). "Digital Scholarship Day at Wellesley." _EDUCAUSE Review Online_. http://www.educause.edu/ero/article/digital-scholarship-day-wellesley?utm_source=Informz&utm_medium=Email+marketing&utm_campaign=EDUCAUSE

Turpie, A. G. G., Haas, S., Kreutz, R., Mantovani, L. G., Pattanayak, C. W., Holberg, G., Jamal, W., Schmidt, A., van Eickels, M., and Lassen, M. R. (2014). "A non-interventional comparison of rivaroxaban with standard of care for thromboprophylaxis after major orthopaedic surgery in 17,701 patients with propensity score adjustment." _Thrombosis and Haemostasis, 111_(1), 94-102. DOI: 10.1160/TH13-08-0666

Wolfson, Adele J., Brooks, Megan A., Kumbier, Alana L., and Lenares, Deborah A., (2013). "Monitoring and promoting the impact of pedagogically related scholarship", *Biochemistry and Molecular Biology Education*. DOI: 10.1002/bmb.20730

Wolfson, Adele J. and Brooks, Megan A. (10 December 2013). "With altmetrics on the rise, the education community can capture insights into how pedagogy research is being used." *LSE Impact of Social Sciences.*
http://blogs.lse.ac.uk/impactofsocialsciences/2013/12/10/citations-and-altmetrics-in-education-research/