



**Office of Technology Services
Classroom and Computer Lab Technologies**

**Fiscal Year 2014 Annual Report
October 21, 2014**

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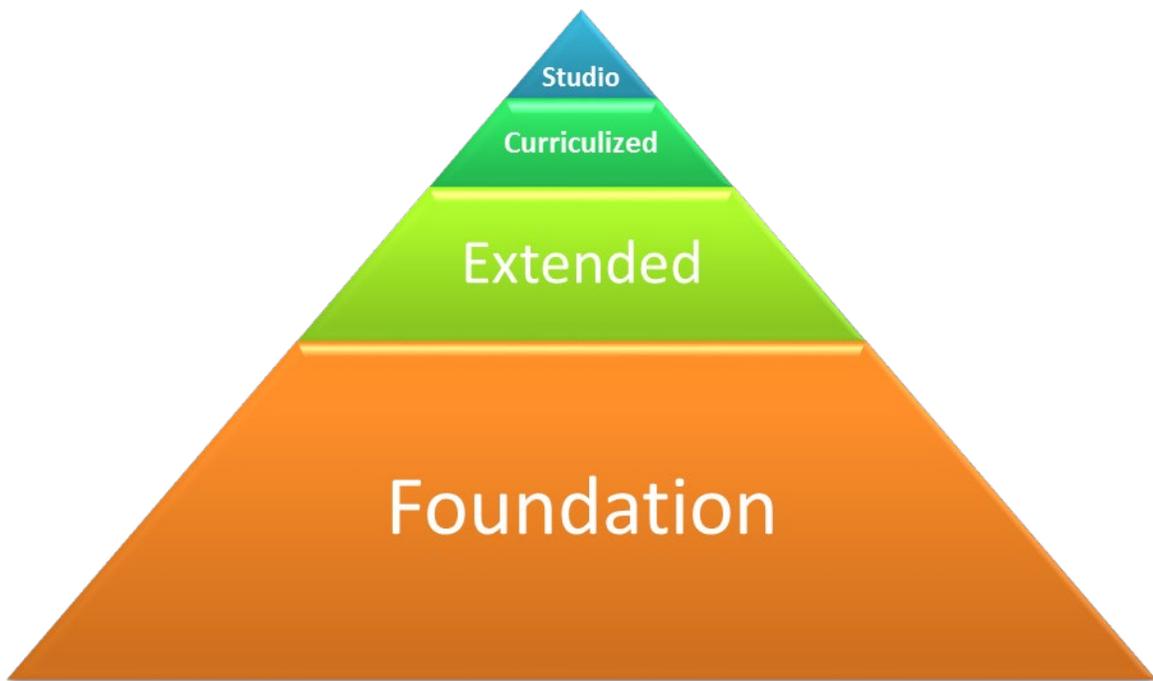
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Supplement: All Approved Projects by College or Unit

I. Overview

- A. This report covers Fiscal Year 2014 (July 1, 2013 through June 30, 2014).
- B. Towson University remains in a strong and unique position in that the funding source for classroom audiovisual technology and computers in classrooms and labs is assured through a stable, predictable funding stream based on student technology fees. Students benefit directly from this approach; their entire fee contribution flows directly toward building, sustaining, and supporting a top-notch learning environment—an environment with which they interact on a daily basis. Decision-making processes have been in place to ensure fair consideration of college and department technology needs while ensuring campus-wide priorities and standards are achieved.
- C. The Classroom and Computer Lab Technologies (CCLT) team has two core missions: construction and maintenance of the campus classroom and computer lab infrastructure, and support for faculty clients who use the technology.
- D. The infrastructure mission includes planning, scheduling, and overseeing both new construction and renewal activities on the main campus as well as at satellite locations, including the newest location in Northeastern Maryland. Almost all the infrastructure work focuses on academic spaces.
- E. Academic learning spaces continue to be funded through Student Technology Fees (STF) and funds are used for instructional and audiovisual technology components, as well as computers in instructor workstations and student computer labs. A primary usage test involves whether the space is scheduled for credit coursework. For informal learning spaces, while direct STF funds are not generally used for new construction or renewal, the CCLT staff typically provides a degree of support as well as construction and maintenance oversight.
- F. The support mission involves providing technical support, preventative maintenance, onsite repairs including coordination with contractors, assisting college and department technology staff in a variety of ways, making onsite classroom and lab visits, and other activities as determined through service agreements with each college.
- G. First-line technical support includes staffing the 4TECH "hotline" and responding to Classroom problems reported by the colleges and departments through TechHelp. During FY14, planning began to provide an additional 16 hours of support to the 4TECH "hotline" using OTS resources, including coverage provided by the new fulltime staff at Towson University Northeastern Maryland and in partnership, OTS Student Computing Services.
- H. The infrastructure significantly expanded this year with the emerging Towson University Northeastern Maryland building. A complete renovation to Burdick Hall and substantial renovations in technology to classrooms in COFAC were major projects undertaken during the summer construction season.
- I. As the technology investment has expanded and been brought up to date, funds have to be set aside to ensure ongoing sustainability and renewal. This reduces the funds available for new initiatives and has necessitated a look at how technology choices are chosen and prioritized. A new funding distribution approach has been proposed that ensures foundation will continue to be effectively funded but also redistributes a portion of available funds to the Academic Affairs Division, which in turn can decide and prioritize initiatives that fall into extended or curricularized areas. **See Chart 1 at the end of this section.**
- J. The University's goal of having base-level technology in every room has been achieved. The challenge moving forward will be to appropriately balance the funding and resource pool to provide reasonable and judicious support to equip certain venues with additional extended or curricularized capabilities.

Chart 1
Classroom Technology – Equipment Types



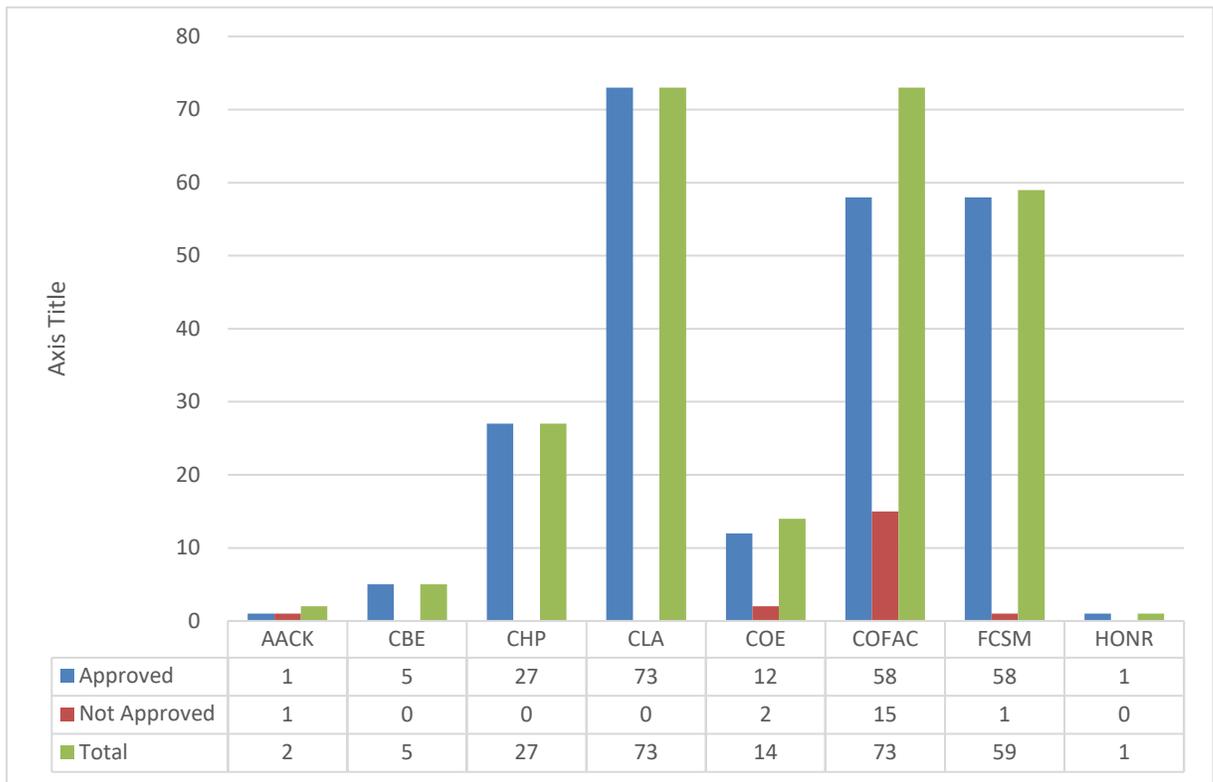
- **FOUNDATION TECHNOLOGY:** supports proven, current-generation general-purpose audiovisual and projection systems and represents the desirable core equipage for all formal learning spaces; includes screens, touch-panel displays, document cameras, speakers and sound reinforcement, microphones, instructor and student computers, podiums, data connections, and other components and equipment commonly used across a wide variety of courses.
- **EXTENDED TECHNOLOGY:** supports curriculum transformation by expanding the set of technology tools available for teaching and learning. Extended technologies for the purposes of allocation of technology fees are considered "proven and effective, yet not widely leveraged or deployed at Towson." Examples include capture solutions (e.g., installed classroom recording hardware), interactive boards, higher-end videoconferencing, etc.
- **CURRICULIZED TECHNOLOGY:** closely tied to a particular discipline, program, or course; used directly by students; vital to the learning process and student success. Curriculized technology may require specialized or more in-depth support by college or department staff, faculty, or graduate assistants.
- **STUDIO TECHNOLOGY:** this is high-end and more complex technology used in interactive classrooms and includes more than two video cameras, multiple projection surfaces, and other equipment that allows production and broadcast-quality recording or highly immersive videoconferencing. Costs are significant, and a high degree of support is needed to assist faculty or operate the equipment, or pre- and post-production services.

II. Financials

- A. The STF budget for FY 14 was \$ 3,412,130 which included a base FY attainment of \$3,208,800 for FY 14 plus an additional \$203,330 carried over from FY 13. The deferment was due to purchase order processing deadlines and construction schedules.
- B. Of the projects approved for FY 14, 44% (\$1,498,981) was spent to add or upgrade classroom audiovisual presentation systems and incorporate new instructional technology solutions strategically throughout the campus.
- C. Additionally, 25.5% (\$870,720) was spent in FY 14 to achieve a three-year replacement cycle for computers in classrooms and computer labs—computers used directly by students and faculty for instructional activities. The computers that are replaced are transferred to the CompuCycle program for distribution at other locations on campus or donated to local school districts.
- D. The computer standard was changed this year to include solid state drives. A design change was made to the classroom standard which includes instant on projectors. These two important changes satisfy a long standing goal from the original classroom planning roadmap to shorten the time it takes for a faculty member to enter the classroom, bring the computer and audiovisual system online, and begin active instruction—as well as shorten the "recycle" time between instructors scheduled back-to-back.
- E. After months of negotiation with MEEC and Adobe, which included rewriting the Adobe Creative Cloud Licensing Agreement, allowed STF to fund the campus-wide purchase of the Adobe Creative Cloud products for computers included in the STF program. It also paid for the renewal of the Ghost Licenses, which are used by the lab managers to image computers, and the LanSchool renewal, which is used in almost all of the teaching computer labs.
- F. 235 projects submitted during FY 14 were approved (92.5%), while 19 (7.5%) were not approved and requestors were directed to other sources of funding. The majority of those not approved, fell outside the scope of the current program
- G. **See Annual Report Supplement (separate document)** for a complete list of approved projects broken down by college and other supported units.
- H. Financial charts: pages 6 through 8

Chart 2

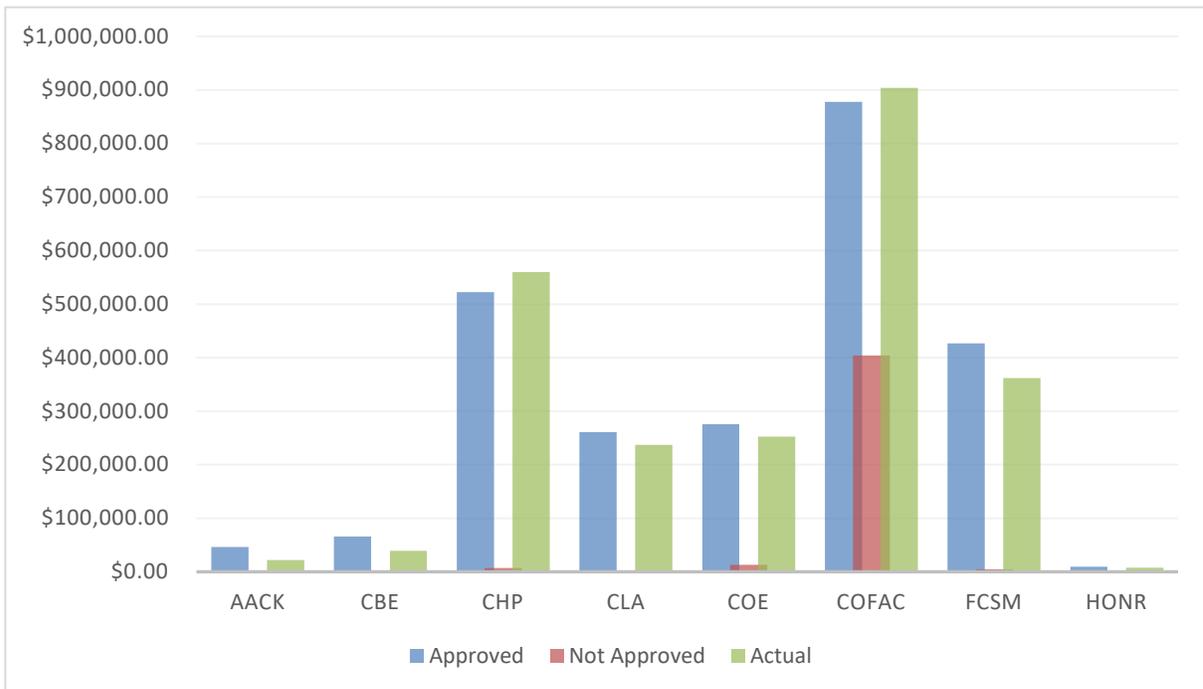
Project Requests and Approval Status by College and Overall



* Note: AACK refers to Cook Library; they are not associated with a college, but have projects and needs that are supported by Student Technology Fees.

**Chart 3
Project Costs by College/Unit ***

College	Approved	Not Approved	Actual
AACK	\$46,350.50	\$0.00	\$21,945.39
CBE	\$65,958.98	\$0.00	\$39,460.79
CHP	\$522,646.93	\$7,168.68	\$559,523.01
CLA	\$260,833.27	\$0.00	\$237,272.18
COE	\$275,497.53	\$13,200.00	\$252,568.73
COFAC	\$877,659.92	\$403,901.58	\$903,800.05
FCSM	\$426,933.40	\$5,000.00	\$361,635.65
HONR	\$9,600.00	\$0.00	\$7,992.00

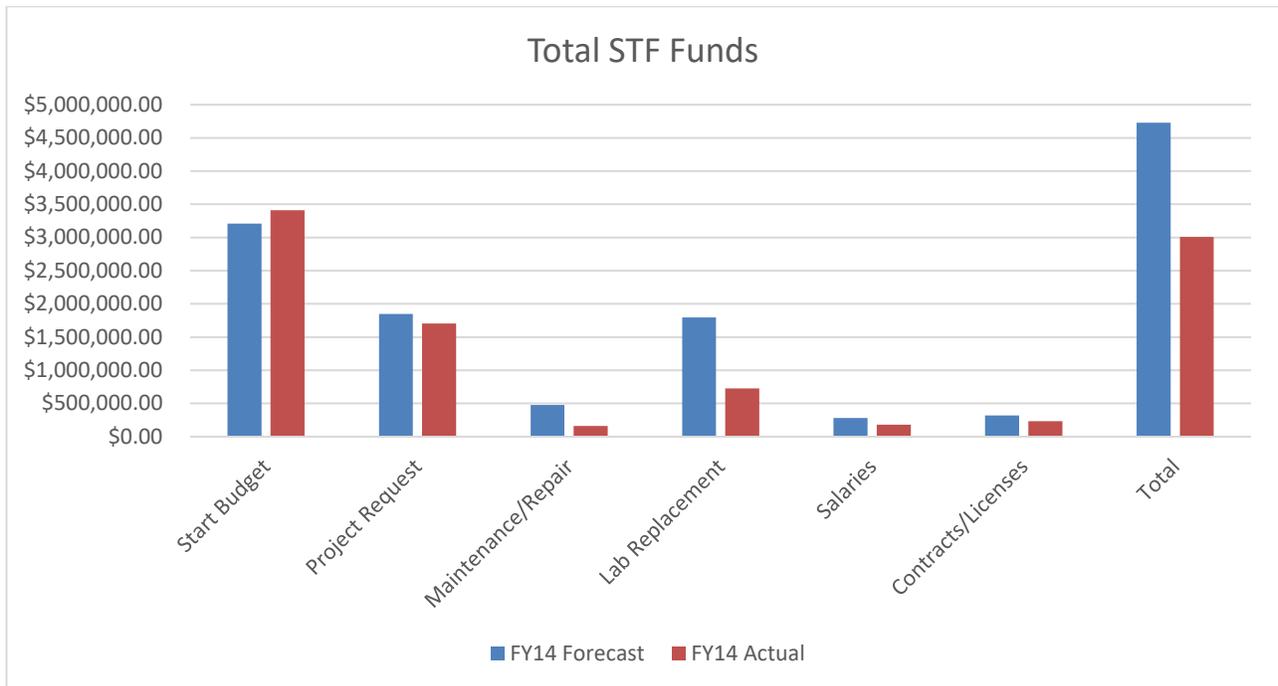


* Note: AACK refers to Cook Library which has classrooms that are used for credit instruction and, by that criteria, have projects that are supported by Student Technology Fees.

Chart 4
Student Technology Fee Expenditures: Forecast and Actual

	FY14 Forecast	FY14 Actual
Start Budget	\$3,208,800	\$3,412,130
Project Request	\$1,849,320	\$1,706,443
Maintenance/Repair	\$480,000	\$162,720
Lab Replacement *	\$1,796,400	\$726,440
Salaries	\$280,000	\$179,161
Contracts/Licenses	\$322,000	\$231,795
Total *	\$4,727,720	\$3,006,559

*Due to needs to support construction, money was shifted to FY15 for a part of the Burdick project. Also, during FY14, available data from the colleges and departments for computer renewal was not sufficient to provide adequate planning.

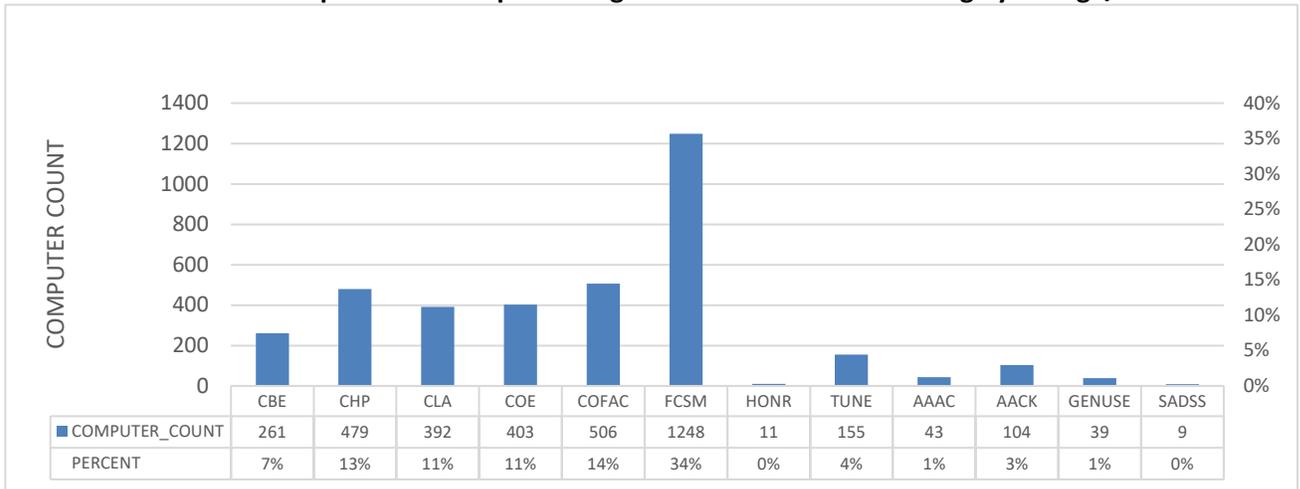


III. Infrastructure and Assets

- A. As of 9/30/2014, the university has 492 spaces equipped with audiovisual and/or computer lab technology. Of this total, 439 (89 %) are classrooms, seminar rooms, lecture halls, and specialty instructional venues.
- B. The remaining 53 rooms are venues like department or college conference rooms or other non-academic spaces with audiovisual capability. While the Office of Technology Services (OTS) assists with support, maintenance, contractor coordination, and construction and renewal, the three CCLT coordinators do not typically get involved with these venues since they are not directly used by students—thus, they are not appropriate for support using the Student Technology Fee budget; other OTS personnel handle these venues.
- C. The CCLT team maintains an inventory of all known classroom and computer lab infrastructure assets. A Web-based Virtual Tour includes pictures, equipment details, use instructions, visitor information, links to support resources, and other tools. The Virtual Tour showcases the breadth and scope of the university's investment; widely used by faculty, support staff, contractors, and visitors, it is one of the best ways to understand the sheer magnitude of technology resources available to the TU community: <http://wwwnew.towson.edu/classroomtechnology/virtualtour/>.
- D. As of 9/30/2014, there are a total of 3,628 computers in active use in classrooms and computer labs. Our university goal is to ensure computers in these critical, highly utilized venues are refreshed approximately every three years. This is accomplished by using a master campus computer inventory for classrooms and computer labs, which OTS and the colleges keep up to date to ensure effective planning and budgeting. More accurate and timely attention to maintaining this data is an important factor that must be addressed in FY15 so we will have near real time data for planning, purchasing and renewal. We will need colleges and departments help in prioritizing this task.
- E. Some colleges and departments have identified unique venues in which a three-year cycle is not warranted. Any space that a department wishes to have considered for STF funding on a deferred replacement schedule is subject to review by the CCLT team and possibly the Academic Committee for Technology (ACT). With appropriate verification, it will be feasible in FY 15 to consider extending renewal cycles to four or five years as long as student's interests are achieved.
- F. Through a new initiative, CompuCycle, computers and audiovisual equipment that reach end of lifecycle are reclaimed, refurbished for internal university use, and redeployed. Excess computers and equipment have and continue to be donated to Baltimore County Public Schools, Baltimore City Public Schools and other non-profit schools and colleges. In the future, we project an expansion of this program to include donations to Harford County Public Schools and possibly Baltimore County Public Libraries. If we can find opportunities to sell used equipment, proceeds will be returned to the Student Technology Fee budget.
- G. Infrastructure and assets charts: page 10

Chart 5

Classroom and Computer Lab Computers Eligible for STF Renewal Funding by College/Unit *



* Note: TUNE is Towson University Northeastern Maryland; AAAC is Academic Achievement Center; AACK is Cook Library; SADSS is Disability Support Services; GENUSE is General Use.

IV. Construction, Renovation, and Renewal

- A. The majority of FY 14 project funds were spent to equip learning spaces with audiovisual equipment. Some venues were completely new, others were substantially renovated, and yet others had routine refreshes of end-of-lifecycle components.
- B. CCLT was involved in the planning, design and implementation of the 25 academic and conference spaces at the new Northeastern Maryland Campus. All classrooms are outfitted with the standard audiovisual equipment you would find in many of our main campus classrooms including a podium, projector, document camera, auxiliary connections and a few new features: dual computer monitors at the podium; 65" interactive touch display panel in addition to the standard projector and screen; ability to show content of either podium monitor on the projector, display panel, or both; wireless projection capability for a mobile device or laptop from anywhere in the room; instructor-controlled, forward-facing pan-tilt-zoom camera with in-room microphones for collaboration and videoconferencing apps WebEx, Lync, and Skype; ability to record lectures post the videos to Blackboard using the new Panopto solution; and live streaming directly from the classroom.
- C. During FY14, planning, design, purchasing and installation happened for the newly renovated Burdick Hall. Part of the project was funded during FY14 and included 11 classrooms and 4 mobile teaching devices. These spaces feature dual monitors at the instructor's podium, including one touch monitor, wireless projection for mobile devices, an instructor-controlled, forward-facing pan-tilt-zoom camera with in-room microphones for collaboration and videoconferencing apps WebEx, Lync, and Skype, the ability to record lectures post the videos to Blackboard using the new Panopto solution and live streaming directly from the classroom.
- D. At the start of FY14, major upgrade projects were started in Center for the Arts, which included upgrading eight music classrooms to have newer projectors and full Crestron control systems.

- E. The construction and renewal effort has been remarkably successful in ensuring that standards, both in hardware components, system design, and programming, is consistent across the campus. This provides faculty with a common set of core functionality and a user interface that doesn't radically change from building to building or college to college. Other institutions do not enjoy this kind of standardization, and TU is certainly a leader in this regard.

V. Service, Repairs, Maintenance, and Support

- A. The total number of support incidents recorded in our TechHelp tracking system for FY 14 was 861. Based on 439 academic spaces supported through this service, this averages out to only 1.96 service incidents per room per year, a remarkable achievement given the density of technology on campus.
- B. Preventative maintenance of equipment is a key to minimizing classroom downtime, especially projectors replaceable lamps. Through a preventative maintenance contract with Visual Sound, Inc., twice-a-year visits are made to each classroom to inspect general system condition and to change projector lamps that are nearing end of standard usage hours. Also, by leveraging Crestron FusionRV to monitor projector lamp usage, we preemptively replace projector lamps before they reach the point of failure. With preventative maintenance and maintaining a stock of lamps, support calls for lamp failure have almost been eliminated. The Liberal Arts Building is handled using the maintenance agreement which is part of the building warranty.
- C. At the beginning of each fiscal year, \$1,200 per room continues to be set aside to cover maintenance or repairs. This ensures sufficient funds are available to keep rooms in good repair and operating properly. As the fiscal year progresses, unexpended funds from this pool are reallocated to support general renewal and renovation projects, new qualifying initiatives, or other purposes. The reserves have not been exceeded, and indeed is a conservative number that ensures worst-case repair and maintenance scenarios are addressed.
- D. The Classroom and Computer Lab Coordinators continue to answer the 4TECH classroom support telephone line, conduct repair visits, coordinate work with contractors, and assist college and department staff members with STF projects. They also perform inspections and conduct quality assurance checks following installation and repairs, as well as help with deployment of new computers on request.
- E. For FY14, OTS provides first-level telephone support for all classrooms and computer-equipped teaching labs. This service, staffed by the coordinators plus additional OTS staff and student workers, is available from 7:30 a.m. to 8:00 p.m. Monday through Thursday, and 7:30 a.m. to 5 p.m. on Fridays. Telephone support is planned to expand the hours during FY15, until 10:30 p.m. Monday through Thursday and providing coverage on Saturday, using OTS staff in the Student Computing Services help center.
- F. CCLT staff provides additional second-level support in the form of classroom visits for planned and unplanned work. While having the coordinators is essential to providing technical support, sharing the workload with college and department staff to visit rooms for emergency outages or problems remains essential. The coordinators cannot cover the geography adequately to serve as "runners" when problems arise; however, they are able to provide a reasonable response time in many cases if coordination with a "local" provider can't be arranged quickly.

- G. Some colleges have unique lab needs, and OTS has and will continue to assist in whole or part, as required, to develop and deploy both Windows and Mac software images for use in classrooms and computer labs. While this is generally a college or department role, significant contributions were made to the College of Business and Economics, College of Health Professions, College of Liberal Arts, Fisher College of Math and Sciences, College of Fine Arts and Communications, Honors College, and Applied Information Technology. Assistance included consultations and help with purchases; lab OU and group policy management; documentation; and troubleshooting software and hardware issues.
- H. Venues for which OTS provides support are noted in the Virtual Tour. Service Agreements were developed with the participating college and departments to clarify the nature and scope of each party's contribution to the overall campus support equation.
- I. Almost all classrooms with Crestron control systems are now on FusionRV, the network-based application that allows real-time monitoring of the condition and status of the audiovisual system. This has resulted in faster troubleshooting, application of programming updates, and general monitoring of the equipment status.
- J. OTS administers the on-call audiovisual contract with Visual Sound, Inc. which will be in effect for FY15. This contract provides for installation and repair services. Towson is also a member of the Maryland Education Enterprise Consortium (MEEC). Towson was an integral part of establishing an Audiovisual Equipment Agreement. We will use this in addition to our current contract for purchasing equipment which may not be available on the on-call contract. For FY15, MEEC is currently in the final stages of Bid Review for Audiovisual Services, which Towson will use to supplement our on-call contract as needed.
- K. Separate maintenance contracts, also administered by OTS, are in place for Liberal Arts Phase I and II, with Lee Hartman and Sons and Visual Sound, Inc. respectively. The contract allowances are minimal so necessary work is supplemented either through the maintenance reserve fund or through college funds in certain cases.
- L. Between repairs, maintenance, and contract costs, a total of \$395,161 was expended in FY 14. As noted, a reserve is established at the start of the fiscal year to cover these expenses. This year, that reserve began at approximately \$480,000. The unused repair, maintenance, and contract budget was released to fund additional projects when it was clear they would not be utilized.
- M. TechHelp, the web-based problem reporting and resolution system, powered by Web Help Desk, is used for reporting and tracking of all problems and issues that occur in the classrooms and computer labs. Historic patterns are identified and preventative solutions established based on the data. Self-service problem reports requests can be made by faculty as well which helps ensure that problems are promptly reported and addressed.
- N. As stated above, 861 issues were logged into TechHelp. These included calls to the 4TECH telephone service which were placed by faculty or room users, as well as self-service report requests. Recorded in the TechHelp system, the "Top 10" reasons for support requests emerged. This helped shape initial planning and communications and allowed for developing solutions to avoid these issues in the future.
- O. Service, repairs, maintenance, and support charts: pages 13 to 14

Chart 6
Repair, Maintenance, and Contract Expenditures

Expense Category	Spent
Contract	\$231,795
Inventory	\$13,737
Maintenance	\$67,435
Repairs	\$82,194
Grand Total	\$395,161

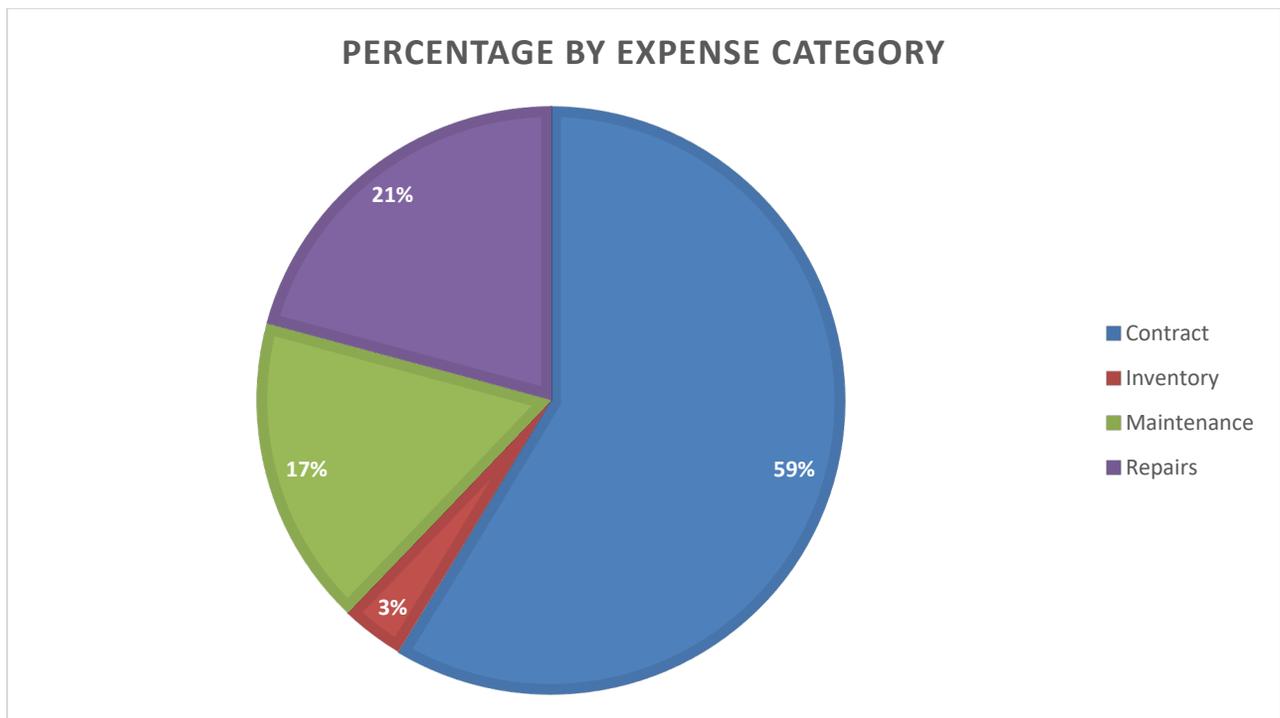


Chart 7
Top 10 Classroom Support Categories by College*

	College of Business and Economics	College of Education	College of Fine Arts and Communication	College of Health Professions	College of Liberal Arts	Fisher College of Science and Mathematics	Honors College	Unassigned	Total
Account/NetID: login issues	0	1	8	4	7	1	1	10	32
Instructor Computer: software/app problem or error	2	2	3	5	14	2	0	4	32
Instructor Computer: unlisted issue	1	0	5	4	13	7	2	5	37
Student Computer: all issues (include computer name)	2	0	6	6	11	13	1	1	40
Crestron: other issue	2	6	5	4	17	7	0	1	42
Document camera	3	2	4	4	8	11	0	1	33
DVD/CD/Blu-ray: standalone, built-in podium	0	2	6	1	31	0	0	0	40
Monitor or SMART Podium	0	0	4	3	14	8	0	2	31
Sound: Speaker Issues	0	1	4	6	11	7	0	3	32
Problem or issue not listed	1	1	1	6	22	0	0	31	62
Total	11	15	46	43	148	56	4	58	381

*This chart's top ten categories represents 381 (44%) of the 861 total support requests in the classification "Report a Problem."

VI. Communications, Collaboration, and Resource Development

- A. OTS hosted monthly stakeholder meeting and activities for department and college technology staff, with topics including: demonstrations of emerging technologies; lab imaging process; tablets in the classroom; Adobe software; Apple iOS lab management; Apple Remote Desktop; Dell and HP Roadmaps; contractor relationships with VSI and Crestron; and the CCLT computer census. In FY15, we will continue with monthly activities and meetings to assure information is shared with the stakeholders.
- B. Towson University hosted a Camera and Mic summit which included all of the colleges at Towson as well as several other local Colleges and Universities, including Coppin, UMBC, Goucher, Loyola, Stevenson, Morgan and University of Maryland. Presentations and equipment demonstrations were done by nine manufacturers with broad product offerings in this market. The planning committee included OTS staff along with technology representatives from other colleges and departments on campus, including Jeremy Farkas (CBE), Theresa Jenkins (CLA), Ron Santana, and John Spivey (COFAC).
- C. The Office of Academic Innovation, College of Education, and OTS collaborated to host an “iPads in the Classroom” summit for Towson faculty and staff. An Apple technician demonstrated iPad management software; and faculty discussed and demonstrated how they use apps in the classroom. Outcomes of this summit included creation of an iPads in the Classroom Blackboard Community site and scheduling of formal and informal training and collaboration sessions in future.
- D. In addition to traditional work, staff of CCLT is called to assist other departments with their technology and presentation needs, during FY14, it included assisting the Health and Counseling Departments in outfitting their conference rooms and teaching spaces in the new Ward West Health and Counseling Center, consulting with Facilities for future and current construction projects as well as new equipment in their conference room spaces, and assisting Public Safety with adding technology to spaces that were not included in the construction phase.
- E. Classroom and lab computers continue to benefit from the campus-wide licensing arrangement for Adobe Creative Cloud, Ghost and LanSchool, all of which enable OTS, college, and department technology staff to deploy and manage the computer systems that students and faculty in classrooms depend on. The cost for each license is paid through the Student Technology Fee initiative.
- F. CCLT continued to participate in the CompuCycle reconditioning program, a unique program which was developed to get a second life out of older but still usable computers which came out of circulation. All of the computers that were renewed this year were transferred to the CompuCycle program for use in other locations on campus not funded through STF or were donated to Baltimore County Public Schools.
- G. The Classroom and Computer Lab Technologies team collaborated with the Computer and Information Sciences Department to host a semester-long group of students in the IT Capstone Program coordinated by Dr. Mike McGuire. The students researched and developed the reporting capabilities of the Crestron FusionRV product which provides network-based monitoring and control of audiovisual systems throughout campus. Training and reference materials were developed for staff use. Another group will be hosted for FY 14 and will work on an inventory management project to assist with keeping track of instructional technology assets.

VII. Administration and Staffing

- A. The CCLT team within OTS has continued to evolve and includes three fulltime support coordinators whose responsibilities include establishing relationships with each college and contributing to the overall campus classroom and computer lab support mix.
- B. The coordinators are funded through STF funds. Additional OTS staff members are allocated to the classroom and computer lab technologies effort, including four fulltime staff, two student employees, and a number of other personnel who contribute a significant portion of their work to the CCLT effort.
- C. At Harford County's Towson University Northeastern Maryland location, two OTS technology generalists were hired during the fiscal year. They have been trained in classroom support and all areas of general technology. Additionally, they handle 4TECH telephone support calls for both main campus and the Northeastern Maryland location, adding additional staffing depth to the service.
- D. Significant contributions come from other units within OTS ranging from the Enterprise Services group which manages the network, back-end server environment, and general engineering support to the Business and Communications Services group which assists with overall budget management, expense tracking, procurement, and other financial matters.
- E. The CCLT continues to be only one part of the technology support equation needed to balance the complex technology on the campus. Additional staffing will be essential to ensure the technology investment is sustained and managed—and that the faculty and students who use the environment are trained and supported. There is a growing perception that now that we have the coordinators, we have solved the problem of resourcing. To the contrary, we are barely keeping up as technology continues to grow. We count on the colleges and departments to augment and extend their efforts cooperatively and in a way that maximizes the total talent pool.

VIII. Planning and Forecasting

- A. A primary objective is to ensure the sustainability of the university's significant instructional technology investment. Nearly all learning spaces are equipped with presentation technology—technology which continues to evolve rapidly. All audiovisual system core components have been assigned estimated lifecycles, ranging from 3 – 10 years, as detailed by the chart posted here: <http://www.towson.edu/adminfinance/ots/support/facultystaff/documents/AVEquipmentLifecycle103013.pdf>. Instructor computers, projectors, document cameras and control processors are the core items of the current systems. When items reach their estimated lifecycle, renewal with next-generation components is expected. The STF initiative provided the catalyst to fully equip the campus in record time, but now the attention must turn to planned lifecycle management.
- B. The recommendations for replacement of equipment at end of Lifecycle has been followed during FY 14, where most of the requests submitted were for upgrades to existing presentation equipment. During FY14, only the Northeastern Maryland location and the renovated Burdick Hall received completely new systems. There was also continual review and refinement of the forecasting during FY14 to properly budget for the next 5 years.
- C. The CCLT team continued work on the design and purchasing of the new Northeastern Maryland facility and Burdick Hall renovation, with installation starting in FY14 so the classrooms were ready for the 2014 Fall Semester.

IX. Emerging Technology, Research and Development

- A. For the second year, the Classroom and Computer Lab Technologies group was asked to help plan and carry out the interactive room for the Provosts January Conference 2014, *University of One: Transforming Traditions to Reach Every Student*. Highlights of the interactive room were; demonstrations on how to use Panopto for instructional video recording and lecture capture, wireless projection, using a MondoPad in a classroom for collaboration and instruction, new designs in classroom furniture that easily allow collaboration in class spaces, and technologies on the horizon such as 3D imaging and display. Classroom and Computer Lab Technologies staff, staffed the room demonstrating technologies and interacting with faculty and administrators from various departments and colleges.
- B. The Camera and Mic summit discussed in Section VI, Item B, page 15, explored new solutions that may benefit the campus. Manufacturers brought different options to campus, some were tried in classrooms to determine which were best suited to lecture capture.
- C. Much was heard in the consumer market about 4K – which is a resolution of display that is even higher than what most people know as HD or High Definition. Currently, the consumer market is driving the desire for 4K, but in reality, practical uses on campus will be isolated for the time being; a mass upgrade is not expected or justified. However, as the industry moves towards this standard, our new projects will implement it as needed.
- D. 3D viewing has a lot of untapped potential as a means to better visualize complex or detailed structures such as anatomical systems, works of art such as sculpture, engineering models, and biological specimens. CCLT staff evaluated a passive-glasses Epson projector and self-developed content. The technology may have applicability in the future design of learning spaces in Smith Hall and elsewhere on campus. The passive glasses approach makes for a much more manageable solution, but the true future will be glasses-free 4K-based 3D LED panels, something we will continue to follow as the technology improves.
- E. Instructional video recording, commonly called lecture capture, is a growing area of interest. In collaboration with the new Office of Academic Innovation (OAI), a two semester pilot of an industry-leading product Panopto was conducted in FY 14. The software-based solution runs on classroom and office computers, laptops, and iPads and iPhones, giving faculty enormous flexibility in developing instructional content. The pilot was successful and Panopto was adopted campus-wide for FY15.
- F. With the adoption of Panopto, CCLT staff will continue to evaluate the best solutions for retrofitting existing classrooms to handle recording. Concurrently, we are reviewing the standards to be sure the proper equipment is added to allow all faculty to use Panopto.
- G. During the planning for new and renovated buildings, wireless connectivity was evaluated and added to the new classrooms as part of the standard equipment. Allowing for more faculty and students to bring their own devices, greatly expanding the ability to collaborate during class.
- H. Macs in the classroom may be more common if initial testing of Mac Mini systems works out. By using Mac Minis, the native Mac operating system could be used by faculty—or for those so inclined, they could run Windows on the Mac using VMFusion or Boot Camp. Coupled with a touch-screen monitor, this may provide a unique, versatile classroom instructional platform. Additionally, a project was started to implement Casper, a desktop management software that will enhance and improve management of Macs in labs and classrooms.

- I. CCLT staff built and maintain a base Windows 64-bit image for use in computer labs and classrooms. The base image was developed with input from lab managers and department technology staff and is typically used as a starting point to further customize to meet unique departmental needs. In the coming year, OTS will collaborate with local IT providers to develop a Windows image desktop management solution that includes image creation and deployment; application delivery; and enhanced lab management capabilities.

X. The Road Ahead

- A. The future of instructional technology in classrooms and computer labs at Towson University is bright. The stable funding stream through Student Technology Fees will ensure sustainability of the existing infrastructure base while simultaneously providing opportunities to innovate by exploring new technologies. The university is a national leader in the way we have organized and developed our resources.
- B. Staffing will continue to be an important issue. Central IT cannot do it alone. Continuing to build and expand cooperative relationships with college and department technology staff will be vital to efficient, effective support of the classroom environment as well as the faculty and students who use it. We hope to grow those relationships in the year ahead and through a cooperative approach, work together in service to our students—students whose fees support our instructional technology environment.
- C. An important objective in the year ahead will be to continue to increase the resources available to faculty—training, documentation, how-to videos, and other tools—with the goal of empowering them as competent, proficient, wise users of technology in their teaching.
- D. OTS will continue to research and explore available options in addition to working with stakeholders to validate recommendations and ensure that the evolving standards meet the needs of faculty and students.
- E. Equally important as we move forward will be decisions about what technologies to retire. Legacy solutions designed in the analog era may no longer be the most flexible, resilient, and effective solution for today's faculty and students. Decisions to retire technology solutions will be not be abrupt, will provide migration pathways and support, and will involve academic leadership and college/department support staff to ensure a smooth transition.
- F. We expect to continue to build and refine business and support processes within the CCLT team in OTS. Additional realignment of staff and duties will better position the unit to meet new challenges and continue to provide first-rate technology and service to the campus.
- G. Finally, as was introduced on page 4, chart 1, discussions continue regarding the appropriate balance of fund distribution to ensure foundation will continue to be effectively funded, but also allow for funds to be made available to the Academic Affairs Division, which in turn can decide and prioritize initiatives that fall into extended or curricularized areas.

XI. Key Staff Involved with Classroom and Computer Lab Technologies

A. Classroom and Computer Lab Technology Support Coordinators

Funded through Student Technology Fees:

Paul Brown, CBE, CLA, Honors

Peter Morin, FCSM, CHP

Michael Scribner, COFAC, COE

Funded through OTS:

Charles Blount, Towson University Northeastern Maryland (multiple duties)

Nathaniel Leonard, Towson University Northeastern Maryland (multiple duties)

B. Other OTS staff with Primary Classroom and Computer Lab Technologies Duties:

Brian Raley, Instructional Services Engineer

Jack Stark, Manager, Lab and Mac Support Teams; Administrator, Campus Technology Coalition

James Hardin, Field Support Specialist focusing solely on CCLT

Administration:

Cindy Davis, Manager, Classroom Technology and Planning

Carol Watts, Manager, Client Services Support Operations (currently oversees the CCLT coordinators)

C. Other OTS Staff Supporting the CCLT Service:

Jeffrey Schmidt, Associate Vice President and Chief Information Officer

Michael Bachman, Director, Information Technology Client Services

Julie Leary, Manager, Distributed Support Services

Lissa O'Donnell, financial and project management

D. College and Department Staff instrumental in the success and support of CCLT and the STF program

Andy Allen, College of Education

Veronica Boulware, College of Health Professions

Richard Brown, FCSM, Math

Tom Cascella, COFAC, Theater

Mark Edmonston, FCSM, Physics, Astronomy and Geosciences

Richard Ellsberry, COFAC, Mass Communication

Jeremy Farkas, College of Business

Travis Holden, COFAC, Electronic Media and Film

Sam Houston, FCSM, Computer & Information Sciences

Theresa Jenkins, College of Liberal Arts

Kay Kazinski, College of Health Professions

Duane Smith, College of Education

John Spivey, COFAC, Music

Richard Thomas, COFAC, Art

Richard Webster, FCSM, Computer & Information Sciences

Rebecca Wolf, COFAC, Dance