

# EXCELLENCE IN ACTION:

NEW ACHIEVEMENTS MOVE AU FORWARD



OFFICE *of*  
INFORMATION  
TECHNOLOGY

YEAR IN REVIEW: 2017 - 2018





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# OUR MISSION

## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

We will build and strengthen a robust, reliable, and secure framework of information and communication technology to support our activities as a world-class university. By investing in state-of-the-art technology and planning for the future, the university will exploit technology to harmonize a diverse and widely distributed campus; leverage learning, research, and innovation; and empower users in physical and virtual space.

— AU STRATEGIC PLAN, ENABLING GOAL NO. 2

# OUR GUIDING PRINCIPLES

The Office of Information Technology (OIT) identified the following guiding principles to describe how our organization wants to operate in the long term and to govern our planning activities. These principles apply universally to all services and functions within our organization, providing direction and guidance as we transform our day-to-day operations:

- align with AU's mission by supporting the academic enterprise in preparing our students to lead and serve
- focus on providing timely, accurate, and secure solutions to campus
- ensure compliance with internal and external standards and adopt best practices
- utilize metrics and analytics to benchmark performance and make informed decisions
- foster an environment to support staff and encourage professional development
- emphasize transparency of our budget, campus commitments, performance metrics, and processes
- anticipate future technology needs to maintain AU's competitive edge



## VICE PRESIDENT & CHIEF INFORMATION OFFICER'S MESSAGE

*This OIT annual report highlights the initiatives undertaken over the last year to enable American University to achieve excellence in execution, including improvements to our efficiency and effectiveness to enable the community to make progress on our institutional goals.*



It has been over 20 years since AU implemented its suite of administrative tools, commonly known as an Enterprise Resource Planning (ERP) system. Over the last two years, OIT, working with our campus partners, has been on a journey to modernize our ERP, converting the underlying infrastructure for the system to the

Microsoft SQL database framework. In July, this major undertaking was successfully completed, thanks to the involvement of approximately 150 individuals from across the campus and within OIT.

Another important initiative was to implement a Customer Relationship Management (CRM) system to support student recruitment, encourage the success of current students, and engage our alumni and potential donors. AU is now one of only a few universities to accomplish integrating a CRM across the entire lifecycle of the student. Usage of our CRM is expected to improve our ability to engage and track our relationships and support efforts, automate a wide range of communications, centralize important information to help recruit and retain students, and enhance our ability to raise funds.

Over the last year, we initiated several initiatives focused on improving the student experience.

- Working closely with Campus Life, an Online Orientation program was made available to incoming students and their parents to help ensure their success.
- Supporting the first summer experience, OIT provided the systems to help coordinate and automate the vast array of communications sent out to our first-year students to improve the likelihood that these communications will accomplish the desired outcomes.
- With the launch of CRM Advise, our advisors and first-year guides have a dashboard, which compiles important information in one place to help ensure student success and further improve our retention rates.
- To improve the level of service provided to AU students by key administrative departments, OIT rolled out ServiceNow's customer service management system for integrated problem and issue tracking. The platform offers a comprehensive knowledge base to encourage self-service by students, and allows us to capture analytics on issues and design knowledge articles and support to reduce the reoccurrence of common issues or problems.
- Maybe one of the most exciting steps forward was the launch of the new Just Ask student service portal, with its Google-like interface that provides easy access to information and services needed by students.

Our institutional efficiency is an important priority, as freed up resources can be reallocated to explore new opportunities. One exciting effort we supported this year, with our partners from AU's Finance & Treasury division, was the move to centralized printing, which is predicted to save \$5M over five years. We will be on the lookout for further opportunities to become more efficient; and I invite your ideas.

Recruitment and retention of our most talented staff is of critical importance. Working with our partners in Human Resources, we provided project management support to an initiative to improve our capabilities in this area. To measure institutional progress in diversity and inclusion, we also rolled out new analytics dashboards and reports to support human capital management.

Our networks are the life-blood of this university and demand seems to double every couple of years, so we work hard to keep up with the rapid growth. To that end, significant upgrades were made to our wired and wireless network infrastructure. It is interesting to note that our concurrent wireless access jumped this year from around 8,000 to over 12,000. Students and others are coming with more wireless devices (more than five each) that require bandwidth and access.

It is imperative that we help to identify and manage campus risks. Our cybersecurity efforts allow us to reduce our risks from hacking and other forms of cyber fraud. Important steps were taken to move forward with expanding the use of multi-factor authentication and increasing phishing training and awareness. Other addressed areas of risk included making our web presence more accessible. Working closely with our campus partners, we lead the efforts to identify and manage other institutional risks under our Enterprise Risk Management program.

Finally, this report ends with the summarized results of our campus customer survey, which shows our continued progress achieved since our last survey. Notably, we are ahead of our peers in almost all areas.

Thank you for taking the time to review our report; I welcome your comments and suggestions.

Regards,



DAVID SWARTZ

Vice President & Chief Information Officer

## ORGANIZATIONAL OVERVIEW

*Transparency and inclusion—in decision-making, planning, budgeting, and day-to-day operations—run throughout the work in OIT. The organization comprises multiple teams that collaborate to provide services in three functional areas.*

### ENTERPRISE SYSTEMS & SERVICES

Enterprise Systems and Services improves the way AU conducts business with technology solutions that meet the needs of diverse constituencies. In the application analysis and development area, functional professionals partner with technical experts to design and deploy scalable, sustainable solutions. Business intelligence and reporting services help mature the university's data and analytical reporting capabilities, while web and emerging technologies support innovative digital and mobile tools. The network operations and enterprise infrastructure teams jointly administer the university's technology infrastructure, striving for reliability, availability, and stability of services on which the campus depends.

### INFORMATION SECURITY

Information Security supports AU's executive leadership and the community by evaluating the university's digital information assets for sources of risk throughout the IT planning, implementation, management, and ongoing operational phases. The group translates discovered risks into business terms to help stakeholders determine whether to accept, defer, mitigate, or transfer those risks. Additionally, the team is responsible for cyber incident response, delivering a security awareness program, compliance, audit, and crafting and enforcing policy and standards.

### IT CUSTOMER SERVICE

IT Customer Service employs industry-standard best practices for service management, change management, and performance measurement. This front-facing group constantly seeks to provide the highest quality of customer service to the AU community. Customer Service strives to manage end-user expectations, train the community on the latest technology, troubleshoot all IT-related issues, and equip faculty and staff with secure, reliable workstations.



OIT SENIOR LEADERSHIP TEAM



# SPOTLIGHT: AN UP-CLOSE AND PERSONAL TAKE ON OIT'S MOST COMPLEX ENDEAVOR

Over the last two years, OIT staff mentioned the Colleague SQL Server conversion during many campus discussions, usually accompanied with a myriad of emotions intending to convey a sense of severity, complexity, and enormity of this project. For well over three years, this project stayed as the number one priority in our portfolio, ahead of hundreds of other active or planned projects. After crossing the finish line, we want to share the back-story of this long and tedious journey to share the key takeaways and twists and turns along the way. AU has ambitious plans, so this will not be the only time we embark on a complex project.

## COMING TO TERMS WITH REALITY

More than twenty years ago, AU established Colleague as our Enterprise Resource Planning (ERP) tool. As the years progressed, Colleague presented challenges as it was built on UniData, a very old and not-so-flexible file-based database, which kept getting in the way of any possible innovation. Our ERP vendor, Ellucian made it clear that the company's future direction did not include investing in UniData as a platform. The writing was on the wall that AU had to convert the archaic database to something more contemporary than UniData.



How Campus Partners Were Feeling About SQL Migration Project in June of 2015

## CHARTING OUR COURSE

To begin planning this endeavor, OIT had to catalog the complex blend of applications in use at AU. Over the years, many processes had been heavily customized; there were more than 4,200 unique custom code changes that would not survive the database conversion. Early estimations of the time required to convert all of the custom code projected a six-year timeframe, which was deemed too expensive and too long, so we were forced to reframe our thinking.

Instead of planning a database conversion project, OIT took the opportunity to develop a full-scale application modernization plan. External solutions were evaluated to assess suitable replacements for the individual customized solutions, working closely with all campus business units to see where out-of-the-box functionality could be used. After an intense six-months of planning and negotiation with campus, the expected custom code volume dropped by 73%. Seventeen new applications were recommended to replace large portions of the older custom code base. The team emerged from the re-planning effort with new energy and excitement – the project transformed from being a conversion project to a project that modernized much of campus application portfolio.

## RUBBER MEETS THE ROAD

OIT staff developed plans, assigned resources, and began the forward march to deliver various components of this gigantic modernization initiative, which represented roughly 65% of OIT's overall project portfolio. On a roll, we remained unified in our common purpose.



With application modernization activities in full swing, we focused our efforts on the data conversion effort. When we first ran the data conversion process in the test environment, we were a bit surprised to find over 16 million records in error, important data pieces which would not convert to the new database. While ready to tackle data issues, the 16 million number was certainly daunting. The team carefully identified causes of each data issue, and worked with campus partners to fix the data elements and sources. As you can imagine, these fixes did not occur in a single round, as multiple rounds of edits and testing were required.

Another challenge was the length of time required to run the data conversion job, as the initial conversion took close to 21 days to finish. We knew we could not take the system offline for that amount of time, stopping any bill payment, registration, financial payments, hiring, etc. Faced with these challenges, our stretched thin team started missing critical deadlines. They were over scheduled, doing work that all needed to happen at the same time. Stress levels were extremely high, morale was low, and everything seemed to come to a grinding halt, even though we were barely halfway through. Recognizing the work needed to be completed and the required system downtime had to be reduced to less than three days, we needed innovative thinking from our already exhausted team to push the boundaries of the current plan. Admittedly, things were not looking promising.

## FALLING APART AND REGROUPING

All of the staff working on the project, including OIT leadership, spent nine full days to regroup and outline the remaining work, assess what was and was not working, and identify areas of confusion. We agreed on a new approach to organize our efforts – distinct teams with dedicated focus on data conversion, applications, reporting, converting custom code, and managing the new infrastructure. Team leads were identified; project teams were re-oriented; an internal steering committee was organized; external user-focused steering committees were initiated; and more rigor was added to our project risk management. These newly formed committees unfortunately added more meetings to our calendars; but to counter that, we developed meetings norms to better utilize everyone's time.

## FRESH RE-START

Recharged and re-energized, the team started moving forward again; this time with dedicated leads in the critical focus areas.

- The data conversion team began testing with various configurations. Within four months, they were able to reduce the conversion process to run in less than 3 days—an outcome that took even our vendor by surprise.
- Major applications, such as Cayuse for Research Grants, CRM Advance for development and fundraising, SuccessFactors for staff recruitment, and CRM Recruit for admissions, were being rolled out, as planned, on schedule and on target! We were looking good.
- Communications had started being firmed up for testing plan and OIT began performing system testing – over 2000 scenarios were detailed and validated over a period of four months, as various application components were tested over and over by our staff.

## REPORTING SAGA

At that time, we encountered a setback; our operational reporting tool, known as Informer, had become unstable and would not withstand the conversion. This was worrisome as we had over 1600 critical reports running on Informer. Without Informer fully functioning, there would be no SQL conversion.

To identify the reports contributing to the instability, we ran each report individually and reworked the underpinnings to address the issues. More constructive-thinking followed, leading to the separation of the reporting database from the one where critical transactions were processed, in an attempt to minimize the overall impact of long-running reports on system performance. Based on this work, Informer-related issues calmed down after a solid two months of fighting with the code. Then, the overall conversion project looked “green” again, symbolizing that things were proceeding on schedule!

## APPROACHING THE FINAL STRETCH

Excitement was mounting within OIT, as this massive project with so many dependencies was becoming a reality. Our campus partners were now ready to test. This was no small effort, as everyone had to continue to fulfill their daily responsibilities, in addition to testing. Expectations had been set ahead of time, but that did not ease the workload.

Over 180 individuals tested various components, all within the designated timeframe. Testing concluded with a lot of anxiety, and evening and weekend work, but with no critical defects uncovered.

The data conversion team continued relentlessly testing the conversion process. By the time user testing ended, the data conversion team had tested the conversion 27 times, and reduced the conversion times down to 26 hours!

## DEPLOYMENT WEEK

We were a go, as the big conversion week arrived. Our colleague, Patricia Stewart, graciously opened up her home to allow the core team to work together, during the around the clock shifts required to get through the three day conversion. They worked through the 4<sup>th</sup> of July holiday and into the next day to complete the conversion.

Testing commenced on the 6<sup>th</sup> of July, when OIT staff and campus partners joined together to test parts of the newly converted application to make sure it was running as expected. Errors were flagged; and then, staff worked around the clock to fix them. Those of us not testing or fixing code took turns cooking to make sure the team had something to look forward in between their debugging efforts. We checked the lists, reviewed twice, and opened up for business on Sunday, July 9<sup>th</sup>.



## LIFE AFTER

As anticipated, it took most of the first month to stabilize the new system. The team stayed intact and promptly addressed any identified issues. In the end, it was a massive feat; one that we knew we could achieve. Admittedly, we were not quite ready for all the twists and turns encountered along the way; however, our dedication, creative problem solving, and persistent drive got us to the end. Our staff continued pushing the boundaries, even when the answer was “we don’t think so”, or, “the system doesn’t support that”, or “no way.” It’s times and projects like these that make us realize that we are one team – our specialties, business knowledge, and technical expertise may be different – but at the end of the day, we are one team in service of our institution and our students. While this was a difficult journey, we cherish the experience of camaraderie and creative thinking, and strive to make that part of our service delivery culture!



## LINKAGE TO THE OIT ROADMAP

Published four years ago, our ambitious roadmap, [The Road Ahead: IT Solutions Empower Campus](#), charts our course and vision for the remaining duration of the plan. This document presents highlights of major accomplishments for the past year, with initiatives aligned under four strategic objectives:

- 1 Strengthen the core with a resilient, agile, and secure infrastructure
- 2 Enable transformation through change leadership, organizational maturity, and professional development
- 3 Forge partnerships to deliver inclusive IT services
- 4 Advance institutional effectiveness and efficiency through responsible stewardship

Look for these symbols throughout this report to see how projects align with the OIT Roadmap.



# STRATEGIC GOALS & ACCOMPLISHMENTS

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## PROVIDE AN UNSURPASSED UNDERGRADUATE EDUCATION & EXPERIENCE

### GOING ONLINE – STUDENT ORIENTATION PROGRAM

In June of 2018, the Office of Campus Life, in partnership OIT and University Communications & Marketing, launched an Online Student Orientation program to provide students a new and interactive way to view the American University campus. The web-based program, developed using Advantage Design Group’s software, offers targeted information to the viewer, based on their AU status with information tailored to undergraduate students, graduate students, transfer students, parents, or members of the military.

Rolled out as a pilot, this program is the first university-wide online orientation, enabling all students to receive critical information to ease their transition to American University. The Online Orientation supplements the in-person orientation sessions offered during the summer, such as Eagle Summit, various other special program orientations, and graduate student orientations. Additionally, it ensures any students or family members unable to attend those events are not at a disadvantage.

For new undergraduates only about 50% of first-year students have a parent or family member join them at orientation; however, this online orientation resource reduces barriers, as it is available to the families of all new students with no fee associated with it. Even for families and students who do attend a summer orientation program, they can review online orientation materials before their arrival, so they can come to orientation with a sense of all the resources the university offers and better prepare their questions.

Over the summer, more than 700 students and 400 family members accessed the online orientation. The tool proved particularly valuable for graduate and international students, populations who generally do not have the opportunity to come to campus for an orientation until just a few days prior to the start of classes.

This project required significant coordination to bring over 45 departments together to present content in a consistent manner to develop a comprehensive orientation program, utilizing a variety of media forms, including text, photos, and videos.



*“We had a very ambitious six-month timeline to follow in order to launch the new online orientation for our new students this past summer. It was a true collaboration working with both OIT and UCM to seamlessly produce an exceptional online experience for all users. A critical role OIT played was ensuring the system’s security, since it was going to primarily be used by students not physically on campus. We had regular calls and constant communication over the implementation period, and OIT served as key test users during all phases of the project.”*

JENNIFER JOHNSON

Director, Orientation, Retention & Transition



# STRATEGIC GOALS & ACCOMPLISHMENTS

## PROVIDE AN UNSURPASSED UNDERGRADUATE EDUCATION & EXPERIENCE

### EXPANDING STUDENT ENGAGEMENT SYSTEM

As part of the “Reinventing the Student Experience” Initiative, AU achieved a significant milestone in May of 2018, with the successful expansion of Ellucian’s student engagement and retention solution, known as CRM Advise, to all undergraduate academic advisors.

Selected in the spring of 2017 to overcome the barriers that hinder faculty and staff from identifying students in need and sharing information to better address their problems, CRM Advise will consolidate and aggregate institutional data on students into a single system, rather than being isolated in a myriad of systems.

After a successful pilot of CRM Advise during the fall of 2017, the focus of the second phase was to extend its use to all first-year undergraduate advisors to support incoming students for the fall term of 2018. Other undergraduate advisors and advising campus partners have been trained and are beginning to document advising.

CRM Advise allows advisors to see a more holistic view of the student by consolidating critical data elements and analytics, which serve as predictors of student retention.

Examples include:

- CareNetwork reports
- Success scoring plans
- Student performance alerts
- Early warning indicators
- Student data indicators
- Fall Transition Survey data (coming soon)

In just the first few months, advisors have entered over 9,000 advising notes into the system.



*“The implementation of CRM Advise is a tremendous step forward for AU. The ability to capture academic and wellness information about students on one platform will enable us to have a holistic view of each student, which will heighten our ability to provide student specific supports as they progress through their time at AU. This tool will be a critical component of our university-wide retention efforts.”*

JESSICA WATERS

Dean of Undergraduate Education and Vice Provost for Academic Student Services

# STRATEGIC GOALS & ACCOMPLISHMENTS

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## PROVIDE AN UNSURPASSED UNDERGRADUATE EDUCATION & EXPERIENCE

### STREAMLINING BULK COMMUNICATIONS FOR FIRST-YEAR STUDENTS

Incoming first-year students and their parents expressed to AU how overwhelmed they felt by the number of communications that were sent out to them by the university during the summer months before they stepped foot on campus. These messages were distributed via multiple channels, including portal messages, emails, Blackboard announcements, and social media posts. Students found it difficult to differentiate action-oriented communications from informational messages.

This feedback directly related to one of the university's goals of trying to improve the student experience. At a time when students are navigating their way through the transition from high school to college, the consensus was that we needed to make it easier, more welcoming, and less daunting to come to AU.

A working group was formed in Fall 2017 collect and review outgoing communications with the goals of reducing the number of messages going out to AU's first-year students, as well as ensuring a consistent tone, clear language, appropriate timing, delivery method, and formatting.

The group achieved the following results:

- The number of communications going out to first-year students were reduced, as numerous communications were either consolidated or retired.
- More than a dozen messages had the content and style improved to reflect consistent language, tone, formatting, and look and feel.
- Communications were better coordinated across various offices.
- Thanks to integration with Twilio—a developer platform for communications—official communications can be sent to students as bulk text messages.

While many of the original objectives were realized, some challenges arose; as not all communication pieces were reviewed and addressed in this first phase of the project, due to compressed time and competing priorities. There was also not enough time to rethink and consider other modes of communications, so students received standard email-based communications.



FANTA AW

Vice President of Campus Life and Inclusive Excellence

*“Coordination of communication for first-year students across all divisions vying for first-year students’ attention was necessary to enhance the experience of incoming students. The project team put in place the CRM system to better communicate and the potential for leveraging that technology is immense.”*

PROVIDE AN UNSURPASSED UNDERGRADUATE EDUCATION & EXPERIENCE



# STRATEGIC GOALS & ACCOMPLISHMENTS

## PROVIDE AN UNSURPASSED UNDERGRADUATE EDUCATION & EXPERIENCE

### INVESTING IN THE FUTURE OF AU STUDENTS

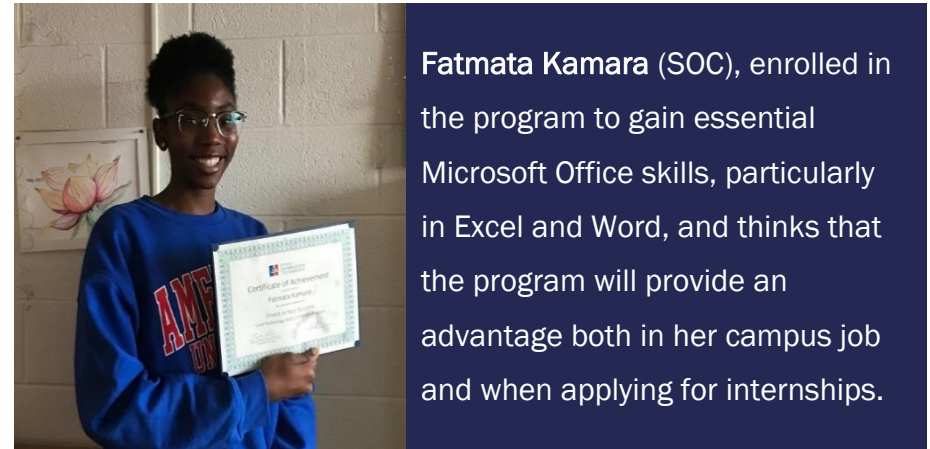
In January 2018, the Office of Information *launched Invest in Your Success*, a new non-credit professional development certificate program developed specifically for American University's students. This program maximizes students' success by teaching the core technology skills needed to thrive in an office environment.

Students complete a combination of online and classroom-based training to enhance their skills, build technological confidence, and increase their value to potential employers.

OIT trainers worked closely with a core group of students to create the *Invest in Your Success* curriculum, which focuses on safe computing, collaboration and teamwork, and practical applications of technology to the work environment.

Participants must attend an orientation session and complete four course offerings to receive a certificate of completion. Courses include Collaborating with Office 365, Creating Professional Documents using Word 2016, Essential Excel 2016 Skills, and Adobe Photoshop Basics.

Based on tremendous response to the spring program, OIT is offering two sessions of *Invest in Your Success* this fall.



**Fatmata Kamara (SOC)**, enrolled in the program to gain essential Microsoft Office skills, particularly in Excel and Word, and thinks that the program will provide an advantage both in her campus job and when applying for internships.

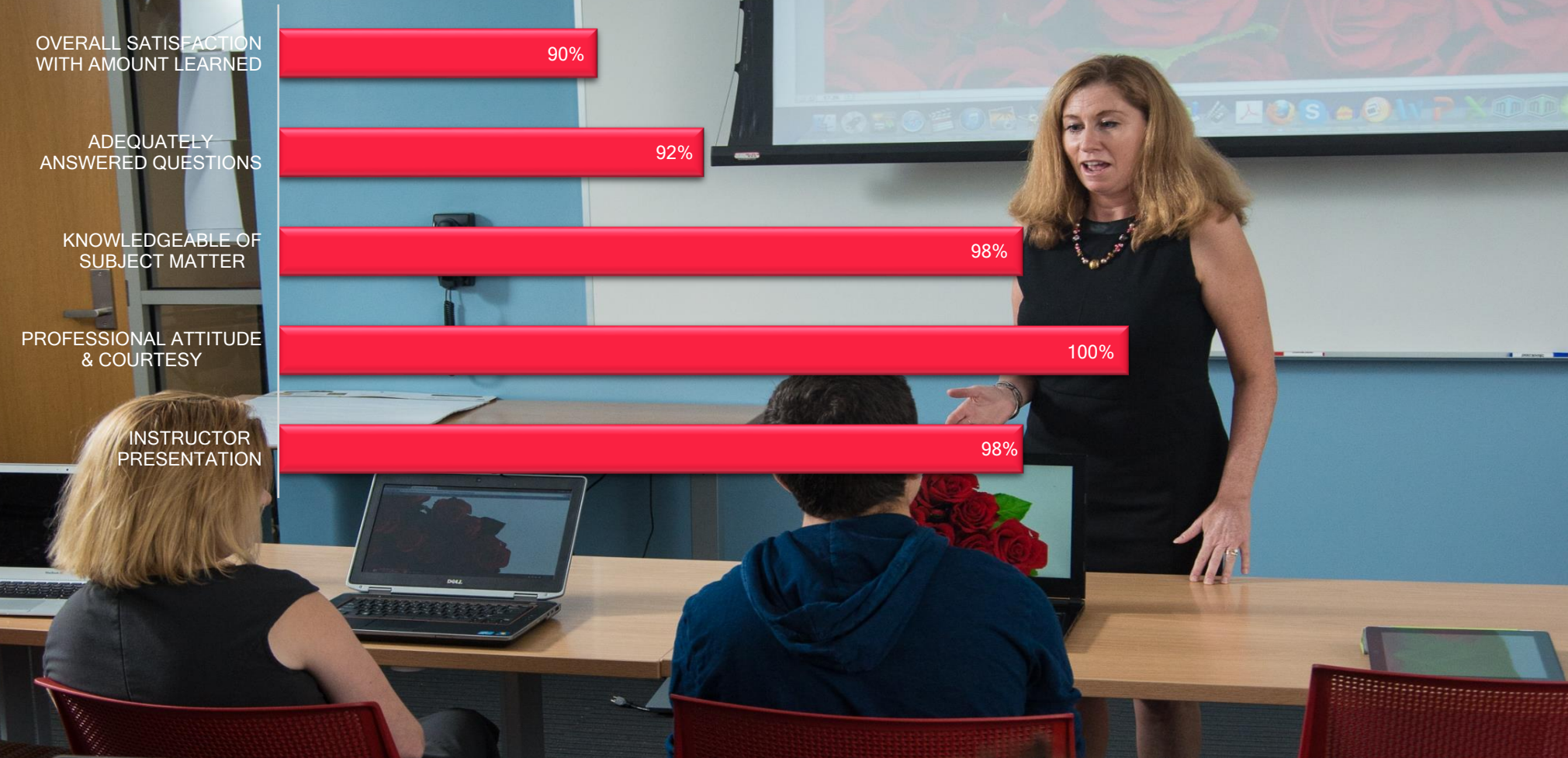


**Aisling McGinley (dual SPA/SOC)** wanted to learn about Windows and Microsoft's role in the workplace, especially since she is an Apple user.

PERFORMANCE METRICS

SERVICE DELIVERY & SUPPORT

High satisfaction reported by 2,576 AU employees attending OIT classroom-based or online training classes





# STRATEGIC GOALS & ACCOMPLISHMENTS

## ENCOURAGE INNOVATION AND HIGH PERFORMANCE

### INTRODUCING CUSTOMER SERVICE MANAGEMENT FOR KEY STUDENT SERVICES

Following OIT's successful implementation of ServiceNow's IT service management platform in the Spring of 2017, AU decided to implement the vendor's Customer Service Management (CSM) solution to facilitate the tracking of customer interactions by student-facing offices and ultimately improve their overall service delivery. As part of the "Reinventing the Student Experience" (RISE) initiative, University administrators set an aggressive timeline for the rollout to the first offices of May 1, 2018: AU Central, Financial Aid, Student Accounts, and the Office of the University Registrar.

In January of 2018, a cross-functional working group formed with representation by each unit. To ensure forward momentum, the group defined weekly deliverables or tasks required to configure the system to meet their needs. Utilizing an agile development approach, OIT then configured that aspect of the system and demonstrated its functionality. Instant feedback allowed changes to be made on the spot.

The working group postponed the rollout to late May to ensure no negative impact for critical end of the semester business processes, such as graduation clearance and commencement. On May 22, 2018, the CSM module was launched along with a new integrated self-service site, called JustAsk, which offers an intelligent, Google-like online search interface—designed to provide easy access to service information and actionable forms at any time.

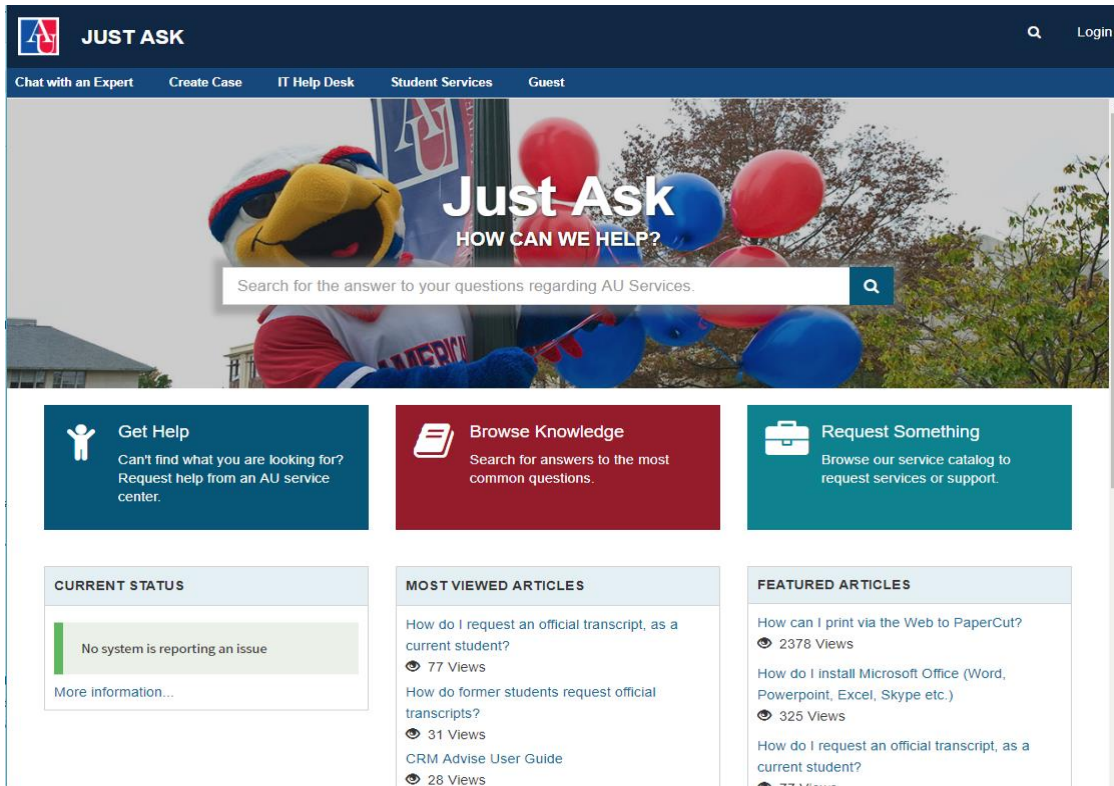
JustAsk is intended to simplify day-to-day actions, reduce unnecessary "high-touch" interactions, reduce unnecessary back and forth emails, and increase student satisfaction. The system has embedded functionality that enables AU to use existing data to intelligently prioritize and route tasks across departments.



*"The leadership and support provided by OIT allowed us to set up and implement ServiceNow within a very short time frame. The expertise provided allowed us to set up a robust, interactive CRM system, which provided our students with self-service access to many of their common questions, while providing a tool for staff to focus their resources to manage more complex customer inquiries. All of this was completed just in time for our peak season."*

GENE LOGAN

Associate Director, AU Central



Just Ask Self-Service Portal

Many departments are eager to adopt ServiceNow and join JustAsk, so prioritization will be paramount. Groups are evaluated based on the following factors: business case, readiness, available resources, and financial support.

In the next year, OIT will serve in an advisory role to mature the use of the technology and refine service management processes to reach desired outcomes. When fully utilized, significant efficiency gains are expected for each office. Additionally, the value of the JustAsk site will continually grow as use expands to other departments.



*“The OIT team were instrumental in the Financial Aid Office’s successful implementation of ServiceNow’s Customer Relations Management system. They worked tirelessly to configure the system within an aggressive timeframe to meet the needs of each business office and implemented customizations to address our unique needs. They have been invaluable resources in providing guidance and support as we explore avenues to optimize utilization of ServiceNow.”*

SHIRLEYNE MCDONALD

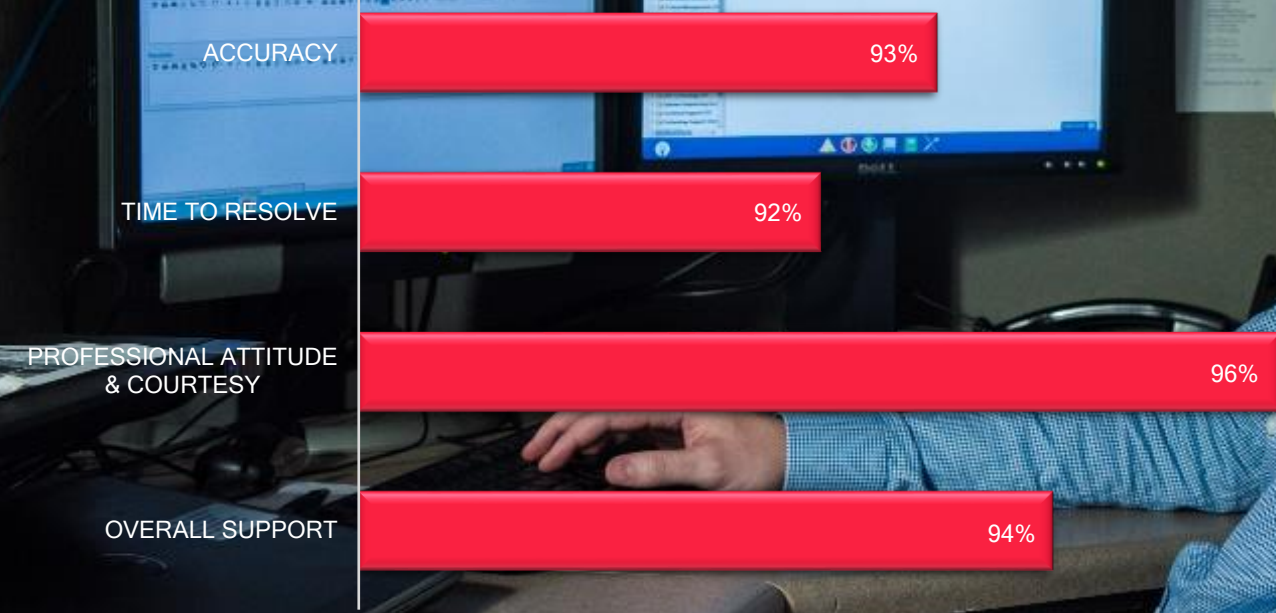
Associate Director, Financial Aid, Office of Enrollment



PERFORMANCE METRICS

## SERVICE DELIVERY & SUPPORT

56,551 support requests, excluding those for our technical support partners, with an average resolution time of 8 business hours for the Help Desk and 20 business hours for requests escalated to other OIT groups



# STRATEGIC GOALS & ACCOMPLISHMENTS

## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

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### PROMOTING INCLUSIVE EXCELLENCE THROUGH RECRUITING AND HUMAN CAPITAL MANAGEMENT

In collaboration with Human Resources (HR), OIT provided project management to replace the legacy recruiting system, known as NovusHR, with SuccessFactors Recruit—a modern and integrated tool to help managers find the best talent to join the AU community. The new system integrates recruiting functions with other key HR functions within AsuccessfulU, such as goal setting, planning and tracking job-related learning, tracking performance, and making compensation decisions. OIT also developed system documentation and training materials and conducted extensive end user training for the new system.

SuccessFactors Recruit offers numerous new features and enhancements, as it gives both hiring managers and search committee members greater control and insight into candidates for full-time and part-time staff, Ready Hire, and student jobs. Additionally, the system allows jobs to be easily posted on over 50 external job boards. It also integrates with a system to request and perform background checks. Furthermore, system reporting allows staff and administrators to track important aspects regarding hiring practices, such as time to fill metrics and forward momentum toward meeting AU's diversity and inclusion goals. Finally, the system offers an enhanced user experience for job candidates to maintain ongoing profiles and track the progress of jobs to which they have applied.

However, the collaboration between Human Resources and OIT did not stop with the SuccessFactors Recruit implementation, as we also successfully developed a new Human Capital Management (HCM) Analytics platform. This HCM platform offers comprehensive insights into the demographics, diversity, geography, retention, and professional growth of AU employees at different organizational levels, as well as across all departments.

Data is automatically extracted from the university's enterprise resource planning system, Colleague, and imported into the MicroStrategy business intelligence platform, thereby eliminating manual data processing. The interactive analytical capabilities, including drilling down to individual employees, are available to select HR staff members, while a broader audience will have access to a set of comprehensive summary-level dashboards. The new HCM Analytics platform creates a single point of reference for important discussions about workforce satisfaction, diversity, and inclusive excellence.

# STRATEGIC GOALS & ACCOMPLISHMENTS

## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

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### REDUCING COSTS AND IMPROVING SATISFACTION THROUGH MANAGED PRINTING

As the culmination of a comprehensive yearlong review of the university's print processes, deficiencies, and operational needs going forward, the Office of Procurement and Contracts (PCD) spearheaded the effort to implement a managed print program across the campus. Prior to this implementation, the university printed more than 20 million impressions per year through its 220 multifunctional copy-print-scan devices and approximately 1,000 printers spread across campus. Multifunctional devices were purchased or leased on a case-by-case basis from three different companies, namely Canon, Xerox, and Konica Minolta, thus, increasing the cost per unit for its constituents and limiting the university's ability to achieve significant pricing discounts or recognize other benefits that a managed print program brings.

Our shared goal was to deliver and deploy cost effective, environmentally friendly, modern, and standardized equipment across the University to meet faculty, staff, and student needs. After an extensive assessment of vendor capabilities, PCD selected Centric Business Systems to provide AU's managed print program. To ensure a successful implementation, a cross-functional team formed with key players from PCD, OIT, the University Library, WAMU, the Washington College of Law (WCL), and other technical support partners from the schools and colleges.

#### HIGHLIGHTS OF ACCOMPLISHMENTS

- Following an extremely aggressive schedule, the joint team replaced the entire old fleet of copy-print-scan devices with brand new equivalent, standardized Sharp multi-function devices within a two-month period—allowing for optimization of device speed, accessories, and cost to meet operational needs.
- OIT and the University Library worked collaboratively with Centric engineers to install and configure PaperCut, a print management software application, for members of the AU community, which offered the following new capabilities:
  - Follow me printing – allows print jobs to be released at any machine within a user's access rights
  - Streamlined billing, refund, and accounting processes
  - Universal print drivers – eliminates device specific print drivers
- Non-networked local printers either were retired, replaced, networked, or became unsupported.
- AU gained the assistance of a full-time expert technician from Centric charged with providing prompt and comprehensive service for all multifunctional devices and networked printers.





*“The Print Management initiative was a significantly large project with an aggressive implementation timeline. The project required many teams to come together to collaborate and solve problems quickly. The PCD group worked hand in hand with OIT to make sure all technical aspects were identified and properly implemented. OIT’s involvement was extensive and spanned from the Network Engineering team to the Help Desk to OIT Project Management. Without the superior teamwork and technical expertise from OIT, this project would not have been successful.*

*The project enabled the PCD team to reduce the number of high cost printers on campus by 75%, by having end users consolidate and move their traditional “desktop printing” to new upgraded multifunction devices. Lease costs of multifunction devices were reduced by an average of 70%. These two saving mechanisms will exceed \$5 million over the next 5 years.*

*All net savings are being distributed to the departments through the new cost per print and monthly copier lease charges. Additionally, the project was a significant win for AU’s sustainability efforts by reducing the number of sheets of paper printed with over one million less pages printed to date in year 1.”*



LAURA MCANDREW

Assistant Vice President of Treasury

# STRATEGIC GOALS & ACCOMPLISHMENTS

## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

### IMPLEMENTING CRM RECRUIT FOR UNDERGRADUATE ENROLLMENT

In June of 2018, OIT implemented Ellucian's CRM Recruit solution for undergraduate enrollment. CRM Recruit not only automates the admissions and recruitment workflows for the Office of Enrollment, but also accommodates the specific configurations required for undergraduate enrollment's prospect and event management, marketing, review and admission processes.

Each prospective student utilizes a personalized and mobile responsive web interface to engage with the Office of Enrollment. A new event module provides a simple experience to browse admissions events and self-register online. The Office of Enrollment hosts many events for prospective students each year, including Preview Day, Freshmen Day, Campus Tours, Interviews, and more.

The CRM technology allows easy, tailored, and automated ways to deliver targeted touch point communications to prospective students, while also presenting a personalized and persistent web front end. This integrated event management solution includes automated workflows and communication plans to facilitate and track interactions with registrants.

In addition, CRM Recruit streamlines multiple admission functions through this one tool, replacing over 11 non-integrated products used previously. This also improves the Office of Enrollment's ability to generate metrics and data analytics in one place.

CRM Recruit allows all information required for making efficient admission decisions to be collected in a single location with shared notes, information, and communication details. Automatic reminders are sent to request any missing supplemental items.

As an added bonus, the annual Common Application updates are delivered as part of the CRM Recruit product and, as such, will not require substantial internal resources for support. In fact, the Common Application import has been scheduled to automatically occur, along with Coalition and Shorelight applications and other supplemental information, thus reducing resources required to process applications.



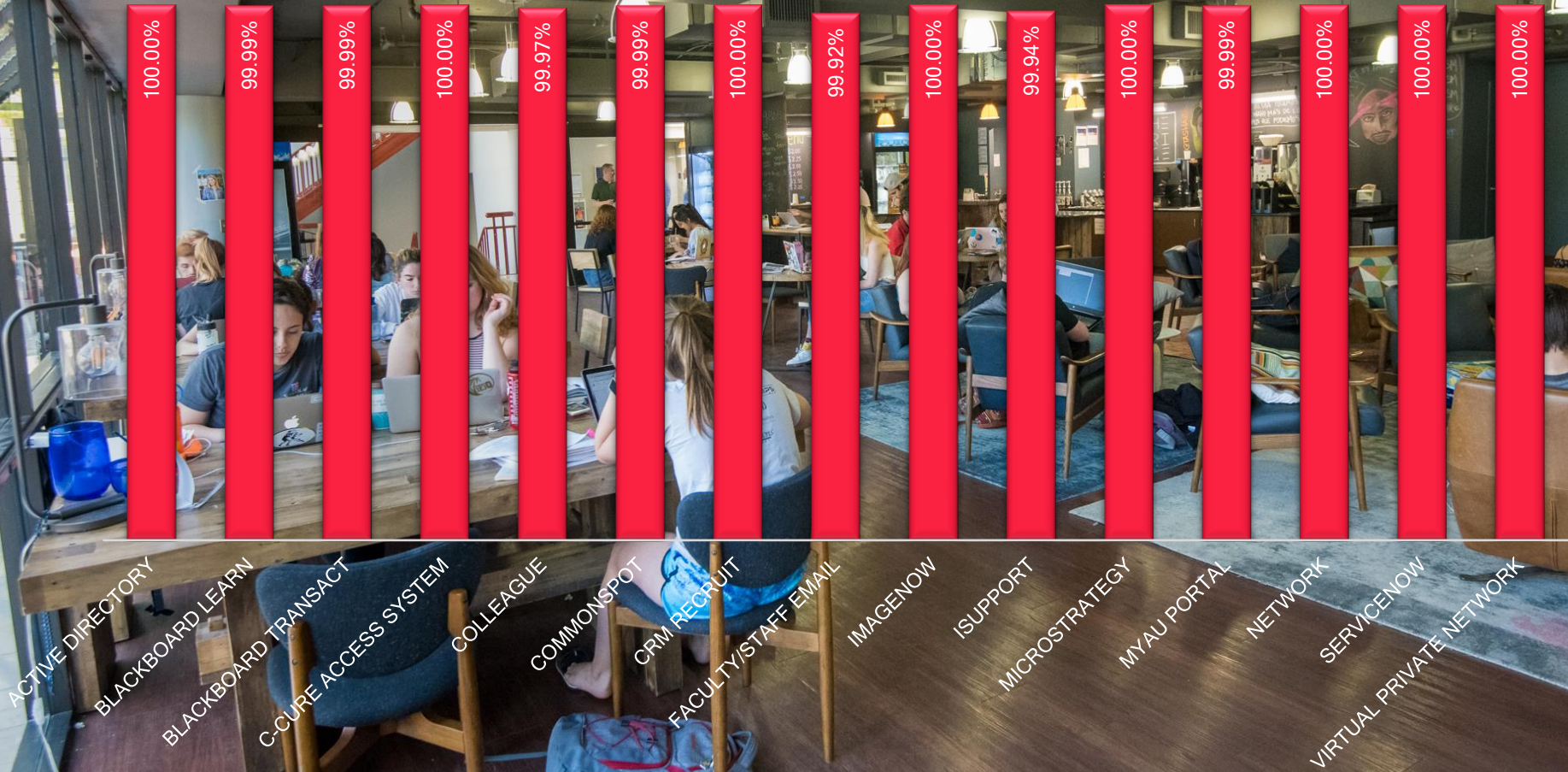
ANDREA FELDER

Assistant Vice Provost, Undergraduate Admissions

*"We look forward to collaborating with our OIT partners to learn how CRM Recruit will help us become more efficient in our undergraduate recruitment and enrollment processes."*

PERFORMANCE METRICS  
TECHNOLOGY SERVICE  
AVAILABILITY

Key services exceed the 99.9% availability target.





# STRATEGIC GOALS & ACCOMPLISHMENTS

## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

1

### MIGRATING OUR ENTERPRISE RESOURCE PLANNING SYSTEM TO A NEW PLATFORM

Launched in April of 2015, the Colleague to SQL Migration project was a multi-phased, multi-year collection of projects to migrate the University's enterprise resource planning system, Ellucian's Colleague, from the legacy UniData database platform to the SQL Server database platform, which is an industry standard. After completing the largest project in recent history, AU went live with Colleague on SQL as planned on July 9, 2018.

The migration was required to alleviate the constraints of single threaded processing of the UniData system, allowing for more robust security and safety and greater integration with Ellucian and Microsoft. Additionally, OIT seized the opportunity to convert legacy in-house programs to off the shelf vendor-provided software that works with new database and system – reducing risk, improving reliability, and in many cases, enhancing functionality.

The SQL migration was a herculean task for not only OIT, but also all of the campus partners that participated in testing and validation. Campus partners tested over 2,000 scenarios to ensure that processes and data were migrated appropriately, and functionality was not impacted. This testing required countless hours of time; and it is important to acknowledge that the process would not have been successful without the feedback and assistance provided.

The initiative was made up of over 200 dependent and subprojects, requiring three years of dedicated work to make all of the code SQL-compliant. To make the actual migration more efficient and keep the Colleague outage to a minimum, OIT wrote several custom programs. During the migration, OIT moved an enormous amount of data to the SQL platform, including 462,849,759 files and 1168 pieces of custom code.

While OIT and campus encountered some post-migration issues, the planning and dedication of all the staff involved minimized these issues and allowed for quick resolution. The completion of the migration allows AU to move forward to adopt more tools to enhance student and stakeholder experiences.



Just Some of the Many, Many Contributors to the Successful Colleague SQL Migration

# STRATEGIC GOALS & ACCOMPLISHMENTS

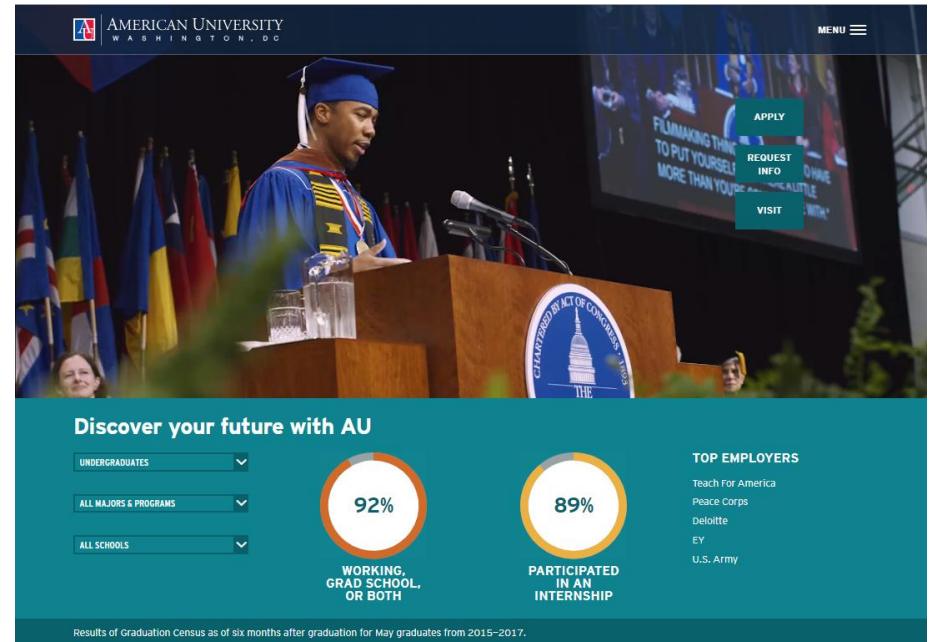
## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

### ENSURING ACCESSIBILITY THROUGH REDESIGNED AU WEBSITE

In partnership with University Communications and Marketing and supported by content publishers within staff and academic units, OIT led the task of addressing web accessibility-related issues on our flagship sites. In 2017, OIT rolled out a tool that identifies web accessibility gaps, known as Compliance Sheriff.

Based on Compliance Sheriff findings for AU's website, templates were updated to fix many of the identified gaps and adhere to best practices. Guidance and training was offered to content publishing leads to assist in fixing issues within their web pages. Older unused content was identified, analyzed, and deleted from the system, ultimately reducing our page count from over 40,000 pages to approximately 20,000 pages.

Additionally, in the spring of 2018, OIT upgraded the CommonSpot content management system, including the servers and all underlying technologies. The upgrade allowed us to leverage modern web best practices for design, performance, and scalability. In addition, we moved all of AU's web operations to Secure Sockets Layer (SSL) for improved security, Google search ranking, and to avoid being labelled as not secure by Google's Chrome web browser.



Screenshot of Redesigned AU Home Page

# STRATEGIC GOALS & ACCOMPLISHMENTS

## EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

1

### UPGRADING AU'S TECHNOLOGY INFRASTRUCTURE

OIT engineers devoted a great deal of time and effort to improving AU's technology infrastructure, continually striving to improve access and security of our wired and wireless networks to offer a seamless end user experience.

#### WIRELESS NETWORK UPGRADE

In response to the ever-increasing number of wireless clients, OIT conducted a comparative review and analysis of various systems with a goal of simplifying the use, management, and maintenance of the previous multi-vendor infrastructure, as well as to lower the cost of ownership.

AU selected the Cisco Meraki infrastructure and worked directly with the Meraki sales team and its partner, ConRes, to install and configure the new system on an aggressive schedule between June and July of 2018. The upgrade is expected to provide faster network access, increased capacity for more client connections, and a better experience for all campus wireless users.

The upgrade process was divided into five phases:

1. Conducted a proof of concept test to ensure a one-to-one replacement of the APs would work as expected.
2. Installed new APs within all 38 campus buildings, after de-installing the existing APs.
3. Configured the new system with assistance from the vendor and partner.
4. Upgraded and configured the APs in Bender Arena.
5. Conducted post implementation site surveys.

During the upgrade, OIT's approach was to bring down the wireless network in just a portion of the building, so end users could continue to utilize other functioning APs.

Prior to the wireless network upgrade, there were three different systems in operation:

- 1060 wireless access points (APs) from Aruba Networks were operating in all main campus buildings except Bender Arena, with 13 controllers managing the infrastructure.
- Eleven Xirrus Network 802.1n APs operating in Bender Arena to support event attendees.
- Cisco/Meraki APs installed at East Campus and off campus buildings except in the Spring Valley Building.



AU Students using Outdoor Wireless



## BANDWIDTH INCREASES FOR CAMPUS INTERNET & GUEST WIRELESS NETWORK

To improve Internet services and preemptively address AU's ever-increasing consumption of bandwidth, OIT worked with our Internet Service Providers (ISP), Lightower and Cogent, to re-configure the infrastructure, and increase the current bandwidth from five to ten gigabits per second (Gbps) per ISP for a total of 20 Gbps. OIT negotiated aggressively, to decrease the monthly recurring charges for AU's internet service.

In addition, OIT upgraded the bandwidth for the guest wireless network, AUGuest-byRCN, from one Gbps to five Gbps to support increasing usage and demand.

## 802.1X PORT-BASED AUTHENTICATION

To improve access and better secure AU's network, OIT completed the transition to a new authentication method for computers, printers, televisions, game consoles, and other devices to connect to the wired network. It took the OIT team many months to design and reconfigure over 150 network electronics and over 20,000 wired network ports campus wide. The work was completed afterhours to minimize the impact on the AU community. The new authentication method, called 802.1x, is the same authentication method used to connect to the eagle-secure wireless network. This change has simplified network access and resulted in highly secured and improved role-based network connections.

## NETWORK DISTRIBUTION LAYER UPGRADE

OIT completed the distribution layer network upgrade in all campus buildings, installing 68 new building routers, providing multiple 10 Gbps connections from each building to the core network. These changes eliminate single points of failure, as well as increase redundancy and network availability.

## CAPITAL PROJECTS SUPPORT

OIT completed the network design and cost estimates for the provision of IT infrastructure services, including wired and wireless network, telephone, and cable television services, within the under construction Hall of Science. Work continues with the Project Manager to begin drafting the request for proposal for the IT infrastructure cabling.

Additionally, OIT completed the network design and installation to support the Shorelight program at the 4200 Wisconsin Avenue location. The effort included providing wired and wireless network, telephone, and cable television services.



**Hall of Science Rendering**

PERFORMANCE METRICS

SERVICE DELIVERY & SUPPORT

AU's rapid technological advances inspired new training offerings—balancing needs for timely and informative, on-demand training with in-depth workshops.



# STRATEGIC GOALS & ACCOMPLISHMENTS

## WIN RECOGNITION & DISTINCTION

### AWARDING EXCELLENCE OF OUR STARS

Instituted in 2009, OIT proudly offers annual awards to recognize our staff that demonstrate excellence and best exemplify the award.

In June of 2018, CIO Swartz presented the following deserving individuals with their award plaques:

- **OIT Campus Partner Award** – Kristina Whitchurch, Lead Student Systems Analyst
- **OIT Critical Thinker Award** – Glenn Kwak, Director, Enterprise Systems Operations
- **OIT Customer Service Award** – James Purchase, Help Desk Analyst
- **OIT Dependability Award** – Alfred Zaki, Senior Student Application Specialist
- **OIT Enlarger Award** – Lee Ruble, Director of Student Information Systems
- **OIT Initiative Award** – Corinne Peterman, Senior Systems Engineer
- **OIT Leader by Example Award** – Greg MacPhee, Senior IT Project Manager
- **OIT Vision Award** – Patricia Stewart, Senior Enterprise Architect

While eight awards are designated for our own internal staff, two special awards recognize campus partners that have been instrumental to our success.

- **Partner of the Year Award** – Tony Loffredo, Assistant Director of Academic Technology Systems, University Library
- **Technology Adoption Leader Award** – Astrid Bonilla, Director of Payroll





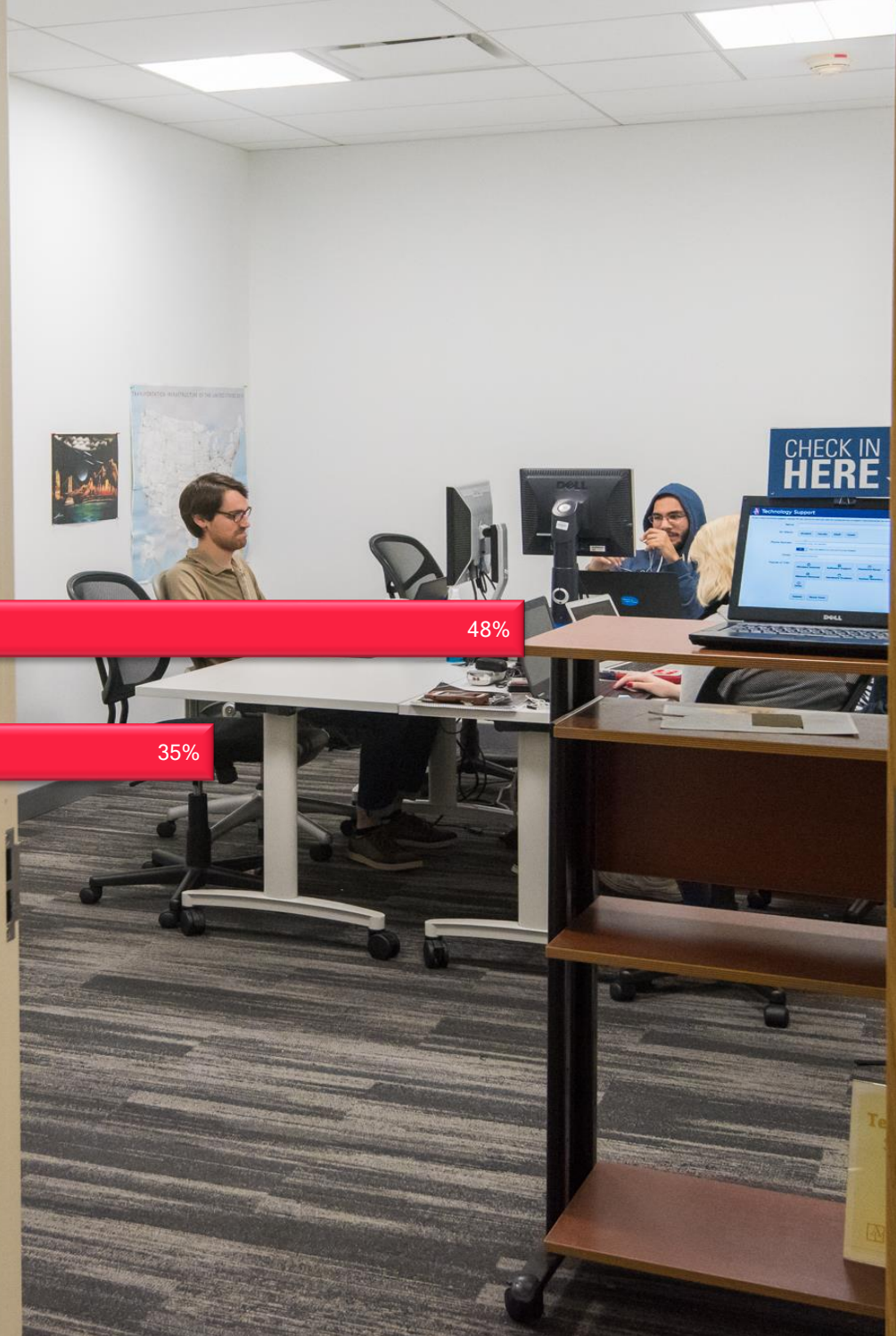
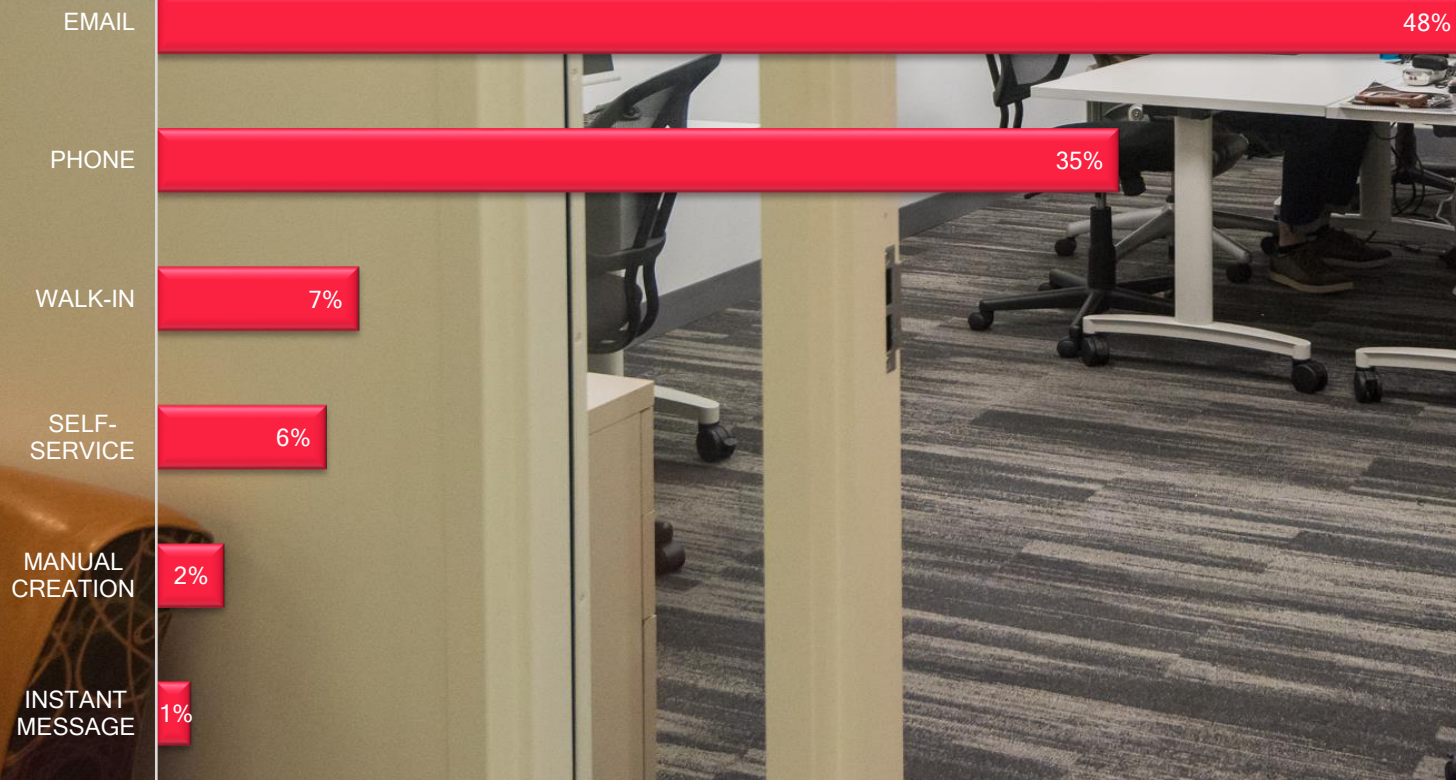
PERFORMANCE METRICS

# SERVICE DELIVERY & SUPPORT

The OIT Help Desk resolves over 80% of all support requests during the initial contact.

Technology Support Desk

Mon-Fri: 10AM-6PM



## ENTERPRISE RISK MANAGEMENT

In the fulfillment of AU's mission, the University engages in many activities that involve risk and uncertainty. Enterprise risk management (ERM) signifies a coordinated approach to assessing and responding to all risks (downside) and opportunities (upside risks) that affect the achievement of the University's strategic and financial objectives.

The goal of an enterprise risk management process is to identify and evaluate significant risks, and assure that university-wide risk management decisions align with the University's mission and strategic goals. AU recognizes that risks often interconnect, with risks in one area having the potential to affect other units. The University strives to promote a culture of risk management in all university activities, so a risk management framework may be applied consistently at every level, reducing siloed risk decision-making.

### BACKGROUND

The ERM organized, under the leadership of David Swartz, in the summer of 2016. In November 2016, the new membership held their first meeting with representatives for each of the AU Divisions, along with Internal Audit, and the Office of General Counsel. The newly formed ERM differentiated itself from previous groups by creating division-level risk groups. Fundamental to creating a culture of risk awareness, these groups invite community members to identify risks and opportunities. This level of engagement aids in uncovering risks and opportunities that may cross divisions, which ultimately facilitates managing and tracking the risks at the enterprise level and informing budget requests and decisions.

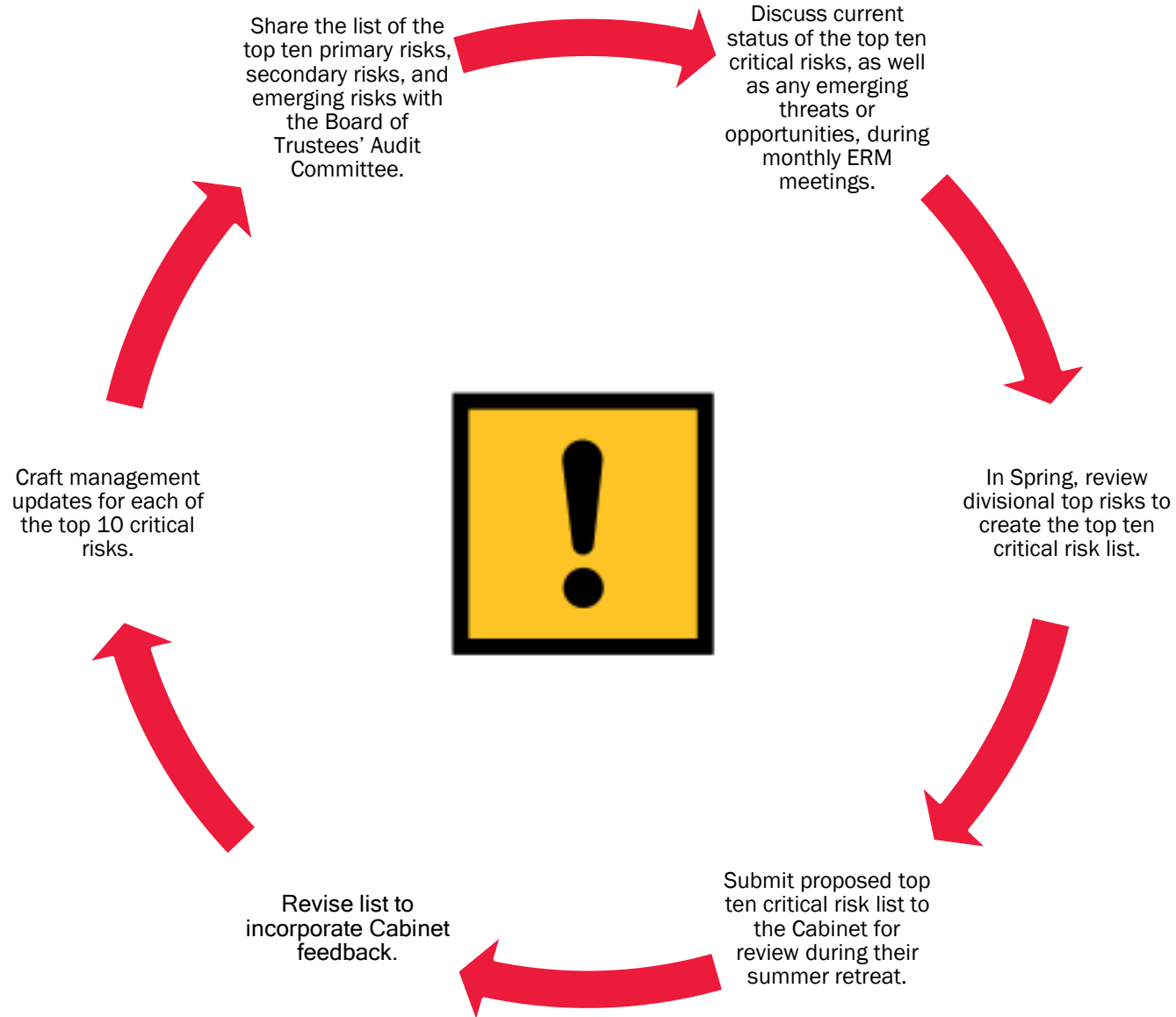


*“As a newer member of the ERM, I appreciate the opportunity to engage in a thorough, institution-wide review of risk and uncertainty. It is invaluable to have an active group that identifies risks, methodically engages in a process that sets goals towards mitigating those risks, and reviews the impacts on those interventions. Additionally, as an administrator who carries high risks in my area, I value having a team of able administrators who share these responsibilities collaboratively.”*

TRACI CALLANDRILLO

Assistant Vice Provost, Undergraduate Admissions

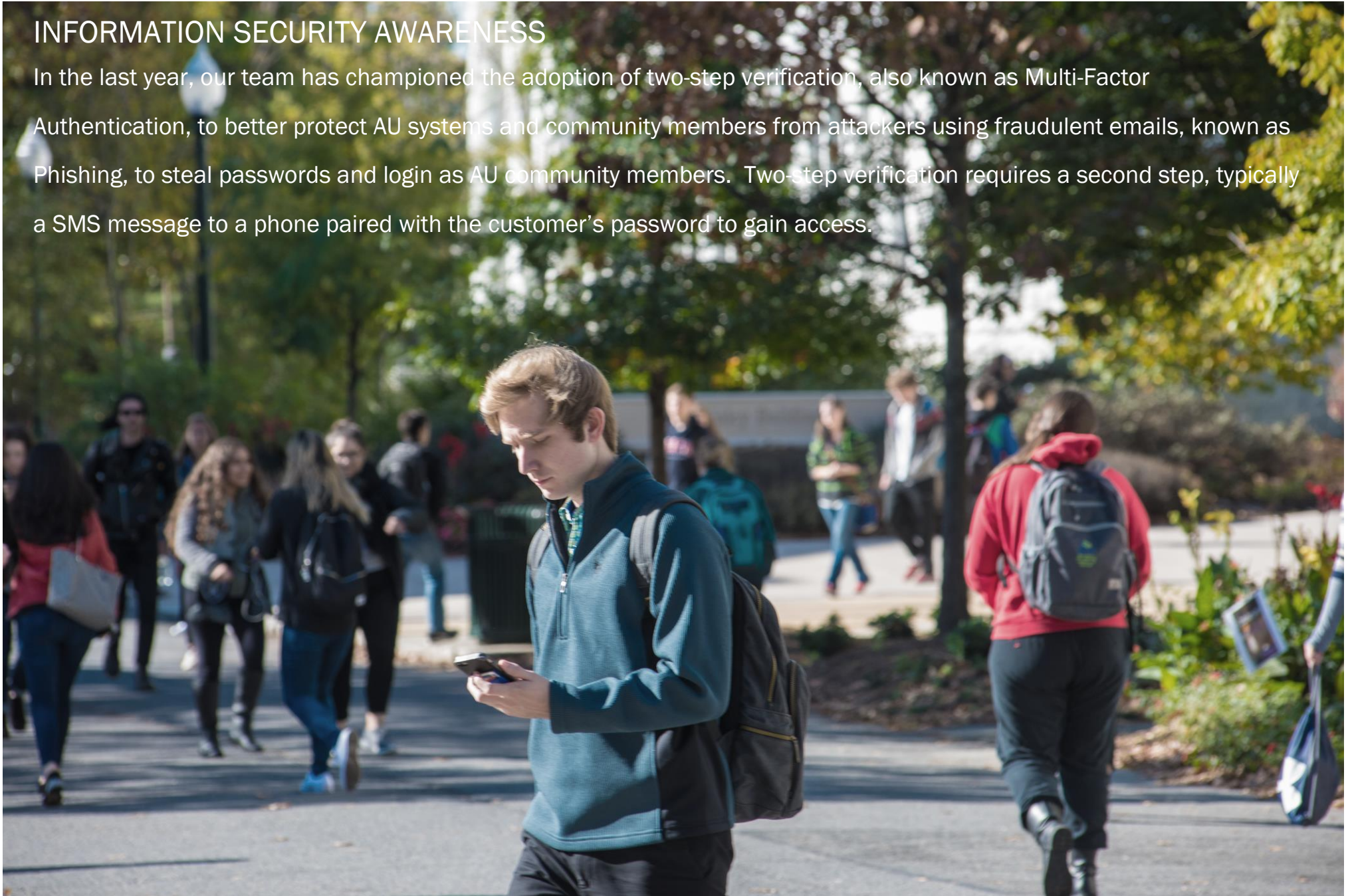
## PROCESS FOR IDENTIFYING TOP TEN CRITICAL RISKS





## INFORMATION SECURITY AWARENESS

In the last year, our team has championed the adoption of two-step verification, also known as Multi-Factor Authentication, to better protect AU systems and community members from attackers using fraudulent emails, known as Phishing, to steal passwords and login as AU community members. Two-step verification requires a second step, typically a SMS message to a phone paired with the customer's password to gain access.





# RESOURCES

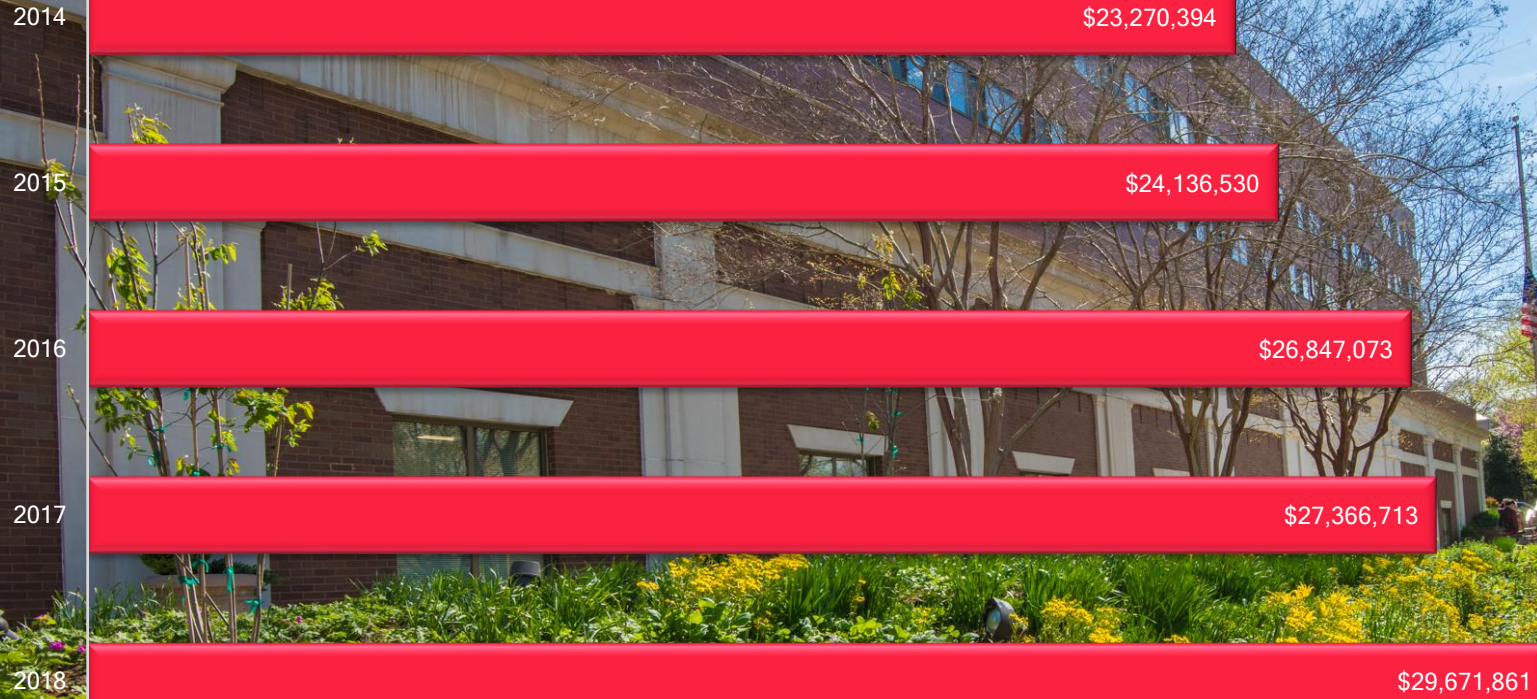
With more than \$29 million in total expenditures last year, OIT accounts for approximately 4.34% of the university's overall budget.





# RESOURCES

## OIT EXPENDITURES FROM 2014-2018





## PROJECT MANAGEMENT OFFICE

2

*Through quarterly portfolio reviews, campus portfolio owners from all areas of AU prioritize their projects and determine campus-wide priorities as a group. OIT teams collaborate extensively, both within OIT and in the community, to manage scope, protect sensitive data, define schedules, determine budgets, and deliver on commitments.*

This year, the primary focus of OIT's Project Management Office (PMO) was to manage and coordinate the campus-wide effort to migrate AU's enterprise resource planning system, Ellucian's Colleague, to Microsoft's SQL Server database. Additionally, in collaboration with the Office of Procurement and Contracts, the PMO successfully managed the implementation of PaperCut, as a managed print service for all faculty, staff and students. Other notable projects included the implementation of ServiceNow's Customer Service Management application for AU Central, Financial Aid, Student Accounts and the Office of the University Registrar; integration for the Online New Student Orientation system for both graduate and undergraduate students; implementation of self-service banking; and management of several system upgrades, such as: CommonSpot, AU's web content management system, and multiple CRM Advise and CRM Advance upgrades.

In an effort to increase user adoption of the TeamDynamix project and portfolio management system, OIT developed online training to provide quality, self-paced training on the tool to all project managers, project leads, and team members. This online training is also available to all AU staff, if interested, via AsuccessfulU. In addition, the PMO team also developed and published a TeamDynamix Quick Reference Guide and over 20 Knowledge Base articles to offer easy access to the most commonly asked questions about project requests and TeamDynamix features. Additional project management support is also provided via weekly office hours with the PMO team.

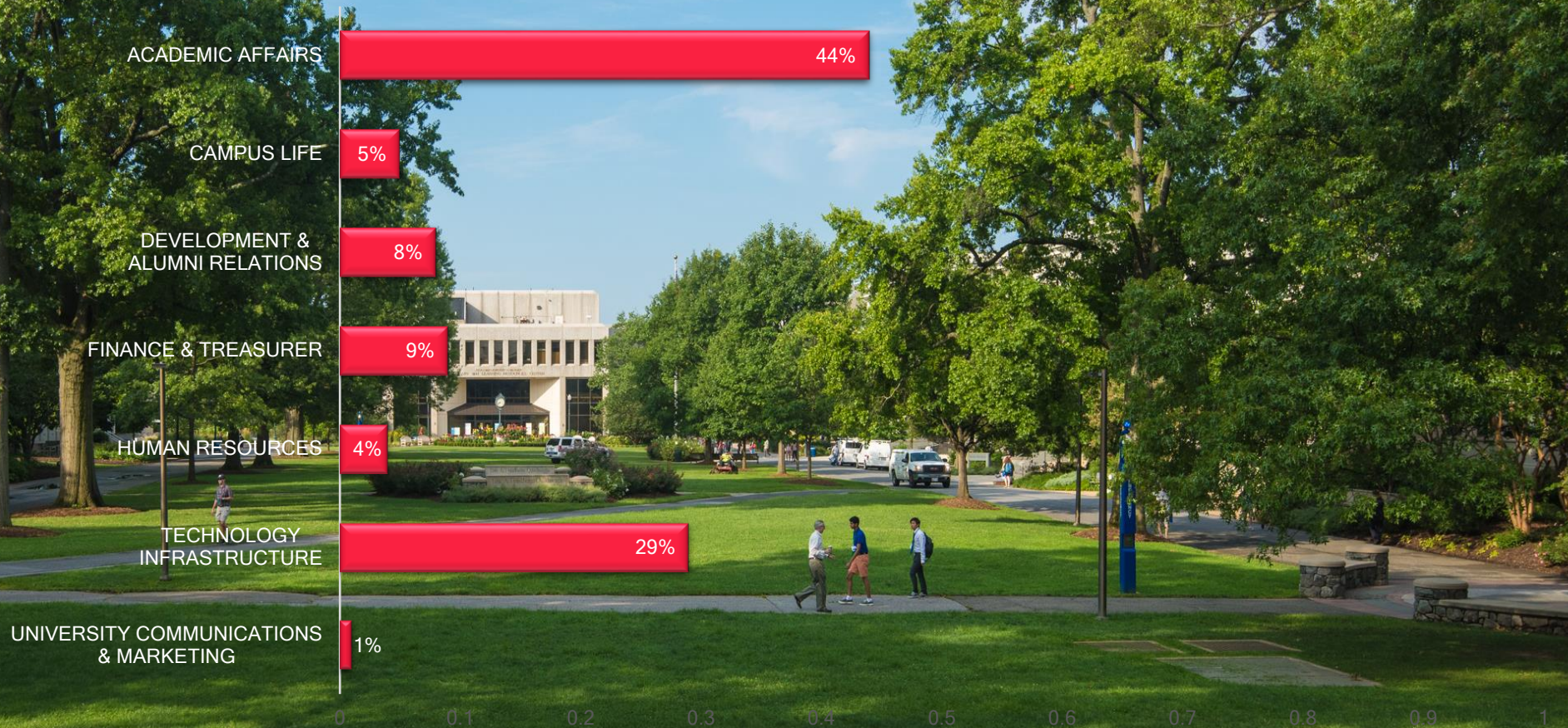
As part of OIT's professional development initiative, the PMO delivered multiple training sessions focused on project and portfolio management concepts, tools, techniques, and best practices to help AU colleagues manage stakeholder expectations and improve project delivery. Visit AsuccessfulU to register for upcoming project management training sessions or review the TeamDynamix self-paced online training.



## PERFORMANCE METRICS

# OIT PORTFOLIO BY UNIVERSITY DIVISION

During the 2017-2018 portfolio year, OIT responded to over 150 project requests, and completed 142 projects. The graph below shows the breakdown of projects by resource allocation.



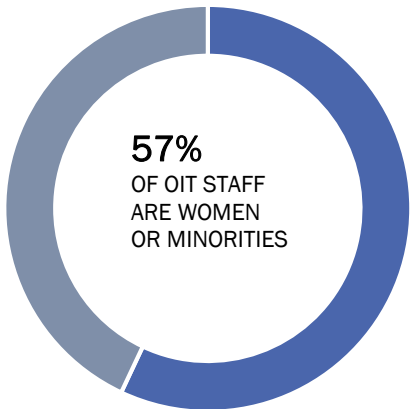


# INDUSTRY-STANDARD BEST PRACTICES

OIT continually strives to advance and mature our business processes, architecture, and workplace culture by aligning with industry-standard best practices. Not only do we adopt and consistently employ these practices ourselves, but we also model them for our AU colleagues to encourage more wide spread adoption campus-wide.

## PEOPLE FIRST AND INFORMATION TECHNOLOGY

- Hiring a diverse workforce, despite the profession being dominated by Caucasian or Asian males

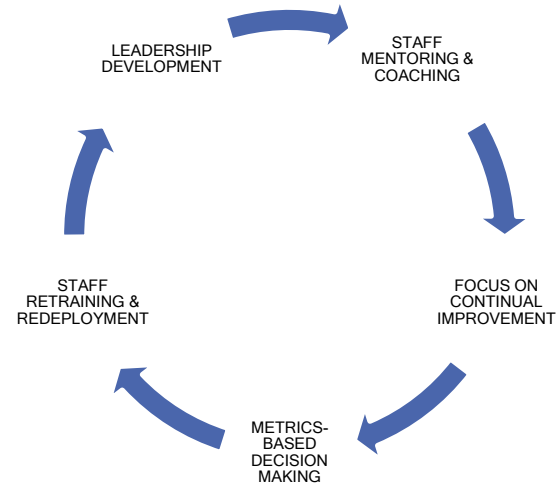


*Industry-wide only 26% of the computing workforce are women and 15% of the workforce are underrepresented minorities.*

- Engaging staff in meaningful conversations about the future of IT, as it pertains to decision-making, planning, budgeting, and managing day-to-day operations



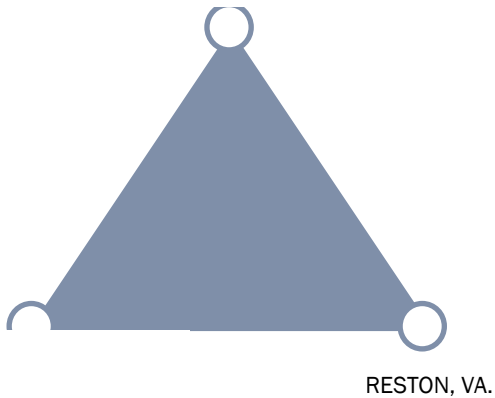
- Consciously address workforce planning to hire and retain talented professionals eager to serve AU's mission



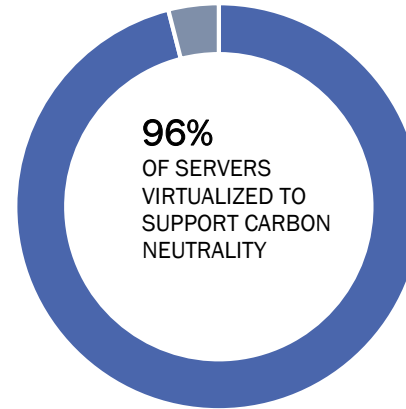


## KEY TECHNOLOGY BEST PRACTICES

- Ensuring continuity of operations through use of business continuity data centers

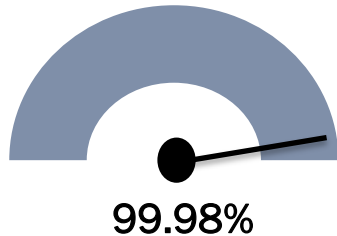


- Virtualizing as many services as possible to offer redundancy, simplify maintenance, and support AU's goal of carbon neutrality



- Measuring our current performance and tracking historical trends to support management decisions

### SERVICE AVAILABILITY FOR CORE SERVICES



Translating to Fewer Than 1 Hour of Unplanned Downtime per Year for Services Including Blackboard Learn; Ellucian's Colleague; Network Infrastructure; Email, and the myAU Portal

- Articulating the roles and responsibilities for each group within OIT to support a particular service

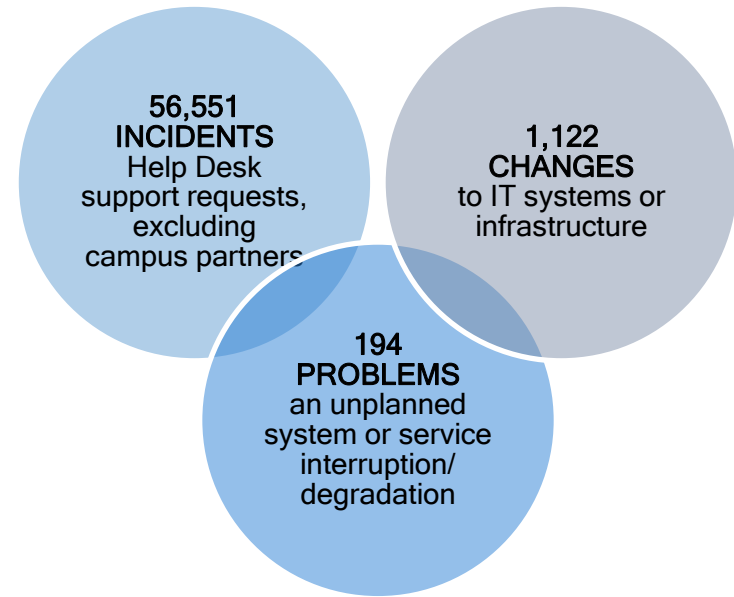


23 SERVICE-LEVEL AGREEMENTS—  
the Formalized Service Structure  
Allowing for Consistent Service Delivery  
as Negotiated with Campus Partners

- Incorporating security measures throughout our technology and operational processes



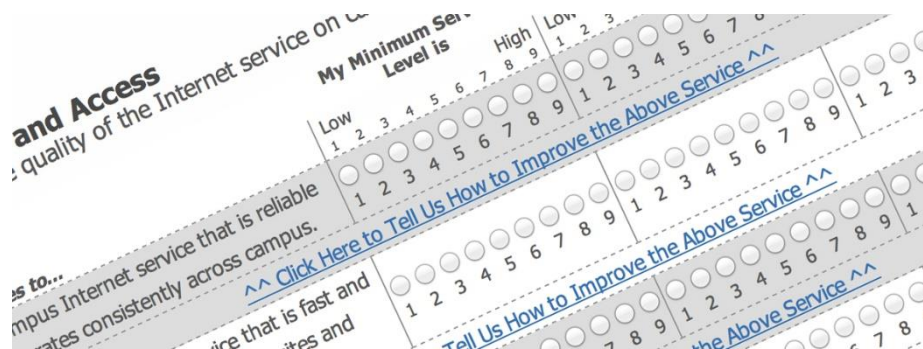
- Streamlining the handling of incidents, problems, and changes through formalized processes and use of a state of the art, integrated case management system



# ASSESSING IT SERVICE OUTCOMES: RESULTS FOR THE HIGHER EDUCATION TECHQUAL+ SURVEY AT AU

OIT is pleased to share this summary report of the IT Customer Feedback Survey administered to campus between November 20, 2017 – December 8, 2017, as part of the *Higher Education TechQual+ Project*, to assess the quality and effectiveness of technology services provided to our community.

The 2017 survey results were analyzed and compared to those from 2015 to measure progress. Additionally, our results were benchmarked against peer institutions to guide our continued planning and prioritization decisions. Action plans were developed and initiated to address the perceived technology adequacy gaps on campus. Our goal is to repeat the TechQual+ survey process every two academic years, with the next survey planned for the Fall of 2019.



## OVERVIEW OF THE TECHQUAL+ SURVEY

The Higher Education TechQual+ Project provides IT leaders and administrators with the tools to assess, analyze, and report on the effectiveness of technology services at their institution. There are 13 core IT service outcomes that are standardized across every participating institution and grouped together into the following distinct core commitments:

- Connectivity and Access
- Technology and Collaboration Services
- Support and Training
- Other Important Information Technology Services

Respondents were asked to rate the service dimension in three ways, based on a rating scale with 1 being the lowest and 9 being the highest.

- Minimum Service Level Expectation – the number that represents the minimum level of service that the respondent finds acceptable.
- Desired Service Level Expectation – the number that represents the level of service that the respondent personally wants.
- Perceived Service Level Expectation – the number that represents the level of service that the respondent believes is currently provided.

Additional supplemental questions were added that were unique to AU. Respondents also had the opportunity to leave narrative comments for each question.



## KEY FINDINGS

Inspection of the Zones of Tolerance graph on page 39 reveals quite positive results, as ratings for perceived service levels in 2017 increased for every service category, as compared to the 2015 survey. There was a noticeable shift upward for the zone of tolerance across every service category, as customer expectations continue to grow.

The highest desired service levels corresponded to the following services: having reliable Internet service, having fast Internet service, having knowledgeable IT support staff, having adequate wireless coverage, and having reliable cellular coverage, which have long been a priority focus for OIT.

Additionally, respondents rated their perception of current service levels with mean ratings ranging from 6.59 – 7.73 on a nine-point scale. No services were rated as meeting the desired service level, since mean ratings were extremely high, ranging from 7.96 – 8.81 on a nine-point scale.

We are pleased to report that AU exceeded the minimum service levels for every service category in aggregate. Below is a summary of the weaker and stronger areas by University role, based on the perceived service levels on a nine-point scale.

	STUDENTS	FACULTY	STAFF
	Knowledgeable IT Staff (7.50)	Reliable Internet (7.93)	Knowledgeable IT Staff (8.08)
<b>STRONGER AREAS</b>	Cellular Coverage (7.27)	Wi-Fi Coverage (7.82)	Fast Internet (8.01)
	Timely Resolution of IT Problems (7.24)	Fast Internet (7.80)	Reliable Internet (7.94)
	Access to Training or Self Help (6.71)	Reliable & Easy Online Learning Tools (6.59)	Online Services Enhance Teaching (7.05)
<b>WEAKER AREAS</b>	Reliable & Easy Online Learning Tools (6.70)	Easy to Use Web Sites (6.57)	Data to Inform Decisions (7.03)
	Faculty Use Technology (6.63)	Online Services Enhance Teaching (6.39)	Easy to Use Web Sites (6.99)

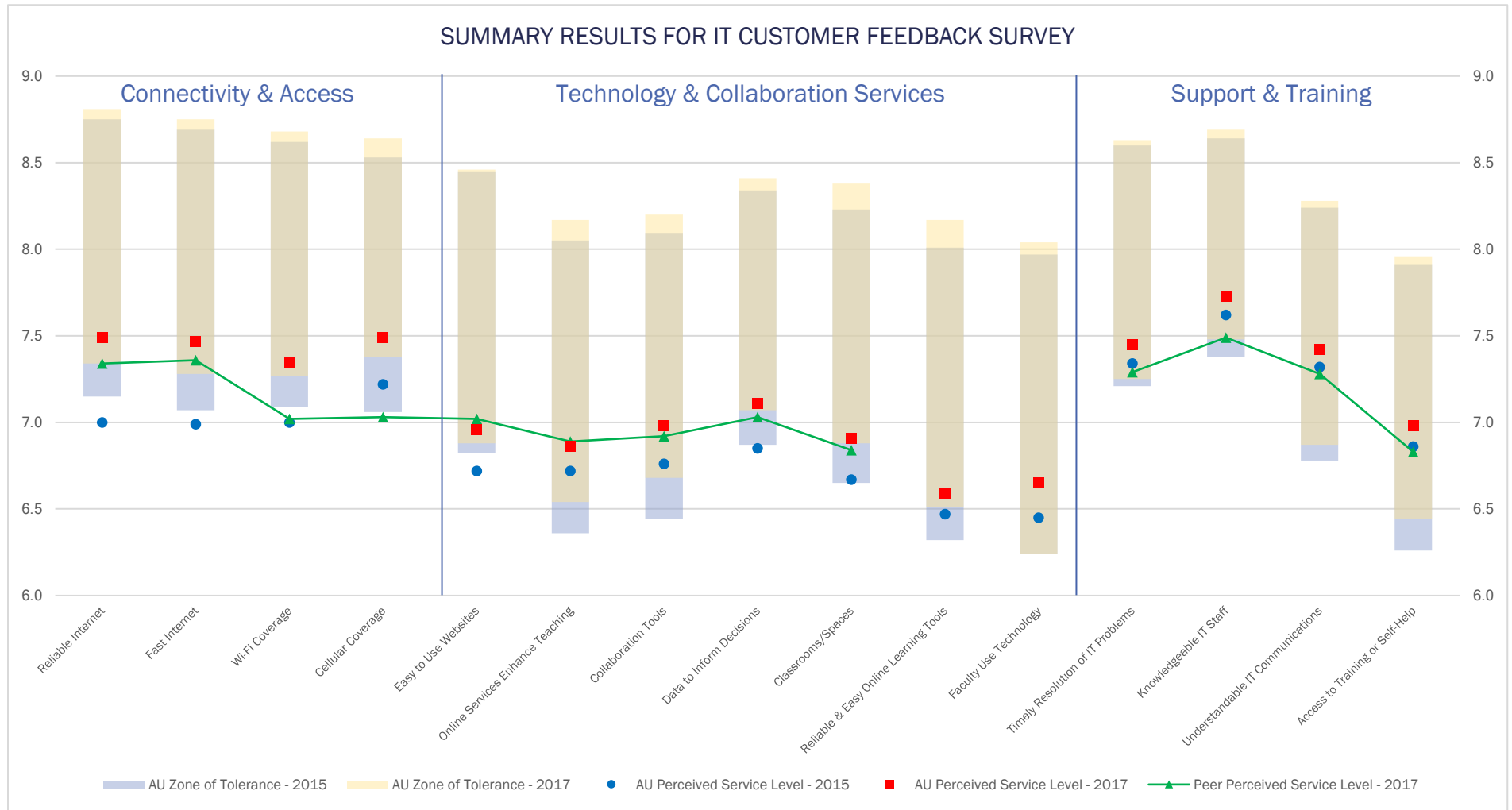
Areas of focus become clearer when examining the ratings with a negative adequacy gap for a particular role, as the faculty ratings were the lowest. These services include (in order from the greatest to least adequacy gap):

- The availability of classrooms or meeting spaces with technology that enhances the teaching and learning experience. (-1.00 gap with 6.68/9 mean for faculty and 0.03 gap overall with 6.91/9)
- Having Web sites and online services that are easy to use. (-0.86 gap with 6.57/9 mean for faculty and 0.08 gap overall with 6.96/9)
- Having online services that enhance the teaching and learning experience. (-0.76 gap with 6.39/9 mean for faculty and 0.32 gap overall with 6.86/9)
- Getting timely resolution of technology problems that I am experiencing. (-0.39 gap with 7.33/9 mean for faculty and 0.20 gap overall with 7.45/9)
- Having systems that provide timely access to data that informs decision-making. (-0.27 gap with 7.03/9 mean for staff and 0.05 gap overall with 7.11/9)

- Having online learning tools (such as a learning management system, lecture capture, and virtual classrooms that are reliable, easy-to-use, and sufficient for my needs. (-0.27 gap with 6.59/9 mean for faculty and 0.09 gap overall with 6.59/9)

With regard to benchmarking against our peers, AU fared very well, as we performed better than our peer institutions in eleven of the thirteen areas. The two areas AU ranked slightly below our peers were easy to use websites with a -0.06 difference and online services to enhance teaching and learning with a -0.03 difference.

## SURVEY RESULTS – ZONES OF TOLERANCE



- The light blue bar indicates the zone of tolerance from 2015 with the bottom representing the minimum service level expectation and the top representing the desired service level expectation.
- The light blue bar indicates the zone of tolerance from 2017 with the bottom representing the minimum service level expectation and the top representing the desired service level expectation.
- The blue circle indicates the perceived service level expectation indicated by AU faculty, staff, and students in 2015.
- The red square indicates the perceived service level expectation indicated by AU faculty, staff, and students in 2017.
- The green line with triangle markers indicates the average perceived service level expectation for faculty, staff, and students from peer research universities.





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