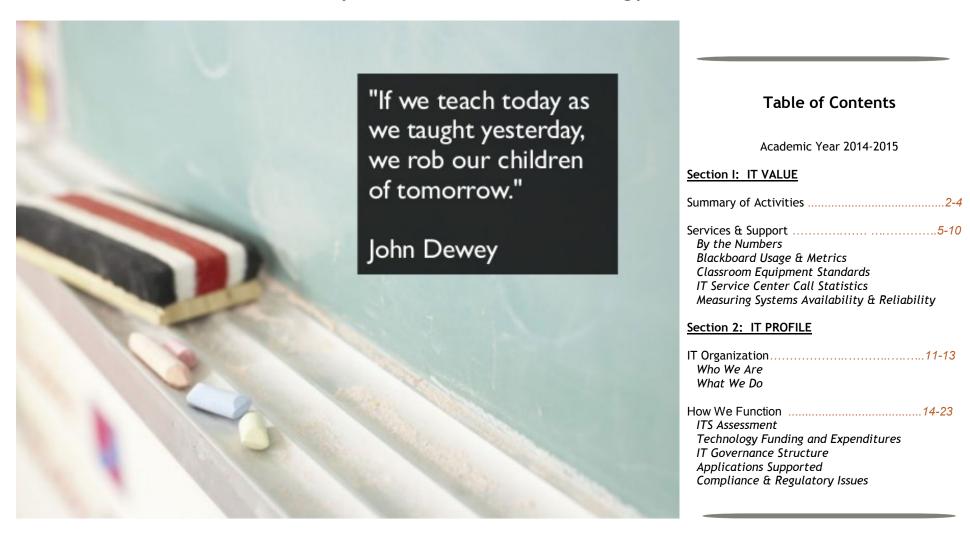
Truman State University

Current State of Information Technology 2014-2015



[&]quot;Never before in history has innovation offered promise of so much to so many in so short a time." - Bill Gates

SECTION 1: IT VALUE - Summary of Activities for Academic Year 2014-2015

Major Highlights:

Even More Classroom Improvements -

- Completely renovated BH176 to a modern multi-purpose, high-tech, theater-style, high-capacity classroom, making this 100+ seat classroom more conducive to successful teaching and learning models.
- Upgraded VH1432 to a 35 seat computer classroom featuring high-tech lecture capabilities plus group work.
- Standardized audio-visual controls, projection monitoring capabilities, projection surfaces and presentation interactivity, in 10 classrooms in Barnett. (Two of the rooms also received lecture capture capabilities as well.)

Implemented new video-on-demand training resources, enabling faculty to review this new library of resources anytime, anywhere.

Worked with campus planning on the design and implementation of Informal Learning Spaces in all academic buildings as well as the Library.

Participated on the President's Action Teams to ensure our technology environment is appropriate for the future.

Continued working on migrating information to the new redesigned Truman website. which included support for the high-profile websites needed for our HLC visit.

Worked with library staff and History faculty to plan and deliver a Digital Humanities Pilot Course in History. The project provided important data regarding the amount and type of support required for such a course. This will enable us to better plan for future, similar projects.

Worked with a special senate subcommittee tasked with reviewing the Computer Literacy essential skill. The result was a report recommending implementation of new Digital Literacy requirements.

Identified a new mobile application framework and migrated the Truman application to provide a more responsive mobile environment.

Established a more comprehensive social media program for Truman - this included the establishment of social media guidelines, a social media team, and the production of over 7 major videos.

Transitioned to a new credit card processor, resulting in a 30% reduction in service fees.

Expanded our emergency notification system options, including the addition of the Alertus desktop notification system and additional integration with the classroom control system.

Implemented many application and process improvements. including enhancements for room scheduling, managing housing fees, re-designed applications for nursing and international students, self-service transfer articulation, and the Missouri Reverse Transfer Initiative.

Upgraded the edge firewall and routers to ensure a redundant and resilient campus network.

BNB and Dobson Residence Halls have upgraded wireless networks that are 5X faster than the previous systems.

Implemented a new authorization management system that allows single-sign-on to any web-based applications, including the newly implemented campus portal.

Website Improvements

- Reviewed and selected a new portal platform (Liferay), and transitioned from Luminis to the new portal system
- A new content management system and website strategy was adopted last academic year, and we began migrated websites at that time. We continued the migrations over this past year (called phase II), and also supported the HLC accreditation visit by ensuring high profile websites were migrated to the new template as appropriate
- Implemented a new web email marketing system

Workstation Replacements and Upgrades

- Completed the upgrade of 142 faculty and staff workstations on campus
- Completed the upgrade of the Tel-Alumni calling system workstations

Campus Venue Improvements

• Provided technical support for the Kirk Memorial Building design and renovation

Compliance Activities

- Developed programs to address the Missouri Reverse Transfer program
- Worked with the campus Copyright Committee and on DMCA follow-up activities
- Applied changes to the National Student Clearinghouse files to address new regulatory requirements
- Implemented tools and systems (including automated general ledger updates) that are compliant with accounting principles and mobile credit card payments
- Phase I of the Business Impact Analysis was completed

Summary of Activities for Academic Year 2014-2015 (continued)

Maintain & Improve Physical **Learning Spaces**

Complete Classroom Builds - These rooms were either newly constructed spaces, or had complete overhauls to the academic technology in the room.

Specialty Rooms:

- Upgraded the language program peer tutoring center after a redesign of the space
- Completed the upgrade of Baldwin Hall 176 to a multi-purpose high-capacity classroom
- Completed the renovation of VH1432 as a high-tech high-capacity computer classroom
- Installed technology capabilities in the renovated Kirk Memorial Building
- Provided support for the Planetarium technology upgrades needed (added a teaching console)

Classroom Improvements - Many rooms had targeted improvements:

- Added permanent lecture capture hardware in 2 more classrooms
- Improved writing spaces in 8 academic, departmental, and casual learning spaces.
- Completed audio-visual control upgrades in 10 rooms (mainly in Magruder)
- Completed data projector upgrades in 10 rooms, all of which provide for stylus-touch interactivity
- Replaced teaching console computers and classroom computers as needed
- Completed the phase-out of VHS tape usage in classrooms (this included working with faculty to either purchase or duplicate their material as appropriate)
- Installed IdeaPaint in 2 classrooms to see if this can replace whiteboards

Supporting Instruction

- Completed an analysis of 3 classrooms using the Learning Space Rating System tool
- Completed the Blackboard upgrade (database, server and patches)
- Preventative maintenance completed in all classrooms
- All of the classroom console software was upgraded, along with the public lab software
- Designed and delivered Lunch-n-Learn workshops on a variety of teaching and learning technology topics throughout the year, with approximately 280 faculty attending these sessions
- Delivered workshops for 253 students covering a variety of technology tools
- Tuned our strategy and support for videoconferencing
- Continued to upgrade and add to the training.truman.edu site
- Investigated options for long-term lecture capture storage, and upgraded the current system
- Provided support for ongoing research into origination/plagiarism detection system, and worked with the faculty senate committee on digital fluency.

Course Redesign Work:

Worked with: 1) Ag Science faculty to redesign several online courses as part of an USDA/NIFA-funded grant; 2) History faculty to implement a digital humanities course; and 3) the Truman Institute on summer course redesign grants. In addition, allocated instructional design resources to work on the new competency-based data science certificate

Informal Learning Space improvements:

Worked with Campus Planning on technology improvements in informal learning spaces in each academic building and the Library.

Information Systems Improvements

- Banner and DegreeWorks upgrades were completed
- Implemented the Alertus workstation alert system to support emergency notifications
- Upgraded the alumni calling system
- Researched upgrading or implementing a new email system for faculty and staff
- Upgraded the document management system, which included upgrading the application as well as the hardware
- Participated in RFP processes for a new recruiting system, and a time & attendance system
- Researched and completed the upgrade of the campus receivables collection svstem
- Finalized the implementation of the card swipe/event participation system
- Re-wrote the classroom A/V management system (Chumby)
- Researched options available for room scheduling
- Migrated the mobile application to a new technology framework for better integration with our web infrastructure
- Enhanced the self-service transfer articulation application
- Continued migrating web applications to the new web environment (at least 6 of these applications were considered major efforts)
- Implemented improvements for room scheduling, housing fees, international student and nursing applications

Dashboards:

- Updated the strategic plan indicators, made enhancements to the 5 year reports, as well as the co-curricular dashboard and reports
- Electrical, gas, and water data for all buildings were loaded into the utility system and dashboard

Infrastructure Improvements

Server upgrades and virtualization

- Replaced servers: Blackboard, Banner INB, Banner SSB, and the Backup server
- Implemented a new hardware maintenance console for the IBM system (used to support Banner)
- Began updating all Microsoft Server systems from version 2003 to 2008 (or
- Updated the VMWare environment. providing support for more current applications
- Upgraded the Banner SSB and INB servers used to support power user and self-service access to Banner

Data Storage and Backups

• Began researching TKLM updates to support backups from the IBM systems Network and Telephone Upgrades & Installations

- Completed an upgrade of the wireless systems in BNB and Dobson Halls
- Replaced the core network switches
- Upgraded the campus network edge firewall and router (allowing full redundancy and automatic failover for the campus network)
- Participated in planning for the energy savings project

Security Systems

- Implemented the Central Authentication System (CAS) service for additional web applications and systems (and included implementation of the security manager for Banner). This also resulted in a better management interface.
- Completed the annual review of credit card and Red Flag Rules processing

Social Media

• Established a more comprehensive social media program for Truman - this included social media guidelines, a social media team, and the production of over 7 major videos

Summary of Activities for Academic Year 2014-2015 (continued)

SUPPORT SERVICES

Service Center: Requests for Assistance

10,496

Items of Equipment Loaned

1,993

Telephone Operator Reauests

52,069

Number of Faculty, Staff and Students Supported Supported Public and General Use Workstations

979

Supported Faculty, Staff & Research Workstations

1,564

Networked Printers

396

9,690

TECHNOLOGY INFRASTRUCTURE

100%

Wireless Coverage

Physical Servers

34

Network Data Ports

11,500+

Virtual Servers

115

Number of Wireless **Access Points**

650

Internet Bandwidth Capacity & Speed

2 Gbps

861 Service Items Monitored for **Up-Time and Quality Every Second**

Outgoing Phone Calls

309,160

Number of Active Faculty & Staff Accounts

1,229

Number of Emails Checked for SPAM (Daily Average)

89,500+

Total Phone Lines

1,272

Number of Active Student Accounts

8,461

Total Number of Accounts Managed

123,726

DID YOU KNOW?

Accepted via Online Payments

\$23.5M

64% Bill Payment 12% Marketplace 23% PayPath 1% TouchNet Ready

Number of Faculty **Workshop Attendees** or Video Views

280

Number of Student Workshop Attendees

253

560+

Number of Hosted Websites

Unique Visitors to Truman Home Page **Every Month**

63,926

EDUCATIONAL TECHNOLOGY SERVICES

Number of Classrooms

182

131 have console computers

Percent of Faculty Using Blackboard in Academic Year 13-14

73.38%

46 - A Level Rooms

64 - B Level Rooms

22 - C Level Rooms

50 - Specialty/Other Rooms

Number of Active **Blackboard Courses**

1,493 - Fall

1,499 - Spring

PROJECTS & ORGANIZATION

Major Projects

100_{Completed}

182 Active

25 Full-time Staff

79 Student Staff

Financials Total IT spending as a % of Truman budget

Total IT spending by institutional FTE (students, faculty, and staff)

\$596

Services and Support – By the Numbers

Support for Teaching and Other **Scholarly Activities**

Technology in the Classrooms

All classrooms have Internet access and a strong wireless signal. There are currently 182 rooms used for instruction, with 148 equipped with one of our technology profiles:

- 46 A-level rooms
- 50 B-level lecture-ready rooms
- 14 B-level computer classrooms
- 22 C-level SMART/High Tech rooms
- 50 specialty rooms Includes 41 studios, rehearsal rooms, tutoring rooms, laboratories, etc.; and 9 Academic Seminar
- 131 classrooms with console computers

Student Computing Labs

• ~979 workstations available across the campuses in public and academic labs

Course Management System

Courses Active in Blackboard for the year:

- 110 summer average
- 1493 Fall average
- 1499 Spring average

Blackboard Usage:

- 60.25% of faculty used Blackboard for
- 69.79% of faculty used Blackboard for Fall
- 71.06% of faculty used Blackboard for Spring

Blackboard Mobile - monthly averages:

- 299 unique mobile users
- 2,006 total mobile logins
- 81% iOS users, 19% Android users

Teaching with Technology

- 12 local workshops conducted for faculty on a variety of technology tools
- 6 faculty completed self-paced Ready, Set. Click! course
- 14 local workshops for students

Research Computing

• File Storage: Highly robust and redundant storage, archive and backup services

Technology Infrastructure

Data Center and Internet Bandwidth

- 1,218 sq ft of space in 2 Data Centers
- 125kw of total power usage
- 34 physical servers
- 115 virtual servers
- 2 Gbps connection to the Internet

File Storage and Backup Services

- 163 terabytes central file storage available
- 184 terabytes backup storage available

Service Monitoring

Services are being monitored in real-time to ensure system and service availability -

- 1,735 monitored systems; and
- 88,655 monitored data points; and
- 31,298 monitoring rules; results in 861 items monitored every second

Telephone System

- 1,272 phone lines in use
- A total of 309,160 outgoing calls from Truman consisting of:
- 100,093 local outgoing calls
- 209,067 long distance calls

Network Connections & Access

- >11,500 data ports for network access
- 650 wireless access points currently installed and maintained to support ~8,600 users
- 100% of campus covered by wireless
- >75 IT equipment closets in campus buildings

Network and Telephone Installation and Maintenance

• 350 phone, data and cable TV installations, moves or repairs

Information Security

• 137 enterprise systems or switches are regularly scanned for vulnerabilities on a weekly or monthly basis

Identity Management:

- 123,726 managed accounts in active directory
 - 1,229 are active faculty/staff accounts
 - 8.461 are active student accounts

Information Systems and **Institutional Data**

Administrative Systems

- 245 Banner users on campus
- >100 applications and databases supported across 26 servers
- 282,547 online registration transactions
- 230,507 web withdrawals
- 26,021 administrative registrations
- 134,941 Banner reports run through job submission

eCommerce:

- >\$23.5M was accepted via online payments
- 87% of eCommerce traffic is bill payment. with 7.74% paid with credit card and 92.26% with electronic checks

Email

- 1,523 faculty/staff mailboxes (Exchange)
- 63,278 total mailboxes (Exchange)
- 61,755 student mailboxes (Google Apps)

Processing

- >89.500 central email messages checked for SPAM daily (on average)
- 139,625 messages blocked daily as SPAM

Web Development Services

• 125 applications and databases supported across 9 servers

Web Content Services

- ~560 web sites hosted.
- 61.803 average number of monthly visitors to TruView (monthly average)
- 63,926 unique visitors to the Truman home page every month (monthly average)

Truman Mobile Application

Truman mobile application for iOS & Android

- 816 iOS mobile apps downloaded
- 1,320 Android mobile apps downloaded

Student Technology Profile

General Campus Computing

Truman students are connected:

- 97.0 own laptops
- 40.3% own tablets
- 91.0% own smartphones
- 10.1% own wearable technology
- 37.3% own internet-capable gaming device

IT Service Center

Staffed 102 hours per week

10,496 requests for assistance which included:

- 6456 phone calls (548 classroom 4911 calls)
- 2,226 walk-in requests for assistance
- 1,266 online requests for assistance

1,993 requests to loan equipment, including:

- 262 items checked out by Faculty/Staff
- 1,731 items checked out by Students

52,069 Telephone Operator requests for Information:

- 35,308 inbound requests for assistance
- 13,476 outbound requests for assistance
- 3,285 calls serviced after hours using the automated attendant

Software

- Manage ~102 software contracts (that are reviewed on an annual basis)
- 81 software applications installed and supported on public workstations, with another 16 apps for specialized classrooms
- 29 software applications installed and supported on faculty/staff workstations

Desktop/Personal Workstations

• 1,564 workstations used in faculty, staff, research labs and offices

Printing

Provide support for network printers

- 343 printers for faculty and staff
- 53 printers for students

Project Management & Governance

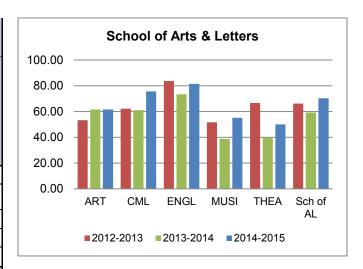
- 182 major projects, of which 100 were completed during this timeframe
- 6 active IT governance groups

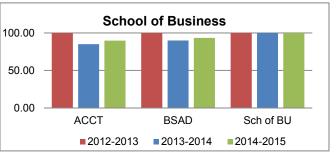
Services and Support – Blackboard Usage and Metrics

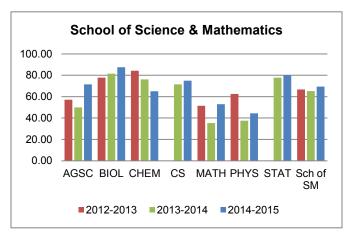
			ademic ` 2012-20			ademic ` 2013-20			demic Y 014-201	
School	Department	Blackboard Active Instructor with Banner Course	Banner Active Instructors	% Using Blackboard	Blackboard Active Instructor with Banner Course	Banner Active Instructors	% Using Blackboard	Blackboard Active Instructor with Banner Course	Banner Active Instructors	% Using Blackboard
	Art	8	15	53.33	8	13	61.54	8	13	61.54
School of Arts	Classical & Modern Languages	23	37	62.16	22	36	61.11	28	37	75.68
& Letters	English & Linguistics	36	43	83.72	33	45	73.33	35	43	81.40
	Music	15	29	51.72	12	31	38.71	16	29	55.17
	Theatre	4	6	66.67	2	5	40.00	3	6	50.00
Totals fo	r Arts & Letters	86	130	66.15	77	130	59.23	90	128	70.31

School of	Accounting	9	9	100.00	10	10	100.00	13	13	100.00
Business	Business Administration	17	20	85.00	18	20	90.00	18	18	100.00
Totals	for Business	26	29	89.66	28	30	93.33	31	31	100.00

	Agricultural Science	4	7	57.14	3	6	50.00	5	7	71.43
	Biology	21	27	77.78	22	27	81.48	21	24	87.50
School of	Chemistry	16	19	84.21	16	21	76.19	13	20	65.00
Science &	Computer Science	na	na	na	5	7	71.43	6	8	75.00
Mathematics	Mathematics	18	35	51.43	6	17	35.29	9	17	52.94
	Physics	5	8	62.50	3	8	37.50	4	9	44.44
	Statistics	na	na	na	7	9	77.78	8	10	80.00
Totals for Sci	ence & Mathematics	64	96	66.67	62	95	65.26	66	95	69.47

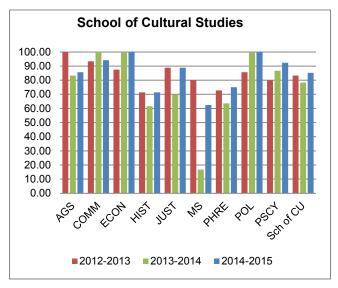


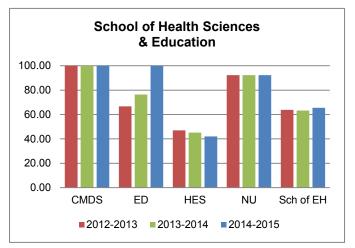




Services and Support – Blackboard Usage and Metrics (continued)

		2	ademic `		2	ademic 2013-20		2	ademic Y 014-201	
School	Department	Blackboard Active Instructor with Banner Course	Banner Active Instructors	% Using Blackboard	Blackboard Active Instructor with Banner Course	Banner Active Instructors	% Using Blackboard	Blackboard Active Instructor with Banner Course	Banner Active Instructors	% Using Blackboard
	Society & Environment	6	6	100.00	5	6	83.33	6	7	85.71
	Communication	14	15	93.33	15	15	100.00	16	17	94.12
	Economics	7	8	87.50	9	9	100.00	8	8	100.00
School of	History	10	14	71.43	8	13	61.54	10	14	71.43
Social & Cultural	Justice Systems	8	9	88.89	7	10	70.00	8	9	88.89
Studies	Military Science	4	5	80.00	1	6	16.67	5	8	62.50
	Philosophy & Religion	8	11	72.73	7	11	63.64	9	12	75.00
	Political Science	6	7	85.71	7	7	100.00	7	7	100.00
	Psychology	12	15	80.00	13	15	86.67	12	13	92.31
Totals for Soc	ial & Cultural Studies	75	90	83.33	72	92	78.26	81	95	85.26
		•								
	Communication Disorders	11	11	100.00	9	9	100.00	10	10	100.00
School of Heal Sciences &	Education	14	21	66.67	13	17	76.47	14	14	100.00
Education	Health & Exercise Science	23	49	46.94	23	51	45.10	21	50	42.00
	Nursing	12	13	92.31	12	13	92.31	12	13	92.31
	Health Sciences & ducation	60	94	63.83	57	90	63.33	57	87	65.52
Graduate Office	e (LDRS)	1	1	100.00	1	3	33.33	0	0	0.00
Library & Muse	ums	3	4	75.00	0	0	0.00	4	4	100.00
New Student P	rogram	8	10	80.00	7	10	70.00	5	10	50.00
Professional De	evelopment	0	3	0.00	0	3		0	3	0.00
Truman Institut	e (JBA)	0	1	0.00	0	1	0.00	0	0	0.00
Inter-Divisional (IDSM)		1	1	100.00	1	1	100.00	2	2	100.00
Overall Totals	s:	324	459	70.59	305	455	67.03	336	455	73.85





Services and Support – Classroom Equipment Standards

	es identified in the chart are the minimum plogies for each type of room classification	Special	(C		В	A
Audio- Visual/Technology	Purpose	Specialty Use Rooms	1	2	3	4	5
Instructor Station	Standing-height podium from which to teach; doubles as AV/Technology storage and control center		Х	х	Х	Х	Х
Instructor Station Computer with built-in DVD player	Main source for instructor - full function computer with network access, DVD playback and all available University-licensed software		Х	Х	Х	Х	Х
Classroom AV Control System	Consistent easy-to-use controls for all sources and AV Technologies (Touch-Panels in rooms)		Х	Х	Х	Х	Х
Projector/Large Display	Wide-Screen Projector -or- LCD TV via which to display computer or other source images		Х	Х	Х	Х	Х
Projection Surface	Traditional pull-down screen or multi-purpose whiteboard		Х	Х	Х	Х	Χ
BYOD Connection	VGA connection port or cable pigtail to		Х	х	Х	х	Х
Document Display	Digital Document Camera	standards in	Х	Х	X	Х	Χ
Interactive Whiteboard and/or Digital Ink	SMARTBoard, eBeam Board or Projector, or SMART Podium	Specialty Use rooms	Х	Х			
Source Sound Amplification	Installed amp and speakers		Х	Х	Х		
Voice Amplification (on demand)	Installed/available handheld or other mic for presenter/s		Х				
Lecture Capture	Installed software, microphone and camera appropriate for full-class use. May also include confidence monitors and/or joystick camera controls		Х	Х			
Lecture Capture- Ready	Installed software - users must check-out and bring webcam and/or microphone equipment to be used when needed				X	х	Х
DVD/Blu-Ray Player (stand-alone)	Stand-alone Blu-Ray player installed at Instructor Station to facilitate high quality film playback and/or multiple playback sources		#	#	#	#	
Student Workstations	Traditional computer lab with computers for each seat or zero-clients or workstations installed to facilitate limited or occasional small group work		Some	Some	Х		
Multiple Displays/Projection Surfaces	Multiple screens projecting either the Instructor Station source OR multiple options for BYOD connections		Х	Some			
Wireless Network Saturation	Sufficient wireless access points to support dependable access for all seats in classroom		Х	\$	\$	\$	\$

Classroom Types:

- 1 C-Level SCALE-UP/Collaborative/Specialty
- 2 C-Level High Tech
- 3 B-Level Sound Enhanced- Lecture-Ready Classroom + **Student Computers**
- 4 B-Level Sound Enhanced Lecture-Ready Classroom
- 5 A-Level Rooms Basic / Lecture-Ready

Classroom Features:

- X Technology/resource is standard in the room
- # For "Film Studies" only
- \$ By special design/request

Teaching and Learning Facilities

132 Standard Classrooms

- 22 C-Level classrooms
- 50 B-Level Lecture-Ready Classrooms
- 14 B-Level Lecture-Ready Classrooms with computers
- 46 A-Level classrooms

50 Specialty Use Classrooms

- Music Rehearsal rooms
- Language tutoring rooms
- Media labs (TV studio, radio station, video, online & print publications)
- Athletic classroom spaces (indoor)

Performance Spaces

- 1 Art Gallery
- 1 750-seat Performance Hall (with livestream capability)
- 1 1500-seat Auditorium

Outdoor Spaces

- 100% wireless coverage
- 1 Observatory

Other Spaces

• 1 Testing Center

With the following notes:

- 33 computer classrooms
- 2 classrooms > 100 seats
- 3 film studies spaces
- Natural science labs
- Human performance labs
- Art Studios (ceramics, textiles, painting)
- Academic Seminar rooms
- Dance studio
- Theatre/Drama rooms

• 1 Black Box Theatre

- 1 Planetarium/Multimedia
- theatre
- 1 Farm with Agriculture & Horticulture labs and fields
- 1 Videoconference room

Services and Support – IT Service Center Call Statistics

1138 calls

1068 calls

108 calls

43 calls

31 calls

7 calls

Thu

Fri

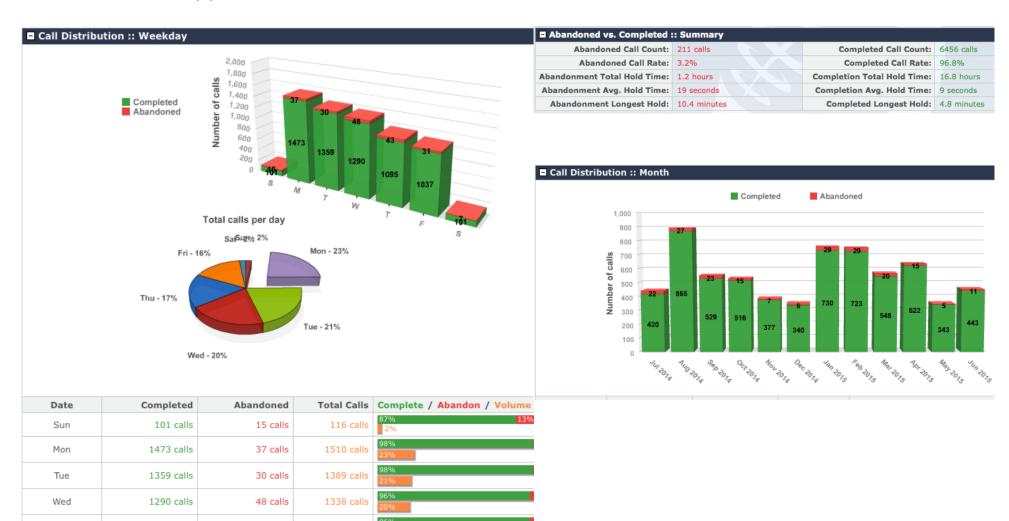
Sat

1095 calls

1037 calls

101 calls

(Report from July 1st, 2014 to June 30th, 2015)



Services and Support – Measuring Systems Availability & Reliability

(Report from June 1st, 2014 to May 30th, 2015)

How good does it need to be?

Availability Total Hrs. - (Planned and Unplanned Outages in Hrs.) x 100
Total Hrs.

 Availability - "9's"
 Percent 99.0
 Downtime (per year)

 99.0
 87.7 hours

 99.9
 8.77 hours

 99.99
 52.62 minutes

 99.999
 5.26 minutes

 99.999
 31.6 seconds

Reliability vs. Availability

Reliability deals only with "unplanned" outages.

Truman's IT Maintenance Window

Daily Maintenance: 3:00am-5:00am daily, for production maintenance/backup processes Weekly Maintenance:

- Thursday, 8:00pm through Friday, 6:00am for on-campus services
- Saturday, 12:00am until Sunday, 12:00pm (MOREnet, off-campus internet)
- Sunday, 8:00am until Sunday, 8:00pm, for enterprise systems upgrades (used only when needed)

This does not mean that every Thursday or every holiday that all servers and network access will be down for 10 hours. Most server maintenance can be done within a couple of hours, and servers will only be taken down in a manner that will minimize downtime of all network services within this maintenance window.

System Maintenance is considered a "Planned Outage" and is factored into the "Availability" calculations noted below.

Service	Reliability	Availability	Service	Reliability	Availability	Service	Reliability	Availability
Internet	99.981%	99.853%	Application & Web Services			File Services		
			Departmental Web Sites	99.997%	99.892%	W: Drives	100.00%	99.894%
Local Area Network			Student Org Web Sites	100.00%	99.894%	Y:Drives	100.00%	99.894%
Wired Network	99.919%	99.810%	Web Application Database	100.00%	99.894%			
Wireless Network	99.919%	99.810%	WordPress	100.00%	99.893%	Print Services		
			TruView Portal	99.946%	99.809%	Faculty/Staff Printing	100.00%	99.826%
Remote Network			DegreeWorks	100.00%	99.367%	Student Printing	100.00%	99.627%
VPN	100.00%	99.894%	Banner Self-Service Apps	100.00%	99.703%			
Proxy Server	100.00%	99.894%	Banner Database	99.937%	99.641%	Computer Labs	99.947%	99.835%
·			Banner Forms	98.049%	97.752%			
Network Security			Blackboard	99.296%	98.942%	Telephone Services	100.00%	99.894%
Firewall	100.00%	99.894%	Lecture Capture System	99.960%	99.855%			
Bandwidth Mgt.	100.00%	99.894%				Email Services		
-						Anti-Spam System	100.00%	99.894%
Cable Television	100.00%	99.894%				Faculty / Staff Email	100.00%	99.894%
						Student Email	100.00%	99.894%

NOTE: This is not a complete list of services, but includes those which could significantly impact a large number of users.

SECTION 2: IT PROFILE - ITS Organization - Who We Are

Information Technology Services Mission Statement

Information Technology Services (ITS) supports the Truman State University Mission of offering an exemplary liberal arts education to well-prepared students by providing leadership, expertise and resources to seamlessly integrate technology and information systems into the operations, instruction, research, and service endeavors of the University.

ITS will achieve this mission through:

- support of excellence in teaching, learning, and other scholarly work;
- a focus on technology services that enable students to thrive, both personally and academically;
- strategic lifecycle management of innovative, secure, reliable, cost-effective and green technologies;
- responsible management and digital curation of Truman's information assets, ensuring availability and access to quality data:
- acquisition, development and support of campus applications and tools that expand and improve University operations;
- the promotion of information and technology literacy;
- participation in strategic planning and policy/compliance activities; and
- exploration of emerging trends.

All of these activities are carried out by a customer-focused and professional information technology staff in collaboration with the ITS Governance committees and the overall University community.

Information Technology Services consists of four major functional units:

Learning Technology Services is led by Diane Richmond and provides assistance with all aspects of course/curriculum development as well as technology mediated instruction. The unit supports the use and implementation of instructional technology in onground classrooms, maintains online resources and materials, and supports forma/informal learning space design. The staff also maintains expertise in a wide variety eLearning tools, courseware, software applications and other off-campus services, Through a training program, the unit provides faculty and students with the skills they need to be successful.

Web Integration Services is led by Greg Marshall and is responsible for all of the services needed to create campus/departmental websites. The unit also offers web development and database services, and is the primary support for the content management system, campus portal (TruView), mobile applications, and Google analytics. Web Services also coordinates campus-wide social media efforts and produces promotional videos.

Roberts and is responsible for the implementation, operation, maintenance and evolution of the University's administrative and academic systems. This unit works with the University to plan, acquire, develop, and maintain core operational and student support systems. It consults with University clients on the redesign of business processes, and the application of technology to facilitate and support operational change. The Administrative Computing unit also manages University data, provides leadership in digital library initiatives, and provides project management leadership for Information Technology Services efforts.

- Infrastructure Services is led by Jim McNabb and includes several teams: the Desktop/Classroom Support Team, the Service Management Team, and the Systems & Networking Team. These teams provide support for individuals in their offices, technology in the classrooms, the Help Desk, telephone services, the equipment checkout program and core infrastructure services such as managing the data center, maintaining the university servers, network connectivity, email and internet access.
- Systems & Networking is responsible for the deployment and maintenance of the technical infrastructure and for providing production monitoring and support for the University's core business systems. This includes oversight of the data center, and campus-wide server management (including planned vulnerability scans). The team also provides services and support for campuswide voice and data network planning, procurement, management, security, and infrastructure. This includes wired and wireless access in all buildings, network monitoring, and jack activation and repair.
- Desktop/Classroom Support provides technical support for technology in the classrooms, and coordinates the design, installation, and maintenance of technology systems in these rooms. The team also provides technical desktop support for all faculty, staff and public workstations on campus.
- Service Management provides a high level of service to students, faculty and staff, and does this through individual consulting, help desk, and overall responsibility for the problem reporting and service request system.

ITS Organization – What We Do

Support for the Technology Infrastructure

We provide bandwidth support and management that many of our academic and administrative systems rely on, including:

- Management of on campus network services provided through support for DNS, DHCP, routers/switch maintenance, domain management, wired data ports, and wireless access
- Off-campus internet access provided through MOREnet and Bluebird

We provide a secure environment for our academic and administrative systems through:

- Management of firewalls, anti-virus scans, a virtual private network, subnet management, and malware detection
- Identity and role management, including authentication and authorization services
- Ensuring systems adhere to FERPA, DMCA, Copyright, HIPAA, SOX, GLBA, PCI and other state and federal regulations

We provide support for emergency services:

- 911 services
- Emergency notification system (electronic mail/text messaging)
- Code Blue telephone line support

We provide printing services for users

We support the physical environment for our academic and administrative systems:

- Data Center Facility Manage electrical power, physical security, and environmental controls
- Inside and outside cable plant maintenance (including building wiring closets)
- HVAC systems that are controlled over the network
- Security and fire alarm systems
- Electrical meters on the network

We provide data management services for our academic and administrative systems, including:

- Large-scale storage device management
- Database management & tuning
- Data and backup services for supported servers
- Backup services for user workstations

We provide support and administration of central servers for our academic and administrative systems, including:

- System administration and tuning
- Proactive server monitoring
- Operating system upgrades
- Security patch management
- Hardware and software upgrades, maintenance and system planning
- Third-party system support for integration and management

Support for Information Systems

We maintain and support universitywide support systems, and are responsible for:

- the payroll and position management system for faculty, staff and students
- the electronic registration functions for the University
- the systems used for recruiting and matriculation, including customer relationship management systems
- student academic records including academic history, transcripts, grades, and academic standing
- student academic advising including degree audit and transfer articulation
- the ID Card system (which provides access to meal services, library services, student recreational center, and perimeter access)
- University academic records including faculty load, course records, catalog, and curriculum
- financial records, including the University budget, accounts payable/ receivable, fixed assets, purchasing, and grants
- student housing records
- faculty teaching, research and service records
- campus commerce records including online bill payment for students and their authorized users and secure online payments for campus web applications
- the academic classroom and event schedule records

- student conduct and judicial sanctions records
- the systems used for alumni relations, donor management, and fundraising
- the system used for foundation funds management
- student campus life records including housing, study abroad, internships, student organization memberships, and co-curricular (out of classroom) experiences
- financial aid records, including scholarships, institutional and work study student employment, and loans
- employee records in accordance with state and federal laws
- the campus portal and self-service applications
- general bio/demo, address, and general information for individuals and organizations/vendors
- management of university data, including report distribution and archival systems for departmental information and finances reports, as well as electronic document management
- dashboard systems for utilities, university performance indicators, admissions and student housing
- management of patient health and counseling records
- the development and deployment of mobile applications

Support for Academic Achievement

We support systems our faculty rely on to deliver instruction, such as:

- the course management system (Blackboard) and collaborative module plug-ins
- test compilation services (i.e., optical test scanning service)

We support systems and devices our students rely on for instruction, including:

- Printing
- Student computing labs
- Specialized laboratory software
- Tutor management
- the course management system (Blackboard)

We hold workshops and seminars for faculty on strategies to teach with technology

We provide targeted support for video delivery, storage, support, retention and editing for systems delivered using video streaming services and TruTube

We support and maintain the technology used in our classrooms, including:

- Classroom capture
- Presentation and sound support for A, B and C level classrooms

We support and maintain access to university web sites (for structured and unstructured course materials)

We provide key services in support of academic pursuits:

- Personal and Shared Storage
- Training

Professional Staff with the Knowledge and Skills to Ensure An Efficient and Effective Technology Experience

- Web application analysis and development
- Student mentoring in technology fields
- Academic course development and academic materials production
- Network and cable plant engineering services
- Help Desk services
- System Administration
- Security scanning
- System tuning, performance and monitoring
- Database administration

- Computing and printing equipment asset management
- Technology asset management
- Application system analysis, design, and development
- Technology Purchasing Services: Investigation, research, request for proposals, vendor review
- Technology Vendor Management consulting and interface
- Workstation installation and support
- General IT Consulting
- Sound and video engineering

Support for Personal Productivity

We provide a way for faculty, staff and students to communicate with each other:

- Electronic Mail Exchange & Gmail
- Telephone Services handsets, voicemail, and dial-tone
- Guidance on mobile communications support (various cell phone models and universityprovided cell phones)
- Cable television services
- Targeted videoconference support

We provide personal assistance for technology questions and equipment check-out through the IT Service Center We provide user support for:

- Truman-owned workstations
- Personally-owned student workstations
- Personal digital device integration
- Targeted software application support

We provide specialized services in support of university systems and instruction, including:

- Training
- Specialized equipment support cashiering systems, scanners, special forms printing

Support for Websites & Web Delivery Systems

We develop, support and maintain university web sites (university, departmental and student organization sites)

We provide design, development and implementation services for departmental and campus-wide web delivery and applications

We support the development and deployment of mobile websites

We maintain the campus search engine and provide analytical information on web traffic

Support for Technology Planning and Performance

We provide frameworks that guide the development of technology strategies and their tactical implementations (including budget management)

We provide guidance for the IT governance structure -- with oversight of technology policies, resource management and prioritization

We provide project management services to ensure appropriate resource utilization

We support regulatory compliance, assessment, reporting, and survey data

How We Function - ITS Assessment

Organizational Memberships

ITS works with other IT organizations in higher education to ensure technology is aligned with the needs of faculty, staff, students and the institution.

EDUCAUSE

EDUCAUSE is a nonprofit association whose mission is to advance higher education through the use of information technology.



EDUCAUSE Center for Analysis & Research



EDUCAUSE Learning Initiative



Association for Communications **Technology Professionals** in Higher Education





A faculty-centered, peer review process designed to certify the quality of online and blended courses



Missouri's State-wide **Networking Organization**, with connections to Internet2

EDUCAUSE Core Data Survey

Master's Institutions

(Carnegie Basic Classification 2010) Number of 2014 CDS participants: 111

In the Fall of 2014, more than 2,500 institutions were invited to contribute data to the EDUCAUSE Core Data Service (CDS). This information summarizes data from a subset of responding institutions. Some publicly available data from the Integrated Postsecondary Education Data System (IPEDS, www.nces.ed.gov/ipeds/) are used in calculating metrics. Reported statistics are either an estimated proportion of the population or an estimated median (rather than a mean).

Truman 3.89% \$4,932 \$596 5% 39%	Masters 4% \$5,137 \$768 5% 24%	IT FINANCING and STAFFING Total central IT spending as percentage of institutional expenses Total central IT spending per institutional employee Total central IT spending per institutional FTE (stu/fac/staff) Central IT staff as a percentage of institutional employees Student workers as a percentage of central IT staff (staff & stud)	Truman X	Masters 100% 100% 100% 100% 95% 91%	EDUCATIONAL TECHNOLOGY SERVICES Most common teaching and learning support services: Classroom technology and support for faculty Learning (course) management training and support for faculty Online learning technology and support for faculty Technology-enhanced spaces Most commonly deployed e-learning technologies: Full-function online learning delivery system Real-time web- or videoconferencing online learning environment
Truman 70% 25% 5% ※ 34 *	Masters 79% 11% 7% 80% \$225	IT STRATEGY Central IT spending on running the institution Central IT spending on growing the institution Central IT spending on transforming the institution Institutions with a designated student technology fee Student technology fee (annualized) *Truman's technology fee is a shared library/tech fee	100% 100% 100% 100%	85% 85% 67% 52%	 Real-time web- of videoconferencing offittle tearning environment Collaboration tools for learning Most commonly deployed student success technologies: Degree audit Credit transfer/articulation system Academic early-alert system Classroom technologies most likely to be deployed soon: Wireless projection (33%) Automatic lecture-capture systems (audio only) (20%) Remote monitoring for technical support (20%)

EDUCAUSE Center for Analysis and Research (ECAR)

National Student Study

50,274 respondents,161 institutions (11 countries and 43 states) TRUMAN RESPONSE: 712, 14%

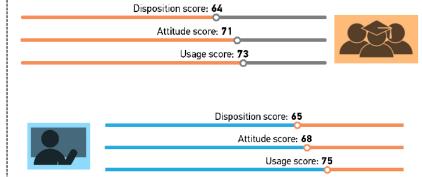
National Faculty Study

13,276 respondents, 139 institutions

(39 states)

TRUMAN RESPONSE: 92, 23.3%

Student and faculty IT orientation



ECAR asked students and faculty to place themselves on a series of 100-point semantic differential scales related to their:

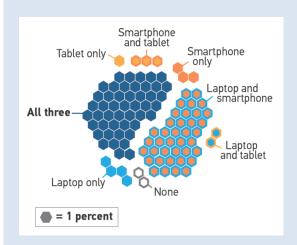
IT **disposition** (e.g., enthusiastic versus reluctant, early versus late adopter, technophile versus technophobe);

attitude (e.g., satisfied versus dissatisfied, pleased versus perturbed, useful versus useless, enhancement versus distraction); and

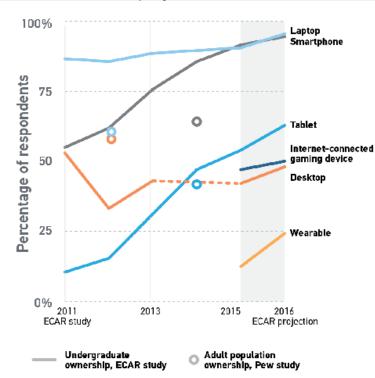
usage patterns (e.g., always versus never connected, central versus peripheral, new versus old media, frequent versus infrequent).

Students and faculty in general consider themselves to be sophisticated and engaged with IT, averaging above the neutral position (50) on the scales.

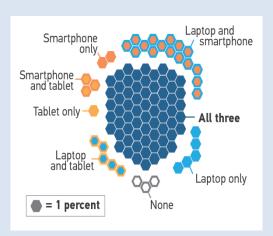
Student Device Ownership



Student device ownership history, with 2016 projections



Faculty Device Ownership

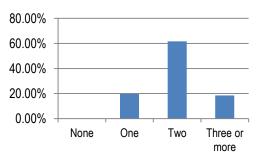


Can Truman's technology infrastructure support the growing demands for reliable campus network and Wi-Fi access, as well as other technology resources?



Truman is above the national average of 6 in 10

Percentage of students trying to connect devices to the network at the same time



0% of students said 'None'

Percentage of students that say their wireless network experience on campus merits good or excellent ratings

24.8%

High-speed no-interruption network performance 41.4%

Reliable Wi-Fi access that is ubiquitous throughout campus 57.5%

Easy to log into wireless networks on campus

54.3%

Reliable access to Wi-Fi in classrooms

In the next year, about 8% of students plan to purchase a tablet





... and 9% plan to purchase a wearable device.

Student ratings of campus network and Wi-Fi performance

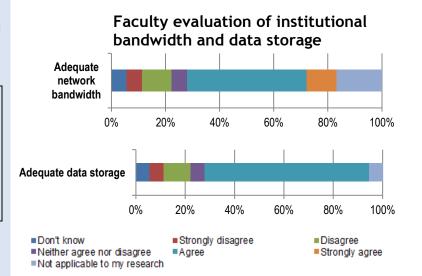
- 60.1% of respondents live on campus
- 39.9% of respondents live off-campus
- 96.9% are full-time students

TECHNOLOGY RESOURCES

- **70.4%** of faculty are pleased with overall Help Desk support
- **60.7%** faculty say have access to high quality IT staff

Where do you go first for tech support? - shown in order of access	Students Friends Internet Myself Faculty Family Help Desk Vendor	Faculty Myself Peers Help Desk Internet Students TAs Family Friends Vendor
--------------------------------------------------------------------	---------------------------------------------------------------------------------------	----------------------------------------------------------------------------

2 of 3 faculty say they are pleased with technology in their work spaces and labs



TEACHING AND LEARNING

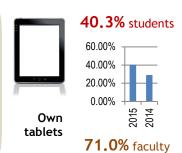
How can students, faculty, and institutions better use technology in teaching and learning?

Are faculty prepared to apply mobile devices to their teaching in creative and engaging ways?

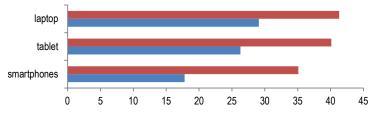
Digital learning environments are mobile, and faculty and students alike are equipped with the devices to learn anytime, anywhere.







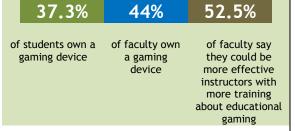
It is rather uncommon for faculty to encourage or require students' use of digital devices in class, yet many faculty are interested in exploring ways to use these technologies in class



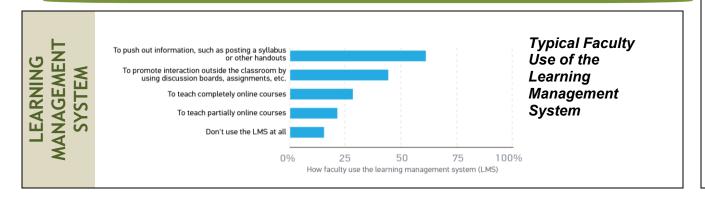
Percentage of faculty who say they could be more effective instructors if they were better at integrating devices into their courses

Percentage of faculty encouraging or requiring devices

Gaming for education may also be ready for expanded exploration



10.2% of laptops, 3.8% of tablets and 1.9% of smartphones are encouraged or required in the classroom.



NEW MODELS

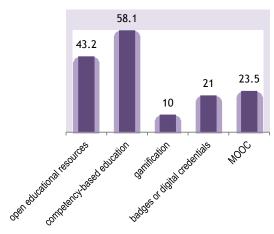
The digital learning environment is here

50.9%

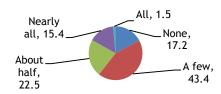
8 in 10

of undergraduates have taken an online course in the past year took a course that combined online and face-to-face interaction

Percentage of faculty are generally supportive of new practices in higher education



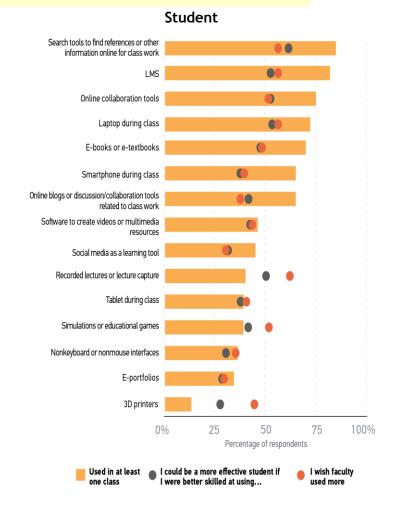
Students' blended course experience

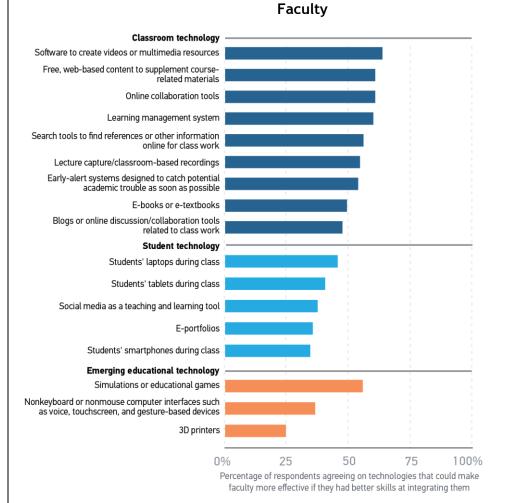


How many of your courses employed a combination of online and face-to-face interaction?

TEACHING AND LEARNING

How can students, faculty, and institutions better use technology in teaching and learning? (continued)





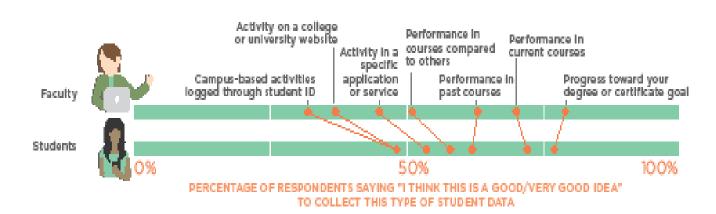
Students' **Top 5**preferences for online or face-to-face assignments and activities

Online		Face-to-face	
Quizzes and tests	33%	Lectures	34%
Homework	25%	Discussions / Q & A	17%
Writing assignments	12%	Quizzes and tests	12%
Discussions, group work	11%	Any/all activities	11%
Paper/assignment submission	9%	Projects/group projects	11%

ANALYTICS

Is Truman ready to invest in analytics?

Students and faculty are generally open to institutions using student data to create personalized messages about academic programs, training, and guidance opportunities.

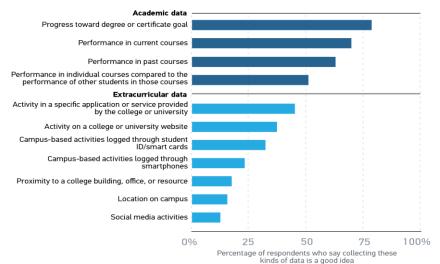




Student opinion about using specific types of student data

Progress toward your degree or certificate goal Performance in current courses Helpful Performance in past courses "big mother" Performance in individual courses compared to the performance of other students Activity in a specific application or service provided by the college or university Activity on a college or university website Campus-based activities logged through your Creepy Campus-based activities logged through your "big brother" smartphone Proximity to a college building, office, or resource Location on campus Social media activities 50 0% 25 75 100% Percentage of respondents Good Idea Very good Idea

Faculty opinion about using specific types of student data

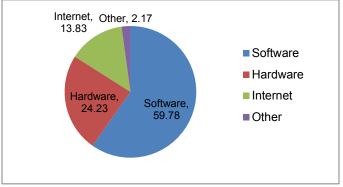


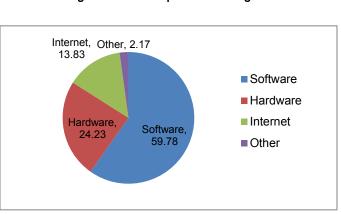
How We Function - Technology Funding and Expenditures

Operational Budget

The IT budget is allocated across a variety of services that support the mission of Truman State University. The chart to the right shows how the operational funds are expended by service area, and the information below outlines the representative software and hardware maintenance expenditures across all service areas.

Software & Hardware Maintenance Costs as a Percentage of the Total Operational Budget

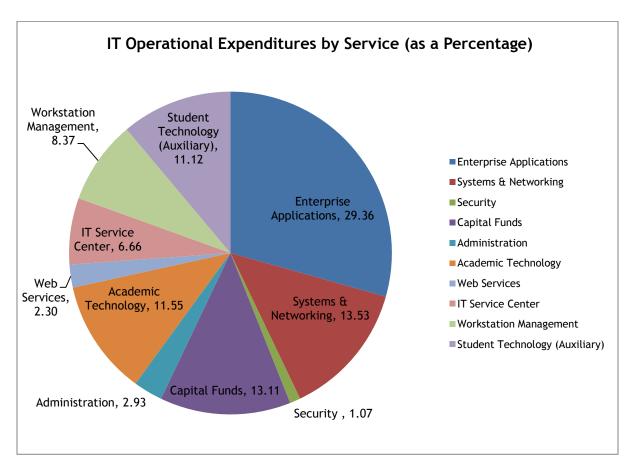




Staffing

The operational costs shown include the costs for student salaries, but not the costs for full-time staff salaries. The total staffing for information technology services included:

- 25 full-time staff
- 79 students



Notes:

Approximately \$265,657 in telephone back-charges are not represented on this chart as an IT operational cost.

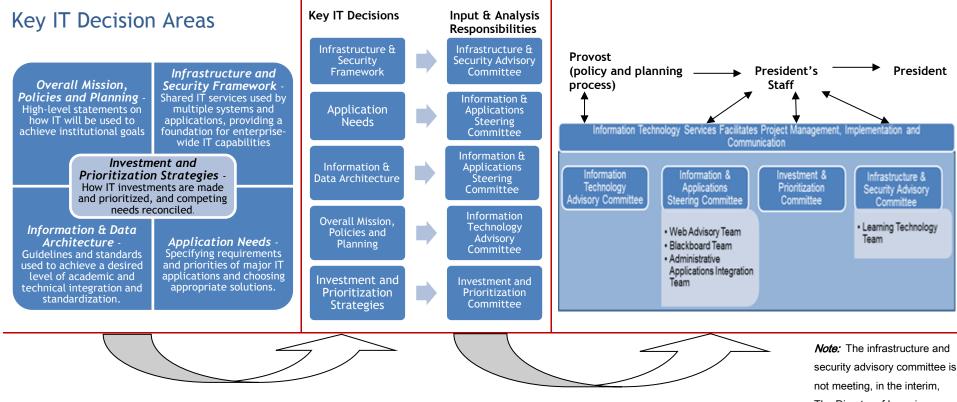
How We Function - IT Governance Structure

IT governance is concerned with who makes which decisions, who provides inputs and analyzes the issues, who sets priorities, and who settles disputes when there is no clear consensus. IT governance is concerned with the whole IT enterprise, not just the central IT organization.

IT governance is ultimately concerned with the ability to conduct institution-wide IT activities:

- 1. Can we develop important IT policies that apply throughout the institution?
- 2. Can we implement important IT decisions that apply throughout the institution?
- 3. Can we coordinate the activities of IT personnel effectively throughout the institution?

The IT Governance Model is defined as follows.



Note: The Student Senate had a standing committee to deal with technology issues, called the Student Technology Improvement Committee, but this committee was abolished in 2011-2012 to be replaced by special topics groups as needed.

The Director of Learning Technologies attends the Faculty Senate meetings to stay abreast of any issues.

How We Function - Applications Supported

Enterprise Applications

Banner

- Internet Native Banner (INB)
- Self-Service Banner (SSB)
- Banner Relationship Management (BRM)
- BRM Mail
- CLEAN Address
- FM/Calc

Blackboard

 Blackboard database/application

Evisions

- MAPS
- Intellicheck
- FormFusion
- Archiver
- Argos

Banner Document Management System (BDMS)

- Desktop viewing
- Web Access
- Image Capture

Operational Data Store (ODS)

- Enterprise Data Warehouse Recruiting and Admissions
- Performance (RAP)
- COGNOS TouchNet
- Payment Gateway
- Bill+Payment
- Marketplace
- Cashiering
- PayPath

DegreeWorks

- DegreeWorks application/database
- DegreeWorks web / Planner
- SureCode/Scribe/Transit

Event Management System (EMS)

- EMS Campus & Virtual EMS Other Systems
- Luminis (TruView)
- CampusCall

- Campus Loan Manager
- ePrint
- Digital Measures (Faculty Mgt System)
- RAVE (Emergency texts)
- TutorTrac
- Acalog (Course Catalog)
- Mailers+4
- Titanium Scheduler (Counseling Services)
- ION Enterprise (Energy Metering System)
- Perimeter Access System
- ID Card System
- Student Conduct System
- DSpace (Institutional Repository)
- Greenstone (Digital Library Collections)
- Vivature (Health Center Management)
- Conference Programmer (Residence Halls)
- Project.net (Project Mgt)
- Education Field Development Project
- FundDriver
- Kuali eDoc Lite workflow management
- Network Installation Management (NIM)
- Tivoli Key Lifecycle Manager
- Hardware Management Console

Banner Integration with Other Applications Many applications are

tightly integrated with Banner (i.e., data is shared in real-time or through data files).

Web Applications

Relationship Management & Applicant Support

- Admissions Department web App
- Online Deposit Payment for Graduate Studies
- Study Abroad Online App
- Study Abroad Scholarship App
- ISO Online App
- Speed-E Letter
- Newsletter System
- Alumni Contribution Form
- Campus Visit Request
- Prospective Student Information Request Academic Academies
- Truman Institute App
- Truman Institute **Payments**
- McNair Program Apps
- McNair Summer Research Institute Personnel Support
- Search Committee Process
- iClearances
- TruPositions
- Student Timecards Online Payment Support
- Online Stores
- Online Loan Payments
- Counseling Service Payment
- Art Payments
- · Mailroom backcharge

Misc Support Programs

• Risk Management Self-Assessment

Advising & Placement • Placement Tests

- French Placement
- Incoming Student Worksheet
- Incoming Transfer Student Worksheet
- Advanced Placement App Student Portfolios
- Senior Portfolio System
- HES Portfolio App
- Education MAE Portfolio **Evaluation Support**
- Academic Advisor **Evaluations**
- Department Chair **Evaluation System**

<u>General A</u>cademic Support

- TruTube
- Music Library
- Course Evaluation System
- SB389 Course Evaluation
- Checkbox Survey System Research Programs

Support • Student Research

- Conference System
- Office of Student Research app
- Institutional Review Board
- Faculty Forum
- Truman State University Press

Physical Plant

• Utility Dashboard

Internships/Service/Career

- Internships Online
- Career Center Resource Library
- Career Center Visitors
- Serve Center Volunteer Management (TruService) **Student Organizations**
- Student Organizations
- Homecoming Elections
- Homecoming Parade Entry
- Student Senate Voting Student Life
- Hall Desk Software
- Conduct Hearing **Evaluation Survey**
- Behavioral Concern
- Student Health Center Immunization Records **Athletics**
- Athletics Hall of Fame
- Football Recruiting App
- Mobile Athletic Training Competency App
- Soccer Women's Recruiting App
- Soccer Men's Recruiting
- Softball Recruiting App
- Volleyball Boosters App
- Volleyball Recruiting App • Women's Basketball Recruiting
- Athletic Insurance Ouestionnaire
- Public Safety • DPS Ticket Appeal
- Campus Crime Log • DPS Crime Watch

Information Technology

- OTRS Reporting
- ITS Equipment Checkout
- Phone Bill Processing
- ITS Purchase Request
- Copyright Violations
- PML Guest Accounts
- Classroom A/V Control System
- Mobile Applications for iOS and Android
- Wireless guest
- Pay-per-use Wireless Guest
- Contract Mgt System

Website Management Tools

Form Builder, Faculty/Staff Directory

- General Programs
- Calendarix • Event Manager

Content Management -WordPress

- installations for • All official University web sites
- Faculty and Student Organizations
- Blogs
- Truman Media Network Many WordPress plug-ins available for use

How We Function - Compliance and Regulatory Issues

General Legislative and Regulatory Issues with IT requirements that Information Technology Services must monitor and respond to:

Fe	deral				
Pri	vacy	Info	rmation Technology and Telecommunications	Fis	cal Responsibilities
	FERPA (Family Education Rights and Privacy Act)		Communications Assistance for Law Enforcement Act		Sarbanes Oxley Act
	Children's Online Privacy Protection Act (COPPA)		(CALEA)		E-Verify Executive Order
	HIPAA (Health Insurance Portability and		Controlling Assault of Non-Solicited Pornography and		•
	Accountability Act of 1996)		Marketing Act (CAN-SPAM)	C+	ato
	HI TECH (The Health Information Technology for		Telephone Consumer Protection Act	31	ate
	Economic and Clinical Health Act)		FTC Identity Theft Program - Red Flag Rules	Ш	Data Breach Notification
	Electronic Communications Privacy Act (ECPA)		eDiscovery		Sunshine Law (Open Records)
	FISMA (Federal Information Security Management Act)		USA Patriot Act		Records Management/Records Retention Policies
	Freedom of Information Act		Export Controls	Ш	Computer Crime Statutes
	Gramm-Leach-Bliley Act		Uniform Electronic Transactions Act	Ш	Uniform Wireless Communication Infrastructure
Co	pyright and Fair Use		Student Exchange Visitor Information (SEVIS)	_	Deployment Act
	TEACH Act (Technology Education and Copyright		Junk Fax Prevention Act	Ц	Reverse Transfer
	Harmonization)		Federal Children's Internet Protection Act (CIPA)		Cyberstalking
	Copyright Act (while there are no direct IT		ibilities and Accommodations	_	
	requirements, how information is used electronically		Americans with Disabilities Act (Sections 508, 504)	Ot	her
	must adhere to copyright law)	High	her Education Opportunity Act		PCI DSS (Payment Card Industry Data Security
	Digital Millennium Copyright Act	П	Distance Education Approval of Out-of-State Provider	S	Standard)
	Digital Milleriniani Copyright Act				
	No Electronic Theft Act		Various compliance obligations as part of HEOA		
FT	No Electronic Theft Act C & FCC Telecommunications Legislative an		Various compliance obligations as part of HEOA egulatory Issues that Information Technology		•
FT	No Electronic Theft Act		Various compliance obligations as part of HEOA egulatory Issues that Information Technology		Services must monitor and respond to: n Inactive Issues
FT	No Electronic Theft Act C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing		Various compliance obligations as part of HEOA egulatory Issues that Information Technolo Mergers	Оре	•
FT Op	No Electronic Theft Act C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping	d Re	Various compliance obligations as part of HEOA egulatory Issues that Information Technolo Mergers Radio Webcasting	Ope	n Inactive Issues Biennial Review BRS/EBS
FT Op	No Electronic Theft Act C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility	d Re	Various compliance obligations as part of HEOA egulatory Issues that Information Technolo Mergers Radio Webcasting Signal Boosters and DAS	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless)
FT Op	No Electronic Theft Act C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI)	d Re	Various compliance obligations as part of HEOA egulatory Issues that Information Technolo Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition
	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS)	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS)	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P)	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Contributions	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules Local Number Portability	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Fund	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming Wireless Open Access
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules Local Number Portability Mobile Phone Fringe Benefit Tax	ad Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Fund VoIP and IP-Enabled Services	Ope	In Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming Wireless Open Access Dived Inactive Issues Over The Air Reception Devices (OTARD) Rules
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules Local Number Portability Mobile Phone Fringe Benefit Tax National Broadband Plan	d Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Fund VoIP and IP-Enabled Services White Spaces	Ope	n Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming Wireless Open Access
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules Local Number Portability Mobile Phone Fringe Benefit Tax National Broadband Plan Network Neutrality/Network Management	ad Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Fund VoIP and IP-Enabled Services White Spaces	Ope	In Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming Wireless Open Access Dived Inactive Issues Over The Air Reception Devices (OTARD) Rules PIC Change Charges Telecommunications Excise Tax
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules Local Number Portability Mobile Phone Fringe Benefit Tax National Broadband Plan	ad Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Fund VoIP and IP-Enabled Services White Spaces	Ope	In Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming Wireless Open Access Dived Inactive Issues Over The Air Reception Devices (OTARD) Rules PIC Change Charges Telecommunications Excise Tax Video Franchising
FT Op	C & FCC Telecommunications Legislative an en Active Issues 700 MHz Licensing Broadband Reporting and Mapping Communications and Video Accessibility Customer Proprietary Network Information (CPNI) Digital Television Transition Disaster Planning and Response: Backup Power Disaster Planning and Response: WEA (former CMAS) FCC Telemarketing Rules FTC Telemarketing Rules Local Number Portability Mobile Phone Fringe Benefit Tax National Broadband Plan Network Neutrality/Network Management	ad Re	Mergers Radio Webcasting Signal Boosters and DAS Spectrum Reallocation Telephone Relay Service (TRS) and Video Relay Service (VRS) Unauthorized Charges: Cramming Unbundled Network Element-Platform (UNE-P) Universal Service Fund VoIP and IP-Enabled Services White Spaces	Ope	In Inactive Issues Biennial Review BRS/EBS Hearing Aid Compatibility (Wireless) Law Enforcement Access/CALEA Long Distance Competition Spam Unauthorized Charges: Slamming Wireless Open Access Dived Inactive Issues Over The Air Reception Devices (OTARD) Rules PIC Change Charges Telecommunications Excise Tax