



LAKELAND COMMUNITY COLLEGE TECHNOLOGY MASTER PLAN

2014-2019 (extended though 2022)

Providing innovation and access to information, utilizing technology to enhance the learning process by enabling the college community to operate efficiently in a stable, secure, and flexible environment.

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ABOUT LAKELAND

LAKELAND COMMUNITY COLLEGE STRATEGIC PLAN PRINCIPLES

1. Student Success:
 - Foster student success by providing service and support so that each student can achieve his/her educational goal
2. Access and Affordability
 - Expand access by building the college's resource capacity and by maintaining affordability
3. Financial Capacity
 - Maintain the college's financial stability by diversifying our sources of revenue to become more self-reliant
4. Quality
 - Ensure high quality services and learning opportunities through assessment for continuous improvement
5. Opportunity
 - Expand educational opportunities for personal development to improve the overall quality of life in our community

TECHNOLOGY STRATEGIES COMMITTEE

MISSION STATEMENT

The Technology Strategy Committee appraises and makes recommendations on the acquisition and use of technology to the Planning Advisory Council in support of the college's mission.

The committee meets this mission by:

- Advising on the creation, implementation, and reporting of the Technology Master Plan
- Providing direction toward maintaining a standard of excellence by fostering an innovative, efficient, durable, and flexible environment
- Identifying opportunities to promote student success
- Sharing information about technology with the campus community

CURRENT ENVIRONMENT

TECHNOLOGY ENVIRONMENTAL TRENDS

Information technology has changed the means by which we educate, communicate, conduct business and manage our personal lives.

Noel-Levitz, OmniUpdate, CollegeWeekLive, and NRCCUA® (National Research Center for College & University Admissions) conducted a survey of 2,000 college-bound juniors and seniors about their expectations for college Web sites, mobile usage, e-mail, and social media. Among the findings in 2012:

- More than 50 percent of students said the Web played a significant role in their decision to apply to a school.
- Three out of four emphasized simplicity in navigation and written content over “cool” navigation and visual design.
- Cited by 55 percent of respondents, difficulty with site navigation was among the greatest challenge encountered with college Web sites and was the top response by a large margin.
- Sixty-nine percent of prospective students would participate in live chats with current students or faculty; 75 percent would communicate with college representatives via Webcam.
- Regarding e-mail, 97 percent said they would open e-mail from a school on their list, and 68 percent would do so from schools they did not know.
- Sixty percent said they are open to receiving text messages from college representatives.
- Forty-six percent have visited a college’s Facebook page; 69 percent of those “liked” a college’s page.
- Sixty-nine percent of students and 72 percent of parents said they have had online video conversations using a Webcam.

Source: 2012 E-Expectations Report. Noel-Levitz, OmniUpdate, CollegeWeekLive, and NRCCUA® (National Research Center for College & University Admissions Retrieved from <https://www.noellevitz.com/papers-research-highereducation/2012/2012-e-expectations-report>

Noel-Levitz, OmniUpdate, CollegeWeekLive, and NRCCUA asked survey respondents about their mobile browsing behavior—how frequently they use their phones to go online, their content priorities, and how often they check e-mail on their phones—to see if mobile browsing has significantly impacted the college search process. The report also queried them on e-mail usage, the influence of Web sites on their perception of a campus, and their social media use. Among the findings in 2013:

- Seventy-eight percent of respondents have regular access to a mobile device; 80 percent of those devices are a smartphone, tablet, or iPod Touch.
- Forty-three percent of students reported using their mobile devices for all of their Web browsing.
- Eighty-two percent said they preferred to look at college Web sites on a PC/laptop instead of a mobile device. However, 68 percent said they have viewed college Web sites on a mobile device.
- Seventy-three percent of students expressed interest in downloading campus-specific applications for schools on their target list.
- Forty-seven percent check e-mail on their mobile devices daily; 67 percent check at least once per week. □ Ninety-eight percent of students would open an e-mail from a college they were interested in attending.

Source: 2013 E-Expectations Report: The Impact of Mobile Browsing on the College Search Process. Noel-Levitz, OmniUpdate, CollegeWeekLive, and NRCCUA® (National Research Center for College & University Admissions Retrieved from <https://www.noellevitz.com/papers-research-higher-education/2013/2013-e-expectations-report>

In addition to the expansion of technology expectation, according to the National Security Agency, cybersecurity threats are growing more numerous, complex, and severe, with over 12 million victims of identity theft in 2012.

Educause has also released information concerning higher education and technology trends and issues as follows:

Top-Ten IT Issues, 2014

- Improving student outcomes through an institutional approach that strategically leverages technology
- Establishing a partnership between IT leadership and institutional leadership to develop a collective understanding of what information technology can deliver
- Assisting faculty with the instructional integration of information technology
- Developing an IT staffing and organizational model to accommodate the changing IT environment and facilitate openness and agility
- Using analytics to help drive critical institutional outcomes
- Changing IT funding models to sustain core service, support innovation, and facilitate growth
- Addressing access demand and the wireless and device explosion
- Sourcing technologies and services at scale to reduce costs (via cloud, greater centralization of institutional IT services and systems, cross-institutional collaborations, and so forth)
- Determining the role of online learning and developing a strategy for that role
- Implementing risk management and information security practices to protect institutional IT resources/data and respond to regulatory compliance mandates*
- Developing an enterprise IT architecture that can respond to changing conditions and new opportunities*

* Tie

Source: Top 10 IT Issues 2014. Educause Review. March/April 2014. Retrieved from <https://net.educause.edu/ir/library/pdf/ERM1421.pdf>

Future Technologies at U.S. Colleges and Universities

According to a recent study conducted by ECAR (EDUCAUSE Center for Analysis and Research), only six of the following twenty-two technologies are in place in at least 30 percent of U.S. colleges and universities (those six are marked with an asterisk). However, it is estimated that by 2015, all will be in place in at least 30 percent of institutions and that by 2016–2017, all will be in place in at least half of U.S. institutions.

- Administrative or business performance analytics
- Analytics
- BI (business intelligence) reporting dashboards
- Cloud-based academic applications*
- Cloud-based e-mail for faculty and staff*
- Cloud-based office productivity suites
- Cloud-based, high-performance computing
- Cloud-based video streaming solutions*
- Database encryption
- Data warehouse*
- Degree advising analytics
- Digital preservation of research data

- Digital repositories for researchers and scholars
- E-book readers and e-textbook
- Enterprise identity and access management*
- E-portfolios
- Federated ID management
- Institutional support for public cloud storage
- Mobile app development
- Mobile apps for enterprise applications
- Online courses on mobile devices
- PCI-DSS standards*

Source: Top 10 IT Issues 2014. Educause Review. March/April 2014. Retrieved from <https://net.educause.edu/ir/library/pdf/ERM1421.pdf>

Emerging Technologies

Key trends accelerating educational technology adoption in higher education:

- Fast moving trends: Those likely to create substantive change (or burn out) in one to two years
 - Online, hybrid, and collaborative learning
 - Social media use in learning
- Mid-range trends: Those likely to take three to five years to create substantive change
 - The Creator Society
 - Data-driven learning and assessment
- Slow trends: Those likely to take more than five years to create substantive change
 - Agile approaches to change
 - Making online learning natural
- Important developments in educational technology for higher education
- Time-to-adoption: One year or less
 - Flipped classroom
 - Learning analytics
- Time-to-adoption: Two to three years
 - 3D printing
 - Games and gamification
- Time-to-adoption: Four to five years
 - Quantified self
 - Virtual assistants

Source: Horizon Report. 2014 Higher Education Edition. New Media Consortium. Retrieved from <http://www.nmc.org/pdf/2014-nmc-horizon-report-he-EN.pdf>

LAKELAND SNAPSHOT

Lakeland provides a technology rich environment to support teaching and learning. The success of Lakeland is dependent largely on the support that users of the technology receive. While Lakeland is providing a good level of quality support to faculty and students, as with most technology service offerings, incremental improvements to service delivery are possible. Many technology related programs exist across the campus including:

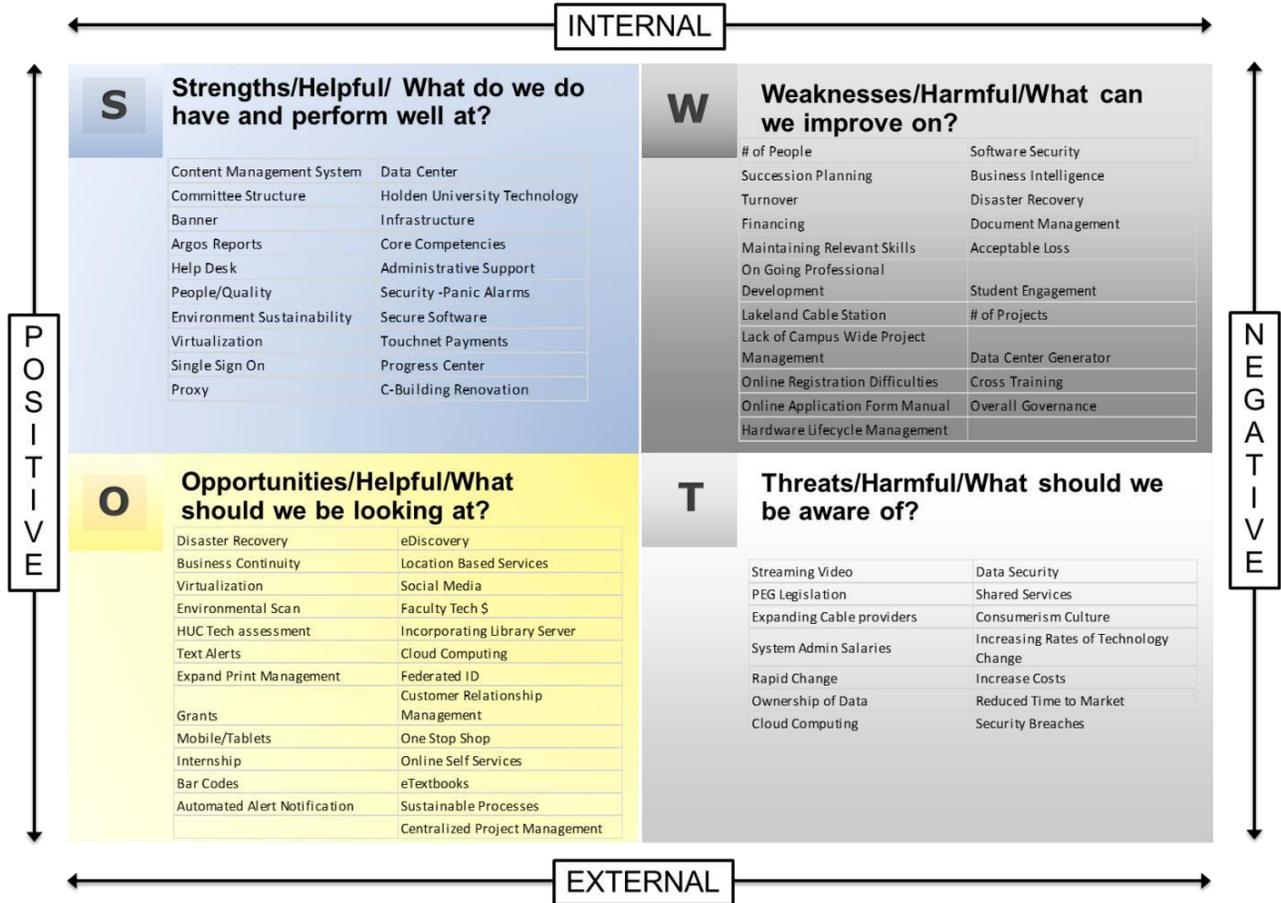
- Improving online classes using Quality Matters
- Opportunities for students to use a computer through Open Labs, laptop sign-out program, and Library iPad Desktops
- Faculty training support and engagement through the Fall Technology Highlights event, Teaching Online Workshop Series, Teaching with Technology Institute and equipment training at the HUC
- Help Desk and support processes that use incident logging

The following is a comprehensive list of technologies currently in use:

- Learning Systems: Blackboard, Open Labs, Laptop And Ipad Sign-Out Programs, Video Streaming, Track-It Help Desk, Join.Me (Web Conferencing), Library Sierra
- Classroom Technologies: Laptop/Ipad Carts For Classrooms, Computers, Projectors, TV's, Polycom Camera's, Smart Podiums, Polycom Gateways For IVDL, Speaker Systems, Microphones, Virtual Desktops, Trend Antivirus, WSUS, Deepfreeze, Windows, OSX, Office, Touch Screens, Smartboards, Document Cameras, Crestron Room Controllers
- Enterprise Wide Administrative: Banner Modules (Financial Aid, Student, Payroll, Security, Self Service, Finance, HR, Financial Aid Needs Analysis, Recruitment), Oracle Database, Oracle Web Logic Application Server, Oracle RAC, Load Balancer, Grid Control, Degreeworks, Legato, Public Web Site, Scantron, myLakeland Portal, Aceware/Aceweb, Progress Center (Taskstream), SPSS, Resource 25, Booklog, ID Card, Academic Works
- Payment Systems: Touchnet For Cashiering, Bill + Payment Suite, Bill Payment Client, Marketplace
- External Integrations: Touchnet Connector, Student Email, Laketrans, Equitrac/Managed Print, Valic Retirement Manager, Efollet, Library Research Resources Through EZproxy Including OhioLINK And EBSCO Discovery Service
- Reporting: HEI/IPEDS, PL/SQL Reports, 1000+ Argos Reports, Form Fusion, Banner Student Retention Performance, ODS (Operational Data Store), EDW (Enterprise Data Warehouse), Cognos
- Custom Applications: (Let's Go, Transcript Reporting, Department And Program Review, Faculty Assignment Sheets, Schedule-It (Student Orientations, Compass Testing, HIMT Orientation, Financial Aid), Tutoring Scheduling And Self Service, Counseling Scheduling, Video Upload, HUC Enrollment, Eblast Newsletter App, Class Cancellations, WIFI Guests, Web-SFTP, Financial Reporting, Auto Close, Dental Hygiene, Auto Emails, Computer Equipment Request Form, R25 Web Viewer, Digital Signage, Medical Administration Records, Events Posting)
- Communication Systems: Cisco Call Manager(Phones), Call Center, Cisco Unified Messaging/Jabber, Unity Voicemail, Singlewire Informacast, IBM Notes Email (Employees), Google Email (Students), Notes – Traveler, Blackberry Server, Barracuda Spam Filter, Digital Signage
- Network Services: Firewall, Intrusion Prevention System, Core Routers, Backbone, Switches, Internet Access, Active Directory, DMZ, SAN Storage, Disk To Disk Backup, Windows Servers, Red Hat Servers, Server Virtualization, Data Center Infrastructure Management, Wireless Access Points, F5 Load Balancing, Central SQL Server, WAVE (Web Based VPN), Wireless Controller, Packet Shaper, Tridium (Building Management)

- **Printing:** Xerox Fleet, Network Printing, Production Center, Managed Printing Through Equitrac, Ecopy (Scan To Email), Stream (Faxing),
- **Security Systems:** IP Cameras, Fire Alarm Server/Panel, PCI/External Scan, School Messenger (Emergency Notification System), Onvisource (Phone Recording), Maxient

The Technology Strategies Committee conducted the Strengths, Weakness, Opportunities and Threats (SWOT) analysis as displayed in the following chart:



TECHNOLOGY MASTER PLAN MAJOR GOALS

CORE VALUES

Sustaining the quality and relevance of the academic and administrative technology services provided requires that the college engage in a number of strategic processes. The nature and scope of these processes are explored in summary below and in more detail in the body of this document.

Modern - Stay current with technology tools and infrastructure, while providing for innovation.

Stable - Apply technology to facilitate teaching and learning, student success and administrative environments in a reliable, secure and flexible environment.

Integrated - Provide integrated methods and processes to efficiently access college systems.

Inclusive - Include stakeholders in decisions regarding the acquisition and the responsible use of resources necessary to meet institutional goals.

Informed - Provide resources to weave technology and information literacy throughout learning environments and in professional activities.

MODERN

Stay current with technology tools and infrastructure, while providing for innovation.

BACKGROUND

Technology continues to evolve and is at the core of our society. The accelerating change in technology and its impact on social and cultural norms has never been so profound. While we cannot predict the future of technology, we can say there will continue to be changes to traditional methods. New uses for modern technology will continue to transform the ways we educate, conduct business, present ourselves, and socialize. Since all these areas are developing rapidly, our constituents expect us to keep up with these changes and allow for innovative use of modern technology in all aspects.

STRATEGIES

- Provide leadership for Lakeland in its evaluation and deployment of current and emerging technology.
- Continue work on replacement of the current public web site and portal with a content management system, so information will be easier to navigate and search while providing information that is current.
- Increase support for mobile devices by: Developing a mobile browser template so public and portal web content can be provided to the user in an appropriate format; delivering a content rich mobile app experience where administrative and support services can easily be accessed; and continuing to address the integration of customer-supplied technologies (Bring Your Own Device), Blackboard Mobile and Administrative functions.
- Scale services to demand.
- Develop a cloud computing strategy, including standard contracts that address data ownership, integration, security, compliance and federation.
- Continue to update core systems for standardized technologies such as Banner, Blackboard, phone, eMail, network, servers, PCs, classroom technology, printing, virtual desktops and software.
- Encourage development of innovative modes of deliver such as hybrid, hyflex, or flip classrooms to enhance student flexibility and use of current technology.

PROGRESS INDICATORS

- Create a matrix of system currency
- Increase availability to interact with college system using mobile devices
- Establish standardized cloud based system contract negotiations
- Review systems for cost effectiveness using external cloud vs. in-house resources

STABLE

Apply technology to facilitate teaching and learning, student success, and administrative environments in a reliable, secure, and flexible environment.

BACKGROUND

Lakeland should ensure the computing environment is available and safe for all users, while establishing standardized proven technologies for the classroom and business processes. By identifying and replacing obsolete equipment, ensuring cybersecurity threats are being mitigated, and proactively building our infrastructure, we will lay the foundation for a flexible environment that will impact our services and operations.

STRATEGIES

- Define technology standards based on industry best practices.
- Improve energy efficiency of technology: Desktop computers, servers, classroom AV gear and/or new technology for campus activities.
- Assess and evolve policies, procedures and technologies to strive to be current with security best practices as technology threats change.
- Continue daily and annual maintenance activities to ensure reliable and secure systems. Keep current on our installed software base to maximize vendor support and evolve processes as needed.
- Design classrooms that allow for both instructor- and student-centered styles of teaching and learning with connections to provide versatility for both faculty and students:
 - Classrooms should be equipped with seating and work surfaces that can be arranged flexibly to foster student interaction, discussion and collaboration. Modular seating should facilitate shared viewing of digital content.
 - Furniture and equipment (i.e., computers, projectors and screens) should be arranged to provide the best advantage of the room's natural sightlines and traffic flow.
 - Presentation controls, such as remote mice, touch screens, smart boards, etc.
 - Desks, tables, floors, and walls should be equipped with sufficient electrical outlets to support a range of devices.
 - Ability of faculty and students to display any device to classroom projectors and screens.
 - Provide ample WiFi coverage and bandwidth per classroom.
- Use a broad range of traditional and technological methods to include face-to-face interaction, such as in-class discussions, active group work, live lectures, web-based educational technologies, and webassisted learning tools.
- Provide more access to resources via a range of mobile devices and applications.

PROGRESS INDICATORS

- Improve reporting of server uptime, and bandwidth reports while establishing comparison to industry norms
- Create annual classroom improvement report
- Establish energy efficiency reports for the Data Center

INTEGRATED

Provide integrated methods and processes to efficiently access college systems.

BACKGROUND

Lakeland has many technology pieces that allow us to combine and coordinate separate elements to provide a harmonious, interrelated whole. However, many systems are not yet connected or do not provide a method to be connected. Many process can still be re-engineered to help streamline and improve the user experience and provide efficiencies. To better relate to our constituents, we should continue to design systems with a full view of each person's interactions with the college.

STRATEGIES

- Improve on-boarding process for new faculty, staff and student workers.
- Expand identity and system access management; streamline user account creation, permissions and removal to improve security, efficiency; and make it practical to expand access to a wider range of constituents.
- Improve the college's requisition, purchasing, and accounts payable processes.
- Provide a system for campus-wide service tracking and project management.
- Continue to expose Web APIs and software-as-a-service opportunities for full integration.
- Provide effective and on-time technical assistance services.
- Strongly support the use Blackboard for posting syllabi, course documents and posting grades.
- Provide a tightly integrated package of scorecards, dashboards, reports, and analytic capabilities.
- Develop and strengthen relationships with students throughout the student lifecycle with personalized communications and campaigns.
- Acquire an early intervention system that warns students who are at risk of underperforming in a course.

PROGRESS INDICATORS

- Complete ID management automation
- Report on integration of systems
- Establish student retention performance dashboards to monitor student success initiatives (First-Year Experience, mandatory orientation, student success mentors/advisors, etc.)
- Continue use of the Progress Center for institutional reporting

INCLUSIVE

Include stakeholders in decisions regarding the acquisition and the responsible use of resources necessary to meet institutional goals.

BACKGROUND

Technology planning is purposefully integrated into the college to assist in the analysis and design of solutions that assist departments in meeting their goals and objectives. In order to create a diverse technology based organizational environment, all stakeholders need to be able to participate and provide multiple viewpoints. Similar technology being used by different people will be used in different ways; communicating these differences will provide a means for broader consideration and could spur additional innovations.

STRATEGIES

- Facilitate group discussions both face-to-face and asynchronously to maximize stakeholder input.
- Systematically encourage and reward faculty innovations in the classroom.
- Cultivate an institutional culture of inquiry and scholarship where reflection, formative and summative assessment, and feedback are highly valued.
- Collaborate with and benchmark against other institutions both in-state and elsewhere in order to maintain Lakeland's presence near the leading edge of effective instructional technology.
- Foster frequent feedback and communication among students, faculty, administrators, and technical staff on technology acquisition and use.
- Potential strategies should include use of survey and audit tools.

PROGRESS INDICATORS

- Survey and audit of student, faculty and administrative technology needs (surveymonkey, suggestion boxes, comment cards, etc.)
- Report on Technology Strategies Committee to the college/PAC
- Create a recognition program for instructional and or administrative innovation

INFORMED

Provide resources to weave technology and information literacy throughout learning environments and in professional activities.

BACKGROUND

Professional development will encourage sharing of best practices for using technology. In both pedagogy and administratively wide-ranging ways, digital fluency and information literacy can be used to enrich learning and to enhance our professional activities. Getting the soft skills to increase the effective use of technology can help develop the ability to learn actively, use information effectively, think critically, interact in diverse environments, and communicate clearly.

STRATEGIES

- Evaluate, assess and advise on emerging technologies.
- Leverage the First-Year Experience (FYE) and mandatory orientation. These programs are designed to help students get accustomed and comfortable to campus life and connect with student services, programs, and other student life support.
- Offer workshops for students, faculty and administrators to learn the technologies available at Lakeland.
- Continue the annual Technology Highlights Event to introduce and share the use of technology.
- Create faculty technology teaching communities to share pedagogical practices.
- Explore the possibility of providing meaningful incentives for faculty to participate in professional development activities and contribute to a shared repository of resources and best practices.
- Explore inclusion of technology professional development as a component of the tenure application process.
- Brainstorm and implement strategies to address ways to spur participation in professional development.
- Designate a person responsible for professional development.
- Increase “seamless” use of technology.
- Evaluate the mixture of administrative and learning technologist skill sets and evolve those skills to meet the changing needs of our customers.
- Explore opportunities to expand technology training through existing internal resources (faculty, materials, credit and non-credit existing courses).
- Continue to expand access to reporting analytics, with documented definitions and decision flows.

PROGRESS INDICATORS

- Establish targeted communications campaign and management through BCM
- Provide a comprehensive overview of current technology training and events available for professional and personal development, including current events, knowledge exchanges, highlights show, brown bag lunches, etc.
- Integrate basic use of existing technology systems into FYE and orientation (Login to blackboard, degree tracking, student email, etc.)
- Report on Technology Highlights show

2019 Extension Statement and Projects Update

Extension Statement for Technology Master Plan Through 2022

The Technology Strategy Committee has recommended to extend the Technology Master Plan until 2022. While trends in technology continue to drive change in all aspects of our daily lives, the 5 core values stated in the current master plan remain pertinent to sustaining the quality and relevance of the services provided by the college. The committee felt that an extension of this master plan would allow us to create a new plan after the college passes a new strategic plan, permitting a new technology master plan to align directly into the new strategic plan. In lieu of a new Technology Master Plan the we have added a summary of projects completed over the last 5 years of the initial plan.

Summary of Projects completed

Overall Improvements include upgrades/replacements of all major systems such as: Banner, Blackboard, Aceware, Argos, Switched, server hardware, etc..

2014 Major Improvements/Projects

- The production cutover to the new portal and public website occurred May 14, 2014 and then the new portal and public Web site were upgraded from Standard Edition to Enterprise Edition to allow for heavy registration cycles in April.
- Blackboard upgrade and hardware replacement was successfully implemented (Now moved to the cloud)
- The video streaming server was successfully replaced and upgraded to support mobile (Now moved to cloud service/TechSmith Relay)
- Identify Theft: Understanding the Threat and Practical Tips to Protect Yourself presentations
- Expanding virtual desktops use to include off-campus access for students of the GIS Program. (VDI has since been back way down/removing in favor of Microsoft Daas)
- The Data Center: With continued effort to save on energy, we enclosed the cold rows which allowed us to turn off the 10-ton air conditioner located in the Data Center.
- The library management system (Sierra), licensed from Innovative Interfaces, was moved to the cloud
- Phase 1 A3 Building
- Provided Single Sign-On for every student system.
- Provided Web based password reset.

2015 Major Improvements/Projects

- Phone system upgrades necessary to integrate our upcoming, integrated communications platform (WebEx/Polycom/Jabber/Voicemail/Phone/Video Chat/Chat)
- Blackboard was updated to include Outcomes and Assessment
- Blackboard Student and Faculty Mobile Apps released
- The Portal and Public Web site were updated to allow for responsive design so smart phones now have touch-enabled, cleaner menus. Photos size properly, and data is provided and sized for the screens.
- Early Alerts system was piloted
- DegreeWorks production was successfully upgraded
- The networking and virtual desktop to control the exterior sign
- Phase two A3 building
- Completion by Design (CBD) reports (since removed) had us create a process to request and import the National Clearing House transfer information into the Banner system (still in operation).

- Initial College Credit Plus implementation
- Replacement to the faculty gate, inbound loop, keypad, and service.
- The Police Voice Recording System (Onvisource) was upgraded to the latest version.
- Converted Opteman circuit to a 5 MB ASE circuit to Madison
- Emergency generator is fully tested and approved by the State to support the College's mission critical data center and Police dispatch power needs.
- A WebEx Meeting Center account was created and given to most active, continuing Faculty and Staff with a valid employee email address.
- The myLakeland mobile app
- Initial Banner XE testing Environment setup.
- Expansion of FLARE! (Foundational Life Advocacy Resource Engine) from the Men's Center, Women's Center, and Welding is now occurring for veterans and Hispanic cohorts.
- The co-location rack was moved from OARnet in Columbus to Wright State University in Dayton

2016 Major Improvements/Projects

- Released our own integrated Scholarship App, replacing Academic Works, and saving \$8,103 annual subscription cost. The new program provides more information and a much simpler application process to the student while making more efficient use of our Banner data for both Financial Aid and the Foundation.
- Added Live Chat for the help Desk
- Assisted HR in getting our jobs posting through the public web site working with Simplicant, a recruitment and application tracking system
- Added integration into the Office 365 Cloud for all Lakeland employees and Students who have a current email address.
- Added and updated a Graduation Watch page on the portal so faculty can easily know which students in their classes are close to graduation.
- Adjusted CCP processing to help continue automating the handling of College Credit Plus students financial processing to reflect current ongoing changes, including integration of CCP students being added to the Bookstore and Banner book contracts.
- Work to get all systems updated to support chip card reader
- The Teaching and Learning Center scheduling system was updated to allow tutors to offer online WebEx meetings and students to sign up for sessions.
- Continued expansion of new Digital Signage specific to areas such as the diversity space and HUC.
- Completed A3 phase three technology installs (cameras, Wi-Fi, door access control, PCs).
- As part of the Allied Health building construction, our data communication fibers were moved for the HUC on Friday, April 1, and our Internet service moved on Saturday/Sunday, April 2 -3.
- Early Alerts went full production
- Cisco Jabber, a software phone and voicemail client, was initially rolled out to a limited number of users
- Technology replacement for the new Testing Center.
- Banner XE was opened for end user testing.

2017 Major Improvements/Projects

- Purchase Orders System/Clockshop setup with integration to banner with eProcurement and elnvoice using Jagger (SciQuest)
- Guest Wi-Fi Access is now more open. A guest can now sign up for guest wireless for 7 days without having to go to the Help Desk for a guest pass.

- AdAstra/Course scheduling dashboard (added but since removed),
- CourseLeaf/Course catalog for the public website
- School Dude/Facilities work ticket system
- 911Cellular/Mobile App for the community to report incidents
- CampusWorks technology assessment.
- While maintaining salaries (retirements and retire/re-hire), we hired Connor Dugandzic as a Programmer Analyst I position and Matthew VanDyne as a Network Support Tech position.
- Lotus Notes Replacement to Outlook Exchange in Microsoft cloud, about 800 people were given hands-on training in Outlook before the cut over.
- Initial Setup of System Center Configuration Manager (SCCM)
- Antivirus changed to Microsoft Endpoint Protection.
- Replaced physical hardware to the security camera system to support the additional 70 cameras being added to the Health Building
- Replaced Network Core and Network DMZ
- Microsoft Teams, the chat-based workspace in Office 365, replaced Sametime Chat.
- Project began to replace 600 computers on main campus and 400 in the Health building.
- All computers standardized to use Office 2016 for Word, Excel, Power Point and Outlook
- CLEO, the network fax system was fully replaced.
- Equitrac/Pay for Print were fully replaced
- Copiers will be rolled out across the campus
- All analog fax machines were removed
- College Credit Plus changes put into place, twice for spring and changes in fall.
- CLEP and Nursing Program Entrance Exams (TEAS) testing online payments are now available.
- Work has begun to setup the new system for Breakers/Food Service including the new touchscreen cash registers and ability to allow students to pay with Financial Aid.
- Madison to Kirtland data link was replaced with Fiber and increased from 5mb to 10mb
- Added 24x7 Help Desk support with Blackboard, with new knowledge base and new ticketing system
- The Learning Center has added iPad Mini 4 using Cisco Jabber/Wi-Fi to allow for phone calls; the iPad also allows them to take photos for accreditation.
- The new Microfocus Cobol jobsub server was been deployed; this new configuration avoids \$2.5 million in licensing fees
- The "My Grad App" Graduation application and graduation survey application.

2018 Major Improvements/Projects

- Team Dynamix was implemented for change management in Administrative Technologies
- Health Building:
 - CAE/LSOne Simulation Capture will allow our health faculty to capture and review their students' actions with evidence-based video debriefing and built-in scoring and assessment tools.
 - Audio Visual in the Allied Health building is being completed as soon as each room is made available.
 - All new Computers for the building and classroom labs.
- 50 classroom technology replacement including a new lectern, new computer, new touchscreen monitor, document camera, new (1920x1200) ultra- bright laser projector, new widescreen 16:9 projector screen, the ability to wirelessly connect and display up to 4 devices simultaneously through Wi-Fi, improved sound reinforcement, HDMI or VGA/Audio laptop connector and easy to use buttons to control the room.

- Wi-Fi coverage completed. The enhancements began in A, S, T, E, H, HUC, Mooreland Mansion and East and our latest phase included B, C, D, L and Y.
- A new network closet was added to the AFC press box to support the Wi-Fi expansion.
- Password Management Suite upgrade includes reset link to personal email
- Breakers / Booklog Touchscreen registers, including Financial Aid
- TechSmith Relay – Video Capture/Captioning system
- Banner System Analysis and Banner XE training occurred with 8 weeks of on site training for many departments.
- Banner XE Admin pages went live production
- Blackboard was moved to the cloud (into Blackboards Data center)
- Resource 25 was moved to the cloud and updated to 25 Live and we redeveloped the overall scheduling processes.
- Printer-On, a mobile app to allow students to print directly from their mobile devices
- myLakeland Mobile app was significantly updated, includes mobile native registration and finance accounts.
- All network closets now support a minimum of 2 hours of networking service during a power outage.
- Civitas Illume was established and data validated. Illume uses our data to develop personalized predictions that are timely, accurate, and actionable to pinpoint at-risk students hiding in plain sight. It will help to develop coordinated student success initiatives, and deploy targeted email interventions, all from one place.
- Galaxy Digital cloud software for volunteers
- Spectrum install of internet connection was completed November 8, 2018 and cut over to the new internet circuit.
- CampusWorks Security Assessment
- The Technology Strategy Committee approved the recommendation to pass a new Technology Accessibility Policy and implementation plan.
- A2014 had a camera integrated to TechSmith for easy speech capture.
- Spectrum install of internet connection was completed and we cut over to the new internet circuit.
- The Scheduling systems major updates project concluded, minor changes are ongoing.

2019 Major Improvements/Projects

Statement of budget constraints

Over the past 5 years the college has continued to expand technology services and support although enrollment has steadily declined, state support of instruction was slashed, while state mandated freezes in tuition increases have put significant constraints on funding new technology projects for the next few years. While operational budgets have decreased by 5%, annual funding for replacement equipment on rotation and new projects have been decreased by 80%.

The committee annually reviews possible technology projects based on cost and need to help prioritize the funding requests for the year. The table below is the results of that exercise:

Technology Capital Project	Anticipated Dollar Amount	Total Dots	EOY 2019 Status
Classroom Technology Upgrades Rollout Main Campus	\$875,000.00	7	On Hold
PC replacement (25%)	\$450,000.00	7	Allocated \$50k
Public Website Redesign	\$100,000.00	7	Pushed to 2020
Security Improvements - Data Loss Prevention (DLP)	\$ 45,000.00	6	Low-cost on-premise scan completed, OneDrive includes many of these features
Security Camera Replacement/Faculty Office Student Housing	\$180,000.00	6	Complete
C 3 Math Classrooms	\$ 35,000.00	5	Completed
Faculty Feedback /Early Alerts Replacement (Starfish) (annual)	\$ 85,000.00	5	Denied
SMS Texting Service	\$ 8,000.00	5	Being Implemented
Wi-Fi External Expansion on Buildings	\$ 20,000.00	5	Denied
Backup Replacement	\$ 90,000.00	4	On Hold
Server Replacements (Phone System)	\$ 60,000.00	4	Replaced
DocuSign (100 Users)	\$ 50,000.00	4	Denied
Switch Replacements	\$ 15,000.00	4	Replaced
Cloud Service Monitoring Tool	\$ 10,000.00	4	On Hold
Learning Tech -HUC Equipment Refresh (annually 3 years)	\$110,000.00	3	Denied
Security Improvements - 2 Factor Authentication	\$ 30,000.00	3	Added MFA for O365 admins, still needed for WAVE
Security Improvements - Log Monitoring for PCI	\$ 90,000.00	3	On Hold
C1075	\$135,000.00	3	On Hold
Shift Banner in full to Oracle Cloud	\$220,000.00	3	In Progress (cost savings)
Banner XE Communication Management Training	\$ 3,200.00	3	On Hold
PAC Auditorium	\$165,000.00	3	Awaiting Grant Funding
DegreeWorks Update	\$ 20,000.00	3	Upgrade Complete, Training for Academic Plans still needed.

Lakeland Cable Station Online Streaming	\$ 10,000.00	3	On Hold
myLakeland Portal Upgrade	\$ 65,000.00	2	Required for 2020
T129	\$135,000.00	2	On Hold
Colocation/Disaster Recovery Total	\$350,000.00	2	On Hold (Portions being added through Mythics/Oracle Cloud for Banner and Blackboard Cloud)
Decommission Cubby/Closet A Building 2-5, 25 drops to CLI	\$ 16,000.00	2	Complete (Cost Savings)
Legato & Application Xtender Reintegration	\$ 25,000.00	2	Upgraded, but not reintegrated
Phone Replacements/Jabber Roll-Out Equipment	\$ 62,000.00	2	Required replacement equipment has been rolled out.
All Seated (meeting Matrix Replacement)	\$ 2,000.00	2	On Hold
Replace Inventory Tracking	\$ 30,000.00	2	On Hold
Police Body Camera's	\$ 5,000.00	0	Complete

While most of the 2019 projects that proceeded focused on low cost, no cost or cost savings initiatives while still expanding services. The number of projects in 2019 still exceeded many previous years, while 2017 and 2018 projects were much larger in cost.

Projects

- Shift from local network shares (H:\, S:\, L:\) to Microsoft OneDrive
- Roll out of department and group-based collaboration using Microsoft Teams which many new features such as; chat, anywhere access, sharing, collaboration, version history and recycle bin while providing the college with cost savings.
- The phone backbone provided by AT&T was moved from their PRI (primary rate interface) line to AT&T's new digital interface.
- Started Project to move Banner to the Oracle cloud with Mythics.
- Our WebEx system was renegotiated to lower cost and reimplemented to take advantage of an array of new features.
- The backend infrastructure for SAP Concur the travel and expense tracking software Single Sign-On and Secure File Transfers have been setup.
- More aggressive measures were implemented to handle our email at a higher level of safety by adding some new safety protocols (SPF, DMARC, DKIM).
- For Outlook emails, OneDrive, Teams or SharePoint files, the system will notify the user whenever private data such as social security numbers or credit card data is shared with someone outside the organization.
- Banner 8 was shifted off Oracle WebLogic onto Tomcat ORDS for long term cost saving.
- Cisco Jabber allows Lakeland phones to be run from a desktop, laptop, mac, cell phone or tablet. The elimination of traditional phones is providing more features along with cost savings.
- The Degree Tracker/ DegreeWorks system was upgraded.
- Installation of faculty area security cameras.
- Lake Health Clinic Opt-in program for students.
- Roll-out a new wayfinding and campus map, with ability to add a direct link to the specific room location.
- The Emergency Text Alerting System has been adjusted to allow affiliates to sign up.
- Desktop PC's were standardized on Windows 10 running Microsoft Office 2019.

- Wait listing was added to Banner Self Service in production.
- Early Alert Selection Committee completed the RFP proposals by attending three vendor demonstrations, surveying and scoring each vendor. This committee's work is complete and a summary report and recommendation was provided to the Vice Presidents on the Selection.
- The technology in the CLI was updated to greatly enhance the usability of the space.
- Our Custom Applications server was updated to the latest version.
- Blackboard Ally was purchased to help identify and correct accessibility issues. Ally provides detailed feedback and support to increase accessibility awareness. Blackboard Ally is enabled for all Lakeland online courses.
- Passage of Policy Number: 3354:2-59-05 Title: Accessible Technology Policy
- Training and support were provided for Institutional Research to use PowerBI.
- Rollout of Blackboard's Primary Assessment Solution is adding mission-critical, course-level learning outcomes assessment functionality through the use of cross-course rubrics and tests to ensure program quality and improve institutional and program curricular effectiveness.