CEHS Technology Committee Strategic Plan

2019-20

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Brian Wilson – Staff Council	Al Steckelberg – CEHS Technology Committee Chair

Mission Statement

Knowledge is the business of a university—creating it, studying it, analyzing it, and disseminating it—and the storage, transfer, and construction of knowledge as information relies increasingly on digital technology. Technology promotes and supports the excellence and innovation of faculty members, students, and staff in the College, stimulating their creativity, productivity, and efficiency. In order to support and advance the work of faculty members, students, and staff, it is important that the technology equipment, systems, and processes be robust, accessible, secure, and timely. The mission of the College is to address these needs for the benefit of all of its constituents.   This is best done through the development and implementation of an efficient, comprehensive, and equitable technology plan.

Values

The following values have influenced the technology plan.

1. Technology is an important and compelling contributor to excellence and innovation in the work of faculty, staff and students.
2. The study of how and where technology impacts education and human sciences contributes important new knowledge.
3. Individual and diverse applications of technology are important to advancing ideas.
4. Technology enables the productivity and efficiency of faculty, staff, and students.
5. Technology extends the reach and impact of the College.
6. Program graduates should possess knowledge, skills, and attitudes that allow them to apply technology to meet professional goals.
7. Technology has become the medium and repository for much of faculty, staff, and student work. The access to and the security of these resources is essential.
8. Excellence in the area of technology means continuous learning and application of new technologies.
9. The adoption of technology represents a challenge and an effort on the part of the College and on individual faculty, staff and students. This effort moves both the College and individuals forward and has a substantial payoff in productivity, quality and impact and as such should be recognized as an important contribution critical to the mission of the College.
10. Systems and processes that make the use of technology more creative, reliable, efficient and effective support these values.
11. Coordinate the use College resources in conjunction with ITS and other services in ways that both create efficiencies and expand the impact of technology.
12. We are committed to addressing issues of access and sensitive to heterogeneous bandwidth.

General Technology Goals

1. Provide a climate where technology is recognized and valued including support for CEHS faculty, staff and students to develop expertise and leadership roles in educational technology.

2. Provide high quality teaching and learning opportunities for distance education, on–campus students and life–long learners through a technology–rich environment.
3. Provide all faculty and staff with modern software and equipment tailored to meet their specific interests and responsibilities, including support for research, teaching, and service.
4. Provide reliable and secure access to data and networks and protection of data from damage, attack or loss for all CEHS faculty, staff and students.
5. Provide the necessary support to faculty and staff in the College to maintain their software and hardware.
6. Promote and enable student use of their own technology resources for learning and scholarship in both the classroom and in settings beyond the classroom.
7. Provide technology support to CEHS faculty and staff who are interested in software development.
8. Provide access to graphic design services and technology to enhance productivity and innovation for teaching, research, and outreach for all CEHS faculty, staff and students.
9. Provide adequate financial and human resources to allow consistent and systematic development of technology in the College.

Organization and Purpose of the Committee

Members of the Committee represent academic departments, the staff council, Pixel Lab, and Technology Support Services. The Committee also includes a representative of UNL Information Technology Services. The Committee is chaired by Al Steckelberg who serves as the Technology Director for the College.

The committee advises the Dean on vision and strategic planning, technology related policies and procedures, planning and budgeting for the use of student technology fees, technology implementation and issues and provides guidance for CEHS Technology Support Services. The role of the committee is to both listen and gather input from the College and to present new ideas and recommendations.
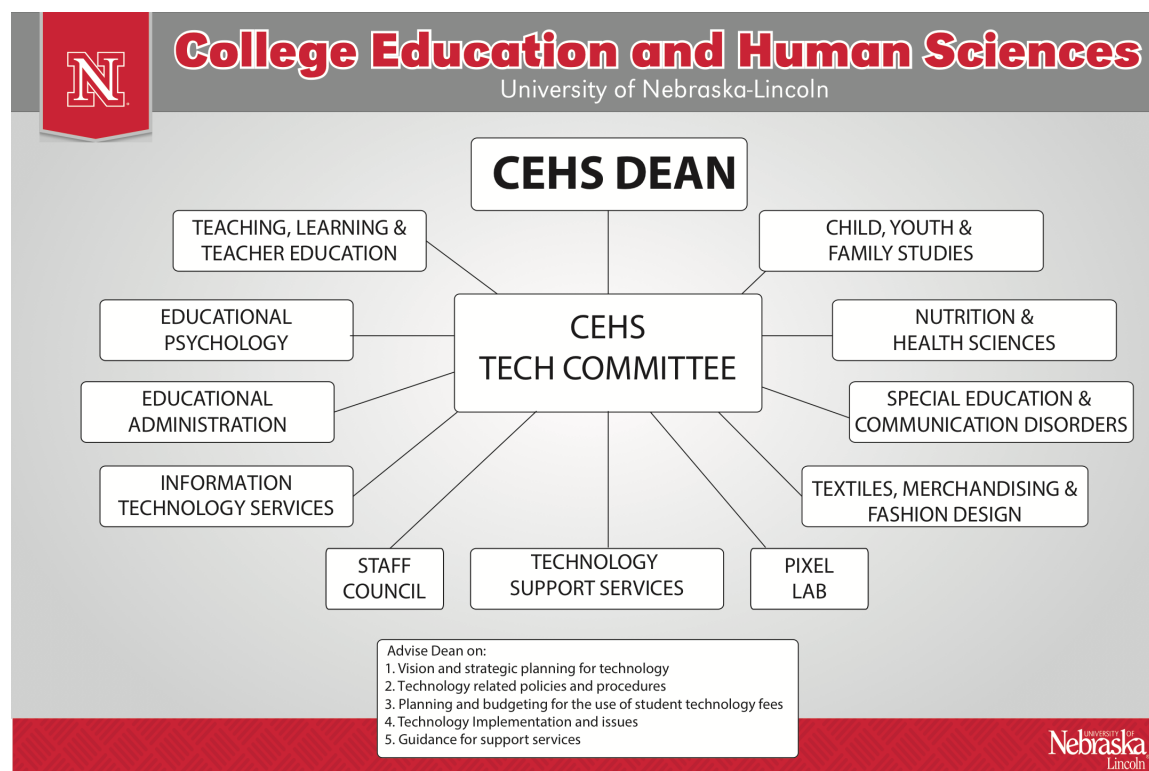
Part I – Progress Toward Specific Goals for 2018-19

Establish CEHS as a leader in providing innovative approaches to enhancing knowledge and delivering instruction locally and globally.

A. Maintain a high quality technology infrastructure that supports the work of faculty and staff. Support for infrastructure is basic and foundational to other efforts. The most fundamental priority is access to quality technology.

Security/Workflow and Resource Management

1. Supported enhanced security practices with the College.
2. Web, database and software development to support college functions including:
    a. Developed registration sites for conferences and workshops.
    b. Supported secure server sites that take credit card payments.
    c. Supported OLLIE ACEware implementation (student registration software).
    d. Continued development of website for managing annual computer replacement process.
    e. Developed online course override codes system for TLTE now adapted for EDPS
    f. Developed online graduate student progress reporting system for TLTE now adapting for NHS
    g. Continued support for online undergraduate evaluation and admission application system (TLTE).
    h. Developed system for paying key deposit for departments that charge cost
    i. Ongoing development for college and department web sites.

Hardware
1. Hardware purchases and updates (January - December 2018)

Location	Equipment	Number
Faculty Staff Upgrades	Computers (50 eligible)	31
New Faculty	Computers & Startup	7
iPads	CDL, Malone Ctr, Individuals	47
Chromebooks	Grant, Individual	17
HECO 11 Auditorium	Dell Micro, 24" Touch Monitor, Apple TV, MS Display Adapter, xxx	1
HECO 31, 137, 142	Dell Micro, 24" Touch Monitor	3
HENZ 16 & 103	Mac mini	1
HENZ 33	Dell Micro	1
LEV 115 & 304	Dell Micro, 24" Touch Monitor	2
LEV 202B Conf Room	Dell Micro, 70" Display, Video Conf Equipment	1
LPH 205 Conf Room	Dell Micro, Acendo Vibe	1
TEAC 113, 138, 204, 238	Dell Micro, Acendo Vibe	1

Software

1. Software Purchases (January - December 2018)

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Software	Licence	Number	Notes
Qualtrics	College-wide	569 accounts	1120 new surveys since Feb 2018
SPSS	College-wide	250	
SPSS Grad Stud	Individual	2	
SPSS Missing Values	Individual	1	
SPSS Complex Samples	Individual	2	
SCCM	ITS Supported		
Casper	ITS Supported		
Creative Cloud	Individual	30	
Acrobat Pro	Individual	89	
SAS	Individual	30	
MPlus	Individual	16	
NVivo	Individual	4	
MaxQDA	Individual	12	
STATA	Individual	1	
Lightspeed (Pixel POS)	Department		
Photoshop Elements	Individual	1	
Visio Pro	Individual	2	
Visual Retailing	Computer Lab		
Swivl Pro	Course	83	
FileMaker Pro	Server, Clients		
Web Help Desk	College-wide	10	

2. Other Software Related Activities
   a. Worked with the Business Office and Purchasing to understand and monitor restriction of different kinds of licensed software. Developed new understandings of licensing terms on SPSS and Creative Cloud.
   b. Evaluated available solutions to software needs in terms of cost and instructional value.

Support

1. Support Tickets handled by CEHS IT Services (January - December 2018)

Help Desk Requests	Number	Percentage	Notes
Access	296	15%	Access to files, servers, computers, networks, lost passwords, etc.
Apple Products New	43	2%	
Apple Products Repair/Rebuild	58	3%	
Apps	8	0%	
Box	29	1%	
Browsers	19	1%	
CEHS Classrooms/ Conf. Rms	82	4%	
Chromebook	35	2%	
Computer Management System	0	0%	
Dell New	42	2%	
Dell Repair/Rebuild	67	3%	
Email	69	3%	
Event Management System	8	0%	
Hardware	56	3%	
International Travel	0	0%	
Inventory	18	1%	
MAC OS or iOS	21	1%	
Microsoft Surface Pro	4	0%	

Help Desk Requests	Number	Percentage	Notes
Move Computers	127	6%	
Non-CEHS Room	2	0%	
Peripherals	224	11%	Speakers, scanners, label makers, web cams, etc.
Printers	177	9%	
Servers	20	1%	
Software	464	23%	
Warranties	2	0%	
Windows OS	58	3%	
Other	49	2%	
TOTAL	1978		

2. Other Support Related Activities
   a. Moved CEHS computers from Mabel Lee Hall to LPH
   b. Provided specific software support for faculty and staff with focus on providing assistance with immediate problems.
   c. Supported staff on the use of EMS for scheduling College classrooms and conference rooms.
   d. Supported the use of Box as a method for faculty/staff data storage.
   d. Implemented tools and strategies the make commodity services more efficient and allow more support time with people and more complex service issues. For example, implement client management tools such as SCCM and Casper.
   e. Provided faculty and staff with regular computer upgrades and maintenance
   f. Provided current technology in classrooms, seminar rooms and conference rooms.
   g. Worked to understand and monitor restriction of different kinds of licensed software.
   h. Evaluated available solutions to software needs in terms of cost and instructional value.
   i. Identified ways technology can be used to make resources go further.

B. Support innovation in teaching

   1. Provided instruction and support to faculty in improving the production value of online and teaching materials including professional presentation and production (Pixel Lab).
   2. Encouraged, supported and showcased innovative projects by faculty and staff.
   3. Identified and provided resources for supporting faculty and staff use of technology. As part of this effort address issues in dealing with and supporting the faculty and staff who are least proficient with technology.

4. Identified ways to provide and support innovative learning spaces. Explored and create new opportunities for students bringing their own technology including access to software licenses and effective learning/working spaces.
5. Supported the development of technology that enabled or enhanced assessment of program outcomes.
6. Supported implementation of LiveText.
7. Provided continued support for the CEHS Digital Innovations Studio.
8. Supported the application of professional technologies in instructional programs providing students with experiences with technology that they will encounter in job settings.
9. Continued to implement Google education tools.
10. Provided for implementation, management and training of Swivls and Swivl Pro accounts supporting their use in instruction.
11. Technologies supporting innovative instruction including: Size Stream body scanner, gallery projection system, Eye Tracker, Graphtec Plotter Mimaki fabric dye printer, virtual reality headsets with phones and tablets, 360 degree Ricoh Camera.

C. Support innovative approaches to inquiry and creative work.

1. Identified and provided technology tools that supported inquiry and creative work. Examples include software (See table in Section A - Software).
2. Provided web and application development in support of research.
3. Investigated and support training regarding handling data and facilitate safe data storage. Leverage available ITS training.
4. Investigated ways to use and showcase technology in College Research Fair.

D. Identify and implement strategies to facilitate and enhance the international efforts of the College.

1. Offered technology as a way to support College international teaching efforts.
2. Offered technology as a way to support international research and collaboration efforts.
3. Explored options and supported secure use of technology during international travel. Collate and highlight available security resources for faculty/staff.
4. Worked with Jim Benes to plan and implement the use of VR cameras in conjunction with travel experiences.

E. Create long term vision for technology in CEHS

1. Utilized trends identified in Part II of the Strategic Plan as a framework for thinking about college-wide strategies.
2. Examined best use scenarios for creating learning and educational spaces aa part of Mabel Lee renovation.

F. Articulate and Disseminate the Mission and Functions of the CEHS Tech Committee within CEHS

1. Shared information on the composition, mission and role of the committee.
   a. Developed Web pages for Strategic Plan
   b. Shared Strategic Plan with CEHS Faculty and Departments.

      c. Presented CEHS Technology Strategic Plan to Dean's Expanded Council
      d. Presented Technology Innovation Projects to college faculty meeting.
      e. Updated development of web pages related to Technology Innovation Projects.
2. Increased awareness of important technology issues and information across the College.
      a. Development of web pages to support sharing of information about technology issues is under development.
      b. Use of CEHS News You Can Use and emails for announcements under development.
3. Increased awareness of services being offered and where and how to get support.
4. Explored how centers and non-instructional staff fit into the scope of the Tech Committee.

Part II – Emerging Technology Trends and Vision

The CEHS Technology Committee has identified the following technology trends that will potentially impact the College over the longer term.

Part II provides context and direction for the College's thinking over the longer term. We have identified a set of trends likely to influence how we use technology to support our mission. As we did this, we considered ideas from several sources including 2017 *Key Issues in Teaching and Learning* (https://www.educause.edu/eli/initiatives/key-issues-in-teaching-and-learning) and *the 2017 Horizon Report* (http://cdn.nmc.org/media/2017-nmc-horizon-report-he-EN.pdf*) both from EDUCAUSE*.

A. Personalization of learning and adaptive learning technology

Using multiple resources and pathways to create custom learning approaches for individual students. Learning options can be geared more directly to the individual needs of students.

B. Hybrid and blended learning models and flipped classrooms

Taking advantage of both in-person and digitally delivered instruction. Technology supports new ways to organize and present learning opportunities that expand on traditional course delivery.

C. Virtual and augmented reality and virtual education

Simulations provide opportunities to experience ideas and concepts and offer new more authentic opportunities for practice. Virtual learning offers new rich opportunities for communication and collaboration.

D. Device ownership and mobile-first – learn everywhere

Supports student use of their own devices for learning. Extends opportunities for learning outside the classroom with continuous access to learning and research tools. Provides new opportunities for instructional approaches that personalize the learning experience.

E. Textbook and open educational resources

Digital development and sharing of educational resources. Potential reduced costs for students. Potential access to wider range of sources and materials that can be tailored for use in courses.

F. Learning spaces

Design of learning spaces for creative and active participation in learning. Learning spaces occur both within and outside of classrooms and reflect student participation in the creation of knowledge.

G. Next generation learning management systems

Development of digital learning systems that will support new models of instruction and provide new digital learning tools. May involve participation in the development of these systems.

H. Learning analytics

The collection, display and analysis of data to support instructional design and learning.

I. Crowd sourcing

New approaches to the development of resources and technology. Offers opportunities to think about new ways of building and disseminating knowledge.

J. Maker movement

Importance of providing creative space and community for making as part of the learning process. Supports transformation from seeing to doing.

K. Citizenship in the digital age

Attention to issues of privacy, security, responsible citizenship and critical digital literacy.

L. Rise of amateurism

Ability of amateurs to work alongside and sometimes replace professionals. Changing lines between professionals and amateurs in part brought on by ability to share ideas digitally.

M. Internet of things

Ability of digital devices to communicate and work together to provide richer experiences and provide new data sources.

N. Decisions on technology obsolescence.

With rapid advancements in technology it is necessary to identify ways to recognize and predict obsolescence. Allows refocusing of resources to maximize impact.

O. Social dimensions of learning.

Students seeking learning environments that include social elements. These occur both in physical spaces and virtually.

P. Cloud storage technology.

Creates new opportunities for access to software, data, and student work while considering management and security. Offers additional opportunities for collaborative work and feedback.

Q. Rapid Advancement in Technology.

Keeping pace with rapid advancement in technology creates challenges and requires shared information among faculty and staff.

R. Data and Artificial Intelligence

Availability and accessibility of cloud-based machine learning and cognitive computing tools such as academic content graphing, text analytics, and computer vision combined with user generated content/data affords new insights into practice, new types of knowledge projects, and new possibilities for learning.

S. Advanced Networking and Communication

Emerging technologies enhance the speed and bandwidth of communication allowing for reduced latency and increased learner engagement. Provides the opportunity to explore and create more responsive instructional strategies and technologies.

Part III – Strategies for Meeting Goals 2019-20

Establish CEHS as a leader in providing innovative approaches to enhancing knowledge and delivering instruction locally and globally.

A. Maintain a high quality technology infrastructure that supports the work of faculty, staff and students. Support for infrastructure is basic and foundational to other efforts. The most fundamental priority is access to quality technology.

1. Enhance security practices with the College.
    b. Continue follow-up of the Security Action Plan and address issues related to security.
    c. Support security best practices including two-factor authentication.
2. Provide specific software support for faculty and staff with focus on providing assistance with immediate problems.
3. Support the use of Box as a method for faculty/staff data storage.
4. Provide faculty and staff with regular computer upgrades and maintenance
5. Provide current technology in classrooms, seminar rooms and conference rooms.
6. Evaluate available solutions to software needs in terms of cost and instructional value.
7. Identify ways technology can be used to make resources go further.
8. Implement dual reporting and cooperative efforts with Information Technology Services.
9. Explore and develop strategies and resources that enhance collaborative efforts across campus buildings. Examples include support for joint meetings and work.
10. Actively explore emerging technologies that support work within the college.

B. Support innovation in teaching.

1. Provide instruction and support to faculty in improving the production value of online and teaching materials including professional presentation and production (Pixel Lab).
2. Encourage, support and showcase innovative projects by faculty and staff.
3. Identify and provide resources for supporting faculty and staff use of technology. As part of this effort address issues in dealing with and supporting the faculty and staff who are least proficient with technology.
4. Identify ways to provide and support innovative learning spaces. Explore and create new opportunities to students bringing their own technology including access to software licenses and effective learning/working spaces. Apply these efforts on supporting the planning and design of spaces in the new Mabel Lee Hall
5. Support the application of professional technologies in instructional programs providing students with experiences with technology that they will encounter in job settings.
6. Support the implementation of systems for capturing and analyzing student outcomes in the College by recognizing their importance, providing input and serving as a sounding board regarding their use and implementation, and by being an information channel to departments, faculty and support staff. Highlight beneficial uses in teaching as a way to support innovation.

7. Support data collection for the evaluation of teaching, especially ways to document the teaching process and collect and manage teaching artifacts. Consider how technology innovation might support this process.
8. Create or find electronic tool(s) to manage data collection for self and peer reviews of teaching.

C. Support innovative approaches to inquiry and creative work.

1. Identify and provide technology tools that support inquiry and creative work. Examples include software such as Qualtrics, SPSS and SAS.
2. Provide web and application development in support of research.
3. Contribute to planning for coming infrastructure, supporting innovative and experimental teaching.

D. Identify and implement strategies to facilitate and enhance the international efforts of the College.

1. Offer technology as a way to support College international teaching, research and collaboration efforts.
2. Explore options and support secure use of technology during international travel. Collate and highlight available security resources for faculty/staff.
3. Assist in documenting and sharing student and faculty international experiences.

E. Continuously consider the long term vision for technology in CEHS

1. Utilize trends identified in Part II of the Strategic Plan as a framework for thinking about college-wide strategies.
2. Examine best use scenarios for creating learning and educational spaces as part of Mabel Lee renovation.

F. Articulate and Disseminate the Mission and Functions of the CEHS Tech Committee within CEHS

1. Share information on the composition, mission and role of the committee.
2. Increase awareness of important technology issues and information across the College.
3. Increase of awareness of services being offered and where and how to get support.