CEHS Technology Committee
Strategic Plan
2016-17
March 4, 2016

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**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 enhances 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 and staff. 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.

**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, staff, and students in the College to maintain their software and computer hardware.
6. Provide technology support to CEHS faculty and staff who are interested in software development.
7. 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.
8. 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 2015-16

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.

   1. Enhance security practices with the College.
      a. Installation of Identity Finder as a tool for locating social security numbers and other personal identifiable information. Ongoing and dealing with issues on some Macs.
      b. Installation of desktop management software. Approximately 50% of computers have software installed.
      c. Partnership with ITS in scanning for vulnerabilities. Monthly NESSUS scans used to identify potential vulnerabilities.

   2. Provide specific software support for faculty and staff with focus on providing assistance with immediate problems.
      a. Created and filled a position to provide instructional technology support – this includes software and emerging technologies.
      b. Engages in dialogue with ITS to cooperate on providing faculty support resources.

   3. Support the use of Box as a method for faculty/staff data storage.
      a. New position assists faculty, staff, and departments in adopting Box.
      b. Provided information and support on implementing Box.

   4. Minimize support and security issues by moving to virtual servers.
      a. Moved and continue to move server-based applications and data files to virtual servers. PCI-related applications can not be moved to virtual servers.

   5. Implement client management tools (SCCM and Casper) to facilitate faculty and staff support.
      a. SCCM is installed on 350 CEHS computers
      b. Casper is installed on 363 CEHS computers

   6. Review progress toward strategies identified in response to the External Review in the areas of communications, responsiveness, personnel efficiencies and gathering of data for decision making.
      a. Provided updated report to Dean in Spring 2015

   7. Create a development plan for student technology support personnel.

   8. Investigate ways to support collaborative planning and support for clinics within the College. For example, bring representatives together to discuss common technology needs.

   9. Provide faculty and staff with regular computer upgrades and maintenance
      a. Completed annual upgrade or purchase of 82 new computers for faculty and staff.

10. Provide current technology in classrooms, seminar rooms and conference rooms.
a. Transitioned MABL 120 lab to support students using their own mobile devices; provided large digital displays and emerging technologies
b. Provided funds for BKC 101
c. Provided funds for observation equipment in EDPS Counseling & School Clinic
d. Provided funds for HENZ 37 – display, camera, Apple TV
e. Purchased and installed audio equipment in HENZ 205 & 207

11. Provide technical support
   a. Provided ongoing technical support to 330 faculty and staff
   b. Provided technical support for 36 classrooms and seminar rooms
   c. Provided technical support for different video observation systems in 3 clinics (EDPS, CYAF, SECD)
d. Provided technical support for Hillestead Gallery and IQSC
e. Provided and supported 24 College servers for applications, file, and web services.
f. Provided technical support for Buros including managed file servers.
g. Provided technical or equipment support for College sponsored conferences including Tech Edge, CEHS Student Research Conference, Women’s Leadership Conference, TLTE Capstone Presentations.

12. Support technology development and expand technology support for critical functions.
   a. Provided web and application development supporting research, instruction, and outreach. Projects included
      1. Web development for memberships, conference registrations, and workshops.
      2. Converted all websites with integrated credit card processing to new software application, Converge.
      3. TLTE Practicum evaluations and applications to programs
   b. Continue to add reports to POS database system for Pixel Lab
   c. Supported work of the CEHS Business Team through the modification and adaption salary increase database from Arts & Sciences College.

13. In conjunction with Brad Stauffer, explore ways to foster technologically literate faculty, including the effective use of communication and social media.
   a. Not addressed.

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. Develop strategies for using graduate assistants to provide specific software support,
      a. Not implemented. This function served by new staff position.
   3. Re-examine how student tech support funded by student tech fees is used to support teaching,
      a. Ongoing
   4. Explore and create new opportunities to students bringing their own technology including access to software licenses and effective learning/working spaces.
      a. Re-purposed lab space to support new teaching strategies and students with mobile devices.
      b. Work cooperatively with ITS to support students in the Hub.
c. ITS provides USB drives with MAXQDA installed for student checkout.

5. Encourage, support and showcase innovative projects by faculty and staff.
   a. Olmanson - CEHS Digital Research & Design Studio ($13,106)
   b. Jones - Development and Evaluation of Mobile Device, GoPro Instructional Videos with Student Peer Models to Help Students Understand Basic Food Preparation ($7,750)
   c. Males - Learning to Teach Mathematics with Digital Mathematics Curriculum Materials ($6,750)
   d. Kiewra - Studying Talent in Nebraska: A Documentary Approach ($4,920)

6. 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.
   a. Responsibility of new staff position.

7. Continue enhancing video conferencing capability to support distance and hybrid teaching and advising. Provide support/resources that allows faculty to effectively use the technology.
   a. Responsibility of new staff position.

8. Identify ways to provide and support innovative learning spaces.
   a. Technology Innovation Grant awarded for the Digital Research and Design Studio
   b. MABL 120 redesign
   c. Work on design of HECO 121 incorporating new technologies
   d. Initiated One-button studio in Hub
   e. Pilot teaching in Hub
   f. Preliminary planning for technology in Mabel Lee renovation

9. Support the development of Web, iPad/iPhone, and/or other applications that are used to manage and enhance teaching.
   a. Ongoing

10. Support the development of technology that enables or enhances assessment of program outcomes.
    a. College has adopted LiveText Portfolio system
    b. New position provides LiveText support to faculty and students

11. Explore strategies for systematic evaluation of the impact of College technology initiatives.
    a. Not addressed.

12. Explore and promote ways to effectively utilize newly remodeled student areas in the Pixel Lab and the Hub.
    a. Pilot teaching in Hub
    b. Initiated One-button studio in Hub

13. Contribute to the discussion and creation of a CEHS Technology Innovation Studio.
    a. Technology Innovation Grant awarded for the Digital Research and Design Studio

14. Support the application of professional technologies in instructional programs providing students with experiences with technology that they will encounter in job settings.
    a. Explored options to provide student access to Google Apps for Education
C. Support innovative approaches to inquiry and creative work.

1. Identify and provide technology tools that support inquiry and creative work. Purchased or obtained software licenses for labs, classrooms, and faculty/staff machines:
   1. SPSS (college-wide license),
   2. SAS,
   3. HLM,
   4. Qualtrics (college–wide license),
   5. Lectra,
   6. Mplus,
   7. NVIVO,
   8. MaxQDA,
   9. Visual Retailing
   10. Food Processor Database
   11. Dartfish, and
   12. Creative Cloud
2. Provided web and application development in support of research.
   1. None reported.
3. Explore the emerging field of ArcGIS in research and instruction.
   1. Not addressed.
4. Installed full-wall projectors in Hillestead Gallery for enhancing expression of creative work and enhanced exhibitions.
5. Installed eye-tracking lab in HECO.

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

1. Investigate new and innovative technology that has potential to support and expand international efforts.
   a. Not addressed.
2. Explore options and support secure use of technology during international travel.
   a. Not addressed.

E. Create long term vision for technology in CEHS

1. Engage departments, faculty, students, and other stakeholders in discussion of long-term vision for technology.
   a. Addressed emerging technologies trends and vision for FY 2016/2017 as part of strategic plan.
2. Identify areas where CEHS can play a leadership role both within the University and externally.
   a. Not addressed.
3. Collaborate with other colleges and ITS in developing and supporting the vision.
   a. Ongoing.
4. Examine on-campus, distance and blended instruction needs.
a. Ongoing.
5. Examine accessibility issues.
   a. Ongoing.

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.
   a. Presentation of CEHS Technology Strategic Plan to Dean’s Expanded Council
2. Share Strategic Plan with CEHS Departments.
   a. Presentation of CEHS Technology Strategic Plan to Dean’s Expanded Council
3. Share information on funding sources and budgeting process.
   a. Presentation of CEHS Technology Strategic Plan to Dean’s Expanded Council
4. Increase 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.
   c. Assign new staff member to increase communication in this area.
5. Explore how centers and non-instructional staff fit into the scope of the Tech Committee.
   a. Ongoing.
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. To do this we have identified a set of trends that are likely to influence how we use technology to support our mission. As the committee identified these trends we considered ideas from two sources: EDUCAUSE: Top 10 IT Issues: Divest, Reinvest, and Differentiate by Susan Grajeck and the 2015-16 EDUCAUSE IT Issues Pane found at http://er.educause.edu/articles/2016/1/top-10-it-issues-2016 and Six Trajectories for Digital Technology in Higher Education by Malcom Brown found at http://er.educause.edu/articles/2015/6/six-trajectories-for-digital-technology-in-higher-education.

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 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 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 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 and responsible citizenship.

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.
Part III – Strategies for Meeting Goals 2016-17

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.
   1. Enhance security practices with the College.
      b. Continue follow-up of the 2014 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. Minimize support and security issues by moving to virtual servers.
   5. Implement 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.
   6. Create a development plan for student technology support personnel.
   7. Investigate ways to support collaborative planning and support for clinics within the College. For example, bring representatives together to discuss common technology needs.
   8. Provide faculty and staff with regular computer upgrades and maintenance
   9. Provide current technology in classrooms, seminar rooms and conference rooms.
   10. In conjunction with Brad Stauffer, explore ways to foster technologically literate faculty, including the effective use of communication and social media.
   11. Work to coordinate with Husker Tech and ITS to provide faculty and staff support.
   12. Understand and monitor restriction of different kinds of licensed software.
   13. Evaluate available solutions to software needs in terms of cost and instructional value.

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. Re-examine how student tech support funded by student tech fees is used to support teaching
   3. Explore and create new opportunities to students bringing their own technology including access to software licenses and effective learning/working spaces.
   4. Encourage, support and showcase innovative projects by faculty and staff.
   5. 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.
6. Continue enhancing video conferencing capability to support distance and hybrid teaching and advising. Provide support/resources that allows faculty to effectively use the technology.
7. Identify ways to provide and support innovative learning spaces.
8. Support the development of Web, iPad/iPhone, and/or other applications that are used to manage and enhance teaching.
9. Support the development of technology that enables or enhances assessment of program outcomes.
10. Explore strategies for systematic evaluation of the impact of College technology initiatives.
11. Explore and promote ways to effectively utilize newly remodeled student areas in the Pixel Lab and the Hub.
12. Contribute to the discussion and creation of a CEHS Technology Innovation Studio.
13. Support the application of professional technologies in instructional programs providing students with experiences with technology that they will encounter in job settings.
14. Participate in the development of educational technology tools such as providing feedback to learning management systems like Canvas and Google Education.
15. Identify and work to resolve issues with Google Education.

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. Explore the emerging field of ARC/GPS in research and instruction.

D. Identify and implement strategies to facilitate and enhance the international efforts of the College.
   1. Investigate new and innovative technology that has potential to support and expand international efforts.
   2. Explore options and support secure use of technology during international travel.

E. Create long term vision for technology in CEHS
   1. Engage departments, faculty, students, and other stakeholders in discussion of long-term vision for technology.
   2. Identify areas where CEHS can play a leadership role both within the University and externally.
   3. Collaborate with other colleges and ITS in developing and supporting the vision.
   4. Examine on-campus, distance and blended instruction needs.
   5. Examine accessibility issues.
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.
4. Explore how centers and non-instructional staff fit into the scope of the Tech Committee.