The University of Louisville’s 21st Century University Technology Subcommittee re-evaluated its initial 44 recommendations and distilled them into a set of two foundational issues and five priority recommendations. We acknowledged recommendations already in production, combined recommendations into strategic sets and reassessed priorities and needs. The result was that the committee focused on pedagogical technology needs while recognizing the interdependency of our recommendations with other 21st Century University committees’ recommendations.

Before outlining our recommendations for future investment in pedagogical support and technology infrastructure, the committee recognizes that the *current* pedagogical support and technology infrastructure are the foundation for any future developments. However, two key foundational issues must be addressed. First, there is a structural imbalance in the $4,000,000 Office of Technology budget based on it being paid out of end of the year funds. This has occurred since the 1990’s. It is this committee’s recommendation that the Financial Health Committee address this budget issue. Second, the University of Louisville needs to ensure accessibility requirements are met for digital media and systems used in teaching. This is not only a federal disability mandate, but also a value of this institution. The costs, complexity and impact of addressing accessibility for current practices and future practices are rated as high on all accounts. Start-up costs are estimated at $500,000.

The top priority recommendation is that Executive Leadership articulate and promote a technology vision for pedagogy regardless of whether it happens in a classroom, online or both. The University of Louisville is behind our benchmark institutions in educational technology and is seventh in the state in online learning enrollment. The proposed technology vision is “The University of Louisville will be a premier provider of education by fostering an engaged community of learners and educators. By embracing changes in pedagogical practices, student needs and emerging technologies, we will create a culture and infrastructure where holistic, seamless, connected and high quality educational experiences flourish.” This vision is in alignment with the University of Louisville’s broader vision to be a premier metropolitan research university. In addition to clearly articulating the vision, leadership will have to ensure its success by demonstrating commitment to the vision, providing funding to support the vision and measuring progress against the vision. A key success factor for this vision is to define it in terms of measureable goals on the University’s scorecard. Proposed goals include promoting geographic access to the University of Louisville by expanding online learning programs, assuring operational continuity for teaching in the case of disaster, developing a methodology for researching and evaluating new pedagogical practices and technologies as well as establishing a funding mechanism for operationalizing the successful ones. They also need to define and incorporate future student needs into every support and academic unit’s strategic plans whether the needs are accessibility, learning styles, technology requirements or student services. While stating a vision is a very low cost item, ensuring a vision’s success will require funding for additional resources. The specific resources will be outlined in our following recommendations.

The second priority recommendation is to upgrade technology in the classrooms and other learning spaces. Funding is requested to upgrade existing classrooms to meet minimum technology standards for traditional classroom delivery and to support the expansion of classroom technologies that create a rich environment for active student learning, such as flipped classrooms, or expand our classrooms to other geographic locations through distance learning. Information Technology has documented technology requirements for traditional, flipped and distance learning classrooms which include minimum, standard and premier options. Information Technology’s recent assessment of classrooms showed that 23% percent of the classrooms do not meet even the minimum standard. Also, the percentage of flipped classrooms and distance learning classrooms is very small, at less than 5% of the classrooms. Information Technology’s previous benchmark study from 2010 revealed that 71% of the responding institutions had ongoing budgets for sustaining technology in the classroom. The University of Louisville does not have an ongoing central budget for sustaining technology in the classroom. Therefore, the committee is recommending an annual budget of $350,000 to $500,000 to bring traditional classrooms to minimum standards, to expand the flipped classrooms and distance learning classrooms where they make sense for the disciplines and to keep the classroom technologies current. The committee recognized the need to support technologies for simulation labs, group study areas and other custom learning spaces that are required for specific academic curricula, but we have not fully defined those needs or costs, as they are defined by the units.

The committee’s third priority recommendation is to develop an incubation process to foster innovative and entrepreneurial ideas for new pedagogical technologies. The major objectives of incubation are to evaluate whether the technologies improve student learning and to leverage technologies in a cost-effective manner. The incubation process would identify, prototype, develop, assess and promote promising new pedagogical practices and technologies. The six key success components are to provide a governing body of faculty to serve as an advisory committee (exists – Academic Technology Committee); to develop a rubric to assess new practices and technologies (new); provide project management and development resources for developing a prototype or pilot study (new); to provide faculty development programs to aid in appropriate application of incubated practices and technologies (exists - Delphi Center); to operationalize successful incubated practices and technologies (new); and to provide incentives to motivate faculty to employ successful incubated practices and technologies (new). Ideas for the incubator may come directly from the faculty, Academic Technology Committee, academic departments, Delphi Center, Information Technology, or students. Specific technologies recommended for incubation are: accessibility tools, flipped classrooms, online learning, mobile technologies for delivering course content, academic integrity tools, digital media, Learning Management Systems and MOOCs. The estimated annual costs for the incubator are $1,000,000. These costs include $300,000 for three staff positions to provide project management, technical development and pedagogy development; $200,000 for software/hardware; and $500,000 for faculty incentives and operational costs to deploy successful technologies across the enterprise.

The fourth priority recommendation is to leverage technology and existing services to provide students with more efficient access to and improved delivery of the services that students need to complete their education from recruitment to graduation. The goal of this recommendation is to make the services accessible for off-campus, online, military and international students who have difficulty coming to campus to access these services due to work and family obligations or living outside of the region. On campus students may also benefit from access improvements. Staff would provide some of the services remotely while others would be provided online via web or mobile applications. These services would include 24/7 access to services such as remote advising, self-service applications such as mobile payments and mobile access to library services. Other services may require business process re-engineering to better integrate the business systems on the back end so that the services appear seamless to the student. This recommendation needs to be developed jointly with the appropriate business and support areas such as Admissions, Advising, Financial Aid, Registrar, Bursar, Libraries, Delphi Center and Information Technology. The process for developing this recommendation further with these units would be to benchmark best practices for delivering student services; document the student experience from recruitment to graduation; identify the most frequent problems, questions and issues; survey students about what services they would most like to be delivered via remote access; improve and standardize the process that support the majority of student inquiries; evaluate existing technologies and their ability to provide access; evaluate existing in-person services and their ability to provide remote access; and develop a plan to close any gaps between existing processes and services and desired processes and services. The committee did not have any specific cost figures for this recommendation because it requires further investigation and coordination. However, the committee does rate this recommendation as high in terms of cost, complexity and length of time to implement.

The fifth priority recommendation is to explore offering programs via Competency Based Education (CBE). CBE is designed for adults who have real-world work experience, completed some college credit, but have never completed their bachelor’s degree. According to the 2011 Census, more than 516,000 (22.2%) Kentucky adults had attended college but lacked either a two- or four-year degree. By providing access to education for this population through CBE, the University of Louisville will have another avenue for meeting the 2020 goal of increasing the number of baccalaureate degrees awarded annually. This is a cutting edge approach pioneered by Western Governors University and now being implemented or developed by universities such as Northern Arizona University, the University of Wisconsin System and Texas A&M. Degrees are awarded based on demonstration of competencies rather than “seat time.” This program uses a disaggregated faculty model, which means that: assessment, course design, course mentoring and student coaching are separated into different positions. Course mentoring is performed by full time faculty who support students as they engage specific sections of the curriculum while students work at their own pace with a student mentor. Student mentors are also full time faculty who work with students throughout the duration of their program and advise students by holding weekly meetings to keep the students engaged, discuss what they have learned, set weekly goals and set the path toward completing the assessment. The committee rated this recommendation as high in terms of cost, complexity and time to implement.

If the University of Louisville aspires to be a premier metropolitan research university, we must focus on the learning experience of our students. Pedagogical practices have changed in the 21st century due to the technological advances of the past several decades. Students expect technology to be woven into their educational experiences and educators want students to master their disciplines. Therefore, the 21st Century University Technology Subcommittee proposes these five priority recommendations outlined above as the way to make this a reality.