

University of Houston-Downtown Information Technology



Technology Road Map

A Long-Term Technology Plan

Hossein Shahrokhi

Associate Vice President for Information Technology
University of Houston-Downtown (www.uhd.edu)

Information Technology Long Range Strategic Plan

Table of Contents

Table of Contents	1
Executive Summary	2
Mission Statement	3
Global Strategies	3
Functional Strategies	4
Enterprise Systems	4
Training and Support Services	5
Technology Infrastructure	6
Online and Distance Education Technology	7

Information Technology Long Range Strategic Plan

Executive Summary

Changes in technology are taking place at an increasingly faster pace; and today's high-tech facilities and services can quickly become obsolete if not evaluated regularly. Add to this the significant transformation of UH-Downtown during the past few years, and we have a perfect formula for our technology systems and services to drift out of step with university needs and to be ineffective at supporting and promoting key objectives.

Over the years, IT has been working with key individuals across the university to review current and future technology needs and issues facing UH-D. In the process, a set of long-term strategies have been developed to serve as a roadmap for technology-related initiatives over the next three to five years. Although the plan is a living document, IT Leadership reviews and updates the plan regularly to reflect the most recent technological issues facing the university.

The plan addresses a number of dynamics that will impact our environment as we strive to provide effective technology support in the future. The key drivers impacting the university's technological needs were identified as:

- **The changing demographics and characteristics of the student community and students' expectations based on their personal experiences with technology prior to arriving at UH-D.**
- **The shifting nature of university funding sources, and the impact on capital acquisitions and human resources.**
- **The changing higher education market and overlapping of the traditional institutional "territories," along with the growth in presence of private education providers.**
- **The increased reliance on technology to reduce costs, enhance services, and improve student recruiting and retention.**
- **The recognition that most of our faculty, students and staff have access to a significant number and range of technology resources, including high-speed Internet access from home and mobile devices.**
- **Planned and ongoing changes in the size of the university, modes of instruction, academic programs, Student Body, classrooms technology, and alternate workplace.**
- **The continuing evolution of teaching and learning approaches and shift toward student centered classroom models. These include more active, experiential, and service learning components as well as co-curricular development through community engagement, which demand different support structures and tool sets than traditional classroom models.**

This plan establishes key technology strategies that will support UH-Downtown current needs effectively and position the university to meet the challenges it will be facing in the coming years.

The goal is for this long-term technology plan to be used as a guide to help with planning for the university's technology-related initiatives, and to be incorporated in the university's planning process. The strategic plan will be regularly updated to reflect the most current needs and university's strategic goals and Objectives. Specific deliverables will be identified and tracked in IT's assessment plan which is aligned to support this plan as well as University's strategic plan.

Information Technology Long Range Strategic Plan

Mission Statement

Information Technology at UHD plays an integral role in identifying and supporting opportunities for the University of Houston-Downtown to meet its mission and objectives through strategic use of technology. Our mission is to empower our faculty, students and staff to meet or exceed their goals by providing quality, up-to-date technology infrastructures and services that support and facilitate all facets of learning, research, and service at the University in a cost-effective and transparent manner. The unit's key deliverables are:

- Build and maintain a secure and robust technology infrastructure;
- Provide technology support for all academic and administrative units, and the university as a whole;
- Explore innovative technological opportunities to improve instructional and administrative services;
- Promote collaborative initiatives involving technology;
- Advise university leadership in leveraging technology to achieve strategic objectives and goals;
- Facilitate student recruitment, retention, graduation and placement.

Strategies

This plan addresses two types of strategies: Global strategies that address all IT related activities/initiatives and have university-wide impact and participation, and functional strategies that address major areas of service provided by UHD IT.

Global Strategies

Comprehensive Disaster Recovery Plan:

Maintain a comprehensive plan to address the university's key information systems and technology services and establish specific actions and accountabilities for reinstating those services in the event of a disaster or major interruption.

Formal Assessment and Continuous Process Improvement:

Utilize a clear and formal assessment methodology as an integral part of all technology-based initiatives that include clear and measurable objectives along with appropriate success measures and concrete demonstrable action to improve processes based on the assessment results.

Integrated Information Security:

Information fraud and privacy concerns are a priority of most IT organizations. IT must play a leadership role in remaining aware of information security and privacy issues, and take all steps necessary to minimize risk to the university community.

Centralized IT Services with Decentralized Functional Support:

In order to maximize the use and effectiveness of resources at UH-Downtown, the university will operate with a centralized IT services model while promoting functional support at the unit levels in coordination with the central IT services unit.

Effective and Efficient Project Management:

Continue to incorporate management processes to support all major IT projects using a formal and flexible project management methodology that is suited to support IT projects in an effective and appropriate manner.

Information Technology Long Range Strategic Plan

Functional Strategies

Functional areas of focus:

Enterprise Systems Management:

Planning, development and implementation of Information Systems that support major institutional functions at UHD.

Training and Support Services:

Empowering our faculty, students and staff to take advantage of available technology at UHD, when appropriate, to achieve their goals and objectives.

Technology Infrastructure:

Creating a technology-enhanced environment within the UHD campuses and externally that will allow delivery of services to our users in an efficient, effective and secure manner.

Online and Distance Education Technology:

Developing a Technology Plan to support UHD's efforts to deliver online and distance programs.

Enterprise Systems Management

Enterprise Systems are automated application systems that support the functions of multiple units and have (or have the potential to have) enterprise-wide impact. Examples of Enterprise Systems include the Peoplesoft Student ERP, the Blackboard Learning Management System, and Document Management and Workflow Systems. Enterprise Systems are often integrated with each other in order to provide real time information to various user constituencies.

Enterprise Systems Strategies

- **Rely on rule-based, commercial applications versus in house development for major applications where possible.**
- **Clearly assign application ownership, responsibility, and accountability for all Enterprise Systems.** Procedures for ensuring information security should be defined for each application and implemented by application owners and information technology.
- **Deploy Enterprise Systems that are web enabled and mobile friendly.**
- **Implement formal Change Management processes for new development and acquisitions.** This should include an analysis of impact to other areas, as well as a requirement for approval by all application owners before major changes are put into operation.
- **Deliver a comprehensive and decentralized Data Reporting, Data Warehousing and Business Intelligence software strategy.**
- **Promote effective & proficient use of Student ERP System & associated resources to meet university needs**

Information Technology Long Range Strategic Plan

Training and Support Services

Strategies designed to empower faculty, students and staff to take advantage of available technology to achieve their goals and objectives will be implemented to meet the training and support services needs of the university. Efforts in this area focus on facilitating the development of new processes and streamlined procedures, as well as assisting with overall training and support endeavors of the university community.

Training and Support Services Planning Strategies

- Encourage professional development and training for faculty, students and staff that is appropriate to their role in the university.
- Provide access to systems, training and support for instructional and administrative services and applications, including in-person, online and expanded after-hour support.
- Implement universal *single sign-on where possible* to reduce the number of accounts and passwords issued to users.
- Establish, promote and, when possible, enforce mandatory orientation or training programs including new faculty and staff orientation programs, training for ERP and LMS systems, student technology orientation training, and regulatory training programs.
- Increase the potential for resolving problems by first-time trouble call response by utilizing real-time or online troubleshooting tools.
- Utilize and support new and widely used technologies such as mobile computing and social media to enhance services as appropriate to university needs and where appropriate security standards can be met.
- Expand online training programs and support services; incorporate online training programs to support faculty and staff preparation for utilizing technology.

Information Technology Long Range Strategic Plan

Technology Infrastructure

The university's Technology Infrastructure must evolve at a fairly aggressive pace to meet the ongoing growth in number and range of computing devices in use by faculty, students, staff and prospective students. The infrastructure must also be built to address the expectation that technology use will become progressively more pervasive in the university's operations and instruction.

Technology Infrastructure Strategies

- **Maintain a robust and secure infrastructure, including the primary data center, to support all technology functions for the university.**
- **Enhance and expand high-quality and high-capacity wireless network to support students in the classrooms and provide 100% coverage for wireless and mobile computing on campus.**
- **Implement information security best practices including all applicable compliance requirements.**
- **Support high quality streaming video service (video on the Internet).**
- **Maintain an operating redundant data center to support UHD's critical technology functions during primary data center outages.**
- **Maintain classrooms technology standard for all classrooms to support in-room technology use and Interactive instruction for remote learners (interactive/Hyflex classrooms).**
- **Provide access to up-to-date technology for faculty, staff and students including support for remote working, teaching and learning.**
- **Increase automation in security and A/V control systems.**
- **Define and validate infrastructure and security implications of telecommuting and emerging modes of online education.**
- **Explore and implement alternative technology infrastructure such virtual and cloud computing and examine targeted hosted services when cost effective.**

Information Technology Long Range Strategic Plan

Online and Distance Education Technology

Online and Distance Education at UHD includes all credit programs where instruction is delivered to students not physically present at the UHD downtown location. Students may take courses online, and/or at one or more of the off-campus locations in the Houston Metropolitan area, sometimes in addition to taking courses at the downtown campus. Instruction at the off-campus locations is delivered via face to face, online, hybrid and ITV modes.

Online and Distance Education Technology Strategies

- **Further develop innovative course scheduling/delivery methods such as use of hybrid and online courses as well as alternate course timelines and schedules.**
- **Expand inventory of online courses and programs.**
- **Develop alternative delivery capacity for new teaching centers and partner campuses.**
- **Expand program support and services for the Northwest corridor.**
- **Evaluate alternative course delivery options such as streaming video to desktop and mobile device technology as they become more widely adopted and available.**
- **Maintain a robust, standardized LMS as well as other tools that enhance online instruction, instructional support and collaboration.**
- **Identify infrastructure and support service needs to facilitate delivery of large online course sections.**