

University of Hawai'i at Hilo
Academic Technology Plan 2006-2011
January 31, 2006

Executive Summary. UH Hilo must draw on all of its resources, in particular its strong and committed faculty and its excellent technological infrastructure, to make quality education available to students on campus, around the island and state of Hawai'i and even beyond. The ad hoc Academic Technology planning group, called by the Vice Chancellor for Administrative Affairs and Director of Technology and Distance Learning in Fall 2005, proposes here an organizational structure and objectives, performance indicators, and strategies by which the institution can achieve this goal .

Background. Academic technology already makes important contributions to UH Hilo's ability to meet its mission of offering "high quality undergraduate liberal arts and professional programs...and select graduate programs." Effectively managed, it can strengthen our on-campus and Hawai'i Island programs and enable the institution to serve students from across the state and the Pacific and beyond.

UH Hilo's first Academic Technology Plan, developed by a committee of faculty and staff in late 1997, guided much of the university's expansion in AT from 1998 through 2001, and helped the Office of Technology and Distance Learning to develop the solid infrastructure that now exists.

Our technological infrastructure is such that we will be able to meet expanding use of academic technology for the next ten years or beyond while demand for technology continues to rise and technological innovation and access accelerate. A dedicated corps of technical specialists have struggled with considerable success to keep pace with demand. Great strides have been made in providing uniform and simple access for faculty, staff and students as well as in integrating off-campus or Distance Learning students with on-campus facilities and capabilities:

- Connection of buildings across campus with hundreds of pairs of single mode fibers.
- Connection of this growing fiber system with Nortel Networks IP equipment such that connectivity between many buildings has gone from a shared 100 MB fiber to an individual dual gigabit fiber system.
- An underground piping system that can be expanded to new areas such as the planned Science and Technology Building, the Student Life Center, the USDA site above Komohana Street and the China-U.S. Center.
- Wireless internet in the Campus Center covered area, the Campus Center Dining Room, the Mookini Library, parts of Kanaka'ole Hall, most of the first floor of UCB and parts of the other floors, with plans to continue the

expansion of access to all buildings and to every area on campus where students gather.

- A wireless authentication system which allows access to anyone with a Hawaii.edu account or a UHHL account.
- Wired internet connections in many Student Housing rooms utilizing the same authentication system as the campus wireless system.
- Nine public Open Labs areas, 10 student resource centers, ten PC teaching labs ranging from 17 to 25 students seats plus a multimedia console each for faculty, 19 multimedia classrooms with five more under construction, and four HITS (statewide interactive television) classrooms, each of which is also multimedia capable.
- A Windows domain system consisting of over 500 publicly accessible computers utilizing a UHHL PC account with nearly 4000 such accounts issued this academic year.

Our fully equipped distance learning studios and professional staff offer departments the means of serving students statewide. and beyond Since the last academic technology plan, seven departments have delivered or are delivering baccalaureate programs to students on other islands using interactive television and the internet, and a growing number of faculty are using WebCT for both online and on-campus courses.

Meanwhile, UH Hilo itself has expanded in student numbers, programs, and vision. Growth means that there are not enough faculty, staff, classrooms, laboratories, and offices. The new graduate programs in Biology and Psychology and the planned College of Pharmacy are already adding to the need for more personnel, more space, more courses, more money.

Seeking to serve more Hawai'i residents without stressing our lower-division resources, UH Hilo is reaching out to community colleges across the state through two-plus-two programs. In the two-plus-two model, students earn their Associate of Arts degrees and complete prerequisite courses in community college, then transfer to finish their baccalaureate degrees at UH Hilo. Some UH Hilo courses will be offered to participating community college students via DL modes.

But there is a strong and widespread sense that academic technology can enable UH Hilo to achieve more, serve more, and make better use of its faculty and resources.

Asynchronous online courses and degree programs can deliver UH Hilo programs and courses to students at distance sites and can also serve on-campus students, working people, and students with family responsibilities.

More students are more proficient in computers and internet use, and new technology adaptable to teaching/learning emerges continuously. Yet there are

innovative, hardworking faculty who are not aware of the options and variety of technology, or who may be overwhelmed by the learning curve of technology. Vigorous and accessible faculty development is crucial in encouraging these faculty to consider the pedagogical possibilities of new technologies.

At present, distance learning studios, WebCT, and instructional resources are underused: more departments could be using them to offer online and hybrid courses and programs, and make courses more accessible to on-campus students and working or homebound students in the community. These resources must be packaged so that the DL option is inviting: this means that programs are assisted throughout the process, from marketing research and marketing through planning, design, implementation, and renewal.

Distance technology offers benefits to faculty as well as to students. A few pioneering faculty have found that distributed learning technology enables them to continue to teach their courses while temporarily disabled or caring for seriously ill family members, or away on research or conference trips. The technology would also enable UH Hilo to draw on visiting faculty who live and work elsewhere. It would enable faculty to teach while finishing doctoral studies or engaged in other professional activities requiring temporary absence from campus.

There are challenges to venturing boldly into academic and distance technology. Primary is that costs, at least initially, are and will continue to be high: faculty need to be trained, additional faculty might be needed for some programs, professional and technical staffing will need to be increased. The university system must adopt a technology fee for all students, and special tuition for DL courses and degree programs; UH Hilo can take the lead in lobbying for these.

The 2006-2011 Plan. During the fall of 2005, at the request of the Vice Chancellor for Administrative Affairs and Director of the Office of Technology and Distance Learning, a group of faculty, staff, and administrators met to construct an academic technology plan--a vision of academic technology at UH Hilo as it might develop over the next five years. The proceedings of each of four meetings have been circulated to all members of the UH Hilo community who asked to be kept informed of the emerging vision.

In December 2005 and early January 2006, five members of the group—one CHL faculty, two CAS faculty, the university's Information Specialist, and the university's Instructional Technology Specialist—have translated the vision into broad goals, actionable objectives, and strategies. It's expected that the plan will continually evolve, responding to the changing expectations of the university and the community.

Two important documents have influenced the development of this plan. *Good Practices for Electronically Offered Degree and Certificate Programs* was prepared by the Western

Cooperative for Educational Telecommunications and the eight regional accrediting commissions, including the Western Association of Schools and Colleges, Senior Commission (WASC). It is available at http://www.wascenior.org/wasc/Doc_Lib/GoodPracticesinDeD.pdf *Faculty Attitude, Adoption, and Application of Technology in Higher Education* reports on a survey of UH system faculty by Linda Johnsrud and Violet Harada; it is being circulated in hardcopy, but inquiries about the report can be sent to johnsrud@hawaii.edu.

The *Good Practices* document offers broad guidelines for educational quality in distributed learning programs at all colleges and universities and will be useful to administrators. The Johnrud study, in which 106 UH Hilo faculty and 2,048 faculty system-wide participated, points out that increasing faculty participation in distance learning—and, by implication, academic technology in general—requires

long-range strategic planning that makes makes distance education instruction and expected component of faculty workload as appropriate to campus and departmental mission, provides increased access and funding for technology needs, develops onsite support units that are housed within colleges and disciplines, addresses copyright and intellectual property issues, and provides fair and equitable compensation.

Proposed Organizational Structure. Essential to the continuing rational development of academic technology at UH Hilo is a new two-part organizational structure that is responsive, efficient, and quick to adapt to both curricular needs and technological change. Both components should be in place by July 1, 2006.

1. A unit that works with existing programs including Academic Computing Services, the Library, the Office of Student Affairs, and the College of Continuing Education and Community Service to coordinate Academic Technology resources and services. The unit will serve as a “one-stop shop” for academic programs and faculty, and will

- Assist departments in developing business and curriculum plans for DL programs
- Make DL and AT services readily available to the university community
 - Maintain a Call Center to receive, process, and follow through on faculty and student requests, complaints, and reports
 - Maintain a DL/AT webpage with links to all services
- Support faculty and departments in development of online courses and programs
 - Offer training on an individualized and group basis, on-call and scheduled, in all aspects of instructional technology

- Assist departments in designing courses and curricula for DL and hybrid program
- With Academic Computing Services, arrange for essential technological services:
 - assist in identifying, purchasing, installing, maintaining and monitoring the technologies needed to develop and deliver technology mediated courses.
 - ensure that classrooms, and HITS and DL studios are functioning properly and readily available for instructional use
- With the Library, arrange for document/instructional materials support for academic departments and faculty offering and seeking to offer courses or programs using instructional and distributed learning technology:
 - ensure that reserve materials are available at distance sites
 - assist in digitizing and otherwise preparing materials for electronic delivery, and making scholarly materials available online
 - ensure that copyrighted materials are handled properly
 - offer students training in WebCT, online data bases, internet research, and essential computer skills
- With the Office of Student Affairs, provide services to students
 - coordinate and facilitate student services for distance students: admissions, advising, financial aid, referrals for counseling and career planning
 - provide students with training in academic technology and DL technology [Library]
- Liaison with UH system centers, other distant sites, and DL-serving units
 - arrange for services such as clinical/field experiences and exam proctoring
 - coordinate scheduling of HITS, other UH system functions
- With CCECS, offer marketing services:
 - conduct market research for proposed DL programs
 - market DL programs
 - administer financial arrangements, including released time for course development, student fees, coverage of additional costs for electronically delivered courses/programs
- With the Institutional Research Office, assist programs in assessment of student satisfaction, student learning outcomes, and continuous curricular and pedagogical improvement.

Academic departments/colleges will initiate DL offerings and retain ownership of courses and course content. The proposed unit will provide the services that help departments to deliver effective, enduring, and engaging DL programs.

The unit should be situated in the administrative structure so as to ensure easy, rapid communication with all cooperating units and to provide a visible and unique presence on campus and beyond. It has been suggested that the unit be incorporated into a revamped CCECS, so that tuition could be set to ensure adequate funding. It should be to some extent self-standing to protect its ability to respond quickly to and to promote institutional and technological change.

While it will draw on the services of Academic Computing Services, the Office of Student Affairs, the Library, the Institutional Research Office, and other established units, it should have its own budget and its own core staff: a coordinator, a specialist in technology-based curriculum and instructional design, a student services specialist, and clerical assistance.

2. A standing Academic Technology Working Group, reporting to the Vice Chancellor of Administrative Affairs and the Vice Chancellor of Academic Affairs and to the faculty Congress and working closely with the academic technology unit described above. It should include representatives from the faculty, technical staff, and students. The working group will advocate for academic technology in many venues, including:

- Encourage and help departments to explore and enhance DL opportunities and identify departments with DL-appropriate curricula, support programs with ongoing DL programs to acquire more resources
- Monitor technological innovations and innovative campuses, alert for developments that might work at UH Hilo to increase efficiency and accessibility of AT/DL
- Act as ombudsman regarding DL programs, technological services, student access to hardware and software
- Lobby for incentives and rewards for pedagogical innovation using technology, including recognition in recruitment and promotion/tenure and released time for course development
- Seek increased funding for academic technology, including extramural funding and a student technology fee, and oversee appropriate use of such funding
- Work for affordable access/ownership for students of appropriate hardware and software
- Publicize individual faculty and departmental teaching and curricular innovations using technology; faculty and student training activities and resources
- Ensure that DL programs adhere to the “good practices for electronically delivered degree and certificate programs” developed by the eight regional accrediting commissions.

Immediate Actions

Appoint and charge the Academic Technology Working Group

Inventory existing and past DL programs: evaluate and identify strengths, issues, problems to be addressed

Set up the structure and the functions of the proposed unit, initially drawing on the expertise of experienced faculty, and establish and fill positions of director/coordinator and student affairs

Goals, Objectives, Performance Indicators, and Strategies

These are presented on the following pages.

Participants in Academic Technology Plan Meetings Fall 2005

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Goals and objectives	Performance Indicators	Strategies
<p>1. The quality of learning and instruction and of services to students will be the same in DL and on-campus programs and courses.</p> <p>1.1. Programs and faculty will be selected for best fit to DL delivery</p> <p>1.2. On-campus courses will be enriched by instructional technology and web resources that offer easy, 24/7 access to course materials and student/faculty, student/student</p> <p>1.3. DL programs and courses will be designed to maximize teacher-student and student-student interaction, replicating or exceeding interaction possible in face-to-face classrooms.</p> <p>1.4. The quality, level, and accessibility of guidance on academics, financial aid, admissions, and other student services will be the same for DL and on-campus students.</p> <p>1.5. Access to library, bookstore, course evaluation, and other academic supportservices will be of the same quality and efficiency for students and faculty in on-campus and in DL programs.</p> <p>1.6. Student learning in DL courses and programs will be systematically and regularly assessed and revised</p>	<p>Number of smart classrooms</p> <p>Schedule for updating smart classrooms</p> <p>Number of workshops and one-on-one sessions delivered; number of on-campus courses using technology, WebCT; number of purely online courses; number of DL programs</p> <p>Admissions procedures for entry to non-degree programs as well as degree programs that are student-friendly and well defined, published in print and online.</p> <p>A student-friendly Web portal to DL programs</p> <p>At and DL webpages that provide all essential and current information for faculty and students</p> <p>Course evaluation form that includes items on frequency and cogency of feedback and on effectiveness of interaction; oncampus and DL evaluation results will be compared.</p>	<p>Convert all classrooms to smart classrooms, with equipment maintained continuously and upgraded on a three-year cycle. As new technology is introduced, instructors will receive training on effective pedagogical uses.</p> <p>The faculty training/resource center will provide scheduled and on-call technical training to faculty in WebCT, streaming video, and emerging instructional technologies; DL assistants will digitize course materials</p> <p>The instructional design team will work with instructors and programs to design courses/curricula that deliver content in formats that maximize feedback and interaction in course delivery</p> <p>The DL student services specialist coordinates with campus OSA, academic programs, distant sites (CCs, university centers) to meet DL student needs</p> <p>Courses and programs will be selected for content that can be delivered effectively to the DL mode</p>

Goals and objectives	Performance Indicators	Strategies
		Faculty will be identified who are motivated to adapt their teaching styles and course content to DL delivery
<p>2. The institution will offer courses and programs to students all over the world and to a broader range of students on Hawai‘i Island with a broad range of life issues limiting their ability to attend classes on campus.</p> <p>2.1. Demand for DL courses and programs will be established prior to their development, and once in development, courses and programs will be marketed in the state and beyond</p>	<p>Percentage of courses available online to all students 24/7</p> <p>Business plans for DL programs that begin with market research and include marketing strategies specific to the target populations.</p>	<p>DL/CCECS unit will work with distance sites (CCs, university centers, Pacific/Pacific Rim institutions), Big Island community groups, state agencies, the military, and others to establish demand and to market developing and existing programs</p> <p>Professional-quality marketing will be provided for DL programs</p>
<p>3. More faculty will be competent in instructional technological and innovative in pedagogy</p> <p>3.1. A growing number of faculty will use instructional technology and will deliver DL courses</p> <p>3.2. A growing number of departments will welcome instructional technology into individual courses and into the curriculum</p> <p>3.3. The campus will be kept current in the rapid developments of instructional technologies</p>	<p>Number of faculty using AT /DL and number of AT/DL and hybrid courses</p> <p>Number of online courses and programs being offered</p> <p>Number of faculty using DL technologies to deliver courses while conducting research elsewhere, completing their doctoral degrees, or fulfilling family responsibilities such as child care and elder care.</p> <p>Recruiting, hiring, and personal review recognize the value of AT/DL skills and experience</p>	<p>DL/AT curriculum development team will provide training and to help individual faculty and programs to use instructional software, to create and maintain instructor and department webpages and portfolios; and to adapt, design, and maintain courses and curricula that will work well in DL formats.</p> <p>Training will be offered in scheduled short training sessions and multi-day training, as well as on-call problem-solving in course delivery and course maintenance</p> <p>Cooperation with UH system DL/ITS and UH Hilo units will continue to provide</p>

Goals and objectives	Performance Indicators	Strategies
		<p>additional training and other resources to UH Hilo faculty</p> <p>Grants, released time, and other incentives will encourage faculty to experiment with new technology and pedagogical innovations</p> <p>The value to the institution and programs of academic technology and pedagogical innovation will be recognized with special consideration given to candidates with AT/DL expertise and performance in personnel review</p> <p>Additional positions for faculty to deliver DL courses will be given priority in departmental and campus hiring plans</p> <p>The advantages of distributed learning technology for faculty will be widely publicized: for disabled faculty, for faculty with family care responsibilities, for faculty travel for research and professional conferences.</p>
<p>4. All students will be competent in and have ready access to academic software and hardware.</p>	<p>Numbers of students purchasing software and hardware.</p>	<p>Course-related software and basic software will be offered to enrolled students on campus computers and for individual purchase at low/no cost</p>

Goals and objectives	Performance Indicators	Strategies
	<p>Number of students receiving and completing AT training</p> <p>If UH Hilo institutes an information technology competency requirement for GE or for graduation, percentage of students completing the requirement by the end of the freshman or sophomore year</p>	<p>All students will have appropriate access to the hardware required for their coursework, through fixed computer classrooms (such as UCB 103-104-105), and through alternative modes, of delivery.</p> <p>Students whose coursework requires ownership will be able to purchase at substantial discounts laptops, handheld devices, and other instruction-appropriate hardware.</p> <p>A graduation or GE requirement in technology competency should be instituted and appropriate training opportunities offered, including credit courses</p>

Goals and objectives	Performance Indicators	Strategies
<p>5. Information technology services will continue to take many forms and will be more timely and responsive to faculty, students, staff</p> <p>5.a. All classrooms, labs, and offices will have wireless access to the internet</p> <p>5.b. Software and hardware support will be available to students, faculty, staff, regardless of platform</p>	<p>Number of classrooms, labs, offices with wireless access to the internet</p> <p>Periodic survey of number of requests for support (repair, assistance, other service) that are responded to and percentage resolved.</p>	<p>A 24/7 Internet portal to ACS will offer “one-stop shop” for problem-shooting, hardware repair, tutorials for basic-package software, with fast technical followthrough</p> <p>Walk-in technical service will be available during regular office hours at a central location Call-in technical service will be available 24/7</p> <p>Licensing and updates for components of the basic package will be available online and can be paid for by credit or student fee card</p>