Virtual University:
Setting Priorities for the Future

A host of public and private institutions—colleges and universities, publishers, professional associations, and telecommunication companies—are entering the burgeoning market for delivering advanced education and training using the Internet. With the growing importance of making sure that people have the chance to learn throughout their lifetimes, it seems incumbent on the land-grant university to take advantage of this new technology. Through its Virtual University, Michigan State is able to make its learning resources readily and conveniently available to individuals and organizations across the nation and the world. As MSU expands its VU offerings and experiments with different approaches, we must define how best to carry the university’s mission, its areas of strength, and its emphasis on high quality teaching and learning into this new world of distance learning.

MSU’s Virtual University represents a strong collaborative effort among individual faculty; departments and colleges; Libraries, Computing & Technology’s virtual university group and library-based distance learning services; and University Outreach. University Outreach invests seed money to help launch new efforts, provides assistance in market development, and its emphasis on high quality teaching and learning is in clear alignment with the needs and characteristics of market-based research and planning is necessary to ensure successful offerings that will be sustainable. Fourth, MSU has comparative advantage in developing and delivering programs to a targeted, defined, professional, graduate-level population. Fifth, interestingly and perhaps ironically, students studying at a distance electronically expect far more individual contact and attention than residential students. Sixth, a mixed model of delivery—combining asynchronous Internet work with occasional teleconferenced or face-to-face class meetings—is most successful with adults, since they identify social networking and some interaction as very important parts of their educational experience. Seventh, because MSU VU courses have been carefully constructed and faculty teaching them have been very responsive to participants, student performance in these courses has been on a par with that of on-campus students, and MSU has not experienced the high dropout rate that has historically characterized asynchronous distance education.

Growth to Date

Since 1996-97 when four individual courses were available, MSU’s Virtual University has grown to include three complete graduate degree programs with another two programs ready to launch this summer, three graduate-level certificate programs, 40 to 50 credit courses available each semester, and a growing number of noncredit courses. In 1996-97, total SCH production in the four VU courses was 85; in 1998-99, 3,801.

The current menu of graduate-level credit programs includes:
- MS, Criminal Justice, Security Management emphasis
- MS, Beam Physics
- Ph.D., Beam Physics
- Graduate Certificate, Facility Management
- Graduate Certificate, Computer-Aided Design
- Graduate Certificate, School Social Work

Individual courses range from graduate-level courses in nursing (pharmacology, pathophysiology, research methods, aging and health), resource development, and education to undergraduate courses in geography, Braille literacy, physics, and ecological economics. A selection of introductory undergraduate and advanced placement courses is now available to high achieving high school juniors and seniors. K-12 teachers can earn SB-CEU’s for on-line technology training programs made available by Libraries, Computing & Technology. Alumni Evening College is offering two of its programs on-line—“An English Garden Tour” and “Floral Design.”

Lessons Learned

Although our experience with Internet-delivered programming is of short duration, University Outreach has learned several valuable lessons about its nature and worth. First, courses that are just a “webized” version of residential courses are not very attractive to students. Second, adult learners who must manage numerous life responsibilities prefer course modules or course “sequencing” rather than concurrent multiple enrollments. Third, a high level of market-based research and planning is necessary to ensure successful offerings that will be sustainable. Fourth, MSU has comparative advantage in developing and delivering programs to a targeted, defined, professional, graduate-level population. Fifth, interestingly and perhaps ironically, students studying at a distance electronically expect far more individual contact and attention than residential students. Sixth, a mixed model of delivery—combining asynchronous Internet work with occasional teleconferenced or face-to-face class meetings—is most successful with adults, since they identify social networking and some interaction as very important parts of their educational experience. Seventh, because MSU VU courses have been carefully constructed and faculty teaching them have been very responsive to participants, student performance in these courses has been on a par with that of on-campus students, and MSU has not experienced the high dropout rate that has historically characterized asynchronous distance education.

Virtual University (continued on page 3)

College of Nursing Offers Postdoctoral Program

by Patricia Miller

Michigan State University’s College of Nursing is offering a new professional opportunity to nurses who have received their doctorate, designed to prepare them for a career in community-based clinical nursing research. The National Institutes of Health (NIH) funded a clinical research postdoctoral interdisciplinary program that is administered by the Biostatistics and Epidemiology Department. Nigel Paneth, MD, MPH, Chairperson, Epidemiology Department, College of Human Medicine, is the Program Director. The program consists of a core of formal course work in epidemiology, biostatistics, and research ethics as well as a special research seminar series featuring prominent clinical investigators and a mentorship arrangement with an established clinical investigator leading to the completion of a clinical research project.

Participants will be expected to devote 40-50 percent of their time to the two-year program. Successful completion of the course work will lead to a certificate in the appropriate area such as epidemiology and biostatistics or clinical nursing research. The program provides full MSU tuition and fees, allowance for software and academic supplies, an annual research budget, and travel support to attend a national meeting each year. The highly competitive program admits only eight students each year.

Selected courses will be transmitted via two-way interactive video to various locations throughout Michigan enabling students to participate interactively with classes on the MSU campus. These locations are currently available: Kalamazoo, Grand Rapids, Escanaba, Flint, and Saginaw. Joan Predko, PhD, RN, Director, Outreach and Technology, College of Nursing, sees this program as “another good example of using distance education technology to offer nurses increased access to a quality MSU education.” The College of Nursing already offers a baccalaureate completion track, master’s program, and postmaster’s program using multiple distance education technologies.

The postdoctoral program, known as Training Clinical Researchers in Community Settings (TRECONS), was designed to fill a national need for highly qualified clinical researchers to conduct clinical research in a community setting. Audrey G. Gift, PhD, RN, FAAN, Professor and Associate Dean, Research and Doctoral Programs, College of Nursing, says, “This program is important for doctoral-prepared nurses who need or want to improve their clinical research skills. It is especially suited for nursing faculty members who need to continue their employment while spending half their time increasing their research skills.”

Robert L. Church, Acting Vice Provost for University Outreach

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By Patricia Miller

The Eli Broad College of Business and the Graduate School of Management are developing unique global business resources and international business educational programs through Michigan State University's Center for International Business Education and Research known as MSU-CIBER. CIBER serves as a national resource center in international business education and has been so designated by the U.S. Department of Commerce. CIBER functions as a unit of the Eli Broad College of Business and also collaborates with the MSU Office of International Studies and Programs and core colleges and language departments to promote interdisciplinary education and the study of foreign languages.

The Virtual International Business Academy (VIBA) team at MSU-CIBER is developing a global resource community and a curriculum of international business courses that will create the program of study for a master’s degree. This on-line program is designed to provide students with a specialized in security management. Jones, working with Dr. Merry Morash, Director, School of Criminal Justice, was given the UCEA Region IV 1999 Celebration of Excellence Program award for creative programming for his work in developing the Internet-delivered master of science degree with a specialization in security management. Jones, working with Dr. Jerry Motash, Director, School of Criminal Justice, and Professor Mab秀s K. Nalla, developed the concept, the curriculum, and the context and support for the on-line Internet delivery of a full master’s program. Jones worked with Target Stores Inc., Dayton Hudson Corporation. This Internet security management program allows students to study virtually at MSU and to use the knowledge resources of the faculty, develop course content for distant students, as well as to create an innovative program within the limitations of the traditional higher education institution,” says Cavusgil.

Several courses have been piloted within the weekend MBA program and in regular classes, and course development specifically for web presentation is continuing. Courses available for study at this time include IB 820 (Doing Business in Emerging Markets), IB 810 (Managing Export Operations), IB 805 (A Survey of International Business), IB 800 (The Global Economy and Globalization of the Firm), and IB 826 (Environment of International Business). Courses under development by faculty and VIBA administrators include, but are not limited to, Cross-Cultural Management, Legal Environment of International Business, International Corporate Finance, Accounting Information Systems, International Human Resource Management, International Economics, International Logistics, Entrepreneurial Marketing, and International Food Marketing Management.

VIBA Program Coordinator Irem Aydinsoy and VIBA Systems Analyst Qam work together with MSU faculty and graduate students to design and develop the technical platform, highlight current research, coordinate the development and design of the courses, incorporate curricula into the existing degree program, and assist in collecting the vast resources available through VIBA to its members and students. Aydinsoy says, “Our ultimate goal is to design a system where all the raw information is transformed into knowledge for the users. Learners do not have to do the digging to find information; VIBA does it for them. We are building the campus feel into the system so that not only can the students access all the necessary information from a single entry point, but also interact with other students, MSU faculty, and experts in the field.”

With the encouragement and guidance of Dean James B. Henry, a new Internet master's program is in sight. When the required courses are fully developed and the administrative process is finalized, students will no longer be able to choose either virtually or on-campus, but can qualify to earn a Master of Science in International Business upon acceptance to the program. MSU’s Eli Broad Graduate School of Business. “We firmly believe that such a novel program, incorporating innovative uses of information technology, will propel MSU into a position of leadership in the 21st century. We remain very excited about the possibilities of impacting traditional and nontraditional audiences through provision of learning and professional development opportunities via contemporary technologies,” says Cavusgil. Visit the VIBA website for further information: http://www.viba.msu.edu/.
Advanced Degrees in Beam Physics Offered via the Internet

By Patricia Miller

If you ask the next person you see to define “beam physics,” you might get a pretty strange look and an answer of “I have no idea.” But people in the Department of Physics and Astronomy and the National Superconducting Cyclotron Laboratory know exactly what it is. And they are instructing students worldwide via the Internet to learn more about it as they earn either a master of science and/or a Ph.D. program available via the Internet, taught by Dr. Martin Berz in the physics department.

Michigan State University offers the only on-line physics degree program available to students anywhere in the world. Berz and MSU have recently been featured in the *Chronicle of Higher Education*, *The Peterson Guide*, *Science Business Magazine*, and many other publications. Berz’s work in developing and teaching Beam Physics on-line has resulted in presentations to groups such as the American Physical Society, where he gave a plenary presentation at the Centennial meeting, and the National Research Council, where he participated in a round table on distance education.

He and two graduate students, Béla Endeléyi and Jens Hohlfeld, have published articles in both technology and educational journals about his successful course development and Internet teaching technology. The U.S. Department of Energy made a significant commitment of external funding for the program. The Office of Science has a newly formed educational initiative to encourage distance education.

The M.S. and Ph.D. degrees are web-based Virtual University programs that are available to graduate students and staff at scientific laboratories worldwide. The degrees can be completed by a combination of MSU’s Internet-based courses, courses at the US Particle Accelerator School, transfer credits from another graduate school, or a thesis. M.S. degrees require admission to MSU and satisfaction of the graduate school’s degree requirements. For example, a recent master’s degree was accomplished by video-conference. Berz has the final say on dissertation topics and works closely with students to guide and assist their work. Students also work with on-site “mentors” for local assistance in their research and studies. The degree committee’s composition must meet MSU graduate school requirements, and the dissertation and the defense must be in English. Berz is leading the way to the era of obtaining a Ph.D. via the Internet, and since he is teaching the first MSU on-line Ph.D., he solves problems as they come up and gains experience as he goes along.

Berz says, “Beam Physics is an ideal field for great distance learning. In part, because of a unique combination of a highly dedicated clientele requiring very advanced skills while operating in a well-financed high technology research environment outside traditional universities. Aside from this, it’s just plain fun to teach while at the same time exploring new methods of doing it.” Hoefkens says he likes working with this program because it so uniquely combines the art of teaching with the endless possibilities of the Internet.

In the last year, Beam Physics, as it happens, had the largest specialization graduate course in the MSU Physics Department. Berz has 35 students in Internet courses this semester. His students are quite diverse and reside in the U.S., India, Pakistan, Ukraine, Argentina, China, Russia, and Madagascar. One is a control room operator at the Stanford Linear Accelerator Center, an example of a student already employed in a university laboratory. Two students are a couple, each teaching physics in a community college and both studying for their master’s degrees. Another is a health physicist at a large hospital that operates a particle accelerator, yet another works in an accelerator lab in India. And there is a group of six Ph.D. students at the leading accelerator lab in China.

This unique opportunity is available thanks to collaborative efforts to develop the web-based degree programs. They have developed the “WebCOSY” system, an interaction web-based program for managing instruction, and submitting, receiving, and grading homework. They make course-related resources available over their website.

Fourth, we find that distance learning participants — both faculty and students — crave a great deal of interaction while they are learning. While such interaction can be fostered quite well over the Internet, it also turns out to be the most time-consuming aspect of the whole instruction. Our market studies suggest that Internet-based learning that includes occasional face-to-face interaction is most appealing to potential participants and may turn out to be the most effective mode of using the technology.

Thus, we believe that MSU’s distance education offerings of the future will largely consist of graduate-level programs targeted at working professionals delivered through multiple media. In this model, participants will receive some instruction through the Internet at their home or office, and some by participating in videoconferenced classes available at multiple sites. They will come together occasionally for face-to-face interaction with instructors and their fellow students. For programs for which we need to reach a national or regional audience, such meetings might occur a couple of times a semester in East Lansing or some other convenient city. For those geared to a national or international audience, such meetings might consist of one or two weeks a year on campus or at some other locale. There will be, of course, many other kinds of distance education offered — individual courses for high school and undergraduate students offered through the Internet, face-to-face degree programs offered at regional offices — but the dominant mode will be continuing professional education certificate and degree programs through the Internet.

This issue of Outreach Linkages contains a number of stories about current MSU VU programs. We invite you to contact us with new program ideas. And visit the website at www.vu.msu.edu.

Berz defines Beam Physics as dealing with “ensembles of particles moving collectively at high speeds.” He emphasizes light beams and laser beams that carry energy and information. High-energy particles such as ions, electrons, and protons are combined into “beams” that are widely used from television, to the space program, to medical applications in diagnosis and therapy. When you think about these definitions, it becomes clear that Beam Physics applications are all around us.

Scientists use beams to ignite fusion by bombarding fast pellets with high-energy beams. Physicists use Einstein’s principle of equivalence of mass and energy (E=mc²) to create massive new particles where the energy released is the key to the information of the particles’ properties. Numerous beam technologies assist technology development in the space program and Beam Physics is a basic tool in electron microscopy, material science, lithography, and radiation treatment.

Beam Physics turns out to be an important part of the high tech world around us, and MSU and its staff are teaching students around the globe. Berz says, “The VUBeam program offers a unique combination of national leadership in Beam Physics education with two of MSU’s strengths: the concept of the Virtual University and the internalization of students.”

Visit the website to learn about the courses at http://vubeam.msu.edu/.

Welcome Gerald Rhead

University Outreach extends a warm welcome to Jerry Rhead, Assistant Director of Outreach Instruction, who works under the direction of Barbara Fails, Director, Outreach Instruction. Rhead is responsible for assisting colleges and departments with outreach efforts including marketing research, analysis, business plan development, media design, placement, and evaluation.

He brings extensive experience in marketing, media relations, corporate relations, and external communications to Michigan State University. His most recent assignment was Assistant Marketing Director, Central Region, for the Western Michigan Programs division, before that he worked in a similar position for Davenport College’s Adult Accelerated Career Education program.

Rhead earned a B.S. in advertising and public relations from Ferris State University and an M.A. in educational leadership and human resources development from Western Michigan University. He plans to work toward his Ph.D. in higher education, in adult, and lifelong education at Michigan State University.

His experience in marketing and program development goes back more than ten years. Before he began his career in higher education, he worked in radio and became general manager of a mid-Michigan FM station. Rhead earned the Department of Military’s Legion of Merit Medal for services provided by the radio station during the Gulf War to members of the 1073rd Maintenance Company National Guard Unit.

His new position offers him an opportunity to apply the expertise gained in his work throughout Michigan. Rhead says, “My father always taught me to be prepared for something better than you ever thought. I hope that through my collective experience and knowledge, I can introduce innovative and systemic change that will positively impact Outreach Instruction’s program development and marketing initiatives.”
South African Delegation
Exploring Partnership Opportunities at MSU

By Michael Spurgen

In October 1999, Michigan State University faculty members, students, community partners, and Outreach staff welcomed a delegation from the University of Natal-Durban, South Africa. That institution was one of eight South African universities selected to participate in a program funded by a Ford Foundation grant to the South African Joint Education Trust (JET). JET programs are intended to provide a vehicle for transforming South Africa’s higher education to deal more effectively with societal needs. Each of the eight universities was paired with an American institution having exemplary programs in community-university partnerships and/or service-learning.

The grant helped create a graduate program in Community Higher Education Service Partnerships (CHESP) in which the visitors to MSU were participants. The CHESP program is based on the belief that successful policy implementation requires developing skills among representatives of communities, higher education, non-governmental organizations, and the private sector that will lead those institutions to form effective partnerships dedicated to the reconstruction and development of a civil society in South Africa.

Participants in the CHESP leadership development program required to complete 13 six-week modules. The week they spent learning with their university partners allowed delegates to complete the learning objectives of one module and to develop an understanding of: (1) community-university and service-learning activities at partner institutions; (2) policy and administrative structures that support these activities; (3) funding mechanisms; (4) factors that promoted or inhibited transformation in the university; and (5) potential collaborations in the SA/US CHESP Exchange Program.

The delegation that visited MSU included the university’s deputy vice-chancellor, the director of the Office of Community Outreach and Service Learning, the manager of Service Learning, the training manager at The Valley Trust (a non-governmental organization focused on primary health care and development), and the deputy chairperson of the KwaZulu-Natal, a community-based development organization. Each participating group encourages sustainable development that will strengthen the capacity of individuals and communities to improve their own quality of life.

The group met with MSU faculty and administrators from American Thought and Language, Development Studies, and African Studies. They were also hosted by Lansing Mayor David Hollister and staff from the Woldumar Nature Center. They visited MSU outreach programs and projects such as Bailey Scholars, Morrill Scholars, the Service-Learning Center, the MSU Extension office in Mason, the Black Child and Family Institute, the Urban Affairs Center in Lansing, the Wexford Community School in Detroit, and the KLICK Project at Amelia Earhart Middle School in Detroit.

Throughout the week, the delegation commented on the level of commitment displayed by those involved with outreach at MSU. Their final report suggests that factors promoting successful outcomes at MSU include a lively debate on the nature of knowledge; a willingness to live and work with ambiguity; a willingness to see the potential scholarly aspect of outreach, thereby acknowledging the academic legitimacy; a learning approach as opposed to a teaching approach; and a willingness to engage with controversial issues.

Delegates report that key lessons learned at MSU include:
- People have different understandings of outreach and give different names.
- The Outreach program evolved through a process of learning from collaboration—practice generated knowledge about outreach.
- Community, students, and faculty are all learners, although different things may be learned.
- Change often happens from the edges. It does not need to be driven from the core.

The delegations’ perceptions of the challenges faced by MSU outreach practitioners informed us of the need to extend the conversation about outreach/engagement throughout the university; engage more widely with community colleges; balance “customer satisfaction” with the longer-term university obligations; balance thinking, doing, and being, and reflect on those experiences; and evaluate how the dynamics of partnerships are best managed, especially as applied to sustainability and withdrawal from projects.

MSU outreach staff learned much from the delegation and the students, faculty, and community partners who gave their time during the week. Continuing dialogue between the institutions will help both learn more about how research universities can most usefully engage with communities to create a more civil society.

For more information about the delegation’s visit or background on CHESP projects, please contact Michael Spurgen at spurgim@msu.edu.