FY2008 Learning Technologies Grants Proposal

(COVER PAGE)

Project Information

Pharmacy Distance Learning: Multimedia video content anytime, anywhere, and forever

Project Title

Dr. Charles McDuffie

Project Director

College of Pharmacy Division of Outreach and Nontraditional Education

Requesting Department

$15,000 _____

Amount Requested Year 1

_____

Amount Requested Year 2

_____

Project Director's Signature

Proposal Endorsement Signatures

_____

Department Head

_____

Dean

Proposal Abstract (100-word maximum)

The College of Pharmacy proposes to equip their current videoconferencing infrastructure with a TANDBERG content server that will automatically record, archive, and distribute distance learning materials to students located across the State of Georgia. The objectives of this proposal are to: 1) Provide a pedagogical medium that turns any videoconferencing endpoint into a broadcast studio; 2) Enhance and augment the current videoconferencing infrastructure by offering all recorded content on-demand; and 3) Globalize graduate program offerings by providing high-quality distance education materials to healthcare professionals working in key biomedical hubs around the World.

Section I. Project Description

Nature of the innovation

The College of Pharmacy Division of Outreach & Nontraditional Education, in collaboration with the Millikan Educational Resource Center (MERC), propose to equip the College of Pharmacy with a multimedia content server that will allow students to access on-demand video presentations, archived class lectures, distance education materials, and other educational content -- anytime, anywhere, and forever.

The technology proposed in this budget will work congruently with the extensive videoconferencing network that the College of Pharmacy has developed during the last three years. The TANDBERG Content Server will allow for the development of high-quality multimedia content easily from any H.323 videoconferencing endpoint. The server will allow for the automated management and distribution of live and/or archived content to any PC using popular video codecs such as Microsoft Windows Media, Apple Quicktime, and RealPlayer formats.

This platform will enable the recording, archiving, and distribution of over three-hundred and sixty-five (365) real-time classroom hours each fiscal year. These archived classroom experiences will include the recorded interaction between students and faculty from around the State of Georgia (Atlanta, Savannah, Albany, Augusta, Gwinnett, and Athens), and will also allow for the recording of International presentations, guest lecturers, case study discussions, and student seminar presentations.

Need/Rationale

The objectives of this proposal are to:

1) Provide a pedagogical medium to record, archive, and distribute the educational experiences that take place in classrooms equipped with videoconferencing technology;
2) Enhance and improve the pedagogical medium that is currently being used to reach Pharmaceutical & Biomedical students located across the State of Georgia;
3) Improve the efficiency and automation associated with digital technologies used for distance education and continuing education initiatives at the College of Pharmacy;
4) Provide the means to deploy Global distance learning initiatives to healthcare professionals that are working in key biomedical markets around the World.

Funds for this proposal will allow College of Pharmacy faculty located around the State of Georgia to record, archive, and distribute their lectures and classroom discussions for continuing education purposes. The College of Pharmacy has already invested over two-hundred thousand dollars ($200,000) in videoconferencing technologies, and currently facilitates the largest videoconferencing network at the University of Georgia. A content server that is specifically built to work with the existing infrastructure will allow the College of Pharmacy to expand its educational offerings and brand beyond place and time, and will make more efficient use of the existing technology infrastructure. Archived content extends the life of educational messages, discussions, and events – enabling those unable to participate in the live broadcast to view the content at their convenience, on-demand.

In addition, a TANDBERG content server will allow for the automated production of on-demand multimedia content. The server can be easily programmed to automatically archive and distribute video content that is recorded from

videoconferencing sessions, essentially turning any videoconferencing endpoint into a broadcast studio. Streaming and archiving lectures and educational content will enable the College of Pharmacy to fully leverage existing video investments and communicate to dispersed students and faculty – anytime, anywhere.

This solution will also serve to further internationalize the reach of all Graduate Education Programs administered by the College of Pharmacy. The Division of Outreach & Nontraditional Education is currently working to expand program offerings into foreign countries such as Egypt and Ireland. The ability to offer high-quality multimedia content on-demand will drastically reduce the costs of implementing these programs overseas. The first UGA College of Pharmacy degree program to be offered in foreign countries covers Clinical Trials Design and Management – one of the first programs of its kind in the World. Distributing distance education via streaming video on the Internet will improve the efficiency and effectiveness of all future distance education program deployments that the College of Pharmacy develops and administers. The content server will allow for maximum educational reach, and will provide an opportunity for increased communication among faculty, students, and administrators not only at UGA, but among partner international and national institutions.

In summary, the Learning Technologies Grant is vital to support the increasing demand for distance education that caters to the pharmaceutical and biomedical sciences. The College of Pharmacy has been a leader in the deployment of cutting-edge videoconferencing technologies, and the addition of a TANDBERG content server will fully leverage existing video investments by enhancing the communication among dispersed students and faculty – anytime, anywhere. Adding state-of-the-art streaming video technology to the existing videoconferencing network will add reach and value to all educational offerings at the College and around the State of Georgia, and will drastically reduce the cost of deploying graduate education programs internationally. An automated video production process will provide a powerful and viable distance learning solution that will put the UGA College of Pharmacy on the forefront of the educational technology curve and provide maximum value to students.

Relevance of the project to College of Pharmacy and University priorities

The University of Georgia is a competitive high education institution that is always looking to offer a broad range of distance learning tools, and videoconferencing, including streaming and archiving content, is fast becoming the norm in successful distance learning programs. Visual communications blended with online content allows the University to reach a diverse and geographically dispersed student population while generating new revenue opportunities. The addition of a content server platform to existing videoconferencing infrastructure at the College of Pharmacy will add value by:

- increasing student enrollment
- expanding course offerings Internationally
- providing professional expertise on-demand
- improving efficiency and effectiveness of current programs
- building student/teacher relationships in distance education
- generating new revenue opportunities

The College of Pharmacy has established itself as a leader in distance learning at the University. The College has developed the largest videoconferencing network at UGA, and the unit's personnel facilitate over three-hundred and sixty-five (365) real-time classroom hours via videoconferencing technologies each fiscal year. The College of Pharmacy not only broadcasts classes around the State of Georgia (Atlanta, Savannah, Albany, Augusta, Gwinnett, and Athens), but also develops and hosts distance education content for the Harrison School of Pharmacy at Auburn University, the College of Pharmacy and Health Sciences at Mercer University, the McWhorter School of Pharmacy at Samford University, and the College of Pharmacy at South University.

UGA College of Pharmacy is always expanding its efforts in distance learning and professional degree programs, and the content server platform will provide an environment that allows for a multitude of dynamic experiences in the educational programs that are currently being offered around the State of Georgia and throughout the Southeast. The content server will augment the current videoconferencing platform.

Furthermore, The College of Pharmacy is working to deploy several graduate education programs that will be administered completely using distance education technologies. These programs will not only be administered in the United States, but also in foreign countries located in different time zones. It is crucial that course content be made available for on-demand asynchronous viewing. Using a content server along with the existing videoconferencing infrastructure will improve the efficiency and effectiveness by which the UGA College of Pharmacy globalizes its educational brand.

In addition, the TANDBERG content server platform will humanize the distance education and outreach efforts of the entire College by empowering the ability of faculty and students to connect, collaborate, and explore -- anytime, anywhere, and forever.

Specific Courses Benefiting from the Project

PHRM 3010 Introduction to Pharmacy	**PHRM 4860** Disease Management II
PHRM 3200 Quantitative Methods	**PHRM 4200** Principles of Pharmaceutics I
PHRM 3100 Pharmacy Skills Lab I	**PHRM 4211** Principles of Pharmaceutics II
PHRM 3110 Pharmacy Skills Lab II	**PHRM 4120** Pharmacy Skills Lab III
PHRM 3400 Anatomy and Physiology I	**PHRM 4130** Pharmacy Skills Lab IV
PHRM 3410 Anatomy and Physiology	**PHRM 4180** Drug Therapy
PHRM 3470 Pathophysiology I	**PHRM 4950** Clinical Applications IV
PHRM 3480 Pathophysiology II	**PHRM 4900** Clinical Applications III
PHRM 3050 Biochemical Basis I	**PHRM 4700** Statistics/Drug 2
PHRM 3060 Biochemical Basis II	**PHRM 5860** Pharmacotherapy I
PHRM 3940 Survey of Drug 1	**PHRM 5870** Pharmacotherapy II 4
PHRM 3750 U.S. Information Health Care System	**PHRM 5140** Pharmacy Skills Lab V
PHRM 3800 Clinical Applications I	**PHRM 5650** Pharmacy Care II
PHRM 3850 Clinical Applications II	**PHRM 5261** Clinical Pharmacokinetics 2
PHRM 3900 Pharmacy 2	**PHRM 5680** Pharmacy Law & Ethics
PHRM 4800 Pharmacy Seminar 1	**PHRM 5820** Self-Care
PHRM 4050 Principles of Medicinal I	**PHRM 5950** Advanced Drug Information
PHRM 4060 Principles of Medicinal II	**PHRM 5920** Clinical Seminar 1
PHRM 4410 Pharmacology I	**PHRM 5920** Clinical Seminar 1
PHRM 4420 Pharmacology II	**PHRM 4190** Chemotherapy of cancer
PHRM 4850 Disease Management I	**PHRM 5150** Pharmacy Skill Lab VI

Number of Students Served

Graduate/Professional Pharmacy Students Served/Year
475 – 600 (100% of all College of Pharmacy Students)

Section II. Budget

Proposed Budget

Item	Quantity	Total Cost	Requested From LTG	Provided by Other Sources
TANDBERG Content Server	1	$14,048	$14,048	$0
TANDBERG Capture Option -1 (transcoding and transrating port)	1	$5,577	$952	$4,625
System Installation & Programming	1	$4,100	0	$4,100
Three Year Maintenance Package for TANDBERG Content Server	1	$2,500	0	$2,500
	Total	$26,225	$15,000	$11,225

Project Timeline

Date – Projected	Objective	Person(s) Responsible
January – February 2008	Purchase and Install	Dr. Charles McDuffie, Dr. George Francisco, Dr. Paul Brooks, Sarah Jones, Brinkley Warren, Brad Brown
February – May 2008	Begin recording, archiving, and distributing video content on-demand for students across the State of Georgia	Dr. Charles McDuffie, College of Pharmacy Faculty, Sarah Jones
June 2008	Focus group to evaluate and propose improvements to distance learning initiatives	Dr. Charles McDuffie, Dr. George Francisco, Dr. Paul Brooks, College of Pharmacy Faculty, Sarah Jones, Brinkley Warren and Brad Brown
July 2008	Calibrate and test distribution on global networks for International delivery of content	Dr. Charles McDuffie, Dr. Paul Brooks, Sarah Jones, Brinkley Warren

Budget Justification Narration

Equipment:

The College of Pharmacy has already invested over two-hundred thousand dollars ($200,000) during the last three years to deploy a robust and state-of-the-art videoconferencing infrastructure. TANDBERG is the vendor that has been used during those three years, and their content server is the most ideal because it will integrate seamlessly with the current infrastructure that already exists around the State of Georgia.

The College of Pharmacy has made a substantial financial commitment to distance learning and videoconferencing technologies, and faculty and administrators

have identified this content server as the number one technology priority for the coming year. As the College expands to offer more distance learning around the state and in foreign countries, there is no learning technology that will prove more beneficial.

Section III. Learning Outcomes

Learning Outcomes

Today's students are visual learners and digital natives – they achieve greater learning outcomes when given the opportunity to learn from visceral multi-media presentations. Especially in science-based curricula such as pharmaceutical and biomedical sciences, the ability to access rich-media on-demand greatly impacts the takeaway value associated with educational content.

With the TANDBERG content server in place, faculty will be able to use video as archived lectures, as multimedia tutorials, and as enriching augmenting resources. Students will be able to broadcast and archive their student presentations and seminars – thus getting direct visual feedback to assess their own performance.

The TANDBERG content server will allow faculty to more easily provide visual resources and will allow students to more easily access them.

As previously stated, The College of Pharmacy is already making extensive use of videoconferencing technologies in classrooms around the State of Georgia. Every single student that comes through the College of Pharmacy interacts with the existing videoconferencing technologies, and the extent to which students will interact directly with the TANDBERG content server is just as high. The interaction with the technology will be direct, personal, and profound.

The ability to record, archive, and distribute educational experiences on-demand will provide every student and faculty member at the College of Pharmacy with a robust and powerful tool that augments traditional teaching and learning methods.

Methods of Evaluation

Methods of evaluation will be both formative and summative, and information acquired will be used to improve content delivery on-the-fly.

First and foremost, certain quantitative assessments such as the number of streams served, the number of concurrent users, and the amount of archived content will be used to evaluate the use of the content server.

To evaluate the effectiveness of the TANDBERG content server, the faculty and students will be asked to evaluate quantitatively and qualitatively the use of the technology as it applies to learning and retaining new concepts. This evaluation will be conducted at the end of each course where the content server is used.

Faculty and students will be asked to provide feedback on ways to improve the electronic archiving and delivery of educational content.

Faculty will evaluate student learning and do self-evaluation of teaching effectiveness.

Finally, a focus group with students, graduates, faculty, and administrators will be put together in Summer 2008 to evaluate and propose improvements in The College of Pharmacy's distance learning efforts.

Potential Applications in Other Academic Areas

This will be the first use of a videoconferencing content server at The University of Georgia. Many academic units at the University are starting to deploy their own videoconferencing infrastructures, and more and more will seek to develop the ability to maximize the impact, reach and value of distance learning content by streaming live presentations to personal computers and archiving content for future distribution.

Automating this process by integrating the content server with the existing videoconferencing infrastructure will provide the efficiency necessary for successful distance learning initiatives at Colleges throughout the University. The College of Pharmacy is ready to play the role of guinea pig for the benefit of the entire University -- to assess the effectiveness of a TANDBERG content server for distance learning purposes.

Pharmaceutical and Biomedical Sciences represent the future of the global healthcare industries. Pharmaceutics represents the highest-grossing industry in the United States. The pharmaceutical industry invests over forty-percent (40%) of that income back into research and development, which means that the U.S. pharmaceutical industry is also the number one investor in scientific innovation in the entire World.

In future semesters, The College of Pharmacy will begin to offer an expanded catalogue of graduate education programs to key markets around the World. The future of healthcare depends on educating the healthcare professionals that live and work in biomedical hubs such as Northern Ireland and Cairo, Egypt. With the technological capabilities provided by the TANDBERG content server, The University of Georgia College of Pharmacy will bring high-quality distance learning to the international markets that need it the most.

Section IV. Support Plan

The College of Pharmacy is committed to the future and sustainable success of their distance learning efforts, and to provide the best possible education to all of their students, regardless of the location or time zone of their home campus. The College of Pharmacy will support the maintenance and updating of the TANDBERG content server after the funding period ends.

Likewise, there is a commitment to continue efforts to further internationalize the University of Georgia and The College of Pharmacy curriculum by offering graduate education programs to working professionals around the World. The College of Pharmacy is dedicated to deploying Global distance learning initiatives using the combination of the existing TANDBERG videoconferencing infrastructure and the TANDBERG content server being requested in this proposal.