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## 2008 TECHNOLOGY-ENHANCED LEARNING (TEL) GRANT PROGRAM

# APPLICATION FORM

If you have questions about the program or require assistance in completing this form, please contact the Digital Media Center's TEL Grant Program manager, **Kurtis Scaletta**, [kurtis@umn.edu](mailto:kurtis@umn.edu), (612) 624-1323.

<b>Project Title:</b>	<b>Sports-Related Concussions: Using Video-based Vignettes and WebVista to Develop Critical Clinical Decision-Making Skills for Family Physicians</b>
<b>Abstract (50 words):</b>	Diagnosis and treatment of sports-related concussions are essential skills needed by family physicians in regular practice as well as urgent care and emergency departments. This innovative module will provide critical decision making training in the assessment and management of concussion using WebVista as both instructional and evaluative platforms.

**Note:** You will also need to enter the Project Title and Abstract into the TEL Grant tracking tool.

### I. PRINCIPAL INVESTIGATOR/PRIMARY CONTACT

Please designate a single investigator to whom we can address official correspondence, and enter this investigator's name in the space provided.

<b>Name:</b>	Suzanne Hecht, MD		
<b>Department:</b>	Family Medicine and Community Health		
<b>College or Unit:</b>	Medical School		
<b>Campus Address:</b>	MMC 381, 420 Delaware Street SE Minneapolis, MN 55455		
<b>Telephone:</b>	310-902-3633 (cell)	<b>E-mail:</b>	hecht031@umn.edu

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## II. ADDITIONAL INVESTIGATORS

<b>Name:</b>	<b>Joseph J Brocato, PhD</b>
<b>Department:</b>	<b>Family Medicine and Community Health</b>

<b>Name:</b>	<b>Bernadette Gloeb, MLS</b>
<b>Department:</b>	<b>Family Medicine and Community Health</b>

## III. PROJECT DESCRIPTION (250 WORDS OR FEWER)

*In this section, please describe your proposed TEL grant project in 250 words or fewer. In addition to describing the technology-enhanced learning activity or process you will develop, provide details on the courses that will be affected by the project, your expected learning outcomes, and the roles each member of your design and development team will play.*

### 1. LEARNING ACTIVITY OR PROCESS

*Describe what specific activity or learning process you will design.*

We are proposing a WebVista-based module teaching core concepts concerning the diagnosis and treatment of sport-related concussions. Learners will review key concepts in diagnosing and treating concussions using video vignettes. They will develop their decision making skills in concussion management through the use of video-based simulated patient encounters. Based upon decisions made in real time, learners will view the results of both their diagnostic and treatment decisions with athletes of varying ages. Technology such as VideoANT, a video-annotating tool, may be used to enhance the video vignettes.

### 2. COURSES AFFECTED

*Describe the course(s) or curricula that will be affected by TEL grant funds.*

This module will not be part of a course. It will be a mandatory module that 150 family medicine residents will complete as part of their Sports Medicine rotation. Additionally, the module will be available to nearly 5,000 teaching family physicians across the State and over 100 medical students through their rural clerkships.

### 3. LEARNING OUTCOMES

*Define the expected student learning outcomes from the project.*

By module end, learners will be able to describe the key principles of diagnosing and treating concussions. They will also become more skilled in decision-making, having opportunities to practice concussion management skills via video vignettes. Vignettes will be used in both pre- and post-tests to assess baseline and post-module concussion knowledge and skill levels.

### 4. TEAM ROLES

Describe the roles and responsibilities of investigators, teaching and/or research assistants, University support staff members, and outside developers.

Name	Responsibilities
Suzanne Hecht, MD, Project Principal Investigator	<ul style="list-style-type: none"> <li>Subject matter expert and course director (as practicing family physician and UM team physician for many sports).</li> </ul>
Joseph J. Brocato, PhD, Project Co-Investigator	<ul style="list-style-type: none"> <li>Lead instructional designer: goals and objectives and assessment design</li> </ul>
Bernadette Gloeb, MLS, Associate Education Specialist	<ul style="list-style-type: none"> <li>Module development, instructional design, project leadership and coordination</li> <li>Development of production schedule</li> <li>Sequencing module content, coordinating between the faculty developer and the U of M Academic Health Center's Learning Commons Technology Specialist(s)</li> <li>Assisting in beta testing and implementation of the curriculum at residency sites</li> </ul>
TBN Web Developer and Technology Specialist(s)	<ul style="list-style-type: none"> <li>Recommend technology delivery methods and evaluation systems and assist in videotaping content for the module</li> </ul>

#### IV. PERSONAL STATEMENT (150 WORDS OR FEWER)

Provide one or two paragraphs (150 words or fewer) outlining your experience and interest in teaching with technology and describing how this program fits with your professional development goals in this area.

I believe that using technology to enhance medical education with simulated clinical scenarios and integrated testing is critical to improving the depth and mastery of rapidly evolving complex medical topics. My experience teaching with technology involves the use of PowerPoint with clipart, video clips and animation for a variety of learner levels (medical students, residents, fellows, and attending physicians). I also have experience with the integration of audience response systems into lecture formats. I am interested in learning and further developing my skills in technology application to medical education because I feel it is critical to improved teaching of medical learners.

Being awarded a TEL grant for the development of a sports concussion learning module for Family Medicine physicians would allow me to achieve my goal of providing superior educational content in a clinically realistic and time-efficient manner. The integration of clinical decision pathways into the instructional and assessment portions of the module would provide immediate, simulated feedback on both good and bad clinical choices. This type of learning is only one step removed from having a real clinical experience with a patient with a sports concussion. I can envision developing further Sports Medicine modules with this technology which, if successful, could eventually be integrated into physician education curricula around the country.

#### V. TIMETABLE & BUDGET (NO MORE THAN 1 PAGE)

Provide a timetable and budget description no more than one page in length. The initial proposal should be written for a "tier 1," one-year project with funding of up to \$10,000. All proposals accepted for "tier 1" funding will be

considered for “tier 2” funding following a workshop for grant recipients. See the Eligibility and Funding section of the TEL grant Call for Proposals for more information.

**1. PROJECT TIMETABLE**

List the tasks necessary to complete your project. Include a timeline detailing development milestones and the estimated time required to complete each task.

Dates	Project Tasks	Suzanne Hecht, MD	Joseph Brocato, PhD	Bernadette Gloeb, MLS	Tech Specialist
6/1/2008-7/1/2008	Literature review	40%	20%	40%	0%
7/1/2008-8/1/2008	Development of learner objectives, instructional content, pre-post test assessments	10%	80%	10%	0%
8/1/2008-2/1/2009	Design of module, writing script, decide on format, identification of actors	25%	25%	50%	0%
2/1/2009-4/1/2009	Development, videotaping, capturing assets	5%	5%	5%	80%
4/1/2009-5/1/2009	Implementation, upload to WebVista, pilot testing	0%	10%	90%	0%
5/1/2009-6/1/2009	Beta testing, evaluation, make adjustments as needed	0%	80%	10%	10%

**2. PROJECT BUDGET**

Funding of up to \$10,000 is offered to support TEL projects. **Matching funds are required.** In a table, list the hardware, software, training, and/or development support necessary to develop your planned TEL activities. Use columns to differentiate expenditures to be funded by the TEL grant and those covered by collegiate/departmental matching funds.

Budget Item	Department	TEL Grant	Total Item Cost
Suzanne Hecht, MD, 5% FTE	\$10,500.00	\$0.00	\$10,500.00
Joseph Brocato, PhD, 5% FTE	\$8,750.00	\$0.00	\$8,750.00
Bernadette Gloeb, MLS, 10% FTE	\$8,750.00	\$0.00	\$8,750.00
Web Developer Time (75% to TEL Grant & 25% to Department)	\$1,250.00	\$3,750.00	\$5,000.00
Videotaping and Video Editing Services (75% to TEL Grant & 25% to Department)	\$1,250.00	\$3,750.00	\$5,000.00
One Dell Latitude Laptop Computer	0	\$1,770.00	\$1,770.00
Subtotals	\$30,500.00	\$9,270.00	
Project Total Cost			\$39,770

## VI. ALIGNMENT WITH LEARNING OUTCOMES

*Describe the relationship of this project to the University's undergraduate learning outcomes ([http://academic.umn.edu/provost/teaching/cesl\\_loutcomes.html](http://academic.umn.edu/provost/teaching/cesl_loutcomes.html)).*

As this project does not relate directly to an undergraduate course this section is not directly applicable. However, please note that our residents are completing post-baccalaureate training—particularly, the Family Medicine Graduate Course FMCH 5201, Clinical Family Medicine, which all Family Medicine Residents complete as part of their clinical rotations (including Sports Medicine) described earlier.

However, the learning outcomes for this proposed project directly relate to the Academic Health Center's strategic goals number 1 and number 6 as follows (click on hyperlinks below for more details):

- [AHC Strategic Goal 1](#)  
Create and Prepare the New Health Professionals for Minnesota.
- [AHC Strategic Goal 6](#)  
Use information technology to transform how we educate, conduct research and provide service to individuals and communities in Minnesota.

## VII. CONFLICT OF INTEREST

I/we certify that I/we  do  do not

have a conflict of interest as defined under the Board of Regents' Individual Business or Financial Conflict of Interest policy ([http://www.umn.edu/regents/policies/administrative/Individual\\_COI.htm](http://www.umn.edu/regents/policies/administrative/Individual_COI.htm)). If you selected "do," please describe the nature of the conflict of interest below.

## VIII. OUTCOMES FROM PREVIOUS TEL GRANTS

*Applicants who have previously received TEL grants should describe, in 1-3 paragraphs, the outcomes of each TEL grant received. Be sure to include the title of the grant and the year it was received.*

This proposal relates to a previously funded TEL grant to Joseph Brocato, PhD, during the 2006 calendar year entitled "The Integrated Family Medicine Residency Curriculum (IFMRC): Essential Core Content for Family Medicine Resident Physicians."

The outcomes of the ambitious grant included the development of the infrastructure for multiple web modules in the following content domains in family medicine education, comprising a WEB CURRICULUM (as opposed to a single web course). The ten content areas for our web modules are:

1. Ambulatory Family Medicine (Adult Medicine)
2. Care of Neonates, Infants, Children and Adolescents
3. Maternity and Gynecological Care
4. Care of the Surgical Patient
5. Musculoskeletal and Sports Medicine
6. Emergency Care
7. Human Behavior and Mental Health
8. Community Medicine

9. Care of the Skin
10. Diagnostic Imaging and Nuclear Medicine
11. Practice Management (Management of Health Systems)
12. Integrating the ACGME General Competencies into Practice

The proposed development of web modules in these twelve content areas constitutes a multi-year project involving faculty from across our department. To date, the following web modules have been completed and are being accessed by our family medicine residents: (1) ADHD-Diagnosis Principles (contained in content area #2 above), (2) Epidemiology for Primary Care Physicians (contained in content area #8 above), and (3) Suicide: Diagnosis Principles (contained in content area # 7 above). From this original TEL grant funding cycle, additional modules are also in current development: (1) ADHD-Treatment Principles, and (2) Suicide: Treatment Principles. Additional modules in other content areas will be developed once the current ones in production are completed.

We are seeking additional TEL grant funding for our Concussion module (that will be contained in content area #5 above). This module will involve new instructional and evaluation methodologies that will be piloted as part of the concussion module. That is, with the concussion module, we will be moving to a new form of web module. We propose moving forward from earlier content knowledge focused modules, toward modules that accentuate and teach higher order decision making skills attainment of essential physician skills. We hope in the future to develop many more modules emphasizing these physician decision making skills which will greatly enhance the overall educational value of our web-based curriculum.

## SUBMITTING YOUR PROPOSAL

- Once completed, submit your TEL grant **Application Form** to <http://telgrants.dmc.umn.edu>. Instructions on using the tool are available at <http://dmc.umn.edu/grants>.
- Also complete and return the **Signatures Page** signed by your department head(s) and dean(s) following the instructions on that document. (<http://dmc.umn.edu/grants/>)