28 March 2002

ACADEMIC TECHNOLOGY GRANT
BUDGET

PROPOSED RESEARCH PROJECT:

AN ON-LINE (DISTANCE LEARNING) PROFESSIONAL DEVELOPMENT COURSE TO IMPROVE MATH EDUCATION IN ELEMENTARY SCHOOLS

COURSE DEVELOPER:

BARBARA GARII, Ph.D.
Assistant Professor, Division of Curriculum and Instruction
School of Education, Lesley University, Cambridge, MA
E-Mail: **bgarii@mail.lesley.edu** ***Phone:*** **(206) 355-1902**

BUDGET OVERVIEW:

As a Core Faculty Member who lives and works in Seattle, WA, I do not have access to the technical facilities, including some hardware and software that are available to other faculty who are based here on campus. Thus, in order to complete course development in a timely manner and to ensure that this class will meet the needs of the students effectively and efficiently, a number of technical support items are warranted. Hardware includes the purchase of a digital camera with capability to shoot short (30-60 second) video sequences, additional memory cards for the camera, zip disks for data/course storage, and a scanner. Software includes Macromedia® Dream Weaver and Adobe® Photoshop. Reference books to support the hardware and software are also included in this budget. The total budget request is $1,402.

JUSTIFICATION:

Macromedia® Dream Weaver: This software support program allows for greater flexibility in writing and revising HTML code for web page design. OIT offers software support for this application. This 10-week class will be web page based and the written code will integrate images and text, and link sites away from Blackboard back into the course material. Use of Dream Weaver will speed the process, ensuring that fewer errors are made while allowing me to work both graphically and in code, as needed. Dream Weaver supports clear and efficient editing that permits development of an efficient on-line classroom. Given the complexity of the course development-- both in terms of academic expectations and technological concerns-- an HTML tool, such as Dream Weaver, will ease some of the organizational burden.

Digital Camera with Video Capability (Olympus C-700uz): Hands-on mathematical experimentation is a required component in this class. In order for student learning and understanding to be viable and effective, students need exemplar examples of similar work to illustrate their tasks and to give them a platform on which to base their experiments and their new learning. Pictures and short videos, to be uploaded to the ADA server and accessed via the Blackboard classroom, will serve as the visual examples available for students. Still pictures allow students to observe single frames (e.g., geometric ideas to be explored) while a short video will help students visualize the use of math as it models movement (e.g., tracking the movement of a ball being juggled). Such examples will help students develop connections between what mathematicians see, what mathematicians write, and what mathematicians mean.

NiMH Battery and Charger: This will extend the working capacity of the camera during photo-shoots.

Memory Card (Smart Media™ 64 Mbyte): Most mid-range digital cameras, including the Olympus C-700uz, are able to keep a very limited number (often no more than four) images in memory before they are overwritten by new images. Although images will be uploaded regularly, I expect that when visual models are being developed, the camera will need to retain additional images prior to upload.

Iomega® 250 MB Zip Disks: Course materials must be stored "off-site" (as well as on-site). As material to be stored will be both text and graphics, the storage media must have a fair amount of capacity.

Adobe® Photoshop 7.0: This software package will allow the digital images to be flexibly and effectively manipulated to best serve as illustrations and models of class components. Support is available from Adobe.

Scanner (UMax Astra 4450): Because this is a math class, some ideas are best illustrated by hand. Other ideas and images, in the public domain, are not available "on-line." Thus, a scanner will allow additional ideas and sources to be placed into the virtual classroom, and students will have the opportunity to utilize these alternative representations. The scanner will also permit the uploading of holographic student work, so that ideas can be shared and discussed within our classroom cyber-community. This particular scanner has received high ratings for ease of use and durability, and offers a crisp image quality that will allow for good on-line presentation.

Reference Books: Texts supporting Web Page design and development, as well as books discussing approaches to on-line teaching, will enhance my ability to build an attractive and workable cyber-classroom space. I have identified three titles I would like to include in my library for this class; I have reserved an additional $40 in this budget for other texts that I may find that would be particularly useful. The three identified books are:

Horton, Sarah. (2000). *Web Teaching Guide: A Practical Approach to Creating Course Websites.* New Haven: Yale University Press.

Lynch, Patrick and Horton, Sarah. (1999). *Web Style Guide: Basic Design Principles for Creating Websites.* New Haven: Yale University Press.

Palloff, Reba and Pratt, Keith. (2001). *Lessons from the Cyber Space Classroom: The Realities of On-Line Teaching.* San Francisco: Jossey-Bass.

BUDGET DETAILS:

Budget Item	Date Located and Source	Estimated Cost
Macromedia® Dream Weaver, Version 4.0, Windows Educator--full product with Homesite 5.0	8 March 2002: Harvard University Tech Center (for Educational Users)	$ 100
Digital Camera Olympus C-700uz	8 March 2002: Glazers Camera (Seattle, WA)	$ 500
Ni MH Battery and Charge Set Olympus B40SU	8 March 2002: Glazers Camera (Seattle, WA)	$ 50
Additional Memory Cards SmartMedia™ Card (64 Mb) M64PIU (for Olympus C 700uz)	8 March 2002: Glazers Camera (Seattle, WA)	$ 50
Iomega® 250 MB Zip Disks (Package of 8, IBM Formatted)	22 March 2002: www.staples.com	$ 143
Adobe® Photoshop 7.0	8 March 2002: Harvard University Tech Center (for Educational Users)	$ 279
UMax Astra 4450 Scanner 1200x2400 dpi	8 March 2002: UMax Website	$ 130
Reference books Horton (2000) Lynch and Horton (1999) Palloff and Pratt (2001) To Be Identified)	8 March 2002: Amazon.com	$ 16 $ 16 $ 29 $ 39
Miscellaneous Shipping and Postage		$ 50
TOTAL		$1,402