

Meeting Minutes for Engineering Student Technology Committee

Meeting of October 28, 2003

Engineering Conference Room - 8:00 am

Present: David Bryant (ME), Bryce Eldridge (ECE), Ryan Fleming (CE),
Miranda Grote (intra), Tim Hinerman (ME), Doug Hopper (ME),
Derek Johnson (ChemE), Shawn Klawitter (ChemE), Prof. Kevin Lear (ECE),
Liz Lipp (intra), Kate McDonnell (ECE), Dave Miller (ChemE),
Mark Ritschard (ENS), Chris Rozoff (Atmos), Tony Zancanella (CE)

Absent: Klaus Hartinger (ECE), Arun Nair (CE), Prof. Hiroshi Sakurai (ME),
Assoc. Dean Tom Siller (Acad. Affairs), Prof. Ranil Wickramasinghe (ChemE)

- Welcome and Introductions

- Previous meeting's minutes (10/7/03)

Bryant moved and Hopper seconded that the minutes be accepted as written and the motion carried.

- Updates

Fleming announced that the south door card reader on the Lockheed Martin Design Studio is now working.

- Proposals

I) Biomedical Engineering

The proposal from Biomedical Engineering (attached) was received and distributed to the committee after the last meeting. The committee was interested in the benefits of the equipment requested, the number and programmatic diversity of affected students, and the possible affects of partial vs. full funding. Concern was also voiced about long-term funding and the desire for partnerships from other participating units. It was clarified that the request is for \$8,000 now (\$3K of intra-department funds and \$5K of strategic), and \$9,000 next fiscal year (\$3K of next year's intra-department funds and \$6K of strategic). Hinerman moved that the committee match up to \$4,000 (\$3K from intra-departmental funds, \$1K from strategic) for this semester. Lear seconded the motion and it carried. Ritschard then moved that Klawitter and Ritschard send a letter from the committee to Dr. Watson of Chemical Engineering and Dr. Kirkpatrick of Mechanical Engineering requesting that each department provide \$2,000 for the project. Johnson seconded the motion and it carried.

II) Chemical Engineering

The proposal from Chemical Engineering (attached) was received and distributed to the committee after the last meeting. Although the request is to use only Chemical Engineering technology funds, Ritschard deferred approval of the request to the committee. He did so because the committee already shares funding for six laptops in the ENS loaner pool, and there is rarely a time when one is not available. In general, the committee felt that the proposal was unsubstantiated and raised concerns about security and long-term maintenance of the laptop. It was also felt that \$1200 would purchase only a mediocre laptop, and would better be spent elsewhere. Hinerman moved and Miller seconded that the proposal be denied. The motion carried.

III) Mechanical Engineering - tabled

- Tabled agenda items

Print credits review

Security camera feedback from ENS (item from last year)

Scholarships (how they are awarded)

- Atmospheric Science students

Atmospheric Science students generally use the resources provided by their department, but occasionally request an engineering computer account to use resources on campus. Because all student tech funds generated by Atmos are returned to that department, the students are not contributing to the on-campus resources, although they are welcome to use them as members of the College. Hinerman moved and Hopper seconded that there be a \$40 "charge" per year for each Atmospheric Science student who requests an on-campus engineering account; the charge to be levied against the Atmos student technology funds. The motion carried.

- Next meeting

The next meeting will be on Tuesday, November 4, at 8am, in the Engineering Conference Room.

Submitted by
Mark Ritschard



Biomed proposal 10-03.doc



ChemE laptop proposal 10-03.pdf

BIOMEDICAL ENGINEERING TEACHING LABORATORY

Proposal to Student Technology Resource Fees Committee

October 15, 2003

Kristina Rinker
Assistant Professor
Chemical Engineering
BEP Primary Faculty Member

Biomedical Engineering Program Interim Coordinator

Wade Troxell
Associate Professor
Mechanical Engineering

Department Heads

Allan Kirkpatrick
Mechanical Engineering

A. Ted Watson
Chemical Engineering

BEP Primary Faculty

Donna Wheeler
Associate Professor
Mechanical Engineering

Sue James
Associate Professor
Mechanical Engineering

The Biomedical Engineering Program (BEP) has provided training for undergraduate and graduate students since Spring 2000. The interdisciplinary studies certificate program currently has 16 graduate students (1 clinical science, 1 food science and nutrition, 2 chemical engineering, and 12 mechanical engineering students) and 56 undergraduate students (1 biochemistry, 1 chemistry, 1 computer science, 1 environmental engineering, 1 math, 1 microbiology, 2 health and exercise science, 4 electrical and computer engineering 6 biological science, 13 chemical engineering, 24 mechanical engineering). The BEP has recently gained university approval for a graduate degree program; Master of Engineering Specialization in Biomedical Engineering. Currently six students are enrolled in this new program. We are also developing M.S. and Ph.D. degree programs in Biomedical Engineering. Our goal is to establish CSU's BEP as a regional center for advanced biomedical engineering research and training.

In order to accomplish this goal, we need to provide our students with hands-on training in techniques relevant to the Biomedical Engineering industry and graduate school programs. Currently, none of the biomedical engineering courses offers a laboratory experience. As such, we are seeking funding to add a laboratory module to BE 470/570 (Biomedical Engineering-Wheeler) in the Fall, BE/ME 571 (Biomechanics-Wheeler, James) in the Spring, and BE/CH 525 (Cell and Tissue Engineering-Rinker) in the Spring. All undergraduate and graduate biomedical engineering students in the program are required to take BE 470/570. Our long-term objective is to create a module-based series of lab courses that will allow students to obtain advanced training in biomedical engineering in their areas of interest. These courses will be available to all students on campus as well as the biomedical engineering certificate and graduate program students.

Space for the new laboratory is available through the Mechanical Engineering Department in Engineering room B7. This space will be shared with the Materials Laboratory Classes by scheduling labs appropriately.

In this proposal, we are seeking funding for startup of a biomedical engineering teaching laboratory. A facility such as this will enable us to immediately begin teaching biomedical engineering students sterile culture technique, as well as some advanced methods in bioengineering applicable to all courses discussed above. The lab will be developed in phases with the initial phase beginning Spring 2003 for purchase and installation of equipment for use in summer for training of students in Chemical Engineering's Research Experiences for Undergraduates Program and Fall 2004 to supplement BE/ME 470/570. Phase I funding is requested for Fall 2003 for purchase of a six foot tissue culture hood for \$8000. This piece of equipment provides a sterile environment for students to transfer cell cultures such as cancer cell lines, beating heart cells, or Chinese Hamster Ovary Cells (CHO) commonly used in biotechnology industries. Phase II consists of the cell incubator for growing cells, centrifuge used to separate the cells from the growth media, and water bath for heating up the cell media. Phase II funding of \$9000 is requested for Spring 2004. Acquisition of Phase I and II equipment will complete the cell cultivation module needed to start the Biomedical Engineering Teaching Laboratory. This equipment can be used with that available in the materials lab to provide hands-on instruction in biomaterials and tissue engineering to approximately twelve students per lab section. This investment will increase the probability of success in obtaining additional funding for biomaterials, biomechanics, and tissue engineering modules from NSF, NIH, and CSU. In particular, funding is also being sought for micropatterning equipment (\$15k) to generate scaffolds for tissue engineering.

Budget Request

Biomedical Engineering Teaching Laboratory

Cell Culture Equipment	Items	# units	Vendor	Expected cost
Phase 1 (Fall 2003)	Class II Type A Biosafety Cabinet; 6'	1	Forma Scientific	\$8000
Phase 2 (Spring 2004)	CO ₂ Incubator	1	Sanyo Scientific	\$3500
	Centrifuge, Refrigerated	1	Fisher	\$4000
	Centrifuge Rotor	1	Fisher	\$700
	Centrifuge Bucket for 50 ml tubes	2	Fisher	\$300
	Water Bath	1	Fisher	\$500
Total for Spring 2004				\$9000
Total for Cell Cultivation Module				\$17,000

September 12, 2003

Dear Engineering Student Technology Fee Committee:

I would like to propose to you a one-time expenditure for a laptop computer for exclusive use by Chemical Engineering undergraduate students. The cost for this laptop computer would be up to \$1200.

The laptop computer will be specifically for undergraduate Chemical Engineering students. Neither faculty nor graduate students will have access to it. It will be kept locked in the Unit Operations laboratory (146 Glover), and the key to this lock will be with a select few responsible people.

I believe there is a need for a laptop computer solely for Chemical Engineering students. Based on conversations I have had with some of the Chemical Engineering undergraduate students, they are unhappy with the current system and feel it would be in their best interest to have a laptop computer of their own. Currently, students may borrow laptop computers from the Chemical Engineering front desk and from Engineering Network Services. In both cases, graduate students and faculty have the same access to all the laptop resources. The undergraduate students feel that there are times when, because of the unrestricted access, there may not be a laptop available to them..

If purchased, this laptop computer will be used by undergraduate students for coursework associated with CH 342, CH 442, and CHCC 192, as well as other undergraduate courses as appropriate.

Respectfully,

Timothy R. Gonzales
Chemical Engineering