

Engineering Student Technology Committee

<http://www.engr.colostate.edu/ESTC>

College of Engineering

1. Title of Proposal: Spectrophotometers for the CBE Undergraduate Laboratories

2. Proposal Participants:

Primary Contact for Proposal

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Department/Major: Chemical and Biological Engineering _____

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Additional proposal participants

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Name: Tim Gonzales _____ E-Mail: tim@engr.colostate.edu _____

Department/Major: Chemical and Biological Engineering _____

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3. Proposal Abstract (limit to 100 words):

Equipment and analytical instrumentation in the CBE laboratories is barely adequate to support the needs of the current number of students in the CBE and CBE/BME programs. With dramatically increasing enrollments, these programs are in danger of losing the capacity to offer meaningful lab experiences for their students. One of the most urgent needs is for spectrophotometers, which are used heavily by students in two lab classes and in senior design projects. Based on this critical need, the CBE Department requests that the ESTC provide funds to purchase two spectrophotometers for use in relevant courses and student educational activities.

4. Proposal Budget

List of items to purchase and cost of each

Two (2) spectrophotometers:

The current retail cost of the instruments is about \$5,500 or \$11,000 for the pair.

Dollar or percentage amount requested from ESTC: 100%

5. Full description of proposal:

The CBE undergraduate laboratories are underequipped with supplies and equipment to serve the increasing number of students in both the CBE and CBE/BME programs. Though the list of required equipment is long, there is a particular need for additional spectrophotometers, which are used by students in two lab courses (CBE 333 and CBE 443), some senior design projects, and the International Genetically Engineered Machine (iGEM) team.

The CBE labs currently house two spectrophotometers, which were adequate five years ago when enrollments were half of what they are currently. The stop-gap approach used by CBE to meet the current needs is to transport the existing pair of very sensitive instruments back and forth from Glover Building to Scott Bioengineering Building depending on which lab course is being offered at the time. This transport will no doubt shorten the service life of these instruments significantly, and with no back-ups for these two units, any downtime will adversely affect almost all of the students in their junior and senior years of the CBE and CBE/BME programs.

To alleviate this problem and help continue to provide a meaningful lab experience for undergraduate students, the CBE Department requests that the ESTC provide funding to purchase two additional spectrophotometers: one new instrument each for the Scott Bioengineering Building and Glover Building unit operations laboratories.