

TECHNOLOGY NEEDS ASSESSMENT APPLICATION
Fall 2016

Technology: Programs should list the technology needed to provide ongoing service or instruction, and an approximate cost of the request. *Technology that is listed in this category will be forwarded to Campus Technology Services to evaluate through their own processes.*

Name of Person Submitting Request:	Carol Jones
Program or Service Area:	Chemistry
Division:	Science
Date of Last Program Efficacy:	2016
What rating was given?	Continuation
Amount Requested:	\$22,320.00
Strategic Initiatives Addressed: (See http://www.valleycollege.edu/about-sbvc/office-of-president/college_planning_documents/documents/strategic-plan-report-working-doc-8-25-15-2.pdf)	2.6.6 Increase success rate of transfer level courses 2.17 Increase student engagement

Replacement Growth

- 1. You are required to meet with Rick Hrdlicka – Director of Campus Technology Services prior to submitting a Technology Needs Request. 909-384-8656 or rhrdlicka@sbccd.cc.ca.us. Please provide the date and time of your meeting.**

Email 10/20/16 and meeting 10/24/16 at 8:00-9:00 am in CTE 101 SBVC

2. Projects that require modification to Buildings or Rooms will require a Facilities Need Request. Will this project require facilities changes?

None.

3. What technology-based equipment or software are you requesting?

Nine sets of touch screen systems (similar to a Surface PC or Surface Pro computer or comparable product), as well as the mounting equipment, external keyboards and nine extra digital pens (one extra per device), for the chemistry and physics lecture and laboratories.

4. Indicate how the content of the department/program’s latest Efficacy Report and/or current EMP supports this request and how the request is tied to program planning. (*Directly reference the relevant information from your latest Efficacy Report and/or current EMP in your discussion.*)

Our 2015-2016 EMP goals are to “continue to improve student success” and to “increase the number of science and engineering majors to affect the economic viability of the region.” Over the last few years the Chemistry success rates have been about 55-60%; the chemistry dept. seeks innovative ideas to improve student success (EMP, action plan). The Surface PC will not only function to replace our outdated computers (from 2010) but will also allow for a more interactive lecturing experience. Screen capture technology can be easily used to record processes that students often want to view over and over again (such as arrow pushing mechanisms, complex organic structure modifications, problem solving strategies from the identification of given and needed information within the word problem all the way through

algebraic manipulation of equations, etc.). These devices allow use of a digital pen to ink PowerPoint or PDF files and can easily zoom in and out to give the instructor a larger canvas in which to connect major points in complex problems (i.e. buffer system, multi-step mechanism, etc.). More complex material or repeated examples become easier, since we will not have to worry about the time lag needed to redraw structures or space limitations in trying to use a whiteboard and the projector at the same time.

Feedback from students that have an instructor that uses a Surface Pro currently to lecture with have all been positive. Allied health and engineering majors find this method of instruction easier to follow and more fitting with current technology to which they must be experienced with to compete in this modern workforce.

5. Indicate any additional information you want the committee to consider (*for example, regulatory information, compliance, updated efficiency, student success data, or planning, etc.*).

This new technology will allow instructors the ability to manipulate their lecture slides and handouts in a way that can be instantly saved and even allows for screen capture of lecture material, such as recording the steps of a reaction so that the video of the problem can be posted online for later viewing. This capability will be instrumental in helping our students navigate and succeed multi-step problems, such as mathematical calculations, reaction mechanisms, and chemical synthesis. In addition, this technology makes learning more interactive, keeps students more engaged and therefore is expected to increase success rates.

Many concepts in chemistry are complex and students who have witnessed Surface Pro use during lecture have given positive feedback. Notetaking becomes more understandable and saves time when a student asks about material that has already been covered. In traditional lecture formats, the instructor has to rewrite the information, whereas here, the instructor can go back to the previous inked slide and make adjustments. The images are clearly visible and the ink colors are vibrant, eliminating student struggles to read the white board.

Previous to use of this new technology, instructors have been projecting an image that becomes distorted on the white board and wall (image displays over whiteboard screen split section as well as onto the wall itself) in order to show the problem solving using the white board and the image projected from the LCD projector.

6. Provide a complete itemized list of the initial cost, as well as related costs (including any ongoing maintenance or updates) and identification of any alternative or ongoing funding sources. (*for example, Department, Budget, Perkins, Grants, etc.*)

Touch screen system or Surface PC or equivalent device with keyboards (9 at a projected cost of \$2000 each); Security Mount (9 at \$100 each); Extra Digital Pen (9 at \$80 each); Cost of installation of computer to mount (9 at \$300 each).

7. What are the consequences of not funding this request?

There will be maintenance costs associated with keeping older machines past their lifespan and increasing difficulties for instructors that use the older computers as they become more antiquated. Success Rates will likely remain around 55% without funding of this technology. Students require constant interaction in conceptual learning and problem solving of chemistry and related topics for effective learning and will struggle more often to understand concepts without the interactive nature of this media.