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:	**Jessy Lemieux and Michael Torrez**
Program or Service Area:	**Chemistry**
Division:	**Science**
Date of Last Program Efficacy:	**Spring 2016**
What rating was given?	**Continuation**
Amount Requested:	**$6,0000 (for 6 licenses with 20% ($100) per year update/upgrade/maintenance for 5 years per license)**
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)	**1.114.** Make better use of web content for online and traditional courses **2.6/2.6.1**. Increase student success for both traditional and online (hybrid) students

Replacement **X** 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.**

Talked on phone with Rick 10:30AM 10/24/16

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?

Department set of licenses (6) ChemDraw Prime 15.1 Perpetual Named User Win for use in lecture prep/lab prep/instruction within classroom or lab as well as online hybrid content augmentation. We are currently using outdated versions (several years) or shareware, which do not have spectral capabilities (see explanation below about this requirement for courses).

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.)*

Under SP16 Efficacy report: **Pattern of Service** in offering classes to serve the community (p.8): it states: "The program offers an online-hybrid Chem104 class each semester for transfer nursing majors. In addition, a new one semester General, Organic and Biological Chemistry course designed specifically for the requirements of allied health majors, CHEM 105, is

currently under development and will debut in Fall 2016." Efficacy (p. 35) & EMP: Working to improve student success (55% in Efficacy; 60% in 2015 – 2016 EMP).
This software is NECESSARY for organic chemistry; it draws chemical structures and generates simulated spectroscopic data based on chemical structure. Both of these features are **necessary** for quizzes/exams/problem-sets in CHEM 213 and structure-drawing is **necessary** for quizzes/exams/problem-sets in CHEM 212, 104, 105, 101, and 150. Student success for both traditional classes such as the new CHEM 105 and online hybrid CHEM 104 will increase due to the effective teaching material the software will allow us to implement. The software will allow for easy access to web content in the classroom by allowing molecules that will be studied to be created, cross-checked and referenced in real-time with other molecules in on-line chemistry databases. This will enhance student learning thereby enhancing student success. In addition, the software will allow instructors to meet demands of online coursework required for online hybrid chemistry students through the software's robust online web utilities further enhancing existing discussion and increasing online student success.

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

1. The tools are NECESSARY for preparing tests and problem-sets for organic chemistry.
2. Validation and correction of student nomenclature in time-sensitive lecture and laboratory settings. Software can allow for prediction of issues or critical errors that might otherwise be missed until after the assignment is completed.
3. Ease of Implementation of 2-D structures to: 3-D visualization of molecular, pKa, nomenclature, reaction, MSDS information, and other properties.

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.*)

6 licenses at a cost of $500 each. (It is assumed 20% yearly upgrades would be an additional $100 fee for each license for each year for 5 years. *(Without annual upgrade fee, $3,000)*

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

Instructors will not be able to include molecular structures for reactions, synthesis, or nomenclature for CHEM 101, 104, 105, 150, 212, and 213 or be able to provide NMR spectra in CHEM 213. **These topics are part of the course outlines of record.** In addition, students require constant interaction in conceptual learning and problem solving of chemistry related material. This requires instructors to incorporate state of the art molecular sketching with key names, properties, and reactions for the molecules studied in a timely fashion that students can learn from. Using this software, the process can be streamlined. In addition, the generated sketches can be cross-referenced with online databases for various lecture and lab assignments to help students in the learning process. This software is especially critical for online hybrid student classes where online material for discussion and instruction needs to be constructed and formatted in a way suitable for easy, streamlined access by online students. Current software is outdated and interferes with the student's ability to successfully access and navigate the discussion and instruction content, potentially undermining student success.