

**MSE Program Review 2010-2011 (p. 27)**  
**CHEM 120**

For Fall 2010, an additional lab activity relating to solutions will be added to the schedule to address SLO 2. Physical models capable of representing solute solvation and ion dissociation would also help students learn the topics involved in SLOs 2 and 6. The department currently has animations to show solvation, but models to physically manipulate would help students visualize concepts like dilution and ion dissociation. **Budget Amount Requested: \$800.00**

## Antelope Valley College

### 2010-2011 Resources Requested, Sorted by Entity

As of: 4/18/2012, 3:20 PM

#### Chemistry 120

**Status: In-Progress**

**Priority: Medium**

**Established In: 2009-2010; also Active in 2010-2011**

Action Plan	Implementation Description	Projected Completion Date	Person/Group Responsible	Additional Resources	Budget Requested
Action Plan for SLO 2	Colligative properties lab introduced in spring 2011. Lab was too long. Needs revision to be effective. Solutions were emphasized throughout semester. Retention of intramolecular force concept and of concentration calculations were surprisingly minimal at very review point. It was determined that the question used to assess this SLO should be broken into two parts. Many students misread the question and therefore the question did not assess their skill with the topic of SLO 2.		Chemistry 120 Instructors	models capable of showing ion dissociation; solute solvation	\$800
<p><i>Action Plan Description</i></p> <p>1) Help students to integrate conceptual understanding of solutions and mathematical relationships relating to solutions. Have students discover "the equations" that relate to solutions (such as molarity, molality and other concentrations, osmotic pressure and other colligative properties) through several methods of input, such as using examples from daily life, conceptual questions, models, demonstrations, mathematics, and definitions.</p> <p>2) Integrate review of these topics as new topics are introduced throughout the semester.</p>					

**MSE Program Review 2010-2011 (p. 27)**  
**Chem 210 AND Chem 220**

Hot plates, pH meters, and lab consumables were also purchased by AFRL. When the Title V grant replaced laptops in the physical sciences area, the older laptops were used to replace the failing set in the chemistry area. With these acquisitions, students can now perform lab procedures in reasonably sized groups. Hands-on activity increases student learning.

Success for SLO 3 and 5 could be improved by incorporating more activities based on Spartan Pro, a molecular modeling program that allows students to visualize molecules, to identify the most reactive portions of molecules, and to investigate different chemical bonding theories. Four copies of a version of this program are currently used for a lab based on molecular modeling. This means that students work in a group of six. Additional copies, of the upgraded version, would improve student access to this important tool. **Budget Amount Requested:** to upgrade old copies and add new copies \$5000 (HIGH PRIORITY, also impacts CHEM 220 SLOs and all other chemistry classes.); 12 Laptop computers or netbooks (connect with Vernier lab interfaces, FTIR, and UV/vis instruments) total \$6,000 (HIGH PRIORITY, also impacts CHEM 220 SLOs. Additionally, all chemistry classes will benefit from greater access to computers.)

## Antelope Valley College

2010-2011 Resources Requested,  
Sorted by Entity

As of: 4/18/2012, 3:49 PM

### Chemistry 210

Status: Planned

Priority: Medium

Established In: 2009-2010; also Active in 2010-2011

Action Plan	Implementation Description	Projected Completion Date	Person/Group Responsible	Additional Resources	Budget Requested
New Assignments		5/20/2011	Dr. Newman	Additional photocopy costs	\$10
<i>Action Plan Description</i> Produce additional assignments to practice organic mechanisms.					
SLO met		5/20/2011	Dr. Newman	12 new hotplates	\$4,800
<i>Action Plan Description</i> To improve future safety, new hot plates should replace older models.					

# Antelope Valley College

2010-2011 Resources Requested,  
Sorted by Entity

As of: 4/18/2012, 3:31 PM

## Chemistry 220

Status: Planned

Priority: High

Established In: 2009-2010; also Active in 2010-2011

Action Plan	Implementation Description	Projected Completion Date	Person/Group Responsible	Additional Resources	Budget Requested
Safety funding		6/7/2011	Chemistry Department	New hotplates.	\$4,800
<i>Action Plan Description</i> Safety funding is not related to outcomes.					

Priority: Medium

Established In: 2009-2010; also Active in 2010-2011

Action Plan	Implementation Description	Projected Completion Date	Person/Group Responsible	Additional Resources	Budget Requested
More time on topic		6/7/2011	Dr. Newman	Software/video	\$200
<i>Action Plan Description</i> Allow additional lecture time on topic. Modify labs for stronger tie-in. Acquire software/video on topic.					

