

**INSTRUCTIONAL EQUIPMENT REQUEST**  
**2016-2017**

Internal Use

IE #: Fall 48

Total \$: 555.74

OCT 03 2016

VP ACADEMIC SERVICES  
LAS POSITAS COLLEGE

Requester Name: Mike Ansell and Ed Brennan Division Name: MSEPS

**SECTION 1: SUMMARY INFORMATION**

**Brief Title of the Request:**

Lead (Pb) Lumina Hollow Cathode Lamp, Diameter: 50mm (2in.) for the Atomic Absorption Spectrometer (AA)

Equipment Location Building: 1800 Room: 1802

**SECTION 2: EQUIPMENT DESCRIPTION**

The equipment is:  A Replacement  An Upgrade  New Equipment/Technology  
Describe the specific equipment requested and how it will be used to replace, upgrade or provide new technology to LPC from what is currently in place:

The Chemistry Program purchased an Atomic Absorption (AA) spectrometer for use in our General Chemistry laboratories and honors projects in 2010. The AA has been an outstanding and reliable instrument to measure the presence of certain elements to the parts per million or parts per billion level in solutions. The instrument currently has three different light sources used to detect eight specific elements.

We are requesting the purchase of a fourth light source in order to detect lead (Pb) in municipal drinking water samples. Over the last eight years, we have used the AA to measure levels of calcium in tap water, of iron extracted from breakfast cereal, and of cobalt in reaction products. In 2015, lead contamination was detected in tap water in Flynn, Michigan and brought national attention to the issue of deteriorating pipes in many parts of the country with aging infrastructure. We want to use this lamp for a lab where students test samples of drinking water from their own homes, drinking fountains, lake water, or any other water sources.

If applicable, describe the legal requirement, mandate, or safety concern for purchase of this equipment, making specific reference to the legal requirement or regulation:

NA



### **SECTION 3: LPC MISSION STATEMENT AND LPC PLANNING PRIORITIES**

#### **LPC MISSION STATEMENT:**

LPC is an inclusive learning-centered institution providing educational opportunities and support for completion of students' transfer, degree, basic skills, career-technical, and retraining goals.

#### **LPC PLANNING PRIORITIES:**

- ❖ Establish regular and ongoing processes to implement best practices to meet ACCJC standards.
- ❖ Provide necessary institutional support for curriculum development and maintenance.
- ❖ Develop processes to facilitate ongoing meaningful assessment of SLOs and integrate assessment of SLOs into college processes.
- ❖ Expand tutoring services to meet demand and support student success in Basic Skills, CTE, and Transfer courses.

Specify how the equipment supports *LPC's Mission Statement and Planning Priorities:*

The Lead (Pb) Lumina Hollow Cathode Lamp, Diameter: 50mm (2in.) will be an educational opportunity for students who will transfer or earn a degree to gain valuable career-technical skills that apply to real employment opportunities. It will provide institutional support for curriculum development.

### **SECTION 4: EDUCATIONAL ITEMS – PROGRAM REVIEW**

Specify the educational programs this equipment supports:

This equipment supports the Chemistry Program.

If this equipment is included in your Program Review, please include the exact wording. If equipment is not included, explain why:

The program has grown considerably; it now offers 40 sections. This growth requires increasing lab facilities, equipment, glassware, lab support, and supplies. Specifically, we will be requesting a Lead (Pb) Lumina Hollow Cathode Lamp, Diameter: 50mm (2in.) and a new set of Vernier Radiation Detectors through the Fall 2016 EIR process.

### **SECTION 5: TEACHING AND LEARNING**

Describe in detail the impact this equipment will have on teaching:

A Lead (Pb) Lumina Hollow Cathode Lamp will allow instructors to teach students how to detect low levels of lead contamination in water samples using the industry standard technique.

Describe in detail the impact this equipment will have on learning:

Students will learn spectroscopy, linear regression, sample preparation, and specific skills that will better prepare them for transfer and degrees in the real world.

Each academic year, this equipment will impact: 6 # of classes/sections    150 # of students



## **SECTION 6: OUTCOMES (SLOs)**

**Using your documented SLOs, specify how the equipment will enable student learning outcomes to be achieved?**

The course SLO for Chemistry 1B, which is mapped to the pSLO is "Students completing Chemistry 1B should be able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed in the course outline as measured by the American Chemical Society General College Chemistry Full Year Exam. Utilizing AA presents many of the concepts and complex problem solving skills needed for this SLO.

**What are the consequences related to learning outcomes if request is not funded?**

Students will be less motivated and prepared to achieve the program level SLO of being able to demonstrate proficiency in solving complex problems and conceptual understanding of content listed in the course outline as measured by the American Chemical Society General College Chemistry Full Year Exam.

## **SECTION 7: TOTAL COST OF OWNERSHIP (FINANCIAL & SUSTAINABILITY)**

**What is the potential life span of the requested equipment?**

If handled and stored carefully, it could last for 10-20 years. The lamps we purchased in 2010 are all still in excellent shape and fully functioning.

**If new storage is needed, describe the storage, location, and costs: (Specific storage costs should be detailed in the "Part A: Initial Start-up Costs" section below.)**

There is plenty of room in the cabinet in Chemistry Laboratory 1802 for one additional 2" x 2" x 6" lamp.

**What will be required to maintain the equipment, such as regular servicing or upkeep? (Specific on-going costs should be detailed in the "Part B: On-Going Annual Operating Costs" sections below as applicable.)**

No maintenance required.

**Explain how this equipment meets or exceeds basic sustainability efforts and/or provides renewable resources to the college:**

We will use the previously purchased AA and by purchasing one additional light source we can do a new set of experiments that we could not do before.



**Part A: Initial Start-up Costs**

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Equipment or Materials	\$492	less if education discount
Taxes (9.5%)	46.74	
Shipping or Delivery Charge	17	
Installation Costs *	0	
Miscellaneous Costs:		
Facilities Modifications	0	
Operator Training	0	
Maintenance & Repair Training	0	
Other:		
Vendor Discount		
<b>Grand Total:</b>		555.74

**Part B: On-Going Annual Operating Costs**

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Annual Service or Maintenance	0	
Estimated Parts Replacement Per Year	0	
Outside Standardization or Calibration Costs	0	
Storage Costs	0	
New Supply Costs	0	
Miscellaneous Costs:		
Maintenance & Repair Labor	0	
Other:		
<b>Annual Operating Costs:</b>		0

Indicate the source of funding for on-going annual operating costs:

N/A





**Part C: Incremental Labor Costs**

**OPERATOR:**

Indicate the key operator: Michael Ansell

Is this in their current scope of duties? yes

Indicate cost to train key operator (include in Initial Start-up Costs above): 0

Indicate amount of time per month key operator will use equipment: a few hours

**MAINTENANCE & REPAIRS:**

Indicate the person performing maintenance and repairs: Michael Ansell

Is this in their current scope of duties? yes

Indicate cost to train for maintenance and repairs: 0

Indicate amount of time per month maintenance will be required: 0

**SECTION 8: APPROVALS**

Funded requesters will be expected to respond to a brief RAC feedback survey by a requested deadline. Requests for computer-related equipment and printers must be reviewed by the LPC IT Department.

**Signatures:**

Neil Ansell  
Requester

9/29/16  
Date

\_\_\_\_\_  
IT Department (if required)

\_\_\_\_\_  
Date

Nan Ho  
Dean/Manager

9/29/16  
Date

Ron Be  
Vice President

10/24/16  
Date





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**PRELIMINARY QUOTATION**  
**DRJUSD1283**  
Sales Person: DAVE JARVIS  
Quotation Date: 9/16/2016  
Expiration Date: 11/15/2016  
Your Ref:

## Las Positas - Pb Lamp

Part Number	Description	Unit Price	Discount (%)	Quantity	Total Net Price	Discount Description
N3050157	PB LUMINA HCL	615.00	20	1	492.00	ZMDS AMS3016LUM
Sub Total					492.00	
Additional Discount					.00	
Total					492.00	



# Las Positas - Pb Lamp

## Notes

This is a preliminary quotation, excluding taxes, and is issued for budgetary purposes only. Final prices may differ from those quoted here. Any orders resulting from this document are subject to the PerkinElmer Standard Terms and Conditions, available on request, and to final acceptance by PerkinElmer LAS.





