

INSTRUCTIONAL EQUIPMENT REQUEST 2016-2017

Internal Use

IE #: Fall 49

Total \$: 3,242.66

OCT 03 2016

VP ACADEMIC SERVICES
LAS POSITAS COLLEGE

Requester Name: Mike Ansell and Eric Harpell Division Name: MSEPS

SECTION 1: SUMMARY INFORMATION

Brief Title of the Request:

18 Vernier Radiation Monitors

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 Vernier Radiation Monitor detects alpha, beta, gamma, and X-ray radiation. Applications include nuclear counting statistics, shielding, and decay rate measurements. We have a class set of older, battery-powered Vernier Radiation Detectors that were acquired in about 1998 by Dr. Art Deleray. These instruments are slowly failing and losing sensitivity. The new monitors are powered through a USB cable and can also detect X-ray and Gamma radiation that the older monitors could not detect.

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

Part A: Initial Start-up Costs

| <u>Item</u> | <u>Cost</u> | <u>Comments</u> |
|-------------------------------|-------------|-----------------|
| Equipment or Materials | 2950.74 | |
| Taxes (9.5%) | 280.32 | |
| Shipping or Delivery Charge | 11.60 | |
| Installation Costs * | 0 | |
| Miscellaneous Costs: | | |
| Facilities Modifications | 0 | |
| Operator Training | 0 | |
| Maintenance & Repair Training | 0 | |
| Other: _____ | | |
| Vendor Discount | included | |
| Grand Total: | | 3242.66 |

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: | 0 | |
| Maintenance & Repair Labor | 0 | |
| Other: _____ | | |
| Annual Operating Costs: | | |

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

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 Vernier Radiation Monitors 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:

The Vernier Radiation Monitors will be used for the Chemistry and Physics programs, particularly Chemistry 1B, Physics 8D, and possibly Chemistry 30A.

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:

This equipment will allow instructors to teach students how to use radiation detectors to collect data for the radiation decay of specific materials and how this behavior changes over time.

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

Students can learn valuable, hands-on skills in radiation detection that will apply to topics like nuclear energy production, naturally occurring radioactive elements, nuclear weapons stockpile maintenance, and even the use of radioactive isotopes in medicine and medical imaging.

Each academic year, this equipment will impact: 8 # of classes/sections 200 # 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 radiation detection presents several of the concepts needed for this SLO.

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

It will be more and more difficult to do radiation monitoring as part of the curriculum for these classes as the older detectors continue to fail.

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

What is the potential life span of the requested equipment?

The previous monitors have lasted 18 years. The new equipment looks more durable and does not have the moving parts that the previous monitors have, so we would anticipate more than a 20 year lifespan.

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.)

No new storage is needed. These devices will take up much less room than the monitors they will replace.

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 costs, in fact we will save on the purchase of AA batteries we were purchasing in the past.

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

No battery usage and disposal will be required.

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: unknown

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:

Mich Ansell
Requester

9/29/16
Date

IT Department (if required)

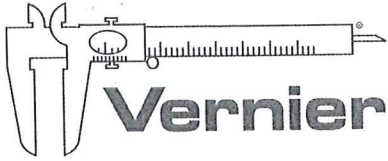
Date

Nan Ho
Dean/Manager

9/29/16
Date

Tom Brie
Vice President

10/24/16
Date



VERNIER SOFTWARE & TECHNOLOGY
 13979 SW MILLIKAN WAY
 BEAVERTON, OR 97005
 503-277-2299 fax 503-277-2440
 EIN:93-1162373

Quote

Vernier Quote: 1042083 - 000
 Customer: 630511

Customer: 630511
 GERRY GIRE
 LAS POSITAS COLLEGE
 GGIRE@LASPOSITASCOLLEGE.EDU
 LIVERMORE, CA 94551

| | | | | | | | |
|------------|-------------|----------|----------|--------|-------------|------------|----------|
| Quote Date | Expire Date | Employee | Ship Via | MOS | Terms | Contact ID | Currency |
| 09/15/2016 | 12/14/2016 | smcloud | UPS | GROUND | NET 30 DAYS | | USD |

| Qty Ordered | Qty Shipped | Item Code | Description | Retail Price | Unit Price | Total Price |
|-------------|-------------|-----------|---------------------------|--------------|------------|-------------|
| 18 | 18 | VRM-BTD | VERNIER RADIATION MONITOR | 169.00 | 163.93 | 2,950.74 |

Total Item Qty: 18

Line Item Total: 2,950.74
Shipping: 11.60
Subtotal: 2,962.34
***Estimated Tax:** 280.32
Total: 3,242.66

The prices listed on this quote are valid with complete shipment to one location. Any applicable tax will be based on the bill-to entity, the ship-to address, and the date of the shipment.

Please contact our Quotes Dept at 1-888-837-6437 or quotes@vernier.com if you have any questions about the quote. Please contact our Orders Dept at 1-888-837-6437 or orders@vernier.com and reference this quote number to place the order.

Thank you for using Vernier products!

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