

INSTRUCTIONAL EQUIPMENT REQUEST

2018-2019

SEP 11 2018

Internal Use
IE #: Fall-38
Total \$: _____

Requester Name: M. Ansell, Kauhleen Mangayan **Division Name:** STEM
Las Positas College

SUMMARY INFORMATION

Title of Item: Chemistry Glassware

Equipment Location Building: 1800 **Room:** 1805

Location Comments:

SECTION 1: 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:

This request is to replace macroscale glassware for Organic and General Chemistry Laboratories. These include burets and gas collection tubes for general chemistry and glassware that has been broken from the macroscale organic kits. An itemized list is attached.

LPC - RECEIVED
SEP 28 2018
ADMINISTRATIVE SERVICES

SECTION 1: EQUIPMENT DESCRIPTION (contd)

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

Our course outline for 12A mandates a minimum of 16 laboratory techniques that students must learn. In 12B, students are expected to be proficient in these techniques to perform higher level analysis and synthesis. The glassware and equipment being requested here are the minimum set required to conduct these standard experiments to learn these techniques.

Specialized organic chemistry equipment are specifically designed to withstand pressurized systems, thermal shocks associated with high temperatures and sudden temperature changes, and frequent use. Some of these will also be used to replace broken glassware and faulty equipment that may have become unsafe to use. Many of these glassware and supplementary equipment are used in pressurized systems so cracked glassware and faulty connectors are important safety concerns.

SECTION 2: 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:

- ❖ Accreditation: Establish regular and ongoing processes to implement best practices to meet ACCJC standards.
- ❖ Curriculum: Provide necessary institutional support for curriculum development and maintenance.
- ❖ Tutoring Services: Expand tutoring services to meet demand and support student success in Basic Skills, CTE, and Transfer courses.
- ❖ Professional Development: Coordinate available resources to address current and future professional development needs of faculty, classified professionals, and administrators in support of educational master plan goals.

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

The equipment being requested supports both the mission of the College and the Program to provide educational opportunities and academically prepare students for transfer, degree completion, or a technical career. Many students taking Organic Chemistry are transfer students majoring in Biology, Chemistry, some Engineering fields, or pre-med/dental. This chemistry course series also fulfills degree requirements for both the AS-Chemistry and the AA-Chemistry Education degrees at LPC. Chemistry lab courses in Organic Chemistry are highly valued in entry-level jobs for environmental monitoring technician positions.

SECTION 3: EDUCATIONAL ITEMS – PROGRAM REVIEW

Specify the educational programs this equipment supports:

The equipment will have substantial impact on the Chemistry program curriculum for students because:

- 1) Many students taking Organic Chemistry are transfer students majoring in Biology, Chemistry, some Engineering fields, or pre-med/dental. The Organic Chemistry series (12A/12B) is required for all biology and chemistry majors and some engineering majors. This chemistry course series also fulfills degree requirements for both the AS-Chemistry and the AA-Chemistry Education degrees at LPC. The course outlines for 12A/12B which are used for course articulation and C-ID approval list a minimum of 16 laboratory techniques that students should learn how to do and be able to apply in these courses. The equipment being requested is required for these experiments. Having this equipment will ensure that students learn these techniques to fulfill the articulated learning objectives.
- 2) Completing the third set for the new section and replacing broken glassware and equipment will ensure that students receive a quality of training and lab skills acquisition required by transfer institutions. This will allow Organic Chemistry students to continue to hone their abilities to work independently and assume full responsibility for their equipment. These are minimum requirements for laboratory scientists.
- 3) The additional and replacement equipment will allow us to sustain three sections of Organic Chemistry. This has always been a high-demand course, especially now that more universities are accepting them for transfer.

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

Section One, PartB:

Supplies and equipment: More students in the program means more chemicals used, more glassware and other equipment needed, and higher frequency of use of instruments. With the 10% increase from last year in the number of sections offered and the addition of third sections of 12A and 12B, the Program has increased need for:

- Supplies budget to cover increase use of chemicals and glassware. In particular, the third section of the 12AB series requires special chemicals, locker equipment, and increased equipment maintenance and repair funding for instrumentation.

Section One, Part E:

Lack of funding for supplies and equipment

- We still lack funding to fully equip the third section of the Organic Chemistry.

Section One, Part F:

In 2017 – 2018, we plan to:...

- Request funding for Organic Chemistry additional locker equipment, kits, and glassware for the third section.

SECTION 4: TEACHING AND LEARNING

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

Impact on teaching:

As mentioned above, our course outline mandates a minimum of 16 laboratory techniques that students need to learn in the laboratory. All the glassware and equipment being requested are the minimum necessary to teach students these techniques through various lab experiments. Faulty, missing, and insufficient glassware and equipment are an impediment to teaching because time is wasted on fixing, replacing, or substituting items or not running the experiment at all. Not having enough of and the right glassware will limit the types of teaching labs that students can do in the lab.

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

Impact on learning:

Chemistry is a hands-on subject. As stated above, the learning objectives stated in the course outline will not be met if there is not sufficient equipment to conduct the experiments to learn these techniques. Not having enough of and the right glassware will limit the types of labs that students can do in the lab. If students do not have the right equipment, they will be unable to prepare samples for analysis or synthesize molecules which

Each academic year, this equipment will impact: 6 # of classes/sections 132 # of students

SECTION 5: OUTCOMES (SLOs)

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

Chemistry is best learned and remembered by doing. The laboratory equipment being requested here will enable achievement of SLO's because our labs are designed for students to:

- 1) learn general experimental methods and techniques,
- 2) improve their analytical skills,
- 3) relate actual observations and experimental conclusions through the various activities that reinforce and enhance the learning of conceptual material.
- 4) work independently

Laboratory activities are directly tied to the Chem 12A/12B SLO's:

SLO outcomes for the 12A course require that students be able to predict products of an SN2 reaction. The learning of this concept is reinforced when they actually conduct and observe the reaction in the laboratory. The SLO for the 12B is assessed using the American Chemical Society National Exam where students are asked various questions regarding laboratory techniques in synthesis, characterization, and analysis of compounds.

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

The equipment requested is the minimum required to fulfill these SLO's and those prescribed by the course outlines. Without this equipment:

- 1) We will not be able to sustain offering three sections of Chemistry 12A and 12B which reduces access for this high demand course for transfer students. Not being able to take these courses has delayed by at least a year the transfer process for some students in the past.
- 2) The quality of learning may go down if students do not have the necessary equipment to focus on learning

SECTION 6: TOTAL COST OF OWNERSHIP (FINANCIAL & SUSTAINABILITY)

What is the potential life span of the requested equipment?

Many of the glassware and equipment, if used and maintained with care, can potentially last 5-20 years or longer. Their long life span means that they don't need to be replaced often which saves resources. Students are instructed on how to take responsibility for the maintenance and care of equipment and glassware in their lockers after every use.

If new storage is needed what are the storage requirements, location requirements, and costs associated with the new equipment: (NOTE: Specific storage costs should be detailed in the "Part A: Initial Start-up Costs" section below.)

No new storage is needed because many of these will go inside student lockers or the cabinets and drawers in lab room 1805.

If this equipment replaces old equipment but the old equipment will not be retired, are there on-going storage requirements, location requirements, and costs associated with the old equipment? If so, provide details.

N/A. No old equipment will be retired.

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.)

Students are instructed on how to take responsibility for the maintenance and care of equipment and glassware in their lockers after every use.

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

Their long life span means that they don't need to be replaced often which saves resources. Many of the equipment and glassware being requested are required to run experiments at the microscale level reducing the amount of chemicals used and waste generated. This fulfills one of the 12 principles of green chemistry.

SECTION 6: TOTAL COST OF OWNERSHIP (contd)**Part A: Initial Start-up Costs**

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Equipment or Materials	6,604.75	
Taxes (9.5%)	627.45	
Shipping or Delivery Charge	0.00	free shipping
Installation Costs *	0.00	
Miscellaneous Costs:		
Facilities Modifications	0.00	
Operator Training	0.00	
Maintenance & Repair Training	0.00	
Storage	0.00	
Other: _____	0.00	
Vendor Discount		
Grand Total:		\$ 7,232.20

*For items requiring installation, requesters are required to check with District Purchasing (Victoria Lamica) regarding District policies.

Part B: On-Going Annual Operating Costs

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Annual Service or Maintenance	0.00	
Estimated Parts Replacement Per Year	0.00	
Outside Standardization or Calibration Costs	0.00	
Storage Costs	0.00	
New Supply Costs	0.00	
Miscellaneous Costs:	0.00	
Maintenance & Repair Labor	0.00	
Other: _____	0.00	
Annual Operating Costs:		\$ 0.00

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

NA

SECTION 6: TOTAL COST OF OWNERSHIP (contd)

Part C: Incremental Labor Costs

OPERATOR:

Indicate the key operator: NA

Is this in their current scope of duties? NA

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

Indicate amount of time per month key operator will use equipment: NA

MAINTENANCE & REPAIRS:

Indicate the person performing maintenance and repairs: NA

Is this in their current scope of duties? NA

Indicate cost to train for maintenance and repairs: NA

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

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:

Mike Ansel
Requester

9/11/18
Date

N/A
IT Department (if required)

Date

nan Ho
Dean/Manager

9-11-18
Date

[Signature]
Vice President

9/21/18
Date



Macroscale Glassware

Item Name	Vendor	Catalog #	Unit	Price	units needed	Total Price
PYREX Claisen Three-Way Connecting Adapter, with [ST] joints, Corning (19/22)	VWR	32645-367	Each	81	1	81
PYREX 75, Three-Way, Connecting Tube with [ST] Joints, Corning (19/22)	VWR	32645-356	each	60.82	4	243.28
Pyrex 105 Vacuum Connecting Adapters with [ST] Joints, Corning (19/22)	VWR	89091-086	Case of 6	436.2	2	872.4
Pyrex West Condenser, with Drip Tip and [ST] Outer and Inner Joints, Corning (19/22)	VWR	89091-664	Case of 4	395.45	3	1186.35
Pyrex Distilling Condenser, Drip Tip and [ST] Joints, Corning	VWR	32645-232	each	106.41	1	106.41
Pyrex Squibb Separatory Funnel, PTFE Stopcock, Standard Taper Joints, Corning	VWR	89091-140	Case of 4	440.7	1	440.7
Gas measuring tube, borosilicate glass, 100mL	Flinn	GP5068	Each	26.37	16	421.92
Buret, borosilicate glass, with PTFE stopcock, 50mL	Flinn	GP1090	each	77.445	42	\$3,252.69
				Subtotal		\$6,604.75
				tax (9.5%)		\$627.45
				total		\$7,232.20

#R

FOR REIMBURSEMENT: List payee name & ssn.

TAX ID#

FOR REIMBURSEMENT: List payee name & ssn.				TAX ID#
NAME OF STAFF MEMBER	DATE WRITTEN	DATE REQUIRED	DIVISION/ DEPARTMENT	For inventory purposes equipment will reside:
Michael Ansell	11-Sep-18	ASAP	STEM	

FOR OFFICE USE ONLY

NAME OF STAFF MEMBER	DATE WRITTEN	DATE REQUIRED	DIVISION/ DEPARTMENT	For inventory purposes include room # where equipment will reside:	RETURN COPY of REQUISITION TO:
Michael Ansell	11-Sep-18	ASAP	STEM		Ext#:

DESCRIPTION (PRODUCT, TYPE, SIZE, COLOR, STOCK NUMBER)						UNIT	QTY	UNIT PRICE	Air
Gas measuring tube, borosilicate glass, 100mL						ea	16	\$ 26.37	421.92
Buret, borosilicate glass, with PTFE stopcock, 50mL						ea	42	\$ 77.445	3252.69
								\$ -	-
								\$ -	-
								\$ -	-
								\$ -	-
								\$ -	-
								\$ -	-
								\$ -	-
Vendor Information/ Remit To:									
Flinn Scientific Acct #158704								\$ -	-
PO box 219								\$ -	-
Batavia, IL 60510								\$ -	-
Livermore, CA 94551								\$ -	-
Comments:						Subtotal		\$ 3,674.61	
						Tax		\$ -	339.90
						Shipping (if available):			\$ -
						BT#			

Original invoices and receipts must be attached for payment. Include current taxes unless incorporated in price.

ACCOUNT #

FUND	ORG	ACCT	PROGRAM
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Business Office

APPROVALS

Jan 60 9/11/18

Supervisor/ Coordinator/ Director

Dean/VP/ President

Flinn Scientific, Inc.

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Batavia, IL 60510 www.flinnsci.com
(800) 452-1261 FEIN No. 36-2926914

Quotation

Flinn Quote Number: 188123

Quote Date: 09/10/2018

Freight Terms: FOB DESTINATION

Payment Terms: Net 30 Days

Expiration Date: 12/31/2018

Customer RFQ:

Quote For:

LAS POSITAS COLLEGE
MICHAEL ANSELL
3000 CAMPUS HILL DRIVE
LIVERMORE CA 94551

Page: 1

Line #	Qty	Catalog Number	Description	Unit Price	Extended Price
16	GP5068	TUBE, GAS MEASURING 100ML		26.3700	421.92
42	GP1090	BURET, TEFLON STOPCOCK 50ML		77.4450	3,252.69

Thank you for the opportunity
to quote on your science
supplies. We hope you will
honor us with your order!

Subtotal	3,674.61
Quoted Freight	.00
Hazard Fee	.00
Sales Tax	339.90
Total	4,014.51

Please reference the Flinn Quote Number on your order.

By: *Jim Nesbit*
Quote Coordinator

LAS POSITAS COLLEGE Equipment, Apparatus and Service Requisition

#R

FOR REIMBURSEMENT: List payee name & ssn.

TAX ID#

NAME OF STAFF MEMBER Michael Ansell	DATE WRITTEN 11-Sep-18	DATE REQUIRED ASAP	DIVISION/ DEPARTMENT STEM	For inventory purposes include room # where 1805	UNIT	QTY	UNIT PRICE	Ext#:	FOR OFFICE USE ONLY RETURN COPY of REQUISITION TO:
DESCRIPTION (PRODUCT, TYPE, SIZE, COLOR, STOCK NUMBER)					UNIT	QTY	UNIT PRICE	Ext#:	
PYREX Claisen Three-Way Connecting Adapter, with [ST] joints, Corning (19/22) 32645-367					ea	1	81		Air
PYREX 75, Three-Way, Connecting Tube with [ST] Joints, Corning (19/22) 32645-356					ea	4	60.82		243.28
Pyrex 105 Vacuum Connecting Adapters with [ST] Joints, Corning (19/22) 89091-086					cs of 6	2	436.2		872.4
Pyrex West Condenser, with Drip Tip and [ST] Outer and Inner Joints, Corning (19/22) 89091-664					cs of 4	3	395.45		1186.35
Pyrex Distilling Condenser, Drip Tip and [ST] Joints, Corning 32645-232					each	1	106.41		106.41
Pyrex Squibb Separatory Funnel, PTFE Stopcock, Standard Taper Joints, Corning 89091-140					cs of 4	1	440.7		440.7

								\$	-
								\$	-
								\$	-
								\$	-
Vendor Information/ Remit To:					Deliver To, include room # (optional):				
VWR (acct #80157177)					Michael Ansell, Chemistry				
Radnor Corporate Center					Las Positas College Room 1805				
Building One, Suite 200					3000 Campus Hill Drive				
100 Matsonford Road					Livermore, CA 94551				
Radnor, PA 19087-8660									
					Subtotal			\$	2,930.14
					Tax			\$	278.36
					Shipping (if available):				

Original invoices and receipts must be attached for payment. Include current taxes unless incorporated in price.

ACCOUNT #				TOTAL COST \$		3,208.50
FUND		ORG	ACCT	PROGRAM		Business Office

APPROVALS *Nan Ho 9/11/18* Supervisor/ Coordinator/ Director

[Signature] Dean/ VP/ President

QUOTATION

Quote Number	Valid From	Valid To	Page
8030793999	09/10/2018	10/10/2018	1 of 2
Currency	Sales Representative	Customer Reference	
USD	Daniel Im		





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Fax : 1-866-329-2897
Web : www.vwr.com



When placing your order, please include your quotation number and account number to ensure you receive the correct price.

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Quote Prepared For	Contact Phone / Fax / E-Mail
MICHAEL ANSELL	mansell@laspositascollege.edu
Ship To : 80157177	Sold To : 80084039
LAS POSITAS COLLEGE 3033 COLLIER CANYON RD LIVERMORE CA 94551-9797	LAS POSITAS COLLEGE WSCA NASPO SP 04 0430 3033 COLLIER CANYON RD LIVERMORE CA 94551-9797

Row	VWR Catalog Number	Product Description	Qty	UOM	Unit Price	Extended Price
10	32645-367	TUBE,CONNECTING,CLAISEN 19/22	1	CS	81.00	81.00
		PYREX® Claisen Three-Way Connecting Adapter, with 19/22 [ST] Joints, Corning® Product Link : https://us.vwr.com/store/catalog/product.jsp?catalog_number=32645-367 Shipping Dimensions Weight / Size (L*W*H) per UOM : 0.100 LB / 4.000*7.000*1.300 IN UOM Component Info : CS(1items) Availability : Product Ships Directly from Manufacturer				
20	32645-356	TUBE,CONNECTING,3WAY 19/22	4	CS	60.82	243.28
		PYREX® 75°, Three-Way, Connecting Tube with [ST] Joints, Corning® Product Link : https://us.vwr.com/store/catalog/product.jsp?catalog_number=32645-356 Shipping Dimensions Weight / Size (L*W*H) per UOM : 0.100 LB / 4.200*2.400*1.100 IN UOM Component Info : CS(1items) Availability : Product Ships Directly from Manufacturer				
30	89091-086	TUBE CONNECTING VACUUM 19/22	2	CS	436.20	872.40
		PYREX® 105° Vacuum Connecting Adapters with [ST] Joints, Corning® Product Link : https://us.vwr.com/store/catalog/product.jsp?catalog_number=89091-086 Shipping Dimensions Weight / Size (L*W*H) per UOM : 0.850 LB / 6.750*4.500*9.250 IN UOM Component Info : CS(6items) Availability : Product Ships Directly from Manufacturer				
40	89091-664	CONDENSER WEST DR-TIP BORO JT-19/22 CS4	3	CS	395.45	1,186.35
		PYREX® West Condenser, with Drip Tip and [ST] Outer and Inner Joints, Corning® Product Link : https://us.vwr.com/store/catalog/product.jsp?catalog_number=89091-664 Shipping Dimensions Weight / Size (L*W*H) per UOM : 1.500 LB / 12.750*6.250*7.500 IN UOM Component Info : CS(4items) Availability : Product Ships Directly from Manufacturer				

QUOTATION			
Quote Number	Valid From	Valid To	Page
8030793999	09/10/2018	10/10/2018	2 of 2
Currency	Sales Representative	Customer Reference	
USD	Daniel Im		

Row	VWR Catalog Number	Product Description	Qty	UOM	Unit Price	Extended Price
50	32645-232	CONDENSER DISTILLING BORO JT-19/22 CS1	1	CS	106.41	106.41
		PYREX® Distilling Condenser, Drip Tip and [ST] Joints, Corning® Product Link : https://us.vwr.com/store/catalog/product.jsp?catalog_number=32645-232 Shipping Dimensions Weight / Size (L*W*H) per UOM : 0.200 LB / 2.700*1.200*13.400 IN UOM Component Info : CS(1items) Availability : Product Ships Directly from Manufacturer				
60	89091-140	FUNNEL SEP. PEAR 19/22 125ML	1	CS	440.70	440.70
		PYREX® Squibb Separatory Funnel, PTFE Stopcock, Standard Taper Joints, Corning® Product Link : https://us.vwr.com/store/catalog/product.jsp?catalog_number=89091-140 Shipping Dimensions Weight / Size (L*W*H) per UOM : 2.500 LB / 7.000*7.000*15.750 IN UOM Component Info : CS(4items) Availability : Product Ships Directly from Manufacturer				

Quote Total : 2,930.14

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