

INSTRUCTIONAL EQUIPMENT REQUEST 2017-2018

Internal Use
IE #: <u>FALL-18</u>
Total \$: <u>91,385.00</u>

Requester Name: Scott Miner Division Name: CATSS

SECTION 1: SUMMARY INFORMATION

Brief Title of the Request:

Robotic Welding Education Cell

Equipment Location Building: 800

Room: 810

Location Comments:

Welding Lab

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:

This equipment is desired so as to stay abreast of the current trends in industry. Automation is the process of mechanizing a manual process. This Robotic Welding Cell will allow the students to set up and operate a real welding robot. Using the teach commands, students will teach the robot the work they did manually, then put it in to production simulations. We currently have semiautomatic welding equipment and a mechanized straight line tractor cutter/welder. The welding robot works in a 3D space, not a straight line per our existing equipment. We are increasingly getting requests from employers that are looking for students with robotic and CNC work experience for entry level work. Many current LPC students are coming from the High Schools with robotics experience, but not welding skills. This equipment will allow Engineering Tech students to prepare for automation in the workplace. The robot can be programmed to do more than just welding, so this is robotic training tool. with welding being the added benefit.

SECTION 2: 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:

This equipment has safety in mind with its design. The robot is enclosed in a work cell that if entered or perimeter violated , it stops operation. The perimeter barrier seperates operator/students from the robot for safety.

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:

- ❖ **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:*

Mission - Used to support students in the area of Career Technical Education. transfer, degree and retraining goals.

Priorities- Replacement of existing equipment provides the necessary institutional support to maintain curriculum. Meaningful course and program level SLO's can be performed using the robot. The practice of the students in conjunction with coaching from instructors and others represents the CTE version of Tutoring.

SECTION 4: EDUCATIONAL ITEMS – PROGRAM REVIEW

Specify the educational programs this equipment supports:

Welding Technology
Engineering Technology
Possible Computer Science applications

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

"World Class Welding Instruction - Continuous Improvement"

"Increase the use of automation in the welding lab"

"One area of constant concern and need is to make sure that the equipment we use in all our CTE programs are safe to use and similar to that in our respective trade, so that students are prepared for the proper workplace environment"

SECTION 5: TEACHING AND LEARNING

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

This machine will allow teaching of current equipment used in industry, along with advanced features, will help prepare the students for current and future careers. The controls on the robotic welding cell are simple and easy to teach a student to operate. We currently have no equipment that is capable of teaching robotics. Automation is a current trend in all aspects of manufacturing and welding. The equipment comes with 3 days of instructor training from the manufacturer.

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

This machine will allow learning on current equipment used in industry. The controls are logical and easy for the students to learn and understand. The new robotic welding cell will compliment other machines in the welding lab. The robotic welding cell will be the only equipment we have to teach robotics, automation and manufacturing in a 3D space.

Each academic year, this equipment will impact: ²⁵⁺ _____ # of classes/sections ²⁵⁰⁺ _____ # of students

SECTION 6: OUTCOMES (SLOs)

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

This equipment is used to teach robotics, and we would need to complete COURSE level SLO's for this specifically. It could be used to complete the COURSE level SLO's with respect to "Safety in the Welding Workplace" as well as "Pass an industry standard welding certification test" in 4 different positions.

This equipment could be used to complete all three of our PROGRAM level outcomes.

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

Student will continue to perform welding using manual and semiautomatic equipment. We would not be able to add SLO's in the area of automation.

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

What is the potential life span of the requested equipment?

The equipment on this request should last 10-20 years based on usage and maintenance.

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.)

N/A

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

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.)

Minor occasional maintenance, should operate trouble free for years. Existing Technician supports welding lab.

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

The machine is made from materials that can be 100% recycled at the end of its lifespan. All old machines are 100% recycled or repurposed. All the Steel, Aluminum and Stainless Steel students use in conjunction with this equipmnet is 100% recycled.

Part A: Initial Start-up Costs

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Equipment or Materials	83,000	Ed Cell 3.0 Advanced
Taxes (9.5%)	7885	
Shipping or Delivery Charge	500	estimate
Installation Costs *	0	instructor/tech install
Miscellaneous Costs:		
Facilities Modifications		
Operator Training	0	free training included
Maintenance & Repair Training		
Storage		
Other:		
Vendor Discount		
Grand Total:		91,385

*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	
Estimated Parts Replacement Per Year	100	
Outside Standardization or Calibration Costs	0	
Storage Costs	0	
New Supply Costs	0	
Miscellaneous Costs:	20	
Maintenance & Repair Labor		
Other:		
Annual Operating Costs:		120

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

Department Supply Budget

Part C: Incremental Labor Costs

OPERATOR:

Indicate the key operator: students and instructors

Is this in their current scope of duties? Complete educational goals

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: 100+

MAINTENANCE & REPAIRS:

Indicate the person performing maintenance and repairs: Welding Department Technician

Is this in their current scope of duties? yes

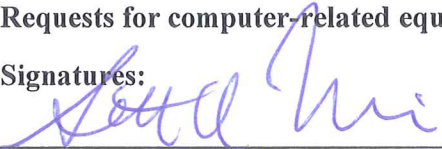
Indicate cost to train for maintenance and repairs: 0

Indicate amount of time per month maintenance will be required: less than 1 hour

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.

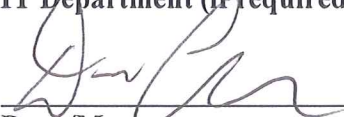
Signatures:


Requester SCOTT MINER

11/8/17
Date

IT Department (if required)

Date


Dean/Manager

11-27-17
Date


Vice President

11/27/17
Date

LAS POSITAS COLLEGE Equipment, Apparatus and Service Requisition #R

FOR REIMBURSEMENT: List payee name & W# TAX ID# FOR OFFICE USE ONLY
 SUGGESTED VENDOR **Lincoln Electric**

NAME OF STAFF MEMBER **Sminer** DATE WRITTEN **1-Nov-17** DATE REQUIRED **Sp2018** DIVISION/ DEPARTMENT **CATSS/WLDT** For inventory purposes include room # where equipment will reside: **810** RETURN COPY OF REQUISITION TO: **Sminer/Vball**

DESCRIPTION	(PRODUCT, TYPE, SIZE, COLOR, STOCK NUMBER)	UNIT	QTY	UNIT PRICE	Air
Welding Education Cell 3.0					\$ 83,000.00
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -
Vendor Information/ Remit To:	Deliver To, include room # (optional):				\$ -
Lincoln Electric Attn: Nicole Clausnitzer					\$ -
22221 Saint Clair Avenue - Cleveland, OH - 44117					\$ -
Phone: (216) 383-2446					
Comments:					
Subtotal					\$ 83,000.00
Tax					\$ 0.0950
Shipping (if available):					\$ 500.00
TOTAL COST \$					91,385.00

BT#

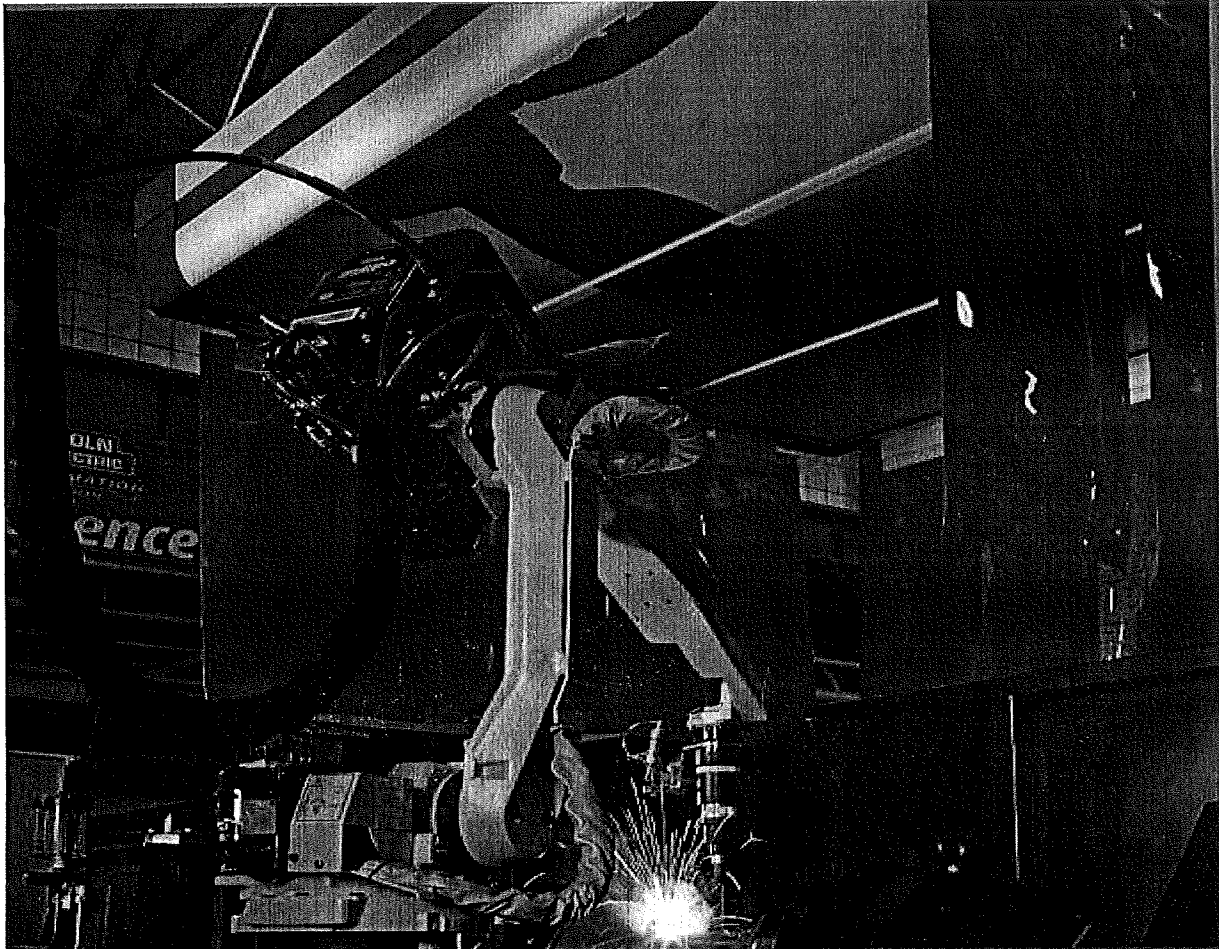
ACCOUNT # _____ FUND _____ ORG _____ ACCT _____ PROGRAM _____

APPROVALS

Supervisor/ Coordinator/ Director _____

Dean/ VP/ President _____

Business Office _____



11.08.2017

SYSTEM FIRM PROPOSAL
Education Cell

PREPARED BY:

Nicole Clausnitzer

22221 Saint Clair Avenue - Cleveland, OH - 44117

Phone: (216) 383-2446 - Fax:

PREPARED FOR:

Quick Reference: LDVL3

LINCOLN
ELECTRIC

**Automation
Solutions**

Dear customer,

Lincoln Automation is pleased to provide you with this Training Systems proposal.

One of Lincoln Electric's many core competencies is providing complete welding and training systems to our customers as well as assistance and support. These unique systems improve quality, lower costs, and help customers enhance their working environments. Through design, integration, world-class customer service, and unparalleled welding expertise, we are the industry leader in automated arc welding and tooling solutions. We have served industries as diverse as automotive, aerospace, transportation, ship building, petrochemical and heavy industry.

Lincoln Automation would like to thank you for the opportunity to submit a proposal for your facility. We look forward to working with you and your company on this application.

If you have any questions, please feel free to contact us at any time.

We look forward to hearing from you.

Kindest Regards,

Nicole Clausnitzer
(216) 383-2446
nicole_clausnitzer@lincolnelectric.com

1 Overview

Lincoln Electric Company Overview

Lincoln Electric is the world leader in the design, development and manufacture of arc welding products, robotic arc welding systems, plasma and oxyfuel cutting equipment, Robotic Training and Virtual Welding Systems and we have a leading global position in the brazing and soldering alloys market. Our enduring passion for the development and application of our technologies allows us to create complete solutions that make our customers more productive and successful. We aim to distinguish ourselves through an unwavering commitment to our customers with a relentless drive to maximize added value for every solution we deliver.

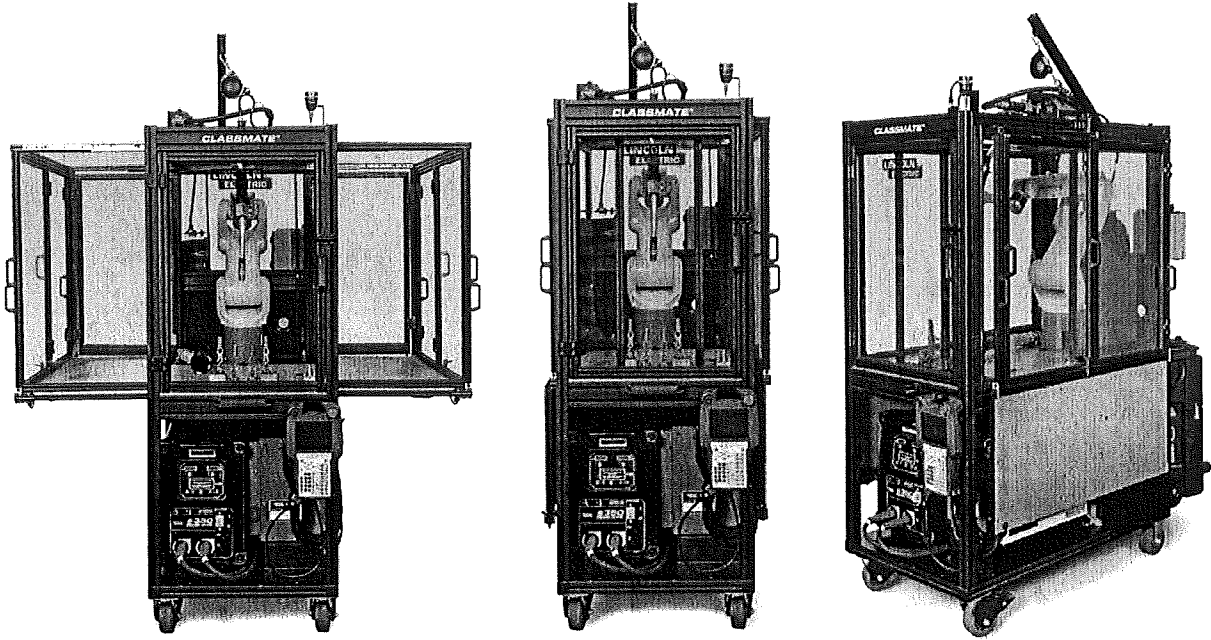
About Lincoln Electric Training Products

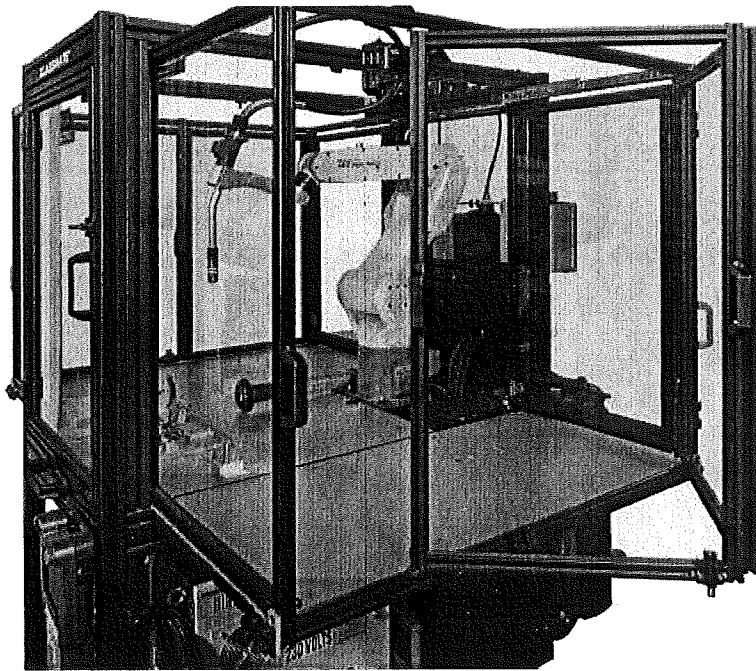
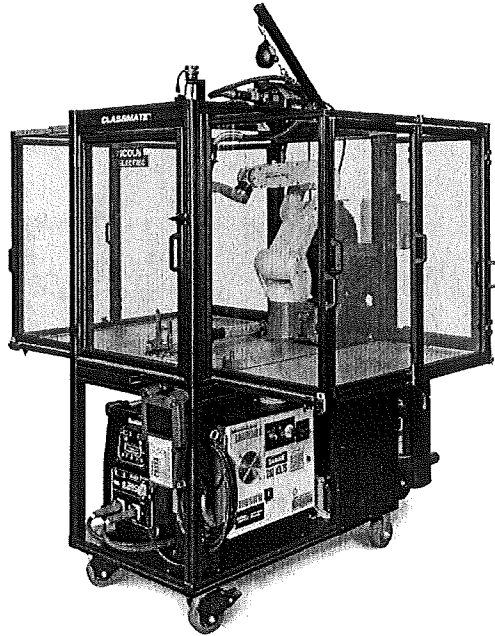
VRTEX® virtual reality arc welding training simulators take welding training to a new level. These computer based training systems are educational tools designed to supplement and enhance traditional welding training. They allow students to practice their welding technique in a simulated and immersive environment. The VRTEX systems promote the efficient transfer of quality welding skills and body positioning to the welding booth while reducing material waste associated with traditional welding training. The combination of realistic puddle, arc welding sound, and real time feedback tied to the welder's movement provides an exciting, hands-on training experience. The RealWeld® welding trainer teaches multiple welding processes and positions, and prompts the user with audio coaching, in both arc-on and arc-off modes, to help develop and maintain proper technique and positioning. The vertical design maintains a small footprint that makes the system ideal for any weld booth providing the optimal training experience. The instant feedback provides data that can assist in student evaluation and progression.

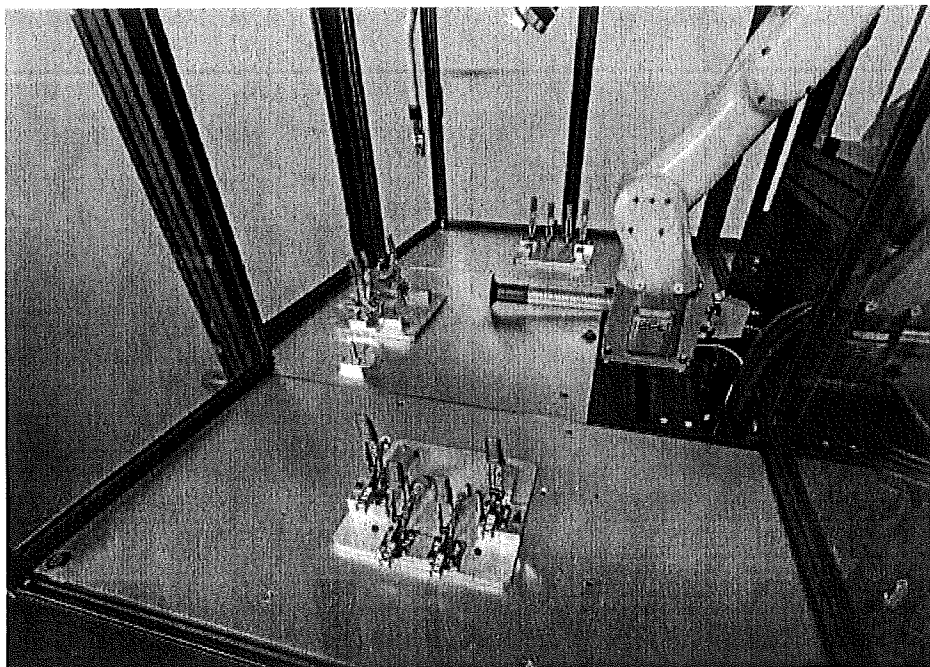
Our VRTEX® simulators are a best-in-class, advanced level virtual welding training system. They are designed to provide a full featured, expandable platform in an easy to use and engaging welding training tool. It is ideal for basic to advanced welding training as a testing, recruitment and engagement tool for welding education and industry for preparation and advanced level evaluation for instructors. We offer a free 2 day VRTEX® training class in Cleveland, OH, every month in which all customers are welcome to attend. The schedule and registration is available on www.VRTEX.com under the Events Section.

Our RealWeld® arc-on/arc-off welding system is a basic to advanced level welding training system. RealWeld is designed to provide consistent guidance and the most real-life experience possible when learning the welding technique and positioning. We offer a free 1 day RealWeld® training class in Cleveland, OH, in which all customers are welcome to attend. The schedule and registration information is available at www.lincolnelectric.com/realweld-registration.

2 System Concept







3 Training Systems Proposal

Training Products is pleased to provide the following items as part of the main equipment proposal:

Education Cell

Education Cell Intermediate

Qty 1

AD2446-2 Robotic Education Cell, Gen 3.0, Intermediate:

- ROBOTIC SYSTEM:
- Specifications:
 - Height: 81.23 inches
 - Length: 67 inches
 - Width: 70 inches (sides expanded), 32 inches (sides folded)
 - Weight: 1000 lbs
- Work surface area: 2,329 sq.in.
- Robot controller input voltage 120VAC

- POWER SOURCE & FEEDER:
- Power Wave® S350 and AutoDrive® 4R100
- Input Voltage:
 - 208/230/380-415/460/575/1/3/50/60
- Input Current @ Rated Output:
 - 3 Ph/40% Duty Cycle: 39/35/19/17/14 A
 - 1 Ph/40% Duty Cycle: 60/67/NA/NA/NA A
- Output Range: 5 - 350 Amps
- Rated Output:
 - GMAW: 350A/31.5V/40%
 - GMAW: 300A/29V/100%

- ROBOT:
- FANUC ARC Mate® 50iD/7L
 - Six Axis Mechanical Unit
 - 7 kg Maximum Payload
 - 0.892m Reach
- FANUC Robotics ARCMate controller
 - 6-Axis Control Board
 - Controller power supply
 - 6-channel servo amplifier
 - NRTL 10A rotary circuit breaker for 200-230VAC, 1-phase input voltage

- RIA compliant E-stop unit
- Integrated operator panel
- RIA-compliant color haptic iPendant with non touch panel and USB2.0 port
- 10m Teach Pendant cable
- I/O converter PCB
- 1 x spare fuse kit (E-stop & servo amp)
- 1 x spare fuse kit (Main board)
- Tool for Wago terminal block (for Fence / Ex. Emergency stop wiring)

- SAFETY/WELD CELL CONTROLS
- CSA/UL certification ready system.
- PLEASE NOTE:
 - Obtaining CSA/UL certification is the responsibility of the customer
- Fully integrated ANSI/RIA 15.06-2012 compliant operator safety devices including a door safety switch
- RIA compliant robotic controller operator panel
- Quantity 2, hand shields (personal protection equipment) supplied with robotic system

- COMPLETE SYSTEM DOCUMENTATION
- Hard Copy binder
- Electronic manuals and tools

- TRAINING PRODUCTS:
- Robotic 3-in-1 welding fixture
- Education Cell Project Based Lessons - Book 1
- Education Cell Project Based Lessons - Book 2
- Miniflex® Fume Extraction
- Lettering Program (preset program creating letters)
- Cert training program, 25 seat Weldpro
- Additional Instructor Cert training program

Total Price

USD 77,200.00

4 Recommended Options

Education Cell

Education Cell

AD2446-1 Robotic Education Cell, Gen 3.0, Basic:

- ROBOTIC SYSTEM:
- Specifications:
 - Height: 81.23 inches
 - Length: 67 inches
 - Width: 70 inches (sides expanded), 32 inches (sides folded)
 - Weight: 1000 lbs
- Work surface area: 2,329 sq.in.
- Robot controller input voltage 120VAC

- POWER SOURCE & FEEDER:
- Power Wave® S350 and AutoDrive® 4R100
- Input Voltage:
 - 208/230/380-415/460/575/1/3/50/60
- Input Current @ Rated Output:
 - 3 Ph/40% Duty Cycle: 39/35/19/17/14 A
 - 1 Ph/40% Duty Cycle: 60/67/NA/NA/NA A
- Output Range: 5 - 350 Amps
- Rated Output:
 - GMAW: 350A/31.5V/40%
 - GMAW: 300A/29V/100%

- ROBOT:
- FANUC ARC Mate® 50iD/7L
 - Six Axis Mechanical Unit
 - 7 kg Maximum Payload / 0.892m Reach
- FANUC Robotics ARCMate controller
 - 6-Axis Control Board
 - Controller power supply
 - 6-channel servo amplifier
 - NRTL 10A rotary circuit breaker for 200-230VAC, 1-phase input

voltage

- RIA compliant E-stop unit
- Integrated operator panel
- RIA-compliant color haptic iPendant with non touch panel and

USB2.0 port

- 10m Teach Pendant cable
- I/O converter PCB
- 1 x spare fuse kit (E-stop & servo amp)
- 1 x spare fuse kit (Main board)
- Tool for Wago terminal block (for Fence / Ex. Emergency stop

wiring)

- SAFETY/WELD CELL CONTROLS
- CSA/UL certification ready system.
- PLEASE NOTE:
 - Obtaining CSA/UL certification is the responsibility of the customer
- Fully integrated ANSI/RIA 15.06-2012 compliant operator safety devices including a door safety switch
- RIA compliant robotic controller operator panel
- Quantity 2, hand shields (personal protection equipment) supplied with robotic system

- COMPLETE SYSTEM DOCUMENTATION
- Hard Copy binder
- Electronic manuals and tools

- TRAINING PRODUCTS:
- Robotic 3-in-1 welding fixture
- Education Cell Project Based Lessons - Book 1
- Education Cell Project Based Lessons - Book 2
- Miniflex® Fume Extraction
- Lettering Program (preset program creating letters)

Quantity	Price	Subtotal
1	USD 64,700.00	USD 64,700.00

Education Cell Advanced

AD2446-3 Robotic Education Cell, Gen 3.0, Advanced:

- ROBOTIC SYSTEM:
 - Specifications:
 - Height: 81.23 inches
 - Length: 67 inches
 - Width: 70 inches (sides expanded), 32 inches (sides folded)
 - Weight: 1000 lbs
 - Work surface area: 2,329 sq.in.
 - Robot controller input voltage 120VAC

 - POWER SOURCE & FEEDER:
 - Power Wave® S350 and AutoDrive® 4R100
 - Input Voltage:
 - 208/230/380-415/460/575/1/3/50/60
 - Input Current @ Rated Output:
 - 3 Ph/40% Duty Cycle: 39/35/19/17/14 A
 - 1 Ph/40% Duty Cycle: 60/67/NA/NA/NA A
 - Output Range: 5 - 350 Amps
 - Rated Output:
 - GMAW: 350A/31.5V/40%
 - GMAW: 300A/29V/100%

 - ROBOT:
 - FANUC ARC Mate® 50iD/7L
 - Six Axis Mechanical Unit
 - 7 kg Maximum Payload
 - 0.892m Reach
 - FANUC Robotics ARCMate controller
 - 6-Axis Control Board
 - Controller power supply
 - 6-channel servo amplifier
 - NRTL 10A rotary circuit breaker for 200-230VAC, 1-phase input
- voltage
- RIA compliant E-stop unit
 - Integrated operator panel
 - RIA-compliant color haptic iPendant
 - 10m Teach Pendant cable
 - I/O converter PCB
 - 1 x spare fuse kit (E-stop & servo amp)
 - 1 x spare fuse kit (Main board)
 - Tool for Wago terminal block (for Fence / Ex. Emergency stop
- wiring)
- SAFETY/WELD CELL CONTROLS
 - CSA/UL certification ready system.

- PLEASE NOTE: CSA/UL certification is the responsibility of the customer
- Fully integrated ANSI/RIA 15.06-2012 compliant operator safety devices including a door safety switch
- RIA compliant robotic controller operator panel, robotic software and pendant
- Quantity 2, hand shields (personal protection equipment) supplied with robotic system

- COMPLETE SYSTEM DOCUMENTATION
- Hard Copy binder
- Electronic manuals and tools
- Robotic 3-in-1 welding fixture
- Education Cell Project Based Lessons - Book 1
- Education Cell Project Based Lessons - Book 2
- Miniflex® Fume Extraction
- Lettering Program (preset program creating letters)
- Cert training program, 25 seat Weldpro
- Additional Instructor Cert training program
- iRVision

The iRVision Package includes the following:

- Sony XC-56 Camera
- Camera will be Fixed Mounted on top of the robot enclosure
- 12.5mm Lens with Lock
- Vision Calibration grid
- Vision label set
- 7m Camera connection cable
- iRVision 2D guidance software
- iRVision e-Doc CD

Quantity	Price	Subtotal
1	USD 83,000.00	USD 83,000.00

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5 Terms and Conditions

5.1 Payment Terms

For VRTEX, RealWeld and Robotic Education Cell products, prices are based on net 30 days with pre-approved credit in place, no cash discounts allowed. The Lincoln Electric Company may change this method of payment in its sole discretion. UCC Filing may be required.

5.2 Standard Terms And Conditions

Single Authorized Distributor Statement:

No distributor other than The Lincoln Electric Company is authorized to sell the VRTEX, RealWeld and the Robotic Education Cell products to you. Any attempt by any other party to sell these products to you should be considered potentially fraudulent and can be reported to The Lincoln Electric Company.

Delivery:

Estimated shipping date is 4 weeks based on current build schedule activity. Actual shipping timeline may vary, and is to be determined based on production schedule at the time an order is received and confirmed. The above prices are in effect for nine (9) months from date of quotation.

Terms/Conditions and Transfer of Title:

Unless explicitly specified in the proposal, shipping is included in the invoiced price.

Title to the shipment to the Buyer at the time the carrier accepts the shipment.

Prices do NOT include state and local taxes.

UCC Filing may be required.

On Site assistance:

Prices do not include system installation or onsite training unless otherwise stated. Lincoln Automation can provide additional on-site customer training, and installation assistance at an additional cost.

For RealWeld products, pricing includes 1 day of operations training in Cleveland, Ohio. Travel and living

expenses are not included. The training schedule and online registration can be found at www.lincolnelectric.com/realweld-registration.

Training for Advanced Trainers:

For VRTEX products, pricing includes 2 days of basic operation training in Cleveland, Ohio. Travel and living expenses are not included. The training schedule and online registration can be found at www.vrtex.com under the Events section.

For the robotic educational system, pricing includes three to five days of basic operations training for three people in Cleveland, Ohio. Travel and living expenses are not included. Training registration is available through calling 888-935-3878.

The three basic seats that come with the purchase of a robotic cell are non-transferable and cannot be exchanged for any other training programs. The three seats will expire within two years of the date of purchase.

Cancellations are accepted prior to one week before a pre-scheduled training session. Company cancellations within one week of a pre-scheduled training session forfeit one training slot. No-show students forfeit all remaining company training slots.

The Lincoln Electric Company strictly prohibits smoking on company premises, including the Automation facilities, and in the parking lot.

End-User Warranty Period*

LECO will assume parts expense of correcting defects during the full warranty period. All warranty periods start from the date of purchase to the original end-user or from the date of manufacture if the original invoice cannot be provided, and are as follows:

- 3 Years
 - All welding machines, wire feeders and plasma cutting machines unless listed below
- 1 Year
 - All VRTEX and RealWeld Training Products, including replacement parts
 - All water coolers (internal or external)
 - Arc welding, cutting, and material handling robots, robotic controllers, and related options
 - All Environmental Systems equipment, including portable units, central units and accessories. (Does not include consumable items listed under 30 day warranty.)
 - All welding and cutting accessories including wire feed modules, undercarriages, field installed options that are sold separately, unattached options, welding supplies, standard accessory sets, replacement parts, and Magnum products. (Does not include expendable parts and guns/torches listed under 90 and 30 day warranty)
 - All Replacement Parts
- 90 Days
 - All robotic MIG, TIG, and PAC Torches/cable assemblies
- 30 Days
 - All consumable items that may be used with the environmental systems described above. This includes

hoses, filters, belts and hose adapters.

-Expendable Parts -LECO is not responsible for replacement of any expendable part required due to normal wear.

*Equipment manufactured for LECO is subject to the warranty period of the original manufacturer (for example: Sick Products -1 year).

Conditions of Warranty - To obtain warranty coverage:

The End User must contact LECO about any defect claimed under LECO's warranty prior to correction. Determination of warranty on equipment will be made by LECO or LECO's Authorized Service Facility.

Warranty Repair:

If LECO or LECO's Authorized Service Facility confirms the existence of a defect covered by this warranty, the defect will be corrected by repair or replacement at LECO's option. At LECO's request, the Integrator or end-user must return to LECO or LECO's Authorized Service Facility any "Goods" claimed defective under LECO's warranty.

Warranty/Service Freight Costs:

For equipment, the end-user customer is responsible for shipment both to and from LECO's Authorized Service Facility. LECO will bear the cost of any required return shipment from LECO's Authorized Service Facility to LECO.

For full terms and conditions please visit:

www.lincolnelectric.com/automation-terms

INSTRUCTIONAL EQUIPMENT REQUEST

RECEIVED

2016-2017

OCT 20 2016

VP ACADEMIC SERVICES
LAS POSITAS COLLEGE

Requester Name: Scott Miner

Division Name: CATSS

Internal Use

IE #: Fall 35

Total \$: 85,034.00

SECTION 1: SUMMARY INFORMATION

Brief Title of the Request:

Robotic Educational Welding Cell

Equipment Location Building: 800

Room: 810

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

N/A

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:*

Mission - Used to support students in the area of Career Technical Education, transfer, degree and retraining goals.

Priorities - Replacement of the existing equipment provides the necessary institutional support to maintain curriculum. Meaningful course and program level SLO's can be performed using the robot. . The practice of the students in conjunction with coaching from others represents the CTE version of tutoring.

SECTION 4: EDUCATIONAL ITEMS – PROGRAM REVIEW

Specify the educational programs this equipment supports:

Welding Technology/ Engineering Technology

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

"World Class Welding Instruction - Continuous Improvement"

"Increase the use of automation in the welding lab"

"One area of constant concern and need is to make sure that the equipment we use in all of our CTE programs are safe to use and similar to that in our respective trade, so that students are prepared for the proper workplace environment"

SECTION 5: TEACHING AND LEARNING

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

This machine will allow teaching of current equipment used in industry, along with advanced features, will help prepare the students for current and future careers. The controls on the robotic welding cell is simple and easy to teach a student to operate. We currently have no equipment that is capable of teaching robotics. Automation is a current trend in our industry.

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

This machine will allow learning on current equipment used in industry. The controls are logical and easy for the students to understand. The new robotic welding cell will compliment other machines in the room. This robotic welding cell is the only tool we would have to teach the concepts of automation.

Each academic year, this equipment will impact: 25+ # of classes/sections 250+ # of students

SECTION 6: OUTCOMES (SLOs)

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

This equipment is used to teach robotics and we would need to complete COURSE level SLO's that would include something that currently does not exist.
This equipment could be used to complete all three of our PROGRAM level SLO's as well.

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

Students will continue to performing welding using manual and semiautomatic equipment. We would not be able to add SLO's in the area of automation.

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

What is the potential life span of the requested equipment?

The equipment on this request should last from 10-20 years based on usage.

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.)

N/A

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.)

Minor occasional maintenance , should operate trouble free for years

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

The machine is made from materials that can be 100% recycled at the end of its usable lifespan. The old machine will be 100% recycled. All of the Steel, Aluminum and Stainless Steel that students use with this machine is recycled as well.

Part A: Initial Start-up Costs

<u>Item</u>	<u>Cost</u>	<u>Comments</u>
Equipment or Materials	77,200.00	
Taxes (9.5%)	7,334.00	
Shipping or Delivery Charge	500.00	estimate
Installation Costs *	0.00	Instructor & Technician Installed
Miscellaneous Costs:		
Facilities Modifications		
Operator Training	0.00	Free Training Classes available from Lincoln
Maintenance & Repair Training		
Other:		
Vendor Discount		
Grand Total:		85,034.00

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	100.00	
Outside Standardization or Calibration Costs	0.00	
Storage Costs	0.00	
New Supply Costs	0.00	
Miscellaneous Costs:	20.00	
Maintenance & Repair Labor		
Other:		
Annual Operating Costs:		120.00

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

Department Supply Budget

Part C: Incremental Labor Costs

OPERATOR:

Indicate the key operator: Students & Instructors

Is this in their current scope of duties? Complete Educational Goals

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: 100+ Hours

MAINTENANCE & REPAIRS:

Indicate the person performing maintenance and repairs: Welding/Auto Department Technician

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: less than 15 minutes

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:



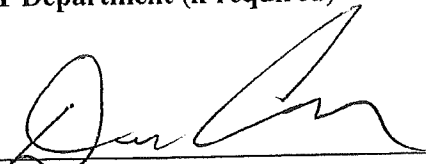
Requester

10/17/14

Date

IT Department (if required)

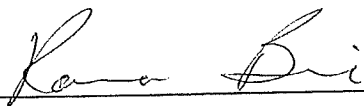
Date



Dean/Manager

10/20/16

Date



Vice President

10/24/16

Date