El Camino College, Design & Technology Division

Robotics Program Industry Advisory Meeting – Official Minutes (Summary)

Meeting Title: Robotics Program Approval Meeting

Date/Time: May 29, 2026, at 10:00 AM

Location: Online (virtual meeting)

Recorder: David Gonzales

1. Attendees

College / Program

- David Gonzales – Former Dean, LARC EPC for Adv Mfg.
- Joe Weichman – Robotics Instructor, Robotics Club Lead
- Chris – Robotics Instructor (mentioned)
- Katie – Acting Dean (referenced)

Industry Representatives (Advisory Voters)

- Julio Perez, Supplier Improvement Director – Airbus, U.S.
- Buddy Traxler, Regional Manager – ATC
- Jessica Eason – Blue Economy Strategy and Engagement, Blue Robotics
- Gregg Owens, Technical Trainer, Millennium Space Systems/Boeing

2. Purpose of Meeting

Obtain industry advisory approval for:

- Robotics Certificate of Achievement
- Robotics Degree

Confirm alignment with:

- Labor market demand
- Living wage standards
- Industry skill requirements

3. Program Overview (High-Level)

- Five-course robotics pathway:
    - Three courses with no prerequisites (open entry).
- Progression from introductory to intermediate to advanced robotics.
- Platforms: VEX → Arduino → Raspberry Pi.
- Advanced / Humanoid Robotics Capstone:
- Focus on cost-effective humanoid robot development.
- Cumulative application of:
    - Sensors, subsystems, kinematics
    - Integration of AI at the systems level.
- Lab & Equipment Status:
    - Upgraded lab computers for CAD/simulation.
    - Multiple 3D printers and a high-performance workstation (in process).
    - Increased number of robotics kits for the ROBO 110 course.
    - Humanoid robot acquired and pending integration.
    - Active Robotics Club serving as an informal R&D lab.

4. Labor Market Highlights

Source: Center of Excellence (LA County), Labor Market Study (April 2025).

Findings:

1. Supply gap: Community colleges are not producing enough robotics/industrial tech graduates.
2. Living wage: Target jobs pay above the LA County living wage (~$20+/hr).
3. Education: Job postings generally require a certificate or degree.
4. Emerging occupation: ***Robotics specialists identified as an emerging field***.
5. Partial endorsement reason:
    a. One job descriptor in the dataset fell below living wage.

b. COE believes data may be unclean; David to assist with cleanup and follow-up.

5. AI Integration (Brief)

Current Status:

AI already integrated at a basic/applied level in Robotics 110.

- Use of AI vision sensors and planned AI integration into the humanoid robot.
- Coordination:
  - Deeper AI theory remains with CS/CIS; robotics focuses on hardware/application.
- Context:
  - Both education and industry are still defining best practices, ethics, and use cases for AI.
  - Robotics likely to be a leading program for AI adoption at the college.

6. Industry Advisory Vote

Motion to approve Robotics Certificate and Degree: Presented by Joe

Motion and second: Buddy and Julio.

Voting (industry only):

Julio – Yes

Buddy – Yes

Jessica – Yes

Gregg – Yes

Outcome:

- **Robotics Certificate and Degree program approved by the Industry Advisory Committee.**

7. Blue Robotics / Blue Tech Hub Collaboration (Key Points)

Blue Tech Hubs (via AltaSea):

Central resource for blue economy / marine tech:

- Workforce development
- K–12 and college engagement
- Access to technology, workshops, seminars.
- Goals for El Camino Collaboration:
- Direct pipeline from students to industry.
- Potential quarterly meetings / working group with industry partners.
- Explore shared resources (e.g., docks, boats, facilities).
- Program Needs Identified:
- Long-term need for access to a large vessel for ROV-based sonar mapping and field work.
- Constraints around student transportation and liability; college has mitigated some needs via:
    - Access to a campus pool and an inflatable test pool.

8. Decisions

Program is Approved

- Industry advisory approval of the Robotics Certificate and Degree.
- Recognition that the program meets:
- Labor market demand
- Living wage criteria
- Industry expectations for credentials.

Continued and expanded collaboration with Blue Robotics and AltaSea under the Blue Tech Hub concept.

9. Action Items

David Gonzales - Draft and publish meeting minutes (by Monday).

- Distribute program packet and Center of Excellence labor market study link (with corrected link) to participants.

Send presentation and materials from this meeting to Jessica and other stakeholders.

Joe Wichman - Keep Jessica informed on:

- Potential working group,
- Blue Tech Hub collaboration opportunities.
- Present the approved robotics program (certificate & degree) to Dean Sundara.
- Share contact information with Jessica for direct follow-up and coordination.

Katie Sundara (Acting Dean)

- Place program on the dean's agenda, then:
- Move it forward to the LA County Regional Consortium (LARC) for regional approval and vote.

Jessica (Blue Robotics)

Use this meeting as input to:

- Build out Blue Tech Hub collaboration with AltaSea and regional colleges.
- Explore quarterly industry/education meetings or a working group to support alignment, funding, and resource sharing.

10. Adjournment

- Participants expressed support and optimism for the robotics program's future.
- Meeting adjourned after confirmation of next steps and collaboration plans.
- Meeting adjourned at 11:30 AM

ECC Robotics Advisory Agenda

Industry Partners:

We are in need of your assistance. El Camino College<https://www.elcamino.edu/academics/career/> Design & Technology Div has created a robotics<https://www.elcamino.edu/academics/areas-of-study/robotics.php> program and needs your approval to award certificates and degrees to students. The program is an important milestone for the college. It is the only program in the area that provides instruction in surface, underwater, and drone technologies. We hope that you can attend. Please reach out to me of you have any questions prior to the meeting. If you cannot attend, please forward to anyone in your organization that can contribute to the conversation.

The agenda is below.

Thank you,

David Gonzales

EPC, Adv Mfg, Los Angeles Regional Consortium (LARC)

Agenda:

Introductions - 10 minutes

Curriculum Overview - 10 Minutes

Classroom/Lab Overview - 5 minutes

Labor Market Demand - 10 minutes

Program/Needs Discussion - 10 minutes

Program Approval - 5 Minutes

Closing comments and adjourn

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David Gonzales
EPC, Adv Mfg, Los Angeles Regional Consortium (LARC)

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El Camino College - Robotics Program Advisory Meeting			
Name	**Attendance**	**Response**	**Attended**
jweichman@elcamino.edu <jweichman@elcamino.edu>	Required	Accepted	Yes
Julio Perez <julio.r.perez@airbus.com>	Required	Accepted	Yes
jessica@bluerobotics.com <jessica@bluerobotics.com>	Required	Accepted	Yes
hussein.nasser@lisi-group.com <hussein.nasser@lisi-group.com>	Required	Accepted	No
Buddy Traxler <buddytraxler@atctrain.com>	Optional	Accepted	Yes
santiago.traverso@circor.com <santiago.traverso@circor.com>	Required	Didn't respond	No
daniel.gonzalez@trimas.com <daniel.gonzalez@trimas.com>	Required	Didn't respond	No
Oscar.Chavez@millennium-space.com <Oscar.Chavez@millennium-space.com>	Required	Didn't respond	No
greggaowens@gmail.com <greggaowens@gmail.com>	Required	Didn't respond	Yes
Acalderon@lefiell.com <Acalderon@lefiell.com>	Required	Didn't respond	No
andrew@eminencemetrology.com <andrew@eminencemetrology.com>	Required	Didn't respond	No

El Camino College Robotics Program Advisory

May 29, 2026

Introductions

Joe Wiechman

Instructor

Chris Hirunthanacorn

Instructor

Katie Sundara

Acting Dean

David Gonzales

Former Dean (Retired)

Guests

Industry advisors & curriculum planners

Approved Robotics Courses

01

ROBO 110

Introduction to Robotics

02

ROBO 120

Underwater Robotics

03

ROBO 130

Fundamentals of Robotics

04

ROBO 150

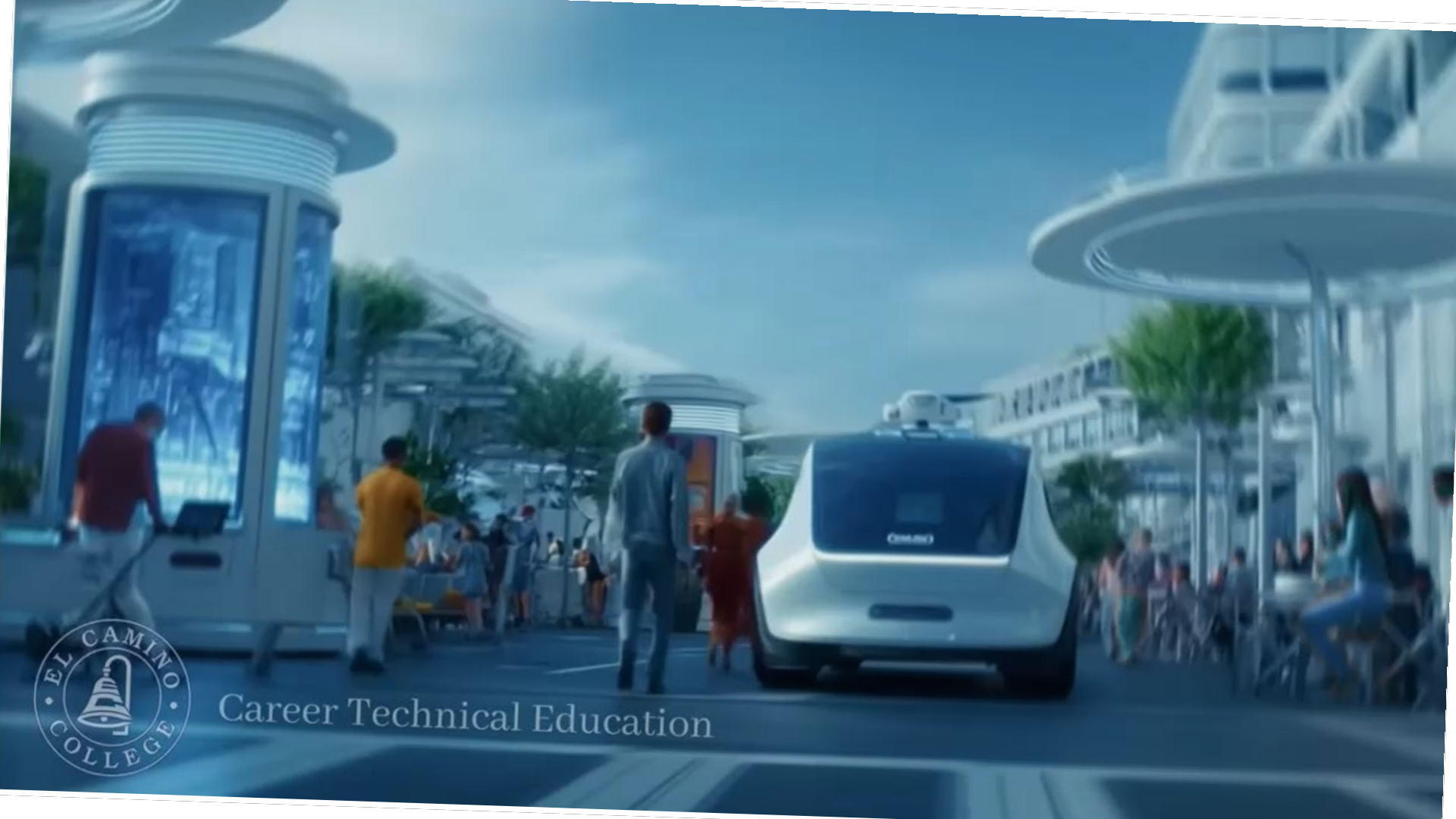
Intermediate Robotics

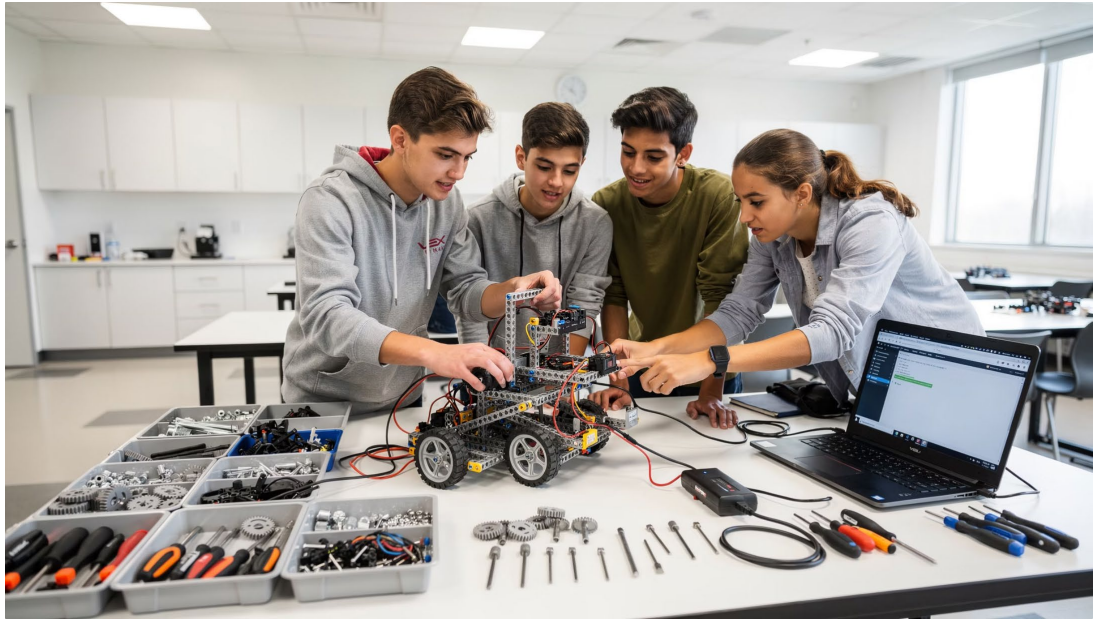
05

ROBO 190

Advanced Robotics II

These five courses form the foundation of the El Camino College Robotics pathway, leading to a transferable certificate and degree applicable to CSU and UC systems.


EL CAMINO COLLEGE
Career Technical Education



ROBO 110

Introduction to Robotics

An overview of the robotics industry, robot configurations, and the engineering design process. Students build, program, and troubleshoot a VEX-based robot — the first installment of the six-course robotics pathway.

3 Units

2 hrs lecture / 3 hrs lab

Transfer

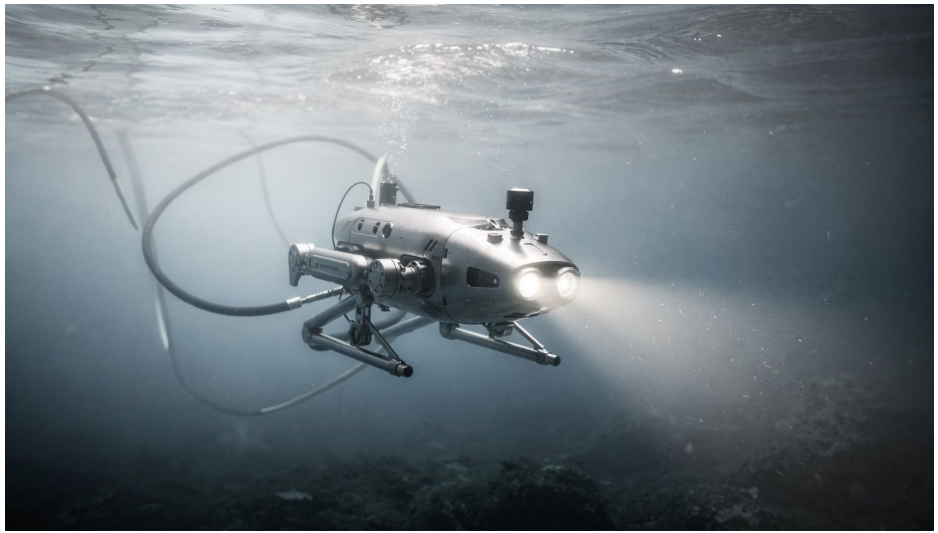
Credit, degree applicable — CSU & UC

ROBO 120

Underwater Robotics

Covers underwater vehicle design, buoyancy, stability, pressure hulls, and power systems. Students examine navigation, hydraulics, and ocean-environment operations — preparing them for careers in marine and subsea robotics.

Recommended Preparation: Eligibility for English 1A / English C1000



4 Units

4 hrs lecture

Transfer

Credit, degree applicable — CSU & UC

ROBO 130

Fundamentals of Robotics

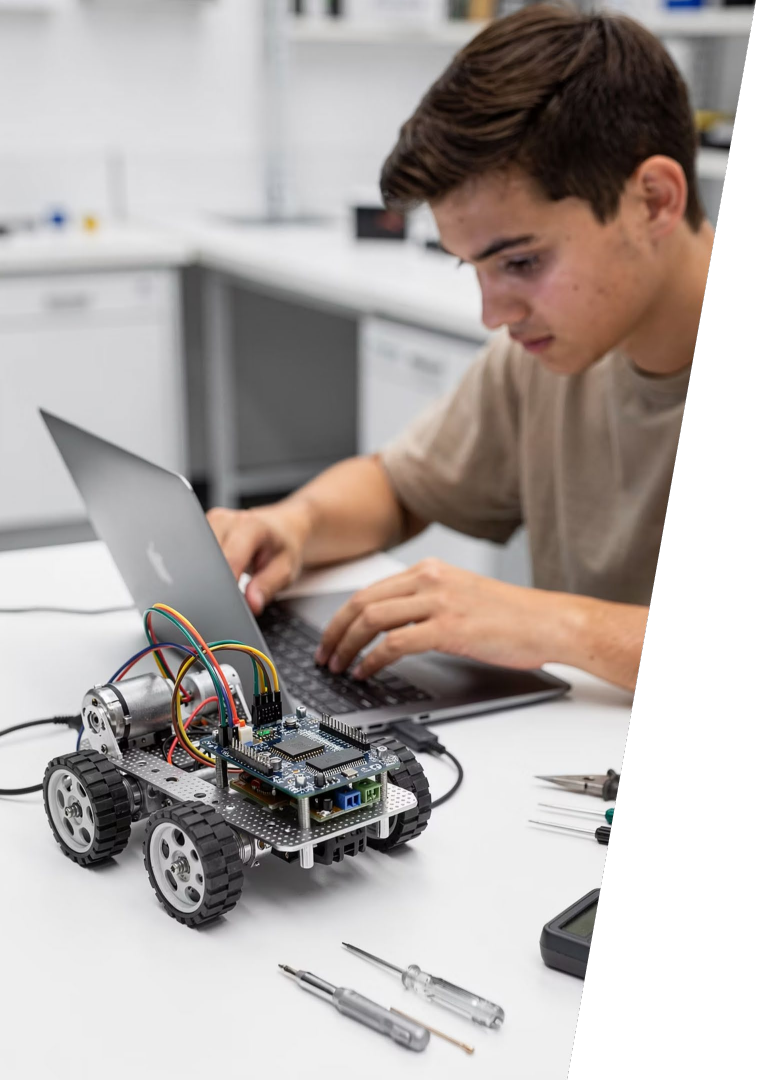
Covers robot configurations, controllers, servo systems, motion analysis, and cross-industry applications. Students explore real-world deployment settings and identify which robot types match specific industries and workflows.

3 Units

3 hrs lecture

Transfer

Credit, degree applicable — CSU & UC



ROBO 150

Intermediate Robotics

4 Units

3 hrs lecture / 3 hrs lab

Prerequisite

ROBO 110 with grade of C or better

Transfer

Credit, degree applicable — CSU & UC

Robotics and automation with a focus on embedded electronics, microcontroller programming, motors, and drive trains. Students fabricate, program, and test a vehicular or process robot, and explore career fields in manufacturing and automation.

ROBO 190

Advanced Robotics II

The capstone of the robotics pathway. Covers bipedal humanoid robotics — kinematics, Zero Moment Point (ZMP), biped walking, whole-body motion patterns, and dynamic simulation.

3 Units

2 hrs lecture / 3 hrs lab

Prerequisite

ROBO 170 with grade of C or better

Transfer

Credit, degree applicable — CSU & UC

Facilities & Equipment

Industrial Robots

Hands-on access to professional-grade robotic systems used in industry settings.

Electronics Lab

Dedicated workspace for embedded systems, microcontroller programming, and fabrication.

Underwater Test Area

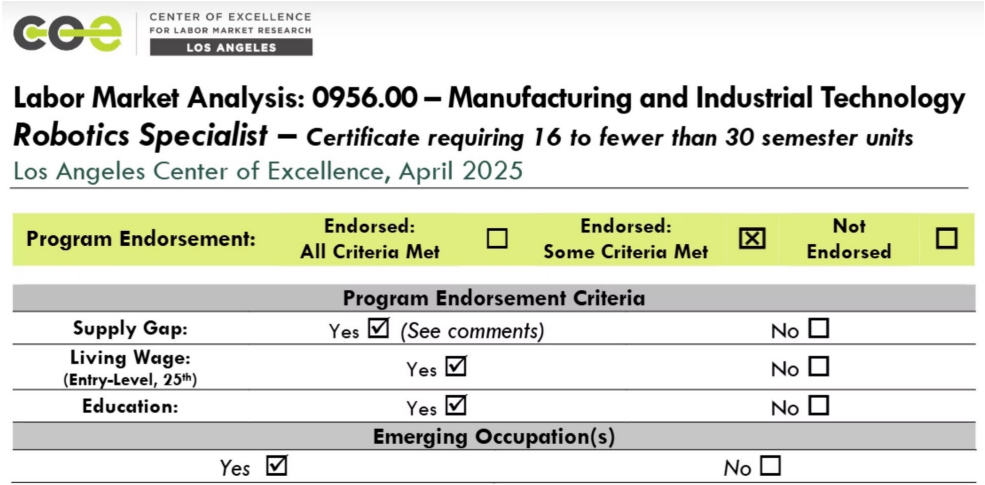
Specialized environment supporting ROV design, buoyancy testing, and aquatic operations.

Labor Market Outlook

LA Center of Excellence — April 2025

Labor Market Analysis **0956.00 – Manufacturing and Industrial Technology: Robotics Specialist** — Certificate requiring 16 to fewer than 30 semester units.

Program Endorsement: **Some Criteria Met** — Strong alignment with regional workforce needs.



CENTER OF EXCELLENCE FOR LABOR MARKET RESEARCH
LOS ANGELES

Labor Market Analysis: 0956.00 – Manufacturing and Industrial Technology
Robotics Specialist* – *Certificate requiring 16 to fewer than 30 semester units
Los Angeles Center of Excellence, April 2025

Program Endorsement:	Endorsed: All Criteria Met ☐	Endorsed: Some Criteria Met ☒	Not Endorsed ☐

Program Endorsement Criteria		
Supply Gap:	Yes ☑ *(See comments)*	No ☐
Living Wage: (Entry-Level, 25th)	Yes ☑	No ☐
Education:	Yes ☑	No ☐
Emerging Occupation(s)		
Yes ☑		No ☐

Supply Gap

Confirmed — demand exceeds available graduates

Living Wage

Entry-level positions meet the 25th percentile living wage threshold

Education

Program aligns with employer education requirements

Approval of Robotics Program

> **Motion:** Approve the Robotics Certificate and Degree Program at El Camino College.

This action formally establishes the Robotics pathway — five approved courses leading to a transferable certificate and degree, backed by strong labor market data and community need.

Certificate

16–29 semester units — workforce-ready credential

Degree Applicable

Transferable to CSU & UC systems

Labor Market

Endorsed by LA Center of Excellence

Final Remarks and Discussion

Thank you!