Energy Construction and Utilities Sector

Regional and Statewide Project Update

POWERED BY
California Community Colleges

Building and Facilities Maintenance Technician

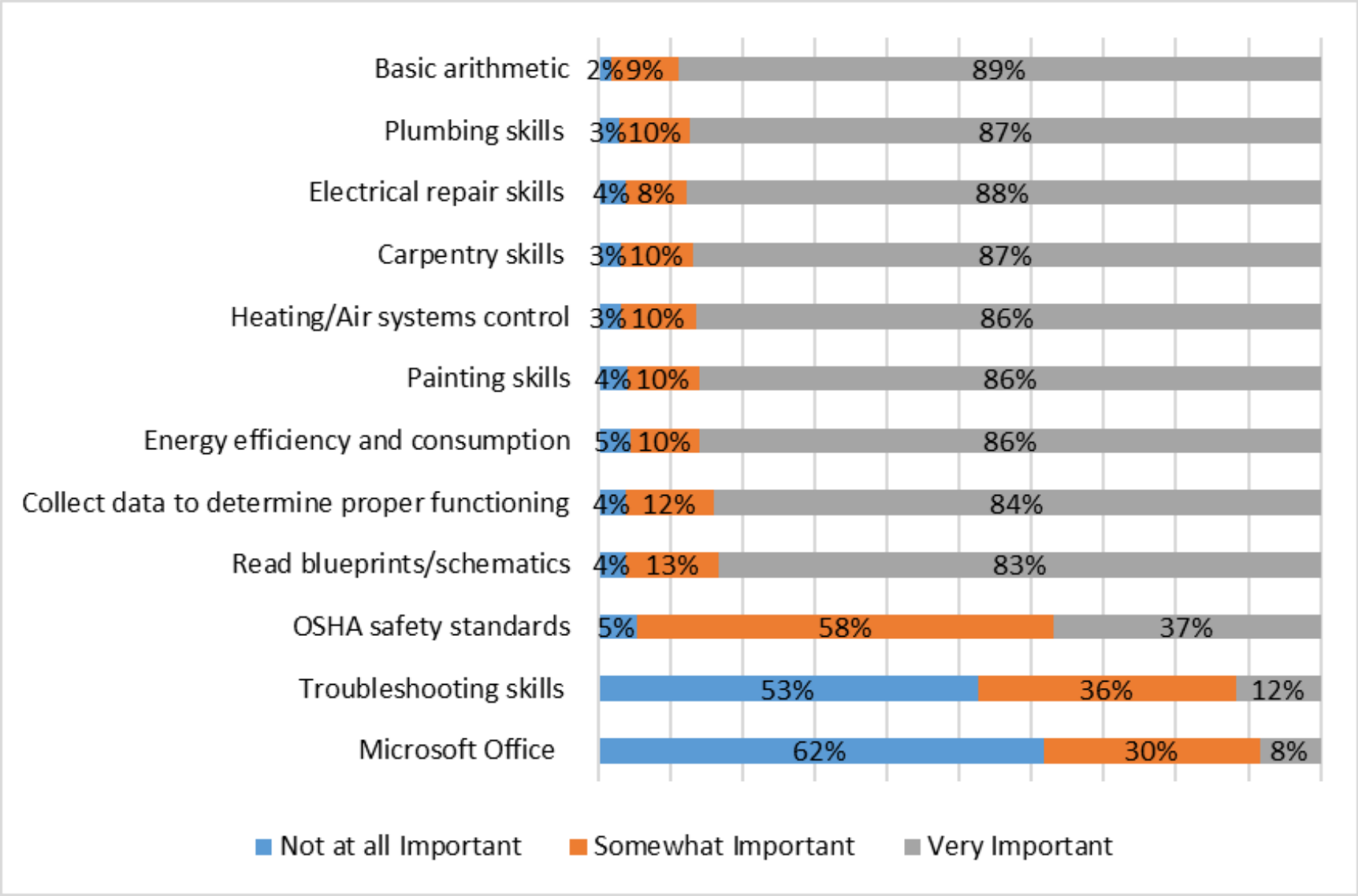
Market Study

Executive Summary

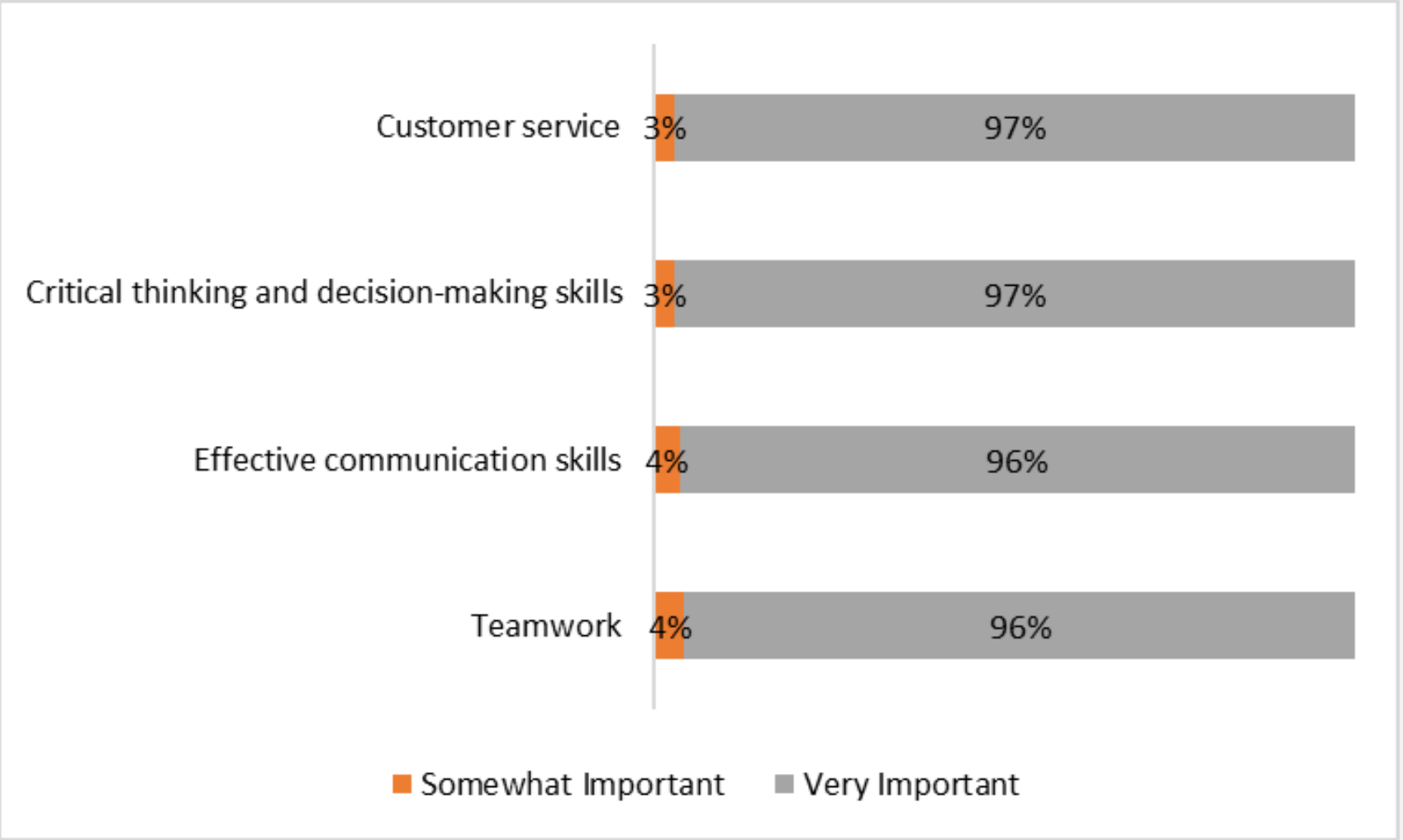
Surveyed companies' worker expectations:

- HS education (76%)
- 1 Yr Work Experience (82%)
- 9/12 Technical Skills >83% Very Important
- All Soft Skills >96% Very Important
- Most co.'s require certification (63%)
- Certification: Electrical, Construction, Heat & Cooling, Carpentry

Technical Skills



Soft Skills


Customer service
3%
97%
Critical thinking and decision-making skills
3%
97%
Effective communication skills
4%
96%
Teamwork
4%
96%
Somewhat Important
Very Important

Certifications (By Importance)

First	Second	Third	Fourth
Construction	Electrical	Electrical	Heat and Cooling
Electrical	Construction	Carpentry	Construction
Heat and Cooling	Carpentry	Construction	Electrical
Carpentry	Heat and Cooling	Heat and Cooling	Carpentry
Plumbing	Plumbing	Flooring	Flooring

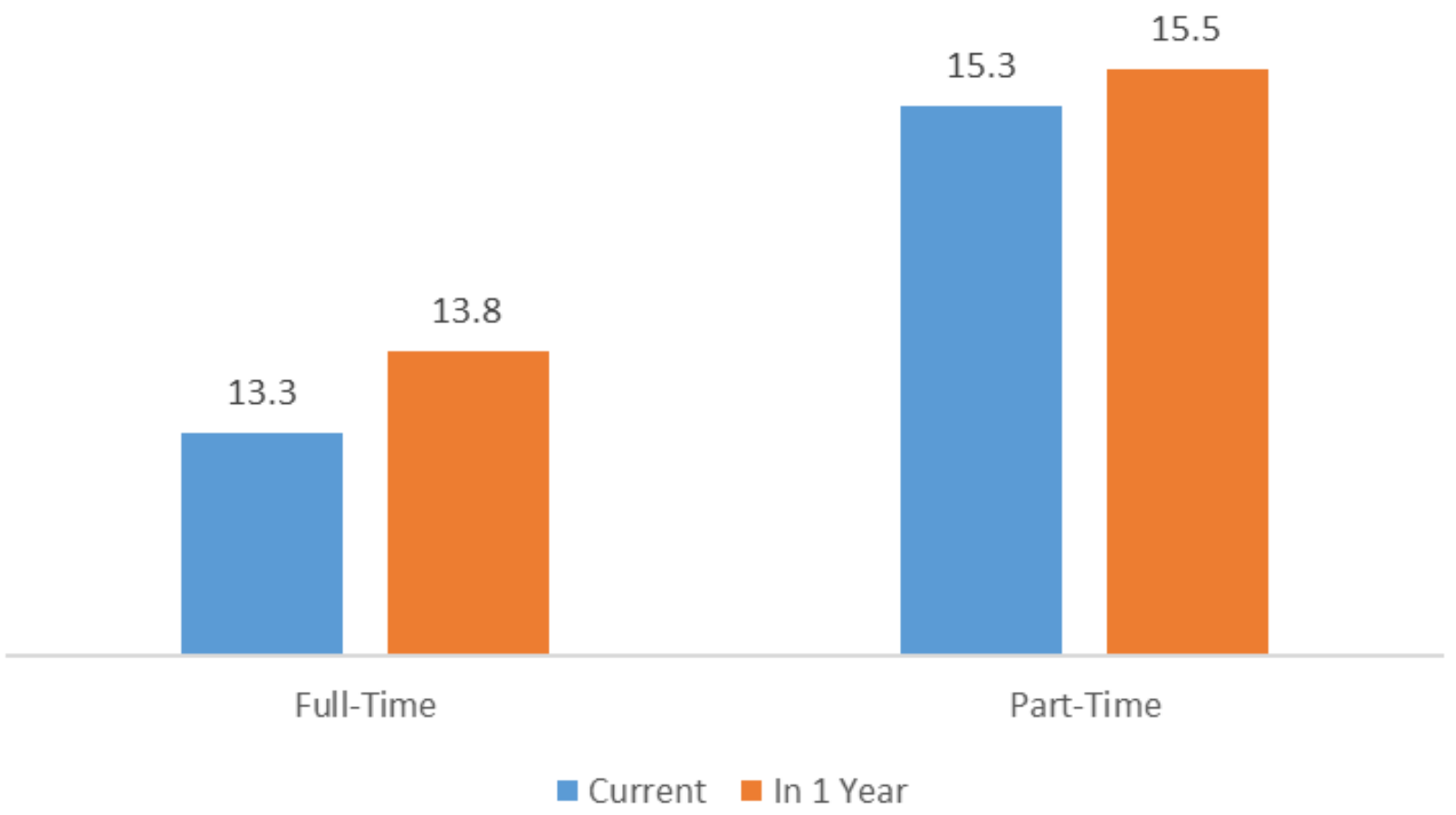
Overall
Electrical
Construction
Heat and Cooling
Carpentry
Flooring

Difficulty Hiring

Surveyed companies' hiring difficulties:

- Lack relevant work experience (64%)
- Difficulty Upskilling (74%)
- Mostly find job candidates from training within (71%), community colleges (67%), and trade schools (66%)
- Most use job placement agencies (62%)
- Interested in offering internships (76%)

of Employees per Company



CTE Faculty Recruitment Study

Recruiting HVAC Faculty as a case study

Community Colleges face challenges recruiting a pipeline of CTE faculty

- Common challenges:
  - Lack of applicants - those who are not prepared for academia or those whose skill sets are not appropriate to meet industry's current needs
  - Pay inconsistent and not competitive with private industry training opportunities
  - Industry unaware of how supporting CTE positions benefits them
  - Hiring process off-putting/too daunting for applicants
  - Lack of funding for effective recruitment
  - Lack of diversity – faculty do not represent the students they're instructing

What Are We Hearing – Industry Insight

- Common challenges:
  - Lack of applicants - those who are not prepared for academia or those whose skill sets are not appropriate to meet industry's current needs
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Effective Outreach for Potential Faculty

Stepwise outreach approach

Prepare a stakeholder list of organizations/individuals who can assist in finding qualified candidates

Brief groups in a stepwise fashion starting with organizations with a larger reach

Industry groups > trade groups > unions > chambers > business associations > local schools > specific industries

Messaging that shows HVAC CTE value

For potential faculty

For industry

For students

Multiple opportunities for engagement

In-person meetings/ attendance at trade events

Open-houses/workshops at various partner venues

Flyer or postcard mailings

Webinars/presentations

Quarterly email blasts on recruitment opportunities

Active social media

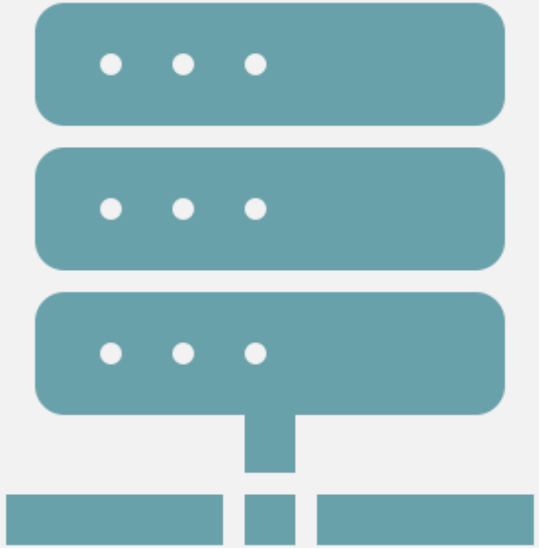
Be there for your potential recruits

Phone number for questions during the recruitment process

Webinar to show steps involved in submitting an application or when multiple positions open

Using Social Media

- Important to build a community
  - Share hiring events, articles, best practices in addition to recruitment events
  - Promote industry-events as well as your own
- Post frequently and regularly
  - Makes your messaging more likely to show up in their news feed
  - More chances for engagement that leads to page views, followers
- College/university as place of strength/authority
  - Current faculty/industry partners are subject matter experts
  - Share university research on best practices
- Use social media marketing platforms if appropriate/have budget
  - Can become expensive so important to target audience, set limits on spending, etc.
- If possible, dedicate a staff person to social media
  - Allows for quick responses and personalized voice



Key Messages

Driver	Messaging
Creating Ownership	Becoming a career technical educator is way to create the program of tomorrow and incorporate future automation and technology into the classroom. We need educators who understand the ins and outs of the industry and can provide that extra glimpse into real world situations and solutions.
How to spend retirement	Retired or retiring soon and looking for a fulfilling way to spend your newly earned free time? You may be the perfect candidate for a full or part-time career technical educator position. Your recent work expertise will help prepare the next generation of industry professionals to be prepared for tomorrow's workplace.
Additional Income	As a part-time career technical educator, you can provide a valuable service to the next generation of industry professionals while making some additional money. Catered to your schedule, you can teach evening or weekend classes for our working students, in order to prepare them for their next career while ensuring stability in yours.
Future of the Industry	By having quality career technical educators established in our programs, we can ensure the students who graduate can hit the ground running when they come to work for you. Students who are prepared by individuals working in the field today already know the key challenges, best practices and skill sets needed to succeed on day one.

Energy Construction and Utilities Sector

Partnership Opportunities

Automation and Energy Integration

The ECU sector team is engage with a Statewide Automation collaborative to ensure that community college strategies are aligned with industry trends.

- Central Region Industrial Automation Collaborative
  - Linking regional colleges to the BS in Industrial Automation at Bakersfield College.
- Orange County Automation project
  - Common Automation Fundamentals Certificate
  - 3 Common Courses
    - DC Electrical
    - AC Electrical
    - Programmable Logic Controls (PLCs)

    1 of 3 other common courses
    - Blueprint reading
    - OSHA 10/30
    - Intro to Drafting / CAD

Facility Management

The ECU sector team is partnering with the International Facility Management Association (IFMA) to utilize their Essential of Facilities Management course as part of an interdisciplinary certificate with high employment and earning potential.

Facility Management pairs ECU and Business Sectors

- Business students can add just a couple of courses and become attractive for entry-level facility management positions.
- IFMA has licensed their Essentials of Facility Management online course to California Community Colleges
- IFMA is interested in participation as quest speakers and interviewing completers
- Can be delivered as Credit, Noncredit, or Contract Ed.

Building Energy Systems Professional

Guided Pathway / Meta Major

Building a Degree out of Stackable Certificates.

- A core of 4-6 courses.
- Electives from ECU related certificate programs.
- GE Courses
- Multiple entrance and exit points built in

Entry-level Construction

ECU Sector is working with statewide Industry Associations and the Building Trades to ensure construction and education options which lead to employment.

Construction training which leads to employment

- The ECU sector team can connect colleges with multiple options for construction training which leads to employment.
- Building Trades aligned Multi-craft Core Curriculum (MC3)
- Californian Homebuilding Foundation Building Industry Technology Academy (BITA)
- SW Carpenters' Career Connections curriculum
- National Center for Construction Education and Research (NCCER)

Rebuild and Recovery

The California fires in 2017 and 2018 destroyed over 34,000 buildings, and the forecasts for climate change impacts in California indicate that these devastating losses are part of an accelerating trend. The shortage of housing hinders the local community from returning to normalcy .

In partnership with Cal OES, the ECU Sector will launch Construction for A Cause, an initiative harnessing a coordinated network of construction-related programs, resources and student passion from throughout California's 114 community colleges prepared to support and accelerate local disaster rebuild efforts, while providing work-based learning opportunities with industry partners.

Community Link Networks

Enrollment and Equity

Although ECU industry partners have prioritized diversifying their workforce, few have created successful strategies to attract women and other under-represented populations into the trades.

The ECU sector team is developing regional networks of Community Based Organizations and local stakeholders to inform a strategy for outreach to target under-represented populations - driving enrollment, interest and a more diverse talent pipeline for regional ECU employers.

The ECU sector team will gather and disseminate best practices such as the Women in Trades and Student Apprenticeship Workshops and Entrée to Employment events to help colleges and ECU industry partners meet their diversity goals.

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