

ENERGY, CONSTRUCTION, & UTILITIES



Orange County Sector Analysis Project

Nov 2021

Prepared by:
Orange County Center of Excellence
for Labor Market Research

POWERED BY



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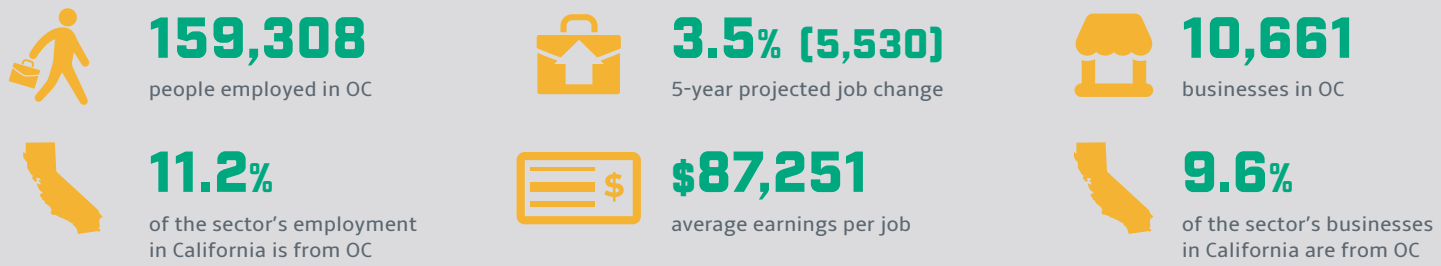
Orange County Community Colleges



SECTOR OVERVIEW

This Sector Profile highlights key points from the entire Energy, Construction, and Utilities sector in Orange County as well as from the Orange County (OC) Sector Analysis Project – a research report conducted by the OC Center of Excellence for Labor Market Research. This sector appeals to job seekers interested in the environment and working with their hands. For job seekers looking to become more competitive in the sector, obtaining a professional licensure validates the skills that they possess to employers. The majority of “clean energy” companies specialize in energy efficiency for buildings and renewable energies such as solar power. In 2019, 65% of students who completed or exited an Energy, Construction, and Utilities community college program in the Orange County region attained the regional living wage.

Data Points



The Energy, Construction, and Utilities sector accounts for 159,308 jobs in the Orange County region and 11.2% of all Energy, Construction, and Utilities jobs in California. There are approximately 10,661 individual businesses in the region, which make up 9.6% of all the businesses for the sector in California. This sector is projected to grow by 3.5% (or 5,530 jobs) in the next five years in Orange County. The average earnings per Energy, Construction, and Utilities job are \$87,251.

Local Employers

- The Irvine Company LLC

AGI General Contracting

Excel Construction Services Incorporated
- Suresite Consulting

West Hills Masonry

WI Butler Construction Incorporated



TOP MIDDLE-SKILL JOBS

Middle-skill jobs are occupations that community college students would be best prepared for after obtaining a certificate or degree. The top middle-skill jobs for the Energy, Construction, and Utilities sector are included below, along with corresponding entry-level and median hourly wages.

Middle-Skill Jobs Attainable with a Community College Education, Orange County (2020-2025)

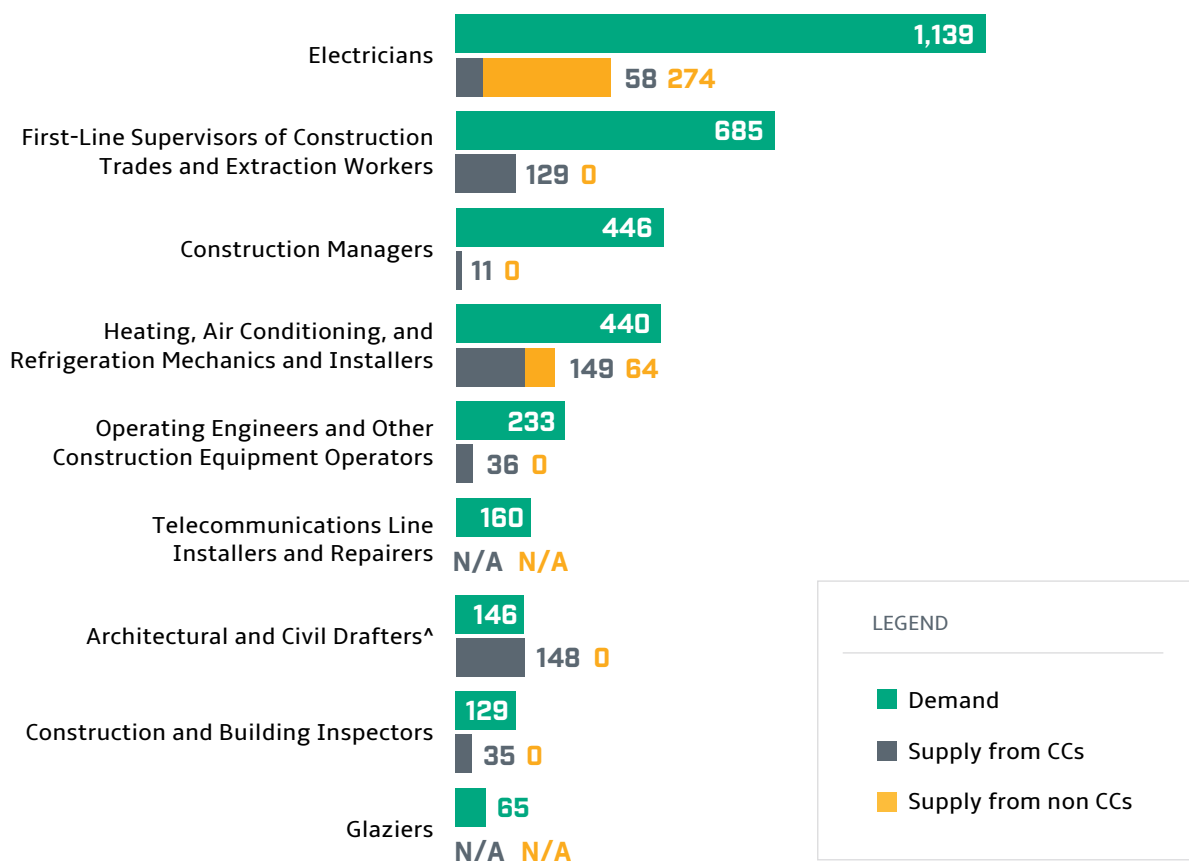
SOC Code	SOC Occupational Title	Demand Annual Openings	Entry-Level Wage 25th Percentile	Median Wage
47-2111	Electricians	1,139	\$25.09	\$35.51
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	685	\$30.37	\$39.96
11-9021	Construction Managers	446	\$32.27	\$48.40
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	440	\$23.97	\$31.47
47-2073	Operating Engineers and Other Construction Equipment Operators	233	\$30.60	\$42.46
49-9052	Telecommunications Line Installers and Repairers	160	\$21.38	\$29.80
17-3011	Architectural and Civil Drafters	146	\$26.74	\$30.97
47-4011	Construction and Building Inspectors	129	\$32.06	\$43.76
47-2121	Glaziers	65	\$22.22	\$28.98



LABOR MARKET DEMAND, PROGRAM SUPPLY, & SUPPLY GAPS

Top middle-skill jobs are defined as occupations with the most labor market demand, stable employment growth, and entry-level wages at or above the living wage, as determined by the California Family Needs Calculator. The living wage for a single adult in Orange County is currently \$20.63.¹ Comparing labor market demand with program supply suggests all but one of the top middle-skill jobs in this sector have supply gaps in the Orange County region. Labor market demand is defined as the number of average annual job openings per year that employers expect to fill for a particular occupation. Program supply is the number of awards (e.g., degrees, certificates) from community colleges and other training providers.

Top Middle-Skill Jobs in Orange County: Labor Market Demand vs. Program Supply



(Please note: * indicates that the occupation has an oversupply of labor, ^ indicates that the occupation's demand has been met, and N/A indicates that no community college program reported awards for this occupation or no community college program is available for this occupation.)

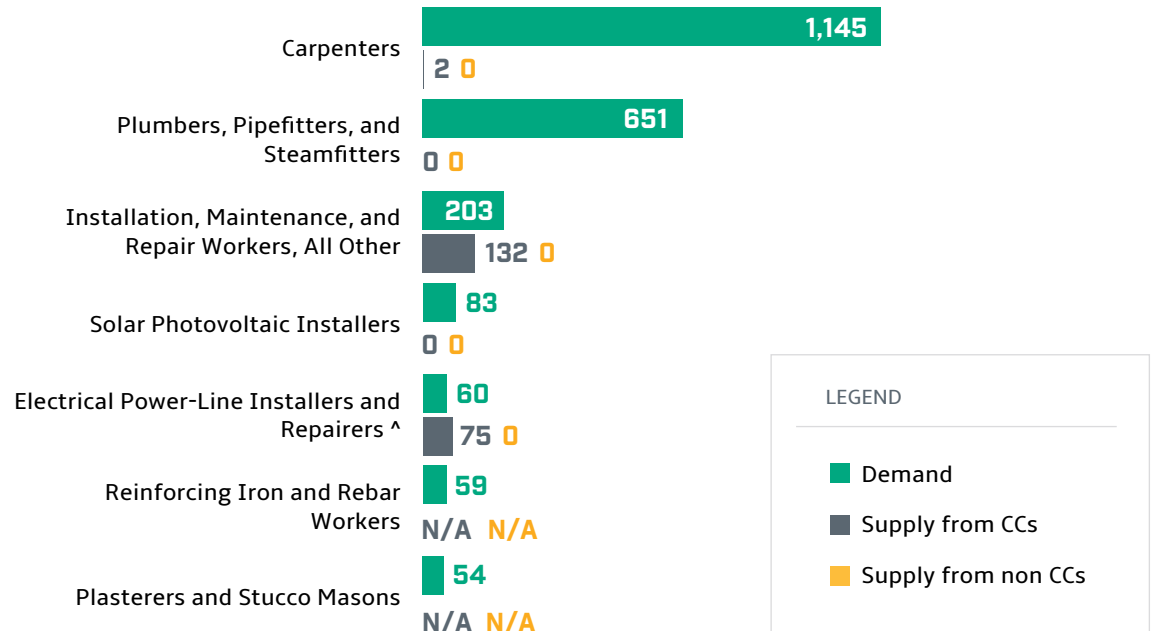


¹ The living wage as determined by the California Family Need Calculator is the hourly wage that a single adult needs to earn to meet basic needs in Orange County. insightccd.org/2018-family-needs-calculator/

MIDDLE-SKILL JOBS WITH ENTRY-LEVEL WAGES BELOW THE REGIONAL LIVING WAGE

While it is important to understand which top middle-skill jobs have opportunities for increased program supply, it is also important to consider middle-skill occupations that have entry-level wages below the regional living wage, currently at \$20.63, but median wages near or above it. Since wages generally increase from entry-level to median earnings with additional experience and training, students could potentially earn self-sustaining wages with additional apprenticeship or work-based learning opportunities.

Middle-Skill Jobs in Orange County with Entry-Level Wages Below the Regional Living Wage



(Please note: * indicates that the occupation has an oversupply of labor, ^ indicates that the occupation's demand has been met, and N/A indicates that no community college program reported awards for this occupation or no community college program is available for this occupation.)

Entry-Level and Median Wages for Middle-Skill Jobs in Orange County with Entry-Level Wages Below the Regional Living Wage

SOC Code	SOC Occupational Title	Demand Annual Openings	Entry-Level Wage 25th Percentile	Median Wage Above the Living Wage
47-2031	Carpenters	1,145	\$19.54	\$29.01
47-2152	Plumbers, Pipefitters, and Steamfitters	651	\$18.71	\$28.32
49-9099	Installation, Maintenance, and Repair Workers, All Other	203	\$16.16	\$21.19
47-2231	Solar Photovoltaic Installers	83	\$19.54	\$23.69
49-9051	Electrical Power-Line Installers and Repairers	60	\$17.18	\$37.16
47-2171	Reinforcing Iron and Rebar Workers	59	\$14.43	\$16.83
47-2161	Plasterers and Stucco Masons	54	\$20.37	\$24.47

KEY FINDINGS & RECOMMENDATIONS

Between July and August 2019, focus groups comprised of stakeholders from the community colleges and industry experts met to review the labor market demand and program supply for middle-skill jobs in Orange County's Priority and Emerging Sectors. The objectives of the focus groups were to identify labor market supply gaps in middle-skill jobs and provide intelligence as to how they are working to close supply gaps, as well as the challenges they encounter in their programs. The following summarizes the findings and recommendations for the Energy, Construction, and Utilities sector.



5,698

annual job openings
(labor market demand)



1,113

average annual program awards
(labor market supply)



4,585

supply gap
(awards needed to close the gap)



Key Finding



Recommendation

1

Energy, Construction, and Utilities skills are transferable and not necessarily exclusive to a particular occupation: Skills taught in Energy, Construction, and Utilities courses and programs are transferable to other sectors such as Advanced Manufacturing. Technology is blending these two sectors together and students can become employable in either sector with the right knowledge, skills, and abilities.

Faculty and the Regional Employer Engagement Team could work with each other to develop cross-sector training programs that provides students with a diverse skill set that can be applied towards occupations in both sectors.

2

Thousands of students take Energy, Construction, and Utilities courses, but few complete a degree or certificate. Tracking outcomes for non-completers is difficult: In the 2019-2020 academic year, 8,327 students took at least one Energy, Construction, and Utilities course, but only 567 students completed a degree or certificate. Several students enroll in one or two courses to gain a skill, but do not complete the program. Some reasons that students do not complete the program is because they are "skills-builders" that have gained specific skills and do not need a degree or certificate to find employment, are currently working and go back to their current job after gaining skills, or because employers are hiring at a fast pace and it is easy for students to find a job.

To increase completion numbers in Energy, Construction, and Utilities programs, faculty, deans, and the Regional Employer Engagement Team should review program curriculum and identify programs that may be overdesigned. These are programs that offer more courses than what may be needed in the labor market, creating long-term programs that could actually be shortened by offering fewer courses/credits yet still prepare students for companies' needs. In order to track outcomes for students that do not complete programs, colleges should consider using the CTE Outcomes Survey (CTEOS) to better understand why students do not complete programs, their employment status, and their change in earnings after taking community college courses.



Key Finding

3

Noncredit awards for Energy, Construction, and Utilities programs are not consistently reported:

One of the reasons for low completion numbers could be a result of inconsistent noncredit program reporting. If colleges are not reporting their noncredit awards, data for these programs will not be included in the supply numbers or be counted in the Strong Workforce Program (SWP) metrics. Additionally, enhanced noncredit has been increased and is now funded the same as it is for credit, so it is particularly important for colleges to look into their noncredit data and make sure it is being reported correctly.



Recommendation

To better understand noncredit reporting, faculty and administrators could work with their Institutional Effectiveness/Research offices to see how noncredit information is collected locally and reported to the CCCC. More accurate reporting could increase both the sector metrics and the amount of funding colleges receive while also helping the COE more accurately measure supply for each occupation.

4

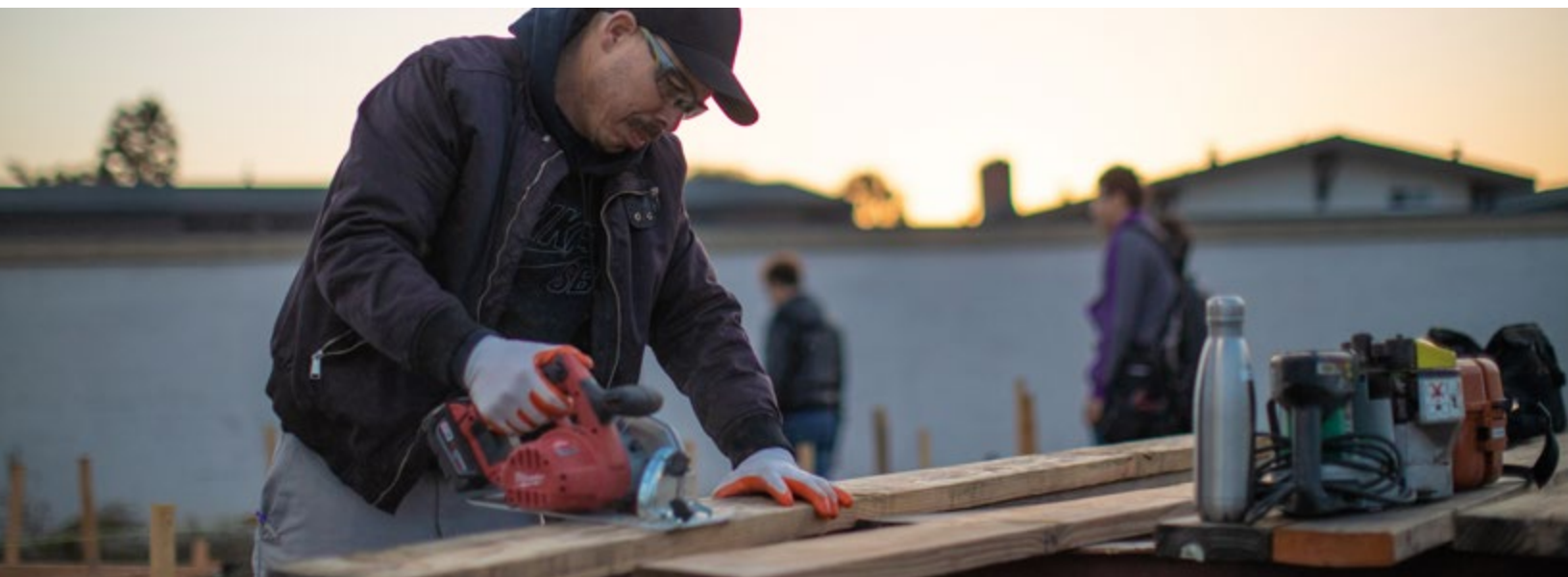
Across all priority and emerging sectors, this sector has the lowest percentage of students that are age 19 or younger: Only 12% of students enrolled in Energy, Construction, and Utilities are recent high school graduates.

Colleges could explore partnerships with the K-12 system and targeted marketing efforts to attract younger students to enroll in programs that will train them for in-demand, high wage jobs. Dual enrollment agreements would allow high school students to earn college credit and help colleges create a K-12-to-community college-pipeline.

5

Knowledge, Skills, and Abilities (KSAs) for the sector have not been validated by employers: The OC Sector Analysis Project brief examines job gaps but does not explore the specific KSAs taught at the colleges and compare them to the labor market's demand for Energy, Construction, and Utilities KSAs.

To determine if the region's community colleges are training for the right KSAs, the Regional Employer Engagement Team should convene employers in a "regional advisory group" where employers can review program KSAs, provide feedback, and validate the KSAs' current relevance and demand in the labor market.



MORE ABOUT THE CENTERS OF EXCELLENCE

The Centers of Excellence (COE) for Labor Market Research deliver regional workforce research and technical expertise to California Community Colleges for program decision-making and resource-development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Education (CE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

The Centers of Excellence Initiative is funded in part by the Chancellor's Office, California Community Colleges, Economic and Workforce Development Program. The Orange County COE is fully funded by the Orange County Regional Strong Workforce Program allocation. The Centers aspire to be the leading source of regional workforce information and insight for California Community Colleges. More information about the Centers of Excellence is available at coeccc.net.

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Orange County Center of Excellence
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For the full report, visit Orange County at coeccc.net.

Sources

Demand data is pulled from Emsi, a software program that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other government agencies.

Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Important Disclaimer

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports such as those from the Orange County Center of Excellence for Labor Market Research and Cal-PASS Plus LaunchBoard. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host college/district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

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