

**Program Endorsement Brief: 0303.00/Environmental Technology
Environmental Resource Management**

Orange County Center of Excellence, August 2020

Summary Analysis

Program Endorsement:	Endorsed: All Criteria Met	<input checked="" type="checkbox"/>	Endorsed: Some Criteria Met	<input type="checkbox"/>	Not Endorsed	<input type="checkbox"/>
Program Endorsement Criteria						
Supply Gap:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
Meets Living Wage: (Entry-Level, 25th)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>		
Typical Entry-Level Education:	HS Diploma or Less	<input type="checkbox"/>	Some College/ Cert./AA	<input checked="" type="checkbox"/>	Bachelor's Degree	<input type="checkbox"/>
Emerging Occupation(s)						
Yes <input type="checkbox"/>			No <input checked="" type="checkbox"/>			

The Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data related to one middle-skill occupation: Environmental Engineering Technicians (17-3025). Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.¹ This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data, there appears to be a supply gap for environmental engineering technicians in the region. Typical entry-level wages for environmental engineering technicians are above the living wage and the typical entry-level education is an associate degree. **Therefore, due to all of the criteria being met, the COE endorses this proposed program.** Reasons include:

Demand:

- Over the next five years, there is projected to be **115 jobs available annually** in the region due to new job growth and replacements, **which is more than the 35 awards conferred annually** by educational institutions in the region.
- The typical entry-level education for environmental engineering technicians is an associate degree.

¹ The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

- Furthermore, the national-level educational attainment data indicates **53.1% of workers in the field have completed some college or an associate degree.**
- **Typical regional entry-level hourly wages** for environmental engineering technicians in Orange County are **\$17.79, which are higher than the county’s living wage (\$17.36).**

Supply:

- There are **5 educational institutions in the region, all of which are community colleges,** that issue awards related to environmental technology, conferring an average of **35 awards annually** between 2016 and 2019.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for environmental engineering technicians. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 3% through 2024. There will be more than 100 job openings per year through 2024 due to job growth and replacements.

This report includes employment projection data by Emsi which uses EDD information. Emsi’s projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy, during the projection period, will be at approximately full employment. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, it may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the impacts of COVID-19 into account.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties²

Geography	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change	Annual Openings
Los Angeles	725	742	17	2%	75
Orange	369	388	19	5%	41
Total	1,094	1,130	36	3%	115

Wages

The labor market endorsement in this report considers the entry-level hourly wages for environmental engineering technicians in Orange County as they relate to the county’s living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region. Detailed wage information, by county, is included in Appendix A.

Orange County—Typical entry-level hourly wages for environmental engineering technicians in Orange County are \$17.79, which is above the California Family Needs Calculator hourly wage

² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

(living wage) for one adult in the county (\$17.36).³ Median hourly wages for environmental engineering technicians are \$22.31. Experienced workers can expect to earn \$28.61. Orange County’s average wages are below the average statewide wage of \$28.63 for this occupation. Wage information, by county, is included in Appendix A.

Los Angeles County— Typical regional entry-level hourly wages for environmental engineering technicians in Los Angeles County are \$18.52, which is above the living wage for one adult in the county (\$15.04). Median hourly wages for environmental engineering technicians are \$23.23. Experienced workers can expect to earn \$29.79. Los Angeles County’s average wages are below the average statewide wage of \$28.63 for this occupation. Wage information, by county, is included in Appendix A.

Job Postings—There were 26 online job postings related to environmental engineering technicians listed in the past 12 months. The highest number of job postings were for quality engineers and research technicians. The top skills were knowledge of: proposal writing, air emissions, air permitting, chemical engineering, and greenhouse gases. The top three employers, by number of job postings, in the region were: GHD Incorporated, Teledyne Technologies, and Environmental Science Associates.

It is important to note that the job postings data included in this section reflects online job postings listed in the past 12 months and does not yet demonstrate the impact of COVID-19. While employers have generally posted fewer online job postings since the beginning of the pandemic, the long-term effects are currently unknown.

Educational Attainment—The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for environmental engineering technicians. The national-level educational attainment data indicates 53.1% of workers in the field have completed some college or an associate degree. Of the 96% of environmental engineering technician job postings listing a minimum education requirement in Los Angeles/Orange County, 92% (23) requested a bachelor’s degree and 8% (2) requested an associate degree.

Educational Supply

Community College Supply—Exhibit 2 shows the three-year average number of awards conferred by community colleges in the related TOP code: Environmental Technology (0303.00). The colleges with the most completions in the region are: Rio Hondo and Santa Monica. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

Exhibit 2: Regional community college awards (certificates and degrees), 2016-2019

TOP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
0303.00	Environmental Technology	Rio Hondo	7	22	20	16
		Santa Monica	11	7	26	15

³ Entry-level wage is defined as the twenty-fifth percentile hourly wage. Wages for experienced workers are defined as the seventy-fifth percentile hourly wage.

TOP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
		LA Subtotal	18	29	46	31
		Irvine	4	1	-	2
		Saddleback	-	-	1	0
		Santiago Canyon	1	1	5	2
		OC Subtotal	5	2	6	4
Supply Total/Average			23	31	52	35

Appendix A: Occupational demand and wage data by county

Exhibit 4. Orange County

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Environmental Engineering Technicians (17-3025)	369	388	19	5%	41	\$17.79	\$22.31	\$28.61

Exhibit 5. Los Angeles County

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Environmental Engineering Technicians (17-3025)	725	742	17	2%	75	\$18.52	\$23.23	\$29.79

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings
Environmental Engineering Technicians (17-3025)	1,094	1,130	36	3%	115

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

For more information, please contact:

Jesse Crete, Ed. D, Director
Center of Excellence, Orange County
crete_jesse@rscdd.edu

August 2020

