

⚠ Endorsed: Caution Advised			
Program LMI Endorsement Criteria			
	Met <input type="checkbox"/>	Partially Met <input checked="" type="checkbox"/>	Not Met <input type="checkbox"/>
Supply Gap:	There are projected to be <b>224 annual job openings</b> throughout Los Angeles and Orange counties for engineering technology occupations, which <b>is less than the 764 awards conferred by educational institutions</b> . However, these educational programs also <b>prepare students for 7 other related occupations, which account for 843 additional annual job openings</b> . <i>When considering the demand across these occupations, it is likely the region is experiencing a supply gap.</i>		
Self-Sufficiency Standard Living Wage <sup>1</sup> :	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
	<b>All annual job openings</b> for these engineering technology occupations <b>have entry-level hourly wages above the OC living wage of \$27.13</b> .		
Education:	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
	All annual job openings for these middle-skill engineering technology occupations typically require an associate degree and <b>between 47% and 61% of workers in the field have completed some college or an associate degree as their highest level of education</b> .		

## Summary

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles and Orange counties regional labor market related to three occupations:

- Middle-Skill
  - *Mechanical Drafters (17-3013)*
  - *Electro-Mechanical and Mechatronics Technologists and Technicians (17-3024)*
  - *Mechanical Engineering Technologists and Technicians (17-3027)*

Although the number of awards exceeds demand for these specific occupations, supply is likely overstated because related educational programs train for an additional seven occupations. When considering the demand across these occupations, it is likely the region faces a supply gap in engineering technology. Additionally, the typical education requirements for these occupations align with a community college education, and all

<sup>1</sup> The living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage; Orange County's living wage of \$27.13, was last updated in March 2024.

annual job openings have entry-level wages above the Self-Sufficiency Standard living wage. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the middle-skill occupations included in this report.

### Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Mechanical Drafters (17-3013)	LA: 66	LA: 558	OC: \$29.52	Associate degree	61%
	OC: 35	OC: 142			
	<i>TTL: 102</i>	<i>TTL: 700</i>			
Electro-Mechanical and Mechatronics Technologists and Technicians (17-3024)	LA: 22	LA: 1	OC: \$31.36	Associate degree	47%
	OC: 10	OC: 9			
	<i>TTL: 32</i>	<i>TTL: 10</i>			
Mechanical Engineering Technologists and Technicians (17-3027)	LA: 60	LA: 55	OC: \$29.10	Associate degree	47%
	OC: 31	OC: 0			
	<i>TTL: 91</i>	<i>TTL: 55</i>			
<b>Total</b>	<b>224</b>	<b>764</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

#### Demand

- In Los Angeles and Orange counties, the number of jobs related to these engineering technology occupations is projected to decrease 3% through 2029, equating to 224 annual job openings.
- Hourly entry-level wages for these engineering technology occupations range from \$29.10 to \$31.36 in Orange County; all annual openings have entry-level wages above the Self-Sufficiency Standard living wage.
- There were 396 online job postings for these engineering technology occupations over the past 12 months. The most common job titles were for drafters, mechanical technicians, and mechatronics technicians.
- The typical entry-level education for these engineering technology occupations is an associate degree.
- Between 47% and 61% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

#### Supply

- Between 2021 to 2024, an average of 633 awards were conferred by 22 community colleges in Los Angeles and Orange counties.

- From 2020 to 2023, non-community college institutions conferred an average of 131 awards for these middle-skill occupations.
- In the 2022-23 academic year, Orange County community college students that exited engineering technology programs had a median annual wage of \$22,086 (\$10.62 per hour) post-exit. Due to low student data, there is insufficient data to determine what percent of students attained the regional living wage.
- In 2021-22, 83% of Orange County engineering technology students that exited their programs reported working a job closely related to their field of study.

## Demand

### Occupational Projections

Exhibit 2 shows the annual percentage change in jobs for these engineering technology occupations from 2019 through 2029. Between 2019 and 2020, employment levels across Los Angeles and Orange counties declined sharply due to the broader economic impacts of the COVID-19 pandemic. From 2021 to 2024, Orange County experienced consistent declines in employment, starting with a 6% decline in 2021 and 2022, followed by a 4% drop in 2023, and a significant 18% drop in 2024. Beginning in 2025, job levels are projected to grow at a slower rate than the average of all occupations through 2029.

Exhibit 2: Annual Percentage Change in Jobs for Engineering Technology Occupations, 2019-29

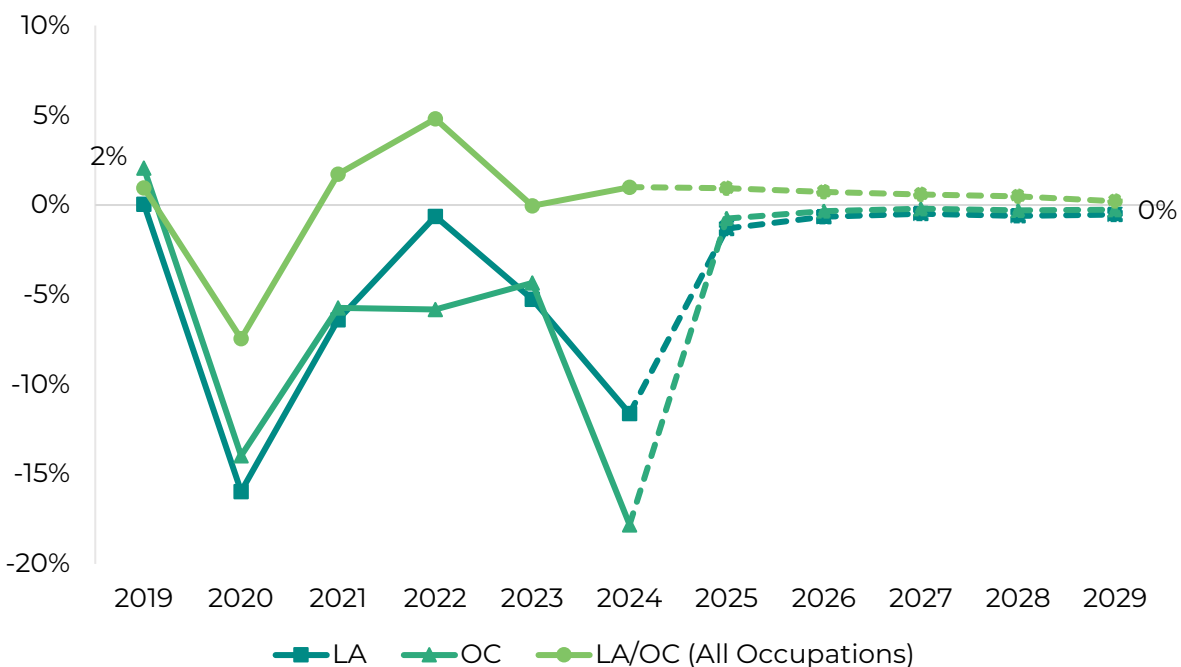


Exhibit 3 shows the five-year occupational demand projections for these middle-skill engineering technology occupations. In Los Angeles and Orange counties, the number of jobs related to these occupations is projected to decrease 3% through 2029. There are projected to be 224 available annually.

### Exhibit 3: Middle-Skill Occupational Demand in Los Angeles and Orange Counties<sup>2</sup>

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	1,780	1,717	(63)	(4%)	148
Orange	911	894	(17)	(2%)	76
<b>Total</b>	<b>2,691</b>	<b>2,611</b>	<b>(80)</b>	<b>(3%)</b>	<b>224</b>

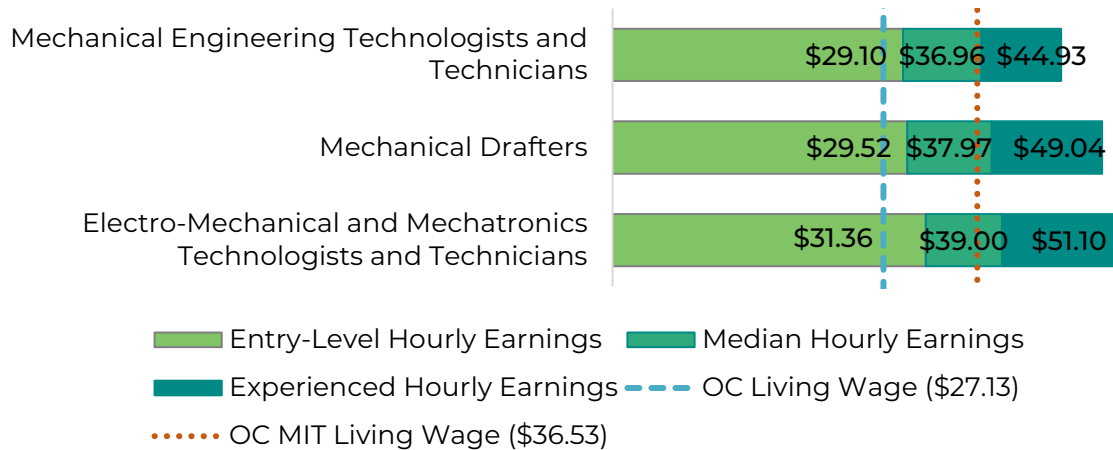
### Wages

The labor market endorsement in this report considers the entry-level hourly wages for these engineering technology occupations in Orange County as they relate to the county’s living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage (updated on February 15, 2026) is provided as a reference. Currently, the MIT Living Wage in Orange County is \$36.53. Both figures account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

In Orange County, all annual openings for these engineering technology occupations have entry-level wages above the Self-Sufficiency living wage of \$27.13 for a single adult, ranging from \$29.10 to \$31.36. Exhibit 4 shows the wage range for each of these engineering technology occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

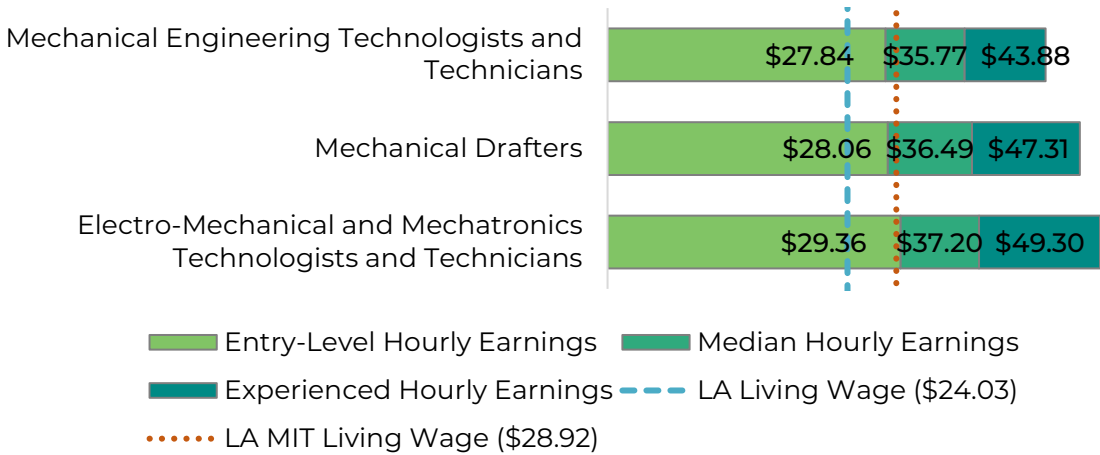
### Exhibit 4: Wages by Occupation in Orange County



In Los Angeles County, all annual openings for these engineering technology occupations have entry-level wages above the Self-Sufficiency living wage of \$24.03 for a single adult, ranging from \$27.84 to \$29.36. Exhibit 5 shows the wage range for each of these engineering technology occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

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

### Exhibit 5: Wages by Occupation in Los Angeles County



### Resilient Jobs and U.S. News & World Report Best Jobs

Exhibit 6 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2025 U.S. News & World Report (USN&WR) Best Job<sup>3</sup>. None of these occupations met the criteria for these designations.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Electro-Mechanical and Mechatronics Technologists and Technicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical Drafters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical Engineering Technologists and Technicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Job Postings

**Important Job Postings Data Note:** There are limitations when analyzing job postings. A single job posting may not represent a single job opening for a variety of reasons.

There were 396 online job postings related to these engineering technology occupations listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation. Over 51% of job postings were for *mechanical drafters*.

Exhibit 7: Number of Job Postings by Occupation (n=396)

Occupation	Job Postings	Percentage of Job Postings
Mechanical Drafters	203	51%
Electro-Mechanical and Mechatronics Technologists and Technicians	97	24%
Mechanical Engineering Technologists and Technicians	96	24%
<b>Total Postings</b>	<b>396</b>	<b>100%</b>

<sup>3</sup> "100 Best Jobs," U.S. News & World Report, accessed January 28, 2025, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

The top job titles for these middle-skill engineering technology occupations in the region, by number of job postings, are shown in Exhibit 8.

**Exhibit 8: Top Job Titles by Number of Job Postings for Middle-Skill Occupation (n=396)**

Job Titles	Job Postings	Percentage
Drafters	60	15%
Mechanical Technicians	55	14%
Mechatronics Technicians	33	8%
AutoCAD Drafters	16	4%
Mechanical Engineering Technicians	16	4%
Mechanical Designers	14	4%
Piping Designers	13	3%
Mechanical Drafters	11	3%
Robotics Instructors	10	3%
Robotics Technicians	8	2%

The top employers for these middle-skill engineering technology occupations in the region, by number of job postings, are shown in Exhibit 9.

**Exhibit 9: Top Employers by Number of Job Postings for Middle-Skill Occupation (n=396)**

Employer	Job Postings	Percentage of Job Postings
Cushman & Wakefield	23	6%
GPAC	15	4%
Northrop Grumman	14	4%
APR Consulting	13	3%
Amazon	12	3%
Element Materials Technology	6	2%
NES Fircroft	6	2%
Pts Advance	6	2%
Divergent Agency	5	1%
22nd Century Technologies	5	1%

The top specialized, soft, and computer skills for these middle-skill engineering technology occupations listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 10.

**Exhibit 10: Top Skills by Number of Job Postings for Middle-Skill Occupations (n=396)**

Top Specialized Skills	Top Soft Skills	Top Computer Skills
AutoCAD (113)	Communication (189)	AutoCAD (113)
Computer-Aided Design (90)	Troubleshooting (Problem Solving) (115)	Microsoft Excel (74)
Mechanical Engineering (78)	Detail Oriented (97)	SolidWorks (CAD) (67)
Electronics (70)	Operations (82)	Microsoft Office (60)
Robotics (70)	Microsoft Excel (74)	Autodesk Revit (42)
SolidWorks (CAD) (67)	Problem Solving (69)	Microsoft PowerPoint (41)
3D Modeling (54)	Microsoft Office (60)	Microsoft Word (38)

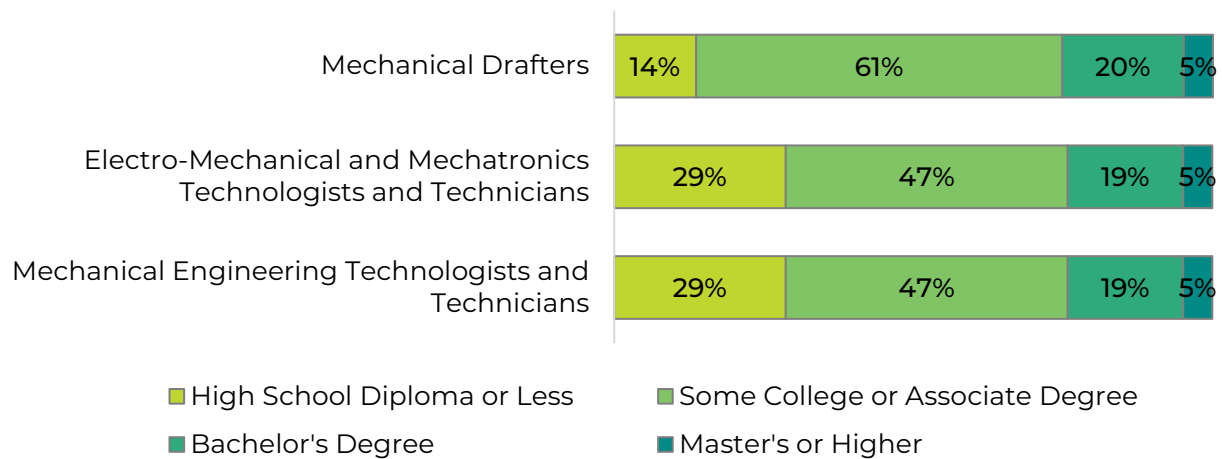
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Project Management (49)	Microsoft PowerPoint (41)	Computer Aided Three-Dimensional Interactive Application (CATIA) (32)
Mechanical Design (43)	Microsoft Word (38)	Microsoft Outlook (30)
Mechanical Systems (43)	Management (34)	Autodesk (11)

## Educational Attainment

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for these middle-skill occupations.

The national-level educational attainment data indicates between 47% and 61% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 11 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 11: National-level Educational Attainment for Occupations



## Requested Minimum Education Requirement

Of the cumulative job postings for these engineering technology occupations in Los Angeles and Orange counties that listed a minimum education requirement:

- 65% (256) of Middle-Skill Occupations Job Postings:
  - 85% (218) requested a high school diploma or associate degree
  - 14% (36) requested a bachelor's degree.

## Educational Supply

The following supply tables display the total supply for these middle-skill engineering technology occupations that align with these TOP and CIP codes and program needs.

### Community College Supply

Exhibit 12 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Engineering Technology, General (requires Trigonometry) (0924.00)
- Electro-Mechanical Technology (0935.00)
- Aeronautical and Aviation Technology (0950.00)
- Aircraft Electronics (Avionics) (0950.40)
- Drafting Technology (0953.00)
- Mechanical Drafting (0953.40)
- Manufacturing and Industrial Technology (0956.00)

No awards were conferred under the following TOP codes:

- Electron Microscopy (0934.70)
- Instrumentation Technology (0943.00)

The colleges with the most completions in the region are Pasadena (252), followed by Mt San Antonio (82), and Santa Ana (65). Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

Exhibit 12: Regional Community College Awards (Certificates and Degrees), 2021-24

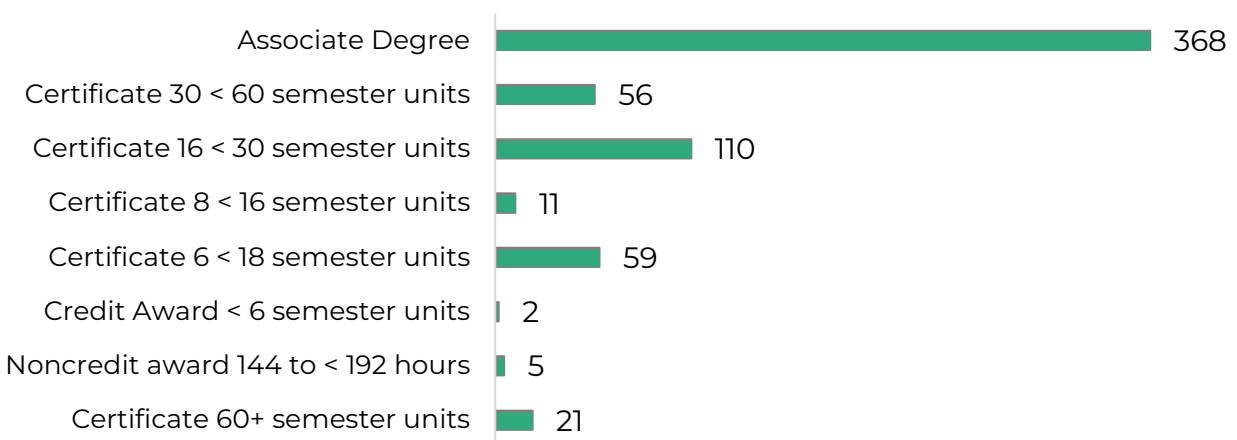
TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0924.00	Engineering Technology, General (requires Trigonometry)	Cerritos	15	9	13	12
		East LA	0	0	3	1
		Glendale	3	2	0	2
		Long Beach	0	0	1	0
		Mt San Antonio	6	25	50	27
		Pasadena	211	198	319	243
		<b>LA Subtotal</b>	<b>235</b>	<b>234</b>	<b>386</b>	<b>285</b>
		Fullerton	0	0	1	0
		<b>OC Subtotal</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>Supply Subtotal/Average</b>			<b>235</b>	<b>234</b>	<b>387</b>	<b>285</b>
0935.00	Electro-Mechanical Technology	-	-	-	-	-
		<b>LA Subtotal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
		Orange Coast	0	0	3	1
		Santa Ana	4	8	11	8
		<b>OC Subtotal</b>	<b>4</b>	<b>8</b>	<b>14</b>	<b>9</b>
<b>Supply Subtotal/Average</b>			<b>4</b>	<b>8</b>	<b>14</b>	<b>9</b>
0950.00	Aeronautical and Aviation Technology	Mt San Antonio	12	8	23	14
		West LA	16	14	21	17
		<b>LA Subtotal</b>	<b>28</b>	<b>22</b>	<b>44</b>	<b>31</b>

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		Orange Coast	37	35	24	32
		<b>OC Subtotal</b>	<b>37</b>	<b>35</b>	<b>24</b>	<b>32</b>
<b>Supply Subtotal/Average</b>			<b>65</b>	<b>57</b>	<b>68</b>	<b>63</b>
0950.40	Aircraft Electronics (Avionics)	-	-	-	-	-
		<b>LA Subtotal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
		Orange Coast	0	1	1	1
		<b>OC Subtotal</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Supply Subtotal/Average</b>			<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>
0953.00	Drafting Technology	Cerritos	40	30	43	38
		Citrus	15	5	12	11
		East LA	12	13	15	13
		El Camino	10	8	8	9
		LA Mission	0	2	2	1
		LA Pierce	1	5	10	5
		LA Valley	0	1	2	1
		Long Beach	0	0	1	0
		Mt San Antonio	24	25	7	19
		Pasadena	8	9	9	9
		Rio Hondo	15	11	6	11
		<b>LA Subtotal</b>	<b>125</b>	<b>109</b>	<b>115</b>	<b>116</b>
		Fullerton	5	8	9	7
		Golden West	3	4	18	8
		Irvine	7	7	1	5
		Saddleback	1	3	2	2
		Santa Ana	16	46	73	45
<b>OC Subtotal</b>	<b>32</b>	<b>68</b>	<b>103</b>	<b>68</b>		
<b>Supply Subtotal/Average</b>			<b>157</b>	<b>177</b>	<b>218</b>	<b>184</b>
0953.40	Mechanical Drafting	Glendale	10	0	5	5
		LA Valley	0	1	2	1
		Long Beach	4	4	3	4
		Pasadena	0	1	1	1
		Rio Hondo	0	3	2	2
		<b>LA Subtotal</b>	<b>14</b>	<b>9</b>	<b>13</b>	<b>12</b>
		Irvine	10	2	0	4
		Santa Ana	8	13	11	11
		<b>OC Subtotal</b>	<b>18</b>	<b>15</b>	<b>11</b>	<b>15</b>

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
<b>Supply Subtotal/Average</b>			<b>32</b>	<b>24</b>	<b>24</b>	<b>27</b>
0956.00	Manufacturing and Industrial Technology	Cerritos	1	1	5	2
		El Camino	4	2	0	2
		Glendale	1	0	0	0
		LA Trade	15	3	5	8
		LA Valley	0	2	5	2
		Mt San Antonio	13	26	28	22
		West LA	0	0	2	1
		<b>LA Subtotal</b>	<b>34</b>	<b>34</b>	<b>45</b>	<b>38</b>
		Cypress	0	0	4	1
		Fullerton	18	9	12	13
		Irvine	2	0	0	1
		Saddleback	8	4	3	5
		Santa Ana	4	0	0	1
		Santiago Canyon	7	6	2	5
		<b>OC Total</b>	<b>39</b>	<b>19</b>	<b>21</b>	<b>26</b>
<b>Supply Subtotal/Average</b>			<b>75</b>	<b>73</b>	<b>73</b>	<b>53</b>
<b>Supply Total/Average</b>			<b>566</b>	<b>554</b>	<b>778</b>	<b>633</b>

Exhibit 13 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for associate degrees, followed by certificates with 16 to 30 semester units.

Exhibit 13: Annual Average Community College Awards by Type, 2021-2024



### Community College Student Outcomes

Exhibit 19 shows the Strong Workforce Program (SWP) metrics for engineering technology programs Coast County Community College District (CCCD), the Orange County Region, and

California. Of the 4,405 California engineering technology students in the 2023-24 academic year, 8% (358) attended an Orange County college.

Per the California Community Colleges Curriculum Inventory (COCI), CCCD has no programs under the engineering technology, general (requires Trigonometry) (0924.00) TOP code. Therefore, there is no DataVista student outcome data. Across Orange County, students that exited engineering technology, general programs in the 2022-23 academic year had lower median annual earnings (\$22,086 or \$10.62 per hour) compared to all engineering technology students in California (\$40,946 or \$19.69 per hour).

#### Exhibit 14: Engineering Technology, General (0924.00) Strong Workforce Program Metrics, 2021-24<sup>4</sup>

SWP Metric	CCCD	OC Region	California
SWP Students	Insufficient Data	358	4,405
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	Insufficient Data	11%	17%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	57%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	Insufficient Data	436
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	Insufficient Data	34	369
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	Insufficient Data	83%	80%
Median Annual Earnings for SWP Exiting Students (2022-23)	Insufficient Data	\$22,086 (\$10.62)	\$40,946 (\$19.69)
Median Change in Earnings for SWP Exiting Students (2022-23)	Insufficient Data	Insufficient Data	38%
SWP Exiting Students Who Attained the Living Wage (2022-23)	Insufficient Data	Insufficient Data	42%

#### Non-Community College Supply

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering engineering technology programs. Exhibit 15 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) codes:

- Engineering Technologies/Technicians, General (15.0000)
- Aeronautical/Aerospace Engineering Technology/Technician (15.0801)
- Automotive Engineering Technology/Technician (15.0803)
- Mechanical/Mechanical Engineering Technology/Technician (15.0805)
- Drafting and Design Technology/Technician, General (15.1301)

No awards were conferred under the related CIP codes:

- Electromechanical/Electromechanical Engineering Technology/Technician (15.0403)
- Instrumentation Technology/Technician (15.0404)
- CAD/CADD Drafting and/or Design Technology/Technician (15.1302)

<sup>4</sup> All SWP metrics are for 2023-24 unless otherwise noted.

- Mechanical Drafting and Mechanical Drafting CAD/CADD (15.1306)

- 3-D Modeling and Design Technology/Technician (15.1307)

The available data covers 2020 to 2023. During this period, non-community college institutions in the region conferred an average of 131 awards annually in related programs. Please note that all awards were for bachelor's, master's, or a postbaccalaureate certificate with the exclusion of 21 awards under Automotive Engineering Technology/Technician (15.0803), which were for certificates.

Exhibit 15: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
15.0000	Engineering Technologies/Technicians, General	California State Polytechnic University-Pomona	3	0	0	1
		California State University-Long Beach	0	0	0	0
<b>Supply Subtotal/Average</b>			<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>
15.0801	Aeronautical/Aerospace Engineering Technology/Technician	Loyola Marymount University	0	0	0	0
<b>Supply Subtotal/Average</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
15.0803	Automotive Engineering Technology/Technician	Art Center College of Design	52	38	55	48
		Hacienda La Puente Adult Education	31	22	9	21
<b>Supply Subtotal/Average</b>			<b>83</b>	<b>60</b>	<b>64</b>	<b>69</b>
15.0805	Mechanical/Mechanical Engineering Technology/Technician	California State Polytechnic University-Pomona	54	57	53	55
<b>Supply Subtotal/Average</b>			<b>54</b>	<b>57</b>	<b>53</b>	<b>55</b>
15.1301	Drafting and Design Technology/Technician, General	Woodbury University	0	6	14	7
<b>Supply Subtotal/Average</b>			<b>0</b>	<b>6</b>	<b>14</b>	<b>7</b>
<b>Supply Total/Average</b>			<b>140</b>	<b>123</b>	<b>131</b>	<b>131</b>

# Regional Demographics

The following section presents occupational, community college program, and population demographic data for Orange County. This comparison can help identify possible equity gaps between the local workforce and the student pipeline who are preparing for these occupations. These insights can inform program development, outreach, and support strategies to better align community college programs with current labor market needs.

## Ethnicity

Exhibit 16 compares the ethnicity of Orange County community college students enrolled in engineering technology, general (requires trigonometry) programs, the overall Orange County population, and occupation-specific data for the three engineering technology occupations included in this report.

The engineering technology workforce is mostly comparable to students who are enrolled in engineering technology, general programs, save for larger Asian and Black or African American representation (38% and 5% respectively) compared to program enrollments (33% and 0% respectively).

Exhibit 16: Program and County Demographics by Ethnicity

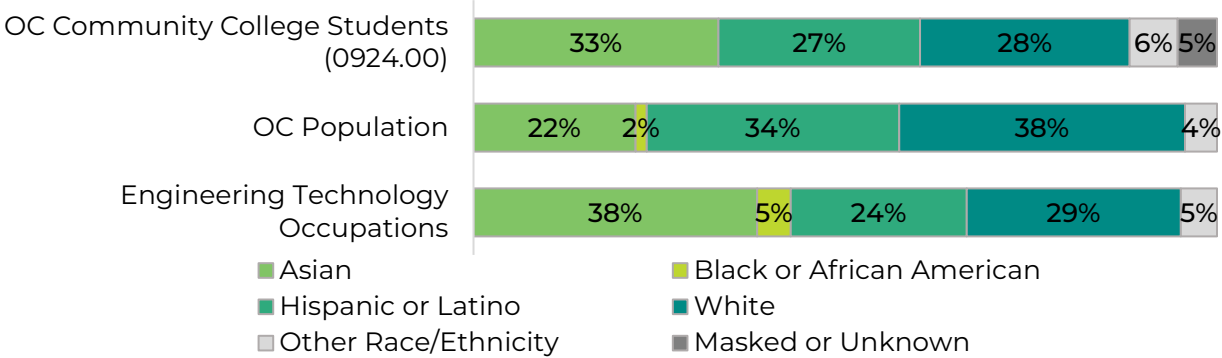
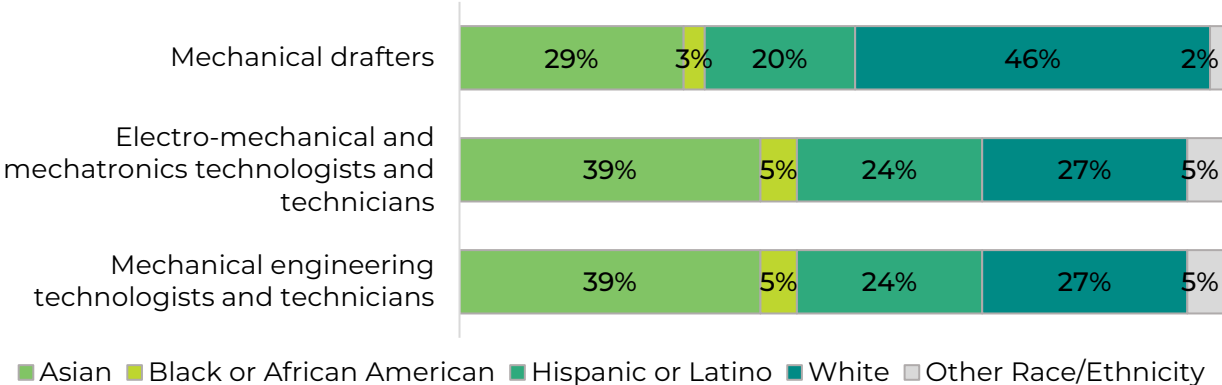


Exhibit 17 shows the disaggregated ethnicity data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Asian individuals are less represented as *mechanical drafters* (29%) compared to the other engineering technology occupations (39%), with a higher makeup of White individuals (46%), representing almost half of *mechanical drafters*, but just over a fourth of the other occupations.

Exhibit 17: Disaggregated Ethnic Distribution by Occupation



## Age

Exhibit 18 compares the age of Orange County community college students enrolled in engineering technology programs, the overall Orange County population, and occupation-specific data for the four engineering technology occupations included in this report.

Community college students enrolled in engineering technology, general programs skew younger, with 85% being 24 or younger compared to just 10% of the engineering technology workforce. A large portion of the workforce instead are 50 and older (41%), suggesting that these roles may require additional experience or advanced training prior to entry.

Exhibit 18: Program and County Demographics by Age

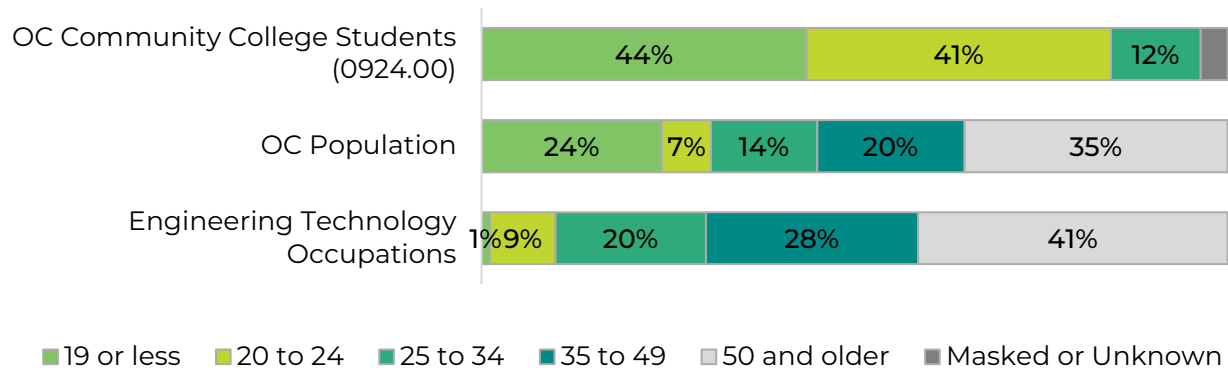
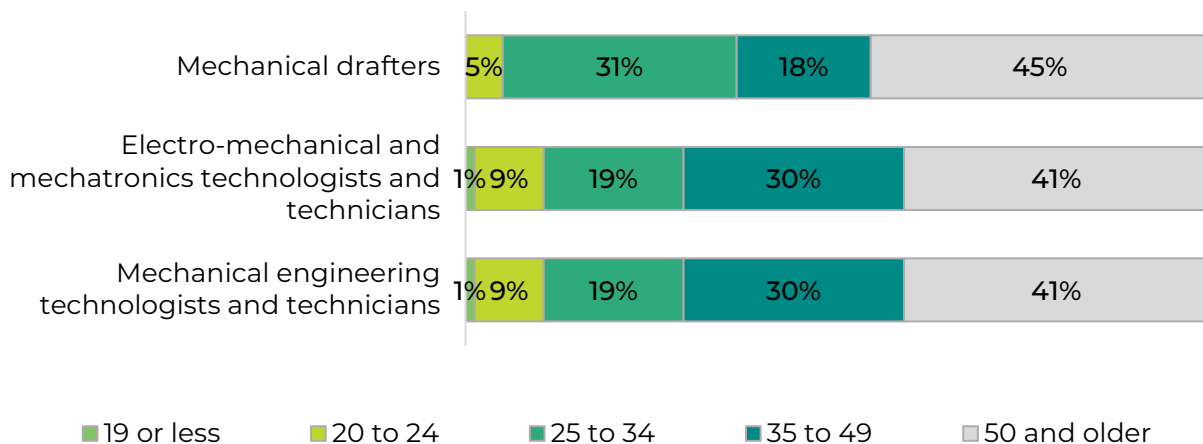


Exhibit 24 shows the disaggregated age data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Age distributions across each of these engineering technology occupations are mostly similar, except for *mechanical drafters*, who have a higher share of workers ages 25 to 34 (31%) and a lower share of workers 35 to 49 (18%). This may suggest that jobs associated with *mechanical drafters* are entry-level, and that upskilling may advance them to *electro-mechanical and mechatronics technologists and technicians*, or *mechanical engineering technologists and technicians*.

Exhibit 19: Disaggregated Age Distribution by Occupation



## Sex

Exhibit 20 compares the sex of Orange County community college students enrolled in engineering technology programs, the overall Orange County population, and occupation-specific data for these engineering technology occupations.

Though the population has an even gender distribution, only 20% of the engineering technology workforce and 18% of community college students training for these programs are women.

Exhibit 20: Program and County Demographics by Sex

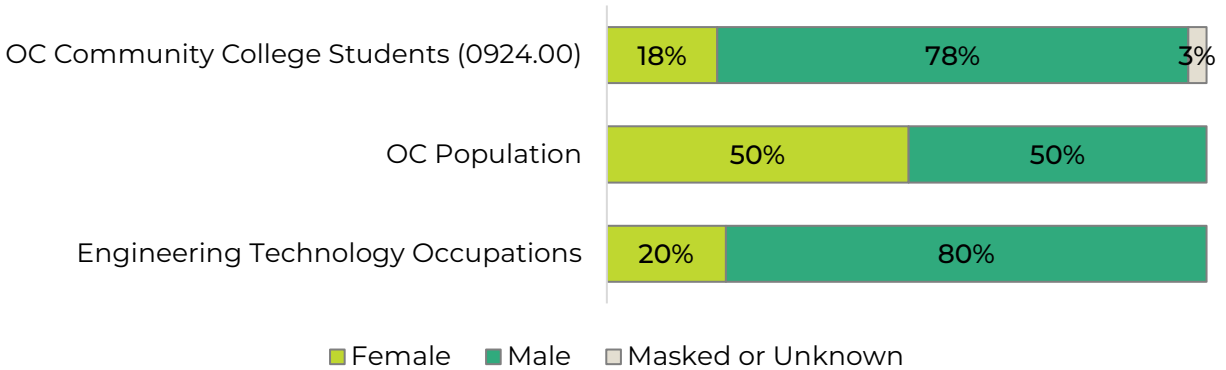
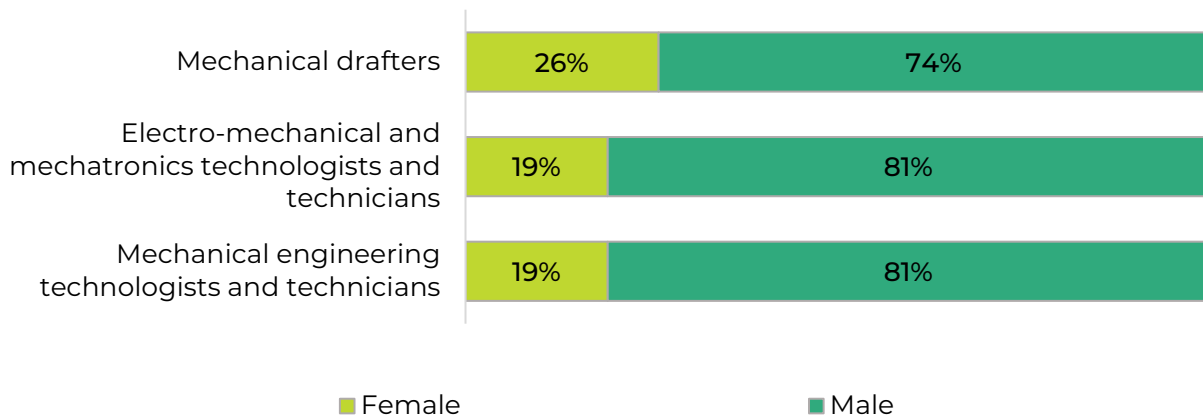


Exhibit 21 shows the disaggregated sex data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Women are more represented as *mechanical drafters* than the other two occupations, still with just making up 26% of this workforce. These findings highlight persistent gender disparities in the engineering technology workforce.

Exhibit 21: Disaggregated Sex Distribution by Occupation



## Appendix A: Methodology

OC COE prepared this report by analyzing occupational and educational program data. Occupational data comes from Lightcast, a labor market analytics firm which compiles information from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other agencies. Analysis of emerging occupations is predicated on online job postings data combined with Occupational Information Network (O\*NET) profile descriptions. Program supply data was sourced from the California Community Colleges Chancellor's Office Data Mart (MIS Data Mart) ([datamart.cccco.edu](http://datamart.cccco.edu)) and the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://nces.ed.gov/ipeds/use-the-data)), also known as IPEDS, which was integrated into the COE's Supply Table. (IPEDS).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that have 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.

The OC COE determined labor market supply for each occupation (SOC code) by analyzing the number of 3-year average program completers or awards in related TOP and CIP codes. TOP code data comes from MIS Data Mart and CIP code data comes from the IPEDS. The TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education throughout the United States and Canada. The California Community Colleges are the only system that use TOP codes.

The analysis reflects labor market demand for occupations closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. assess current and projected employment based on data trends for detailed occupations, as well as annual average awards granted by regional postsecondary educational institutions. Real-time labor market information (online job postings) assesses employer preferences but cannot be used to measure the quantity of open positions, number of jobs, or annual openings.

All findings are based on the most current available data and a combination of primary and secondary sources. While care was taken to ensure accuracy, the OC COE, its host district, and the California Community Colleges Chancellor's Office are not responsible for individual decisions made based on this report.

## Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional and real-time labor market information are captured using data from <a href="#">Lightcast</a> (v.2026.1), a labor market analytics firm.
Living Wage	Per the CCCC's this report's endorsement criteria uses the <a href="#">University of Washington's Center for Women's Welfare Self-Sufficiency Standard</a> last updated in March 2024, which is \$27.13 per hour (\$57,294 annually) in Orange County. The <a href="#">MIT Living Wage</a> , updated on February 15, 2026, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$36.53.
Typical Education and Training Requirements, and Educational Attainment	The <a href="#">Bureau of Labor Statistics (BLS)</a> uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data.
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The <a href="#">O*NET</a> database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations.
Educational Supply	The <a href="#">CCCCO Data Mart</a> provides information about students, courses, student services, outcomes and faculty and staff. The <a href="#">National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS)</a> collects data on the number of postsecondary awards earned (completions).
Student Metrics and Demographics	<a href="#">Data Vista</a> (v.2.0), a statewide data system supported by the California Community Colleges Chancellor's Office provides data on progress, success, employment, and earnings outcomes for California community college students.
Population and Occupation Demographics	The <a href="#">Census Bureau's American Community Survey (ACS)</a> is the premier source for detailed population and housing information. Data is sourced from <a href="#">IPUMS USA</a> , a database providing access to ACS and other Census Bureau data products.

For more information, please contact the Orange County Center of Excellence:

**Jesse Crete, Ed. D., Regional Director**

crete\_jesse@rscdd.edu

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