










# Occupational Health and Safety Occupations

## Labor Market Analysis: San Diego County

June 2022

### Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED EDUCATION FOR MAJORITY OF OCCUPATIONS ANALYZED
 <p><b>Proceed with New Program</b></p>	 	 	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Bachelor's Degree+</li> <li><input type="checkbox"/> Associate Degree</li> <li><input type="checkbox"/> Some College or Certificate</li> <li><input type="checkbox"/> HS Diploma or Equivalent</li> <li><input type="checkbox"/> Less than a HS Diploma</li> <li><input type="checkbox"/> Apprenticeship</li> </ul>
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	<p>LOW</p> 	<p>LOW</p> 	

This brief provides labor market information about *Occupational Health and Safety Occupations* to assist the San Diego and Imperial Counties Community Colleges with program development and strategic planning. *Occupational Health and Safety Occupations* include “Occupational Health and Safety Specialists” and “Occupational Health and Safety Technicians.” According to available labor market information, *Occupational Health and Safety Occupations* in San Diego County have a labor market demand of 96 annual job openings (while average demand for a single occupation in San Diego County is 245 annual job openings), and two institutions supply 24 awards for these occupations, suggesting that there is a supply gap in the labor market. Entry-level and median wages are above the living wage for all occupations. This brief recommends proceeding with a new program and supports a program modification because 1) these occupations’ entry-level and median earnings are above the living wage; 2) a supply gap exists for these occupations; and 3) a low number of institutions currently offer programs. Colleges should note that **employers typically require a bachelor’s degree as the minimum educational requirement for these occupations.**

## Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)<sup>1</sup> system:

- **Occupational Health and Safety Specialists (SOC 19-5011):** Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector.
- **Occupational Health and Safety Technicians (SOC 19-5012):** Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.

For the purpose of this report, these occupations are referred to as *Occupational Health and Safety Occupations*.

---

<sup>1</sup> The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc).

## Projected Occupational Demand

Between 2021 and 2026, *Occupational Health and Safety Occupations* are projected to increase by **57** net jobs or **five** percent (Exhibit 1 a). Employers in San Diego County will need to hire **96** workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

**Exhibit 1a: Number of Jobs for Occupational Health and Safety Occupations (2011-2026)<sup>2</sup>**

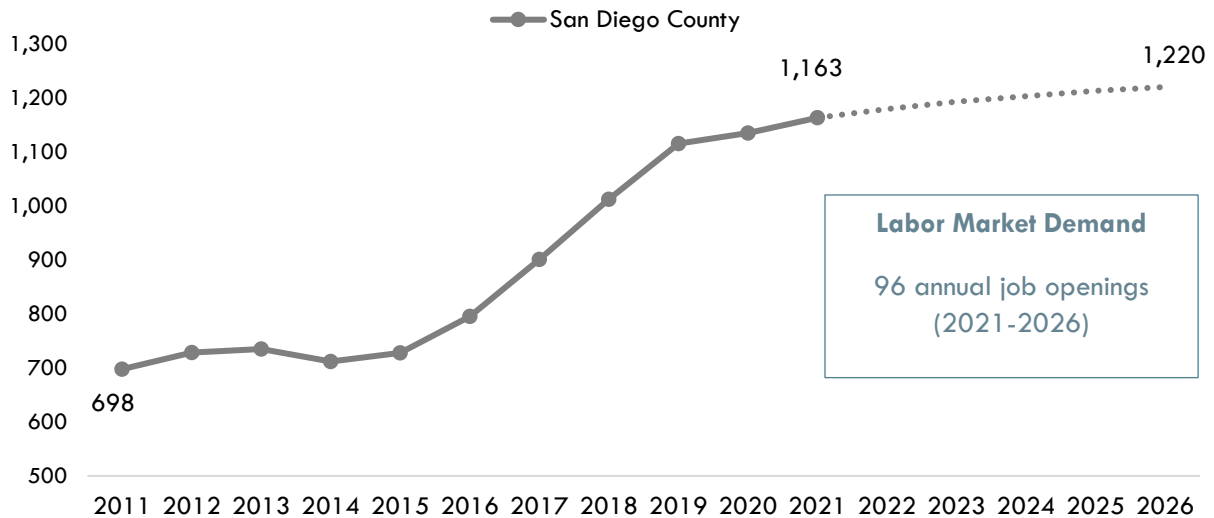


Exhibit 1b disaggregates the projected number of jobs change by occupation. “Occupational Health and Safety Specialists” are projected to have the most labor market demand between 2021 and 2026, with **81** annual job openings.

**Exhibit 1b: Number of Jobs for Occupational Health and Safety Occupations  
in San Diego County (2021-2026)<sup>3</sup>**

Occupational Title	2021 Jobs	2026 Jobs	2021 - 2026 Net Jobs Change	2021- 2026 % Net Jobs Change	Annual Job Openings (Demand)
Occupational Health and Safety Specialists	994	1,038	44	4%	81
Occupational Health and Safety Technicians	169	182	13	8%	15
<b>Total</b>	<b>1,163</b>	<b>1,220</b>	<b>57</b>	<b>5%</b>	<b>96</b>

<sup>2</sup> EMSI 2022.2; QCEW, Non-QCEW, Self-Employed.

<sup>3</sup> EMSI 2022.2; QCEW, Non-QCEW, Self-Employed.

## Earnings

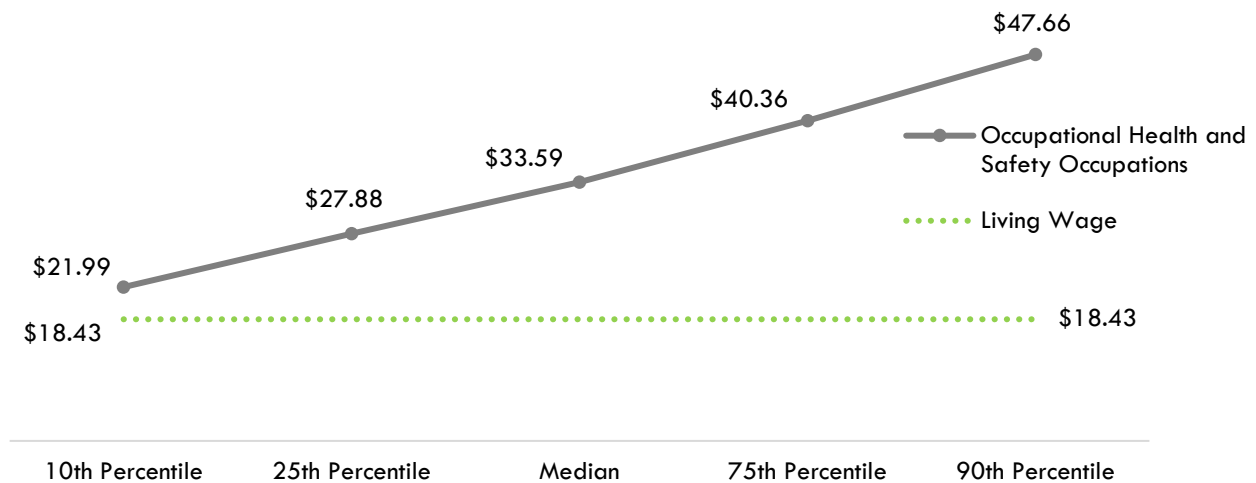
Exhibit 2a disaggregates hourly earnings by occupation. The entry-level hourly earnings for *Occupational Health and Safety Occupations* range from \$20.84 to \$34.93.

**Exhibit 2a: Hourly Earnings for Occupational Health and Safety Occupations in San Diego County<sup>4</sup>**

Occupational Title	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Occupational Health and Safety Specialists	\$34.93	\$42.43	\$49.07
Occupational Health and Safety Technicians	\$20.84	\$24.75	\$31.65

On average, the entry-level hourly earnings for *Occupational Health and Safety Occupations* are \$27.88; this is more than the living wage for a single adult in San Diego County, which is \$18.43 per hour (Exhibit 2b).<sup>5</sup>

**Exhibit 2b: Average Hourly Earnings<sup>6</sup> for Occupational Health and Safety Occupations in San Diego County<sup>7</sup>**



<sup>4</sup> EMSI 2022.2; QCEW, Non-QCEW, Self-Employed.

<sup>5</sup> "Family Needs Calculator (formerly the California Family Needs Calculator)," Insight: Center for Community Economic Development, last updated 2021. [insightccd.org/family-needs-calculator/](https://insightccd.org/family-needs-calculator/).

<sup>6</sup> 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

<sup>7</sup> EMSI 2022.2; QCEW, Non-QCEW, Self-Employed.

## Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.<sup>8</sup> There is **one** TOP code and **two** CIP codes related to *Occupational Health and Safety Occupations* (Exhibit 3).

**Exhibit 3: Related TOP and CIP Codes for Occupational Health and Safety Occupations<sup>9</sup>**

TOP or CIP Code	TOP or CIP Program Title
TOP 0956.70	Industrial and Occupational Safety and Health
CIP 15.0703	Industrial Safety Technology/Technician
CIP 15.0705	Process Safety Technology/Technician

According to TOP data, **two** community colleges supply the region with awards for these occupations: **Cuyamaca College and Southwestern College**. According to CIP data, no non-community-college institution supplies the region with awards (Exhibit 4).

**Exhibit 4: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions  
(Program Year 2017-18 through PY2020-21 Average)**

TOP or CIP Code	TOP or CIP Program Title	3-Yr Annual Average CC Awards (PY18-19 to PY20-21)	Other Educational Institutions 3-Yr Annual Average Awards (PY17-18 to PY19-20)	3-Yr Total Average Supply (PY17-18 to PY20-21)
0956.70	Industrial and Occupational Safety and Health	<b>24</b>	<b>0</b>	<b>24</b>
	• Cuyamaca	13	0	
	• Southwestern	11	0	
15.0703	Industrial Safety Technology/Technician	<b>0</b>	<b>0</b>	<b>0</b>
15.0705	Process Safety Technology/Technician	<b>0</b>	<b>0</b>	<b>0</b>
			<b>Total</b>	<b>24</b>

<sup>8</sup> TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data).

<sup>9</sup> This brief uses a conservative estimate of program supply and only calculates awards from the TOP codes listed in Exhibit 3.

## Demand vs. Supply

Comparing labor demand (annual openings) with labor supply<sup>10</sup> suggests that there is a **supply gap** for these occupations in San Diego County, with **96** annual openings and **24** awards. Comparatively, there are **883** annual openings in California and **64** awards, suggesting that there is a supply gap across the state<sup>11</sup> (Exhibit 5).

### Exhibit 5: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	<b>Demand</b> (Annual Openings)	<b>Supply</b> (Total Annual Average Supply)	<b>Supply Gap or Oversupply</b>
San Diego	96	24	<b>72</b>
California	883	64	<b>819</b>

**Please note:** This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

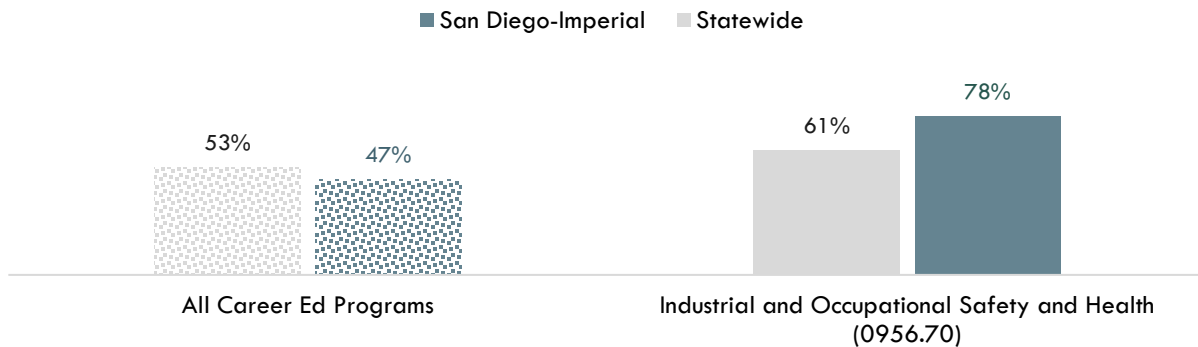
<sup>10</sup> Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

<sup>11</sup> "Supply and Demand," Centers of Excellence Student Outcomes, [coecc.net/Supply-and-Demand.aspx](http://coecc.net/Supply-and-Demand.aspx).

## Student Outcomes and Regional Comparisons

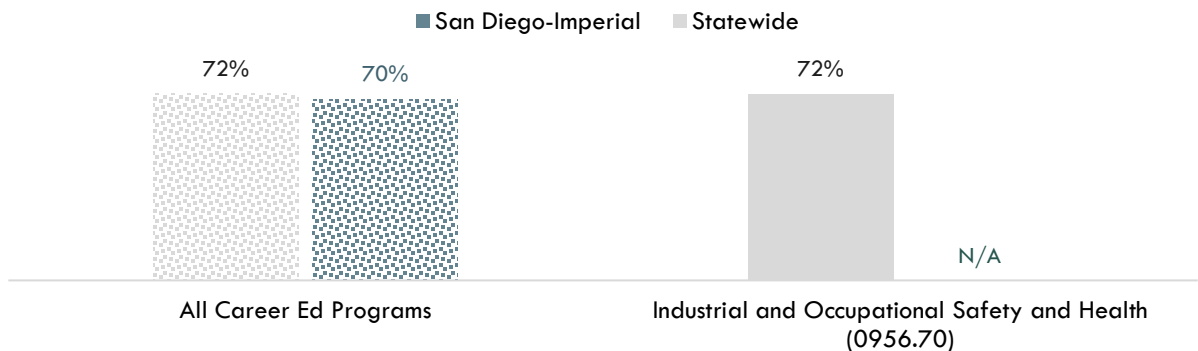
According to the California Community Colleges LaunchBoard, 78 percent of students in the San Diego-Imperial region earned a living wage after completing an Industrial and Occupational Safety and Health (TOP 0956.70) program, compared to 61 percent statewide and 53 percent of students in Career Education programs in general across the state (Exhibit 6a).<sup>12</sup>

**Exhibit 6a: Percentage of Students Who Earned a Living Wage by Program, PY2018-19<sup>13</sup>**



According to the California Community Colleges LaunchBoard, 72 percent of students statewide obtained a job closely related to their field of study after completing an Industrial and Occupational Safety and Health (TOP 0956.70) program, compared to 72 percent of students in Career Education programs in general across the state (Exhibit 6b).<sup>14</sup>

**Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2017-18<sup>15</sup>**



“N/A” indicates insufficient data

<sup>12</sup> “California Community Colleges Strong Workforce Program,” California Community Colleges, [calpassplus.org/LaunchBoard/SWP.aspx](http://calpassplus.org/LaunchBoard/SWP.aspx).

<sup>13</sup> Among completers and skills builders who exited, the proportion of students who attained a living wage.

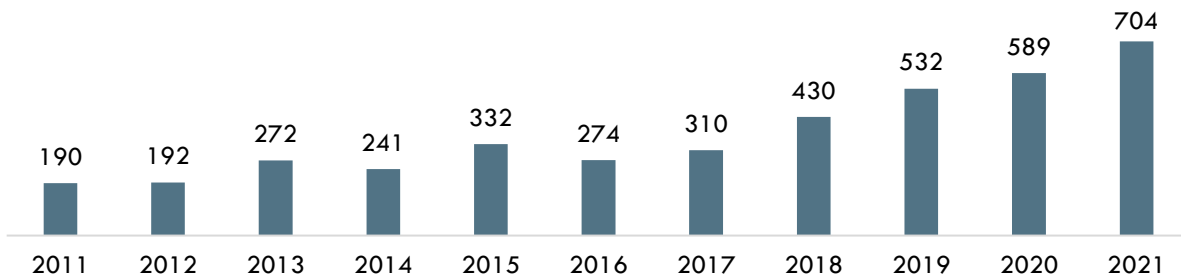
<sup>14</sup> “California Community Colleges Strong Workforce Program,” California Community Colleges, [calpassplus.org/LaunchBoard/SWP.aspx](http://calpassplus.org/LaunchBoard/SWP.aspx).

<sup>15</sup> Most recent year with available data is Program Year 2017-18. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

## Online Job Postings

This report analyzes not only historical and projected (traditional LMI) data, but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market that are not captured by historical data. Between 2011 and 2021, there was an average of 370 online job postings per year for *Occupational Health and Safety Occupations* in San Diego County (Exhibit 7). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Exhibit 1b). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

**Exhibit 7: Number of Online Job Postings for Occupational Health and Safety Occupations in San Diego County (2011-2021)<sup>16</sup>**



## Top Employers

Between January 1, 2019 and December 31, 2021, the top five employers in San Diego County for *Occupational Health and Safety Occupations* were [Securitas](#), [County of San Diego](#), [Welk Resort Group](#), [Sharp Healthcare](#), and [Welk Resort Market](#) based on online job postings (Exhibit 8).

**Exhibit 8: Top Employers for Occupational Health and Safety Occupations in San Diego County<sup>17</sup>**

Top Employers	
<ul style="list-style-type: none"> <li>• Securitas</li> <li>• County of San Diego</li> <li>• Welk Resort Group</li> <li>• Sharp Healthcare</li> <li>• Welk Resort Market</li> </ul>	<ul style="list-style-type: none"> <li>• U.S. Government</li> <li>• University of California San Diego</li> <li>• United Support Services Incorporated</li> <li>• TechFlow Incorporated</li> <li>• Titan Environmental Solutions, Inc.</li> </ul>

<sup>16</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2011-2022.

<sup>17</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2019-2021.



## Education, Skills, and Certifications

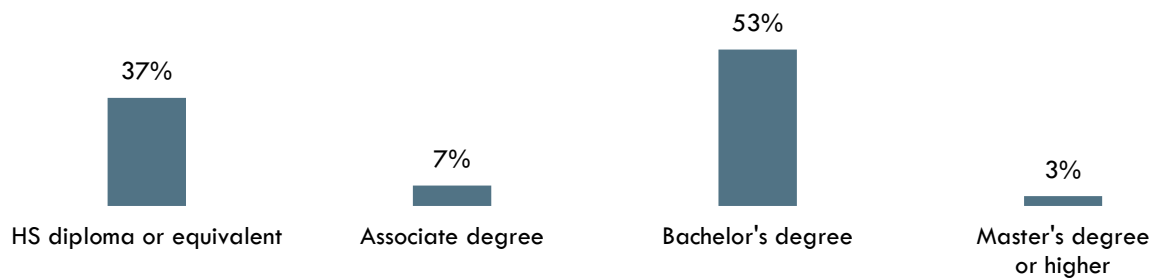
*Occupational Health and Safety Occupations* have a national educational attainment ranging from a high school diploma or equivalent to a bachelor's degree (Exhibit 9a).

**Exhibit 9a: National Educational Attainment for Occupational Health and Safety Occupations<sup>18</sup>**

Occupational Title	Typical Entry-Level Education
Occupational Health and Safety Specialists	Bachelor's degree
Occupational Health and Safety Technicians	High school diploma or equivalent

Based on online job postings between January 1, 2019 and December 31, 2021 in San Diego County, employers posted a bachelor's degree as the educational requirement for *Occupational Health and Safety Occupations* (Exhibit 9b).<sup>19</sup>

**Exhibit 9b: Educational Requirements for Occupational Health and Safety Occupations in San Diego County<sup>20</sup>**



\*may not total 100 percent due to rounding

<sup>18</sup> EMSI 2022.2; QCEW, Non-QCEW, Self-Employed.

<sup>19</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2019-2021.

<sup>20</sup> "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified April 9, 2021. [bls.gov/emp/tables/educational-attainment.htm](https://bls.gov/emp/tables/educational-attainment.htm).

Exhibit 10 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2019 and December 31, 2021.

**Exhibit 10: Top Skills for Occupational Health and Safety Occupations in San Diego County<sup>21</sup>**

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> <li>• Occupational Health and Safety</li> <li>• Environmental Health and Safety</li> <li>• Safety Training</li> <li>• Cardiopulmonary Resuscitation</li> <li>• Industrial Hygiene</li> <li>• Customer Service</li> <li>• Workers' Compensation</li> <li>• Personal Protective Equipment</li> <li>• Public Health and Safety</li> <li>• Surveillance</li> <li>• Scheduling</li> <li>• Hazard Analysis</li> <li>• Hazardous Waste</li> <li>• Project Management</li> <li>• Staff Management</li> </ul>	<ul style="list-style-type: none"> <li>• Communication Skills</li> <li>• Writing</li> <li>• Physical Abilities</li> <li>• Computer Literacy</li> <li>• Teamwork / Collaboration</li> <li>• Organizational Skills</li> <li>• Planning</li> <li>• Detail-Oriented</li> <li>• English</li> <li>• Written Communication</li> <li>• Problem Solving</li> <li>• Research</li> <li>• Building Effective Relationships</li> <li>• Verbal / Oral Communication</li> <li>• Multi-Tasking</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Excel</li> <li>• Microsoft Word</li> <li>• Microsoft PowerPoint</li> <li>• Active Server Pages</li> <li>• Microsoft Outlook</li> <li>• Word Processing</li> <li>• Lockout / Tagout</li> <li>• Microsoft Access</li> <li>• Microsoft SharePoint</li> <li>• Microsoft Project</li> <li>• Adobe Acrobat</li> <li>• OHSAS 18001</li> <li>• IEC 61508</li> <li>• Oracle</li> <li>• SAP</li> </ul>

<sup>21</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2019-2021.

Exhibit 11 lists the top certification that appeared in online job postings between January 1, 2019 and December 31, 2021.

**Exhibit 11: Top Certification for Occupational Health and Safety Occupations in San Diego County<sup>22</sup>**

Top Certification in Online Job Postings

1. Certified Safety Professional
  2. First Aid CPR AED
  3. Security Clearance
  4. OSHA Safety 30 Hour
  5. Certified Industrial Hygienist
  6. Security Guard Certification
  7. Occupational Safety and Health Administration Certification
  8. Emergency Medical Technician (EMT)
  9. Construction Health and Safety Technician
  10. HAZWOPER
  11. OSHA Safety 10 Hour
  12. Certified Hazardous Materials Manager
  13. Registered Environmental Health Specialist
  14. CDL Class C
  15. Certified Mold Inspector
- 

<sup>22</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2019-2021.

Prepared by:

Tina Ngo Bartel, Director ([tngobartel@miracosta.edu](mailto:tngobartel@miracosta.edu))

John Edwards, Research Analyst ([jedwards@miracosta.edu](mailto:jedwards@miracosta.edu))

San Diego-Imperial Center of Excellence for Labor Market Research



### Important Disclaimers

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. 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 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.

This workforce demand report uses state and federal job projection data that was developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.