

# Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

## Labor Market Analysis: San Diego County

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March 2018

### Summary

The following list summarizes findings from the labor market analysis below for *Aircraft Structure, Surfaces, Rigging, and Systems Assemblers*:

- Between 2017 and 2022, *Aircraft Structure, Surfaces, Rigging, and Systems Assemblers* are projected to increase by 242 jobs or 30 percent.
- Employers in San Diego County will need to hire 144 workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.
- Between 2010 and 2017, there was an average of 161 online job postings per year for *Aircraft Structure, Surfaces, Rigging, and Systems Assemblers* in San Diego County.
- *Aircraft Structure, Surfaces, Rigging, and Systems Assemblers* earn median hourly earnings of \$21.73, more than the Self-Sufficiency Standard for a single adult in San Diego County, which is \$13.09 per hour.
- According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, there are five Taxonomy of Programs (TOP) codes associated with this occupation: TOP 095000: Aeronautical and Aviation Technology, 095010: Aviation Airframe Mechanics, 095020: Aviation Powerplant Mechanics, 095040: Aircraft Electronics (Avionics), and 095050: Aircraft Fabrication. One college supplies the region with awards for this occupation: San Diego Miramar College.
- Comparing labor demand (annual openings) with labor supply suggests that there is a supply gap for this occupation in San Diego County, with 144 annual openings and 96 awards. Comparatively, there are 450 annual openings in California and 662 completions.
- Between January 1, 2015 and December 31, 2017, the top five employers in San Diego County for this occupation were Northrop Grumman, Cobham, General Atomics, Ametek Incorporated, and Lowe's Companies, Inc.
- The typical on-the-job training for this profession is moderate-term on-the-job training. The typical entry-level education is a high school diploma or equivalent.

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

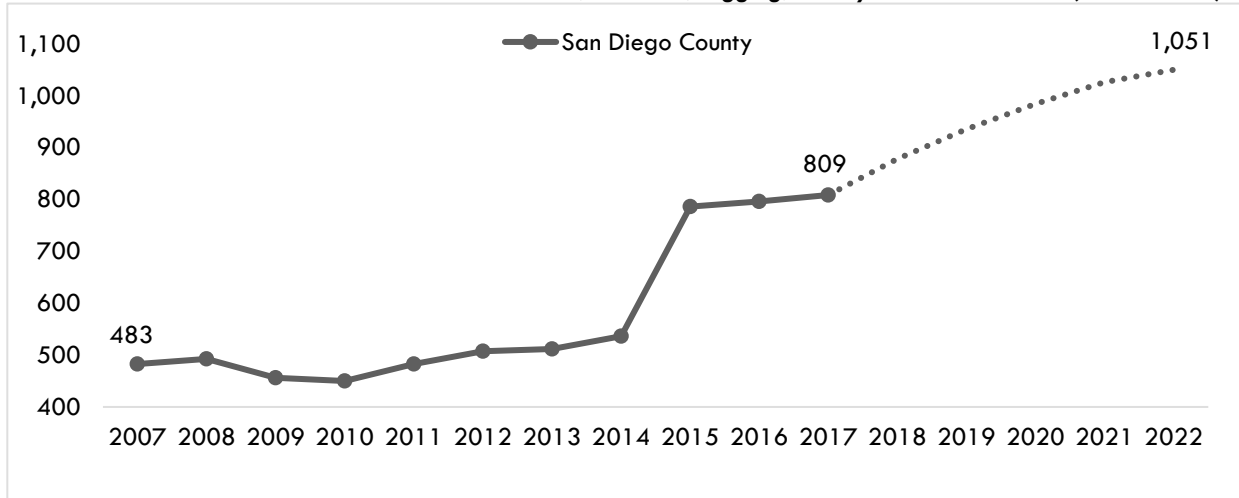
**Aircraft Structure, Surfaces, Rigging, and Systems Assemblers (SOC 51-2011):** Assemble, fit, fasten, and install parts of airplanes, space vehicles, or missiles, such as tails, wings, fuselage, bulkheads, stabilizers, landing gear, rigging and control equipment, or heating and ventilating systems. Sample reported job titles include:

- Aircraft Line Assembler
- Structures Technician
- Structures Mechanic
- Sheet Metal Mechanic
- Sheet Metal Assembler and Riveter (SMAR)
- Helicopter Technician
- Fabricator
- Assembly Riveter
- Assembler
- A&P Technician (Airframe and Power plant Technician)

## Projected Occupational Demand

Between 2017 and 2022, *Aircraft Structure, Surfaces, Rigging, and Systems Assemblers* are projected to **increase** by **242** jobs or **30** percent (Exhibit 1). Employers in San Diego County will need to hire **144** workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.

**Exhibit 1: Number of Jobs for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers (2007-2022)<sup>2</sup>**



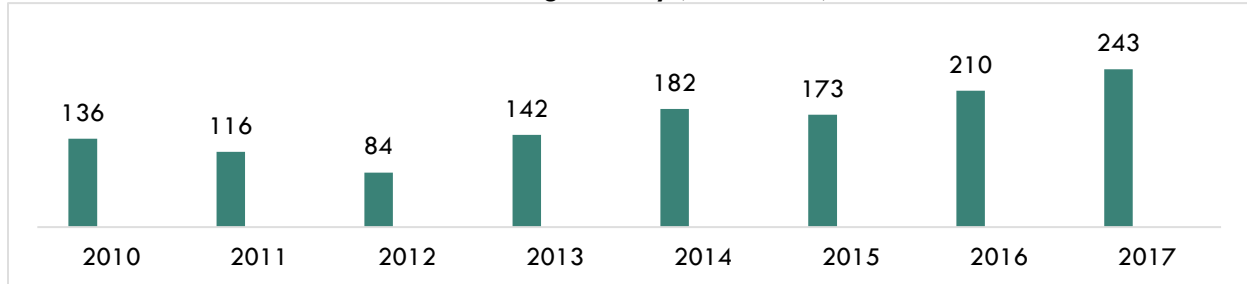
<sup>1</sup> The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc/](https://www.bls.gov/soc/)

<sup>2</sup> Economic Modeling Specialists, Int'l. (EMSI). San Diego (6073). 2018.01 Class of Worker. QCEW + Non-QCEW+ Self-employed. 2007-2022.

## Online Job Postings

Between 2010 and 2017, there was an average of 161 online job postings per year for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers in San Diego County (Exhibit 3).

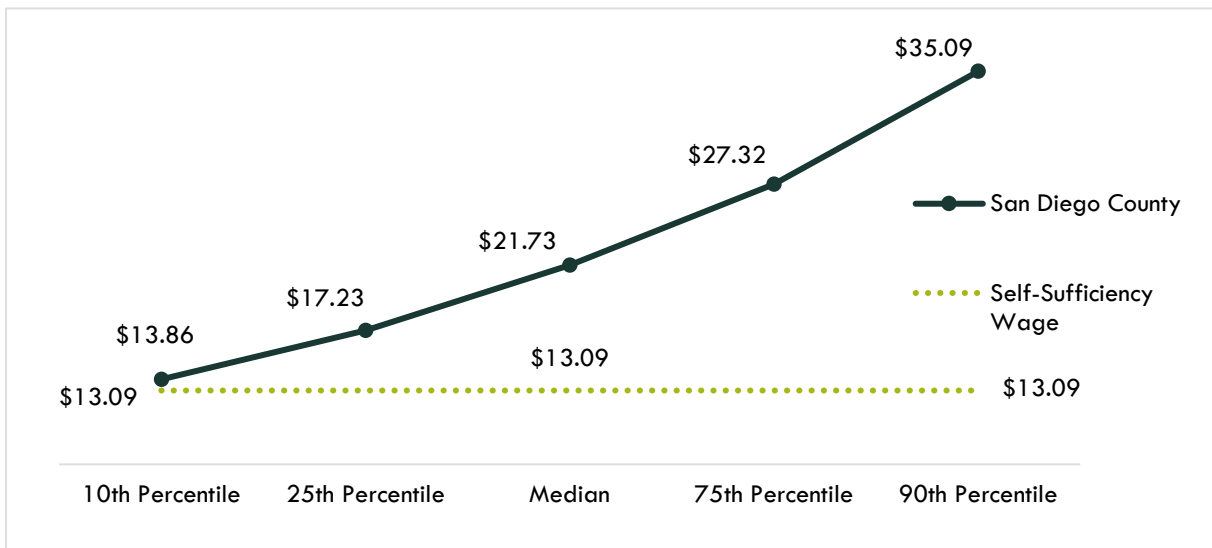
**Exhibit 3: Number of Online Job Postings for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers in San Diego County (2010-2017)<sup>3</sup>**



## Earnings

Aircraft Structure, Surfaces, Rigging, and Systems Assemblers earn median hourly earnings of \$21.73, more than the Self-Sufficiency Standard for a single adult in San Diego County, which is \$13.09 per hour (Exhibit 4).<sup>4</sup>

**Exhibit 4: Hourly Earnings for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers in San Diego County<sup>5</sup>**



<sup>3</sup> Labor Insight Jobs. Burning Glass Technologies. San Diego, CA. Full years 2010-2017.

<sup>4</sup> The Self-Sufficiency Wage in San Diego for one adult is \$13.09 ([insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california](https://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california)).

<sup>5</sup> EMSI. San Diego (6073). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-employed. 2017-2022.

## Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of related program completers/graduates/awards in San Diego County. According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, there are **five** Taxonomy of Programs (TOP) codes associated with this occupation: TOP 095000: Aeronautical and Aviation Technology, 095010: Aviation Airframe Mechanics, 095020: Aviation Powerplant Mechanics, 095040: Aircraft Electronics (Avionics), and 095050: Aircraft Fabrication (Exhibit 5).

### Exhibit 5: Related TOP Codes in San Diego County

<b>SOC 51-2011: Aircraft Structure, Surfaces, Rigging, and Systems Assemblers</b>
TOP 095000: Aeronautical and Aviation Technology
TOP 095010: Aviation Airframe Mechanics
TOP 095020: Aviation Power plant Mechanics
TOP 095040: Aircraft Electronics (Avionics)
TOP 095050: Aircraft Fabrication

According to the TOP data, **one** college supplies the region with awards for this occupation: **San Diego Miramar College** (Exhibit 6).

### Exhibit 6: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions by Occupation (Program Year 2013-14 through PY2016-17 Average)

TOP6	TOP6 Title	3-Yr Annual Average CC Awards (PY14-15 to PY16-17)	Other Educational Institutions 3-Yr Annual Average Awards (PY13-14 to PY15-16)	3-Yr Total Average Supply (PY13-14 to PY16-17)
095000	Aeronautical and Aviation Technology	<b>46</b>	<b>0</b>	<b>46</b>
	• San Diego Miramar	46	0	
095010	Aviation Airframe Mechanics	<b>24</b>	<b>0</b>	<b>24</b>
	• San Diego Miramar	24	0	

095020	Aviation Power plant Mechanics	26	0	26
	• San Diego Miramar	26	0	
095040	Aircraft Electronics (Avionics)	0	0	0
095050	Aircraft Fabrication	0	0	0
			Total	96

## Demand vs. Supply

Comparing labor demand (annual openings) with labor supply<sup>6</sup> suggests that there is a **supply gap** for this occupation in San Diego County, with 144 annual openings and 96 awards. Comparatively, there are 450 annual openings in California and 662 completions<sup>7</sup> (Exhibit 7).

### Exhibit 7: Labor Demand (Annual Openings) Compared to Labor Supply (Average Annual Awards)

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or Oversupply
San Diego	144	82	62
California	450	662	212

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

## Student Outcomes

Based on the information available in the CTE LaunchBoard students who took courses in the related TOP codes exhibited the following outcomes (Exhibit 8). There was insufficient data to pull information on TOP 095050: Aircraft Fabrication.

<sup>6</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>7</sup> EMSI. San Diego (6073). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-employed. 2017-2022.

**Exhibit 8: Strong Workforce Program Metrics for  
TOP 095000: Aeronautical and Aviation Technology in the San Diego-Imperial Region (PY2015-16)**

Metric	San Diego-Imperial	California
Number of course enrollments <sup>8</sup>	1,909	4,098
Number of students who got a degree or certificate <sup>9</sup>	64	154
Number of students who transferred <sup>10</sup>	16	28
Employed in the second fiscal quarter after exit <sup>11</sup>	55%	59%
Employed in the fourth fiscal quarter after exit <sup>12</sup>	55%	62%
Job closely related to field of study <sup>13</sup>	N/A	N/A
Median earnings in the second fiscal quarter after exit <sup>14</sup>	\$11,858	\$9,261
Median change in earnings <sup>15</sup>	37%	129%
Attained a living wage <sup>16</sup>	59%	59%

## Top Employers and Work Locations

Between January 1, 2015 and December 31, 2017, the top five employers in San Diego County for this occupation were **Northrop Grumman, Cobham, General Atomics, Ametek Incorporated, and Lowe's Companies, Inc.** (Exhibit 9).

**Exhibit 9: Top Employers in San Diego County for  
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers**

Top Employers
<ul style="list-style-type: none"> <li>• Northrop Grumman</li> <li>• Cobham</li> <li>• General Atomics</li> <li>• Ametek Incorporated</li> <li>• Lowe's Companies, Inc.</li> <li>• Apollo Retail Specialists</li> </ul>
<ul style="list-style-type: none"> <li>• Clear Com</li> <li>• Teledyne Technologies</li> <li>• Allstate</li> <li>• Djo Global</li> <li>• Djo, Llc</li> <li>• Hm Electronics</li> </ul>

<sup>8</sup> The number of enrollments in courses assigned to the TOP code in the selected year.

<sup>9</sup> The number of unduplicated students who earned a locally-issued certificate, Chancellor's Office approved certificate, associate degree, and/or California Community College bachelor's degree in the selected TOP code.

<sup>10</sup> Students who took non-introductory courses or completed a California Community College's Chancellor's Office award in the selected TOP code in selected year who subsequently enrolled for the first time in a four-year institution the following year.

<sup>11</sup> Among all exiters with a valid SSN, the percentage who were employed two quarters after exiting California Community Colleges.

<sup>12</sup> Among exiting students with a valid SSN, the percentage who were employed four quarters after exiting California Community Colleges.

<sup>13</sup> Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

<sup>14</sup> Among exiting students, the median second-quarter earnings one year after the year in which they exited California Community Colleges.

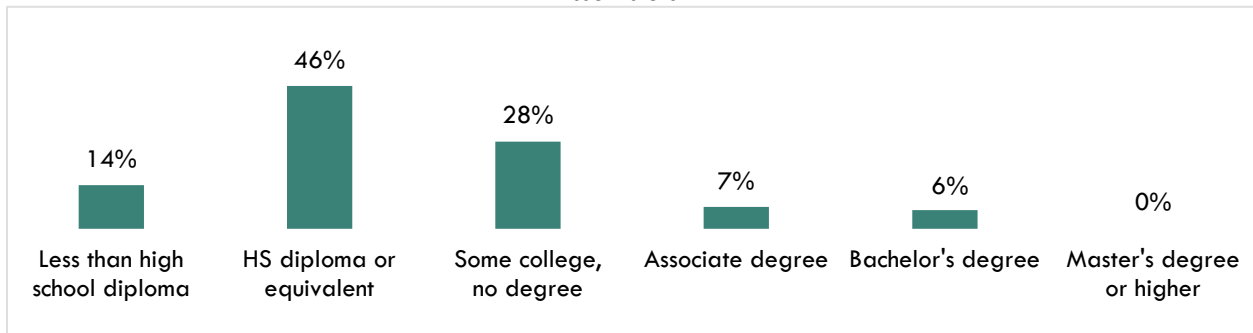
<sup>15</sup> Among exiting students with a valid SSN, the percentage change in earnings one year before and one year after exiting California Community Colleges.

<sup>16</sup> Among completers and skills builders who exited, the proportion of students who attained a living wage.

## Skills, Education and Certifications

Exhibit 10 indicates the educational attainment for the occupation found currently in the national labor force. The typical on-the-job training for this profession is **moderate-term on-the-job training**. The typical entry-level education is a **high school diploma or equivalent**.<sup>17</sup>

**Exhibit 10: National Educational Attainment of Aircraft Structure, Surfaces, Rigging, and Systems Assemblers** <sup>18</sup>



\*May not add to 100% due to rounding.

Exhibit 11 lists the top specialized and soft skills that appeared in online job postings between January 1, 2015 and December 31, 2017.

**Exhibit 11: Top Skills for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers in San Diego County**<sup>19</sup>

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> <li>• Soldering</li> <li>• Hand Tools</li> <li>• Inspection</li> <li>• Power Tools</li> <li>• Microscope</li> <li>• Repair</li> </ul>	<ul style="list-style-type: none"> <li>• Writing</li> <li>• English</li> <li>• Physical Demand</li> <li>• Computer Skills</li> <li>• Mathematics</li> <li>• Detail-Oriented</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Excel</li> <li>• Microsoft Word</li> <li>• Microsoft Outlook</li> <li>• SAP</li> <li>• Microsoft Vista</li> <li>• Microsoft Office</li> </ul>

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<sup>17</sup> EMSI. San Diego (6073). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-employed. 2017-2022.

<sup>18</sup> Bureau of Labor Statistics, Educational attainment for workers 25 years and older by detailed occupation. [bls.gov/emp/ep\\_table\\_111.htm](https://www.bls.gov/emp/ep_table_111.htm)

<sup>19</sup> Labor Insight Jobs. Burning Glass Technologies. San Diego, CA. Full years 2015-2017.