

Program Endorsement Brief: 0950.40/Aircraft Electronics (Avionics)

Avionics Certification of Specialization

Orange County Center of Excellence, November 2019

Summary Analysis

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 three middle-skill occupations: Aerospace Engineering and Operations Technicians (17-3021), Avionics Technicians (49-2091), and Aircraft Structure, Surfaces, Rigging, and Systems Assemblers (51-2011). 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 middle-skill avionics occupations in the region. **Therefore, the COE endorses this proposed program** Reasons include:

Demand:

- Over the next five years, there is projected to be **278 jobs available annually** in the region due to retirements and workers leaving the field, **which is more than the 208 awards conferred annually** by educational institutions in the region.
- The national-level educational attainment data indicates between 46.2% and 70.5% of workers in the field have completed some college or an associate degree.
 - However, it is worth noting that typical **entry-level hourly wages** for one of the occupations (Aircraft Structure, Surfaces, Rigging, and Systems Assemblers) is **\$15.51**, which is **lower than the California Family Needs Calculator** hourly wage for one adult in Orange County (\$17.36)².
 - **Experienced Aircraft Structure, Surfaces, Rigging, and Systems Assemblers can expect to earn \$31.05**, which is higher than the California Family Needs Calculator hourly wage estimate for both counties.

Supply:

- There are **no community colleges** in the region that have avionics programs.
- Between 2013 and 2016, there were an average of **208 awards conferred annually** in related training programs by a single non-community college institution in the region.

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.

² Living wage data was pulled from California Family Needs Calculator on 11/17/19. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for middle-skill avionics occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to decrease by 2% through 2023. However, there will be nearly 300 job openings per year through 2023 due to retirements and workers leaving the field.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

Geography	2018 Jobs	2023 Jobs	2018-2023 Change	2018-2023 % Change	Annual Openings
Los Angeles	2,191	2,168	(23)	(1%)	215
Orange	694	647	(47)	(7%)	63
Total	2,886	2,815	(71)	(2%)	278

Wages—Typical entry-level hourly wages for middle-skill avionics occupations throughout the region are between \$15.51 and \$27.21.⁴ Entry-level wages for Avionics Technicians and Aerospace Engineering and Operations Technicians are higher than the California Family Needs Calculator hourly wage for one adult in the region, and entry-level wages for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers are lower than the hourly wage for one adult in the region (\$15.04 in Los Angeles County and \$17.36 in Orange County)⁵. Experienced workers can expect to earn between \$31.05 and \$38.83, which is higher than the California Family Needs Calculator wage estimates for both counties. Regional average wages are below the average statewide wage of \$29.83 for these occupations. Wage information, by county, is included in Appendix A.

Job Postings—There were 1,758 online job postings related to middle-skill avionics listed in the past 12 months. The highest number of job postings were for assembler, avionics technician, composite technician, entry assembler and manufacturing assembler. The top skills were: hand tools, soldering, repair, schematic diagrams, and test equipment. The top three employers, by number of job postings, in the region were: Teledyne Technologies and Gulfstream Aerospace. Of the 1,758 online job postings, 54% list a minimum education requirement.

Educational Attainment—The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for Aerospace Engineering and Operations Technicians and Avionics Technicians, and a high school diploma for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers. The national-level educational attainment data indicates between 46.2% and 70.5% of workers in the field have completed some college or an associate degree. Of the 54% of middle-skill avionics job postings listing a minimum education requirement in Los Angeles/Orange County, 96% (916) requested a high school diploma and 4% (40) requested an associate degree.

³ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

⁴ 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.

⁵ Living wage data was pulled from California Family Needs Calculator on 11/17/19. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

Supply

Community College Supply—There are no programs in the region that currently offer Aircraft Electronics (Avionics) (0950.40). Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

Non-Community College Supply—It is important to consider the supply from other institutions in the region that provide training programs for avionics. Exhibit 3 shows the annual and three-year average number of awards conferred by Spartan College of Aeronautics & Technology in the related Classification of Instructional Programs (CIP) Code: Airframe Mechanics and Aircraft Maintenance Technology/Technician (47.0607). Due to different data collection periods, the most recent three-year period of available data is from 2013 to 2016. Between 2013 and 2016, non-community colleges in the region conferred an average of 208 awards annually in related training programs.

Exhibit 2: Regional non-community college awards, 2013-2016

CIP Code	Program	College	2013-2014 Awards	2014-2015 Awards	2015-2016 Awards	3-Year Award Average
47.0607	Airframe Mechanics and Aircraft Maintenance Technology/Technician	Spartan College of Aeronautics & Technology	204	223	198	208

Appendix A: Occupational demand and wage data by county

Exhibit 4. Los Angeles County

Occupation (SOC)	2018 Jobs	2023 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)
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers (51-2011)	1,216	1,140	(76)	(6%)	124	\$15.57	\$22.90	\$31.17
Avionics Technicians (49-2091)	668	717	49	7%	64	\$26.18	\$32.53	\$37.60
Aerospace Engineering and Operations Technicians (17-3021)	306	311	5	2%	27	\$27.29	\$34.11	\$38.94
Total	2,191	2,168	(23)	(1%)	215			

Exhibit 5. Orange County

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers (51-2011)	406	359	(47)	(12%)	39	\$15.34	\$22.55	\$30.70
Avionics Technicians (49-2091)	165	165	0	0%	13	\$25.45	\$31.59	\$36.63
Aerospace Engineering and Operations Technicians (17-3021)	124	123	(1)	(1%)	10	\$27.02	\$33.77	\$38.56
Total	694	647	(47)	(7%)	63			

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers (51-2011)	1,622	1,499	(123)	(8%)	163	\$15.51	\$22.81	\$31.05
Avionics Technicians (49-2091)	833	882	49	6%	77	\$26.03	\$32.34	\$37.42
Aerospace Engineering and Operations Technicians (17-3021)	430	434	4	1%	38	\$27.21	\$34.01	\$38.83
Total	2,886	2,815	(71)	(2%)	278			

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
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- 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)

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