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# MEETING AGENDA

## Date and Time

March 14, 2023, from 11:00am -1:00pm

## Occupation Focus

Aerospace & Defense

## Opening Remarks

- Welcome and Introductions | Jermaine Hampton, LAEDC
- Los Angeles Regional Consortium Overview | Dr. Narineh Makijan, LARC
- Aerospace & Defense Demand Data | Diego Saavedra, LAEDC
- Human Centered Economic Development | Larry Holt, LAEDC
- Aerospace & Defense Supply Data | Luke Meyer, COE

## Discussion Topics Moderated by Jermaine Hampton and Jose Pelayo

- Industry workforce trends
  - o What are the top emerging trends in Aerospace and Defense that the community colleges should know?
  - o What is the most critical change that community colleges must make to prepare for the future effectively?
  - o Do you see the demand for talent growing, leveling off, or shrinking in our region?
- Technology, AI and Equipment
  - o How has new technology including automation and AI transformed the industry?
  - o What software programs and equipment should community colleges be implementing in their curriculum to ensure their graduates are work ready?
  - o What skills and capabilities are the most critical going forward and offer graduates true competitive advantage?
- Workforce Gaps
  - o What would you like to see community colleges doing that will help prepare students for the next level?
  - o What can you as an employer do to support the community colleges? Are there any additional opportunities to bridge knowledge, talent and certification gaps?
  - o Do you have an upskill need for your current workforce that the community colleges could provide?
- Talent Pipeline
  - o How are you currently working with the community colleges to build equitable talent pipelines?
  - o Do you have any systems or programs in place to ensure you have access to, and are cultivating, a diverse workforce?
  - o In Los Angeles County, what is the pathway to middle-skill jobs in this industry? 2 yr College vs 4 yr College?



**Curriculum Review and  
Feedback Poll**

Community College Representation  
Feedback Poll

**Closing Remarks**

Next Steps and Adjournment | Jermaine Hampton, LAEDC



# LOS ANGELES COUNTY ECONOMIC DEVELOPMENT CORPORATION

The Los Angeles County Economic Development Corporation, a non-profit organization, champions equitable economic growth across the Los Angeles region.

LAEDC is committed to developing a competitive regional workforce because we know that a robust workforce and our economic growth as a region should not be separated from each other. We bring industry leaders and educational partners together within the economic development process. We want our education infrastructure to train the next generation of the workforce and ensure they receive relevant training and can join the industry of their choice. We know there needs to be an alignment between industry and our educational systems.

## Vision

A reimagined Los Angeles regional economy – growing, equitable, sustainable, and resilient – that provides a healthy and high standard of living for all.

## Mission

Reinventing our economy to collaboratively advance growth and prosperity for all.



Funded by the California Community Colleges Chancellor’s Office under the Strong Workforce Program (SWP) as a Los Angeles Regional Project.

The Los Angeles County Economic Development Corporation (LAEDC) was founded in 1981 as a nonprofit, public-benefit organization to harness the power of private sector in collaboration with L.A. County, to guide economic development and create more widely shared prosperity. LAEDC collaborates with all stakeholders in the region including education, business, and government. Learn more at [www.LAEDC.org](http://www.LAEDC.org).

## Contact Information



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# INDUSTRY REPRESENTATION

## **David Liaw, Director of Talent Acquisition for the Strategic Space Systems Division, Northrop Grumman**



David Liaw is the Director of Talent Acquisition for the Strategic Space Systems Division of Northrop Grumman's Space Systems Sector. In that role David is responsible for all of Talent Acquisition within the Strategic Space Systems Division. Prior to that, David was the Enterprise Manager of Strategic University Partnerships responsible for strategic engagements for University Relations and Recruiting across the company. David Liaw joined Northrop Grumman in 2013 through the Future Technical Leaders program, after earning his Bachelor's of Science, Master's of Science, and Doctorate Degrees from the University of Michigan in Electrical Engineering.

## **Lisa Gussman-Zairi, Senior Contracts Manager, Marvin Engineering Co, Inc.**



Lisa Gussman-Zairi is a Senior Contracts Manager at Marvin Engineering Co, Inc. a leading aerospace and defense corporation supporting all branches of the Department of Defense, major prime contractors, and numerous countries around the globe. Marvin Engineering is the flagship company of The Marvin Group and a worldwide leader in manufacturing, design, qualification, and test. In her role she works with various functional departments during proposal development and throughout the Contract Life Cycle which includes Program Management, Supply Chain, Operations, Production Planning, Quality Engineering, Manufacturing Engineering, Test Engineering, Global Trade Compliance, Finance & Accounting, Business Development and Legal ensuring compliance with all customers contractual requirements. Lisa has over 17 years of experience in contract management and contributes to the standardization of company policies, processes, and procedures in a concerted effort to continuously improve with ever-changing environments domestically and internationally. She loves spending time with her two children and husband of 26 years.

## **Angeline Benitez, Senior Business Development Strategist, Clark Construction**



Angeline Benitez, a senior business development strategist with Clark Construction, supports strategic planning and development efforts in Southern California, including developing and implementing tactics to boost client engagement and collaborating with company leadership to identify and plan profitable new business opportunities.

Since joining Clark in 2020, Angeline has helped pursuit teams target priority projects, engaged the company in new market sectors, and deepened relationships with clients, designers, and trade partners. Her six years of industry experience also includes roles with Swinterton and John Lambe Construction.

Angeline holds a bachelor's degree in communications from the University of California, Santa Barbara. She is a member of the Asian American Architects/Engineers Association, the Southern California Development Forum, and the Construction Management Association of America.

**Dr. Kim A. Armstrong, Sr. HR Business Partner, The Boeing Company**



Kim Armstrong is a Sr. HRBP for Boeing, Customer Support Engineering and the Product Support Engineering Function. In that role, Kim partners with senior engineering leaders to develop a culture of equity, diversity and inclusion and deliver high quality, seamlessly integrated HR support for the business. With strengths in innovative project management, executive leadership development, learning & development, and HR practices and processes, she is responsible for the strategy, approach, and plan to execute the human capital elements of the business strategy by championing a diverse, service excellence culture characterized by fast, agile and responsive decision making. Kim is also a member of the Boeing Enterprise Human Subjects Review Board where she reviews Boeing research studies to ensure compliance with Boeing policy and Human Subjects Protection requirements.

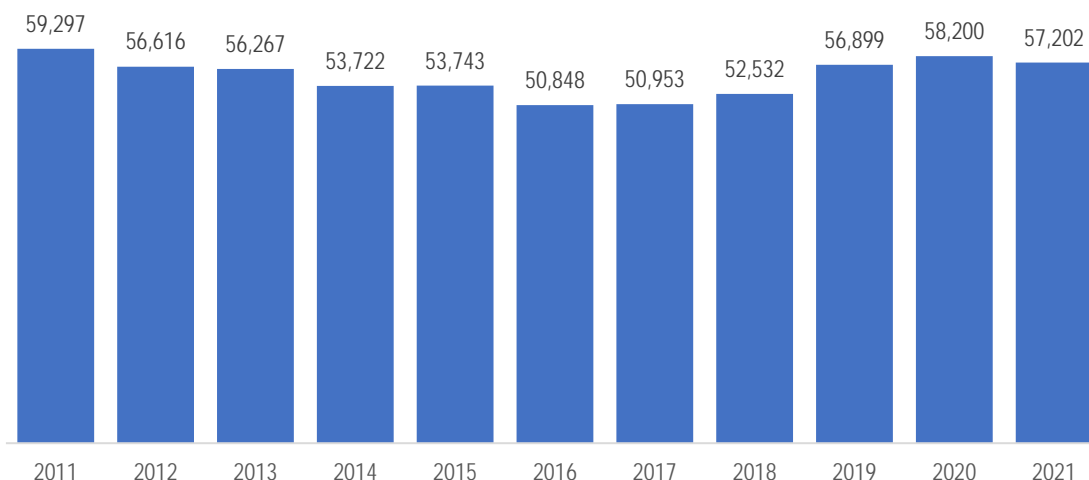
Being a life-long learner, she is a three-time alumna from California State Long Beach – and graduate from San Bernardino Valley College. Kim earned her Doctorate from Pepperdine University. Kim also enjoys volunteering in her community: Aquarium of the Pacific, California State University Long Beach Alumni Association, Long Beach Pacific Gateway Workforce Investment Board (board chair), United States Coast Guard Auxiliary, and LB Community Emergency Response Team.



# AEROSPACE & DEFENSE DEMAND DATA

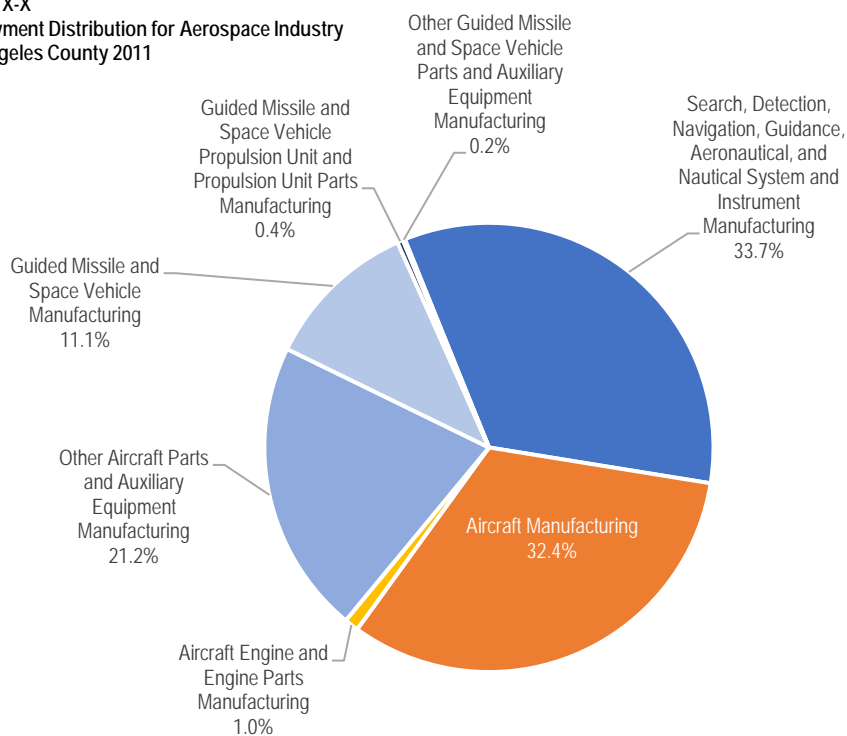
## Current Landscape

Exhibit X-X  
Aerospace Employment  
Los Angeles County, 2011 - 2021



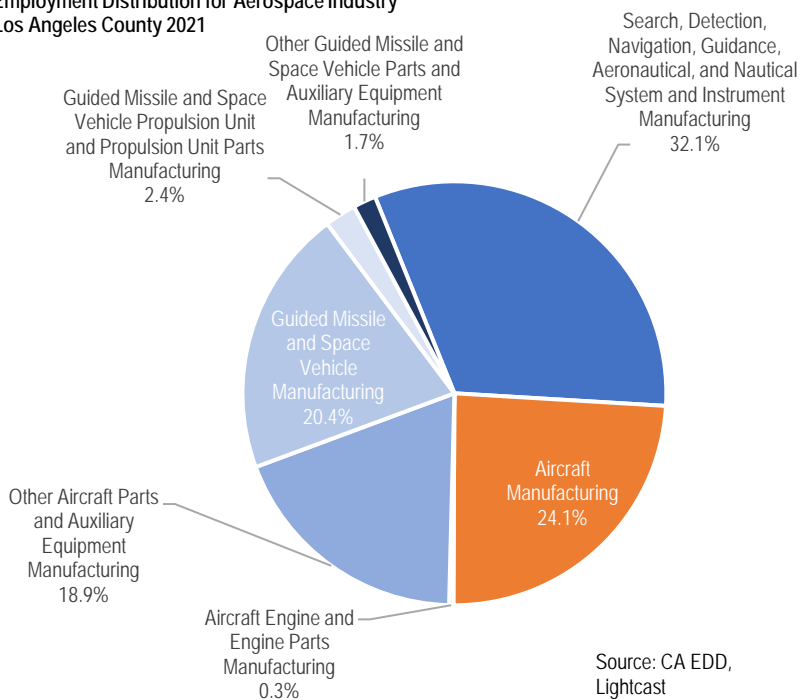
Source: CA EDD, Lightcast

Exhibit X-X  
Employment Distribution for Aerospace Industry  
Los Angeles County 2011

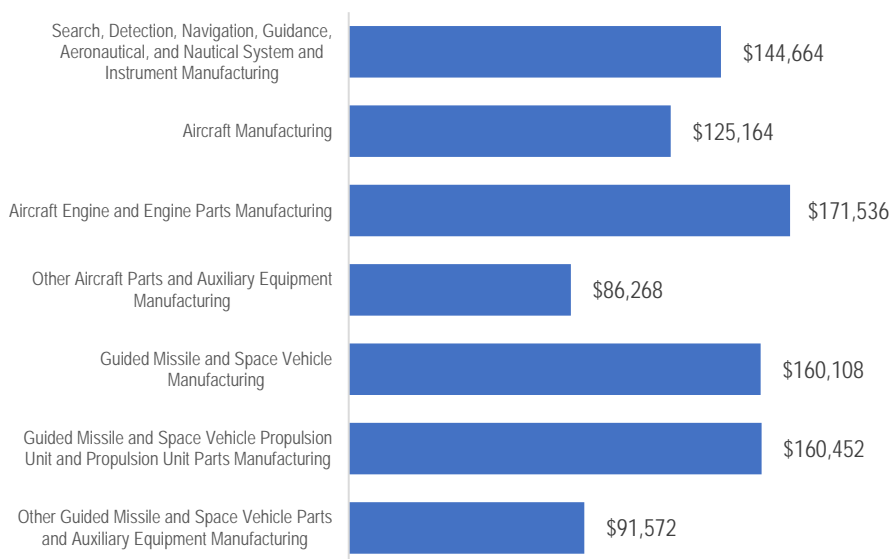


Source: CA EDD, Lightcast

**Exhibit X-X  
Employment Distribution for Aerospace Industry  
Los Angeles County 2021**

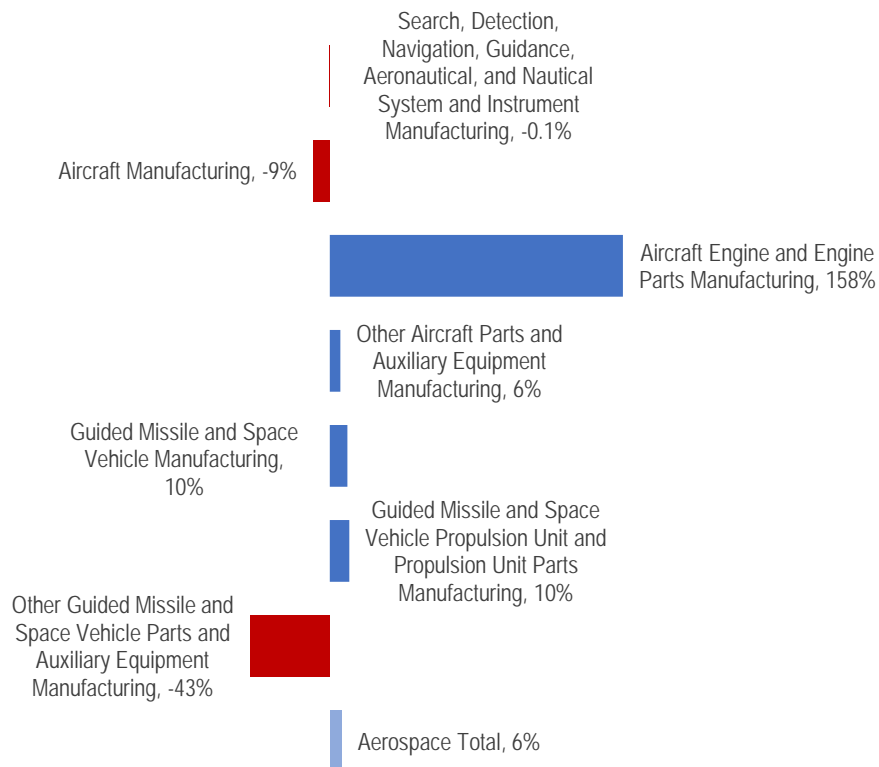


**Exhibit X-X  
Average Annual Pay Aerospace Industries  
Los Angeles County 2021**



Source: CA EDD, Lightcast

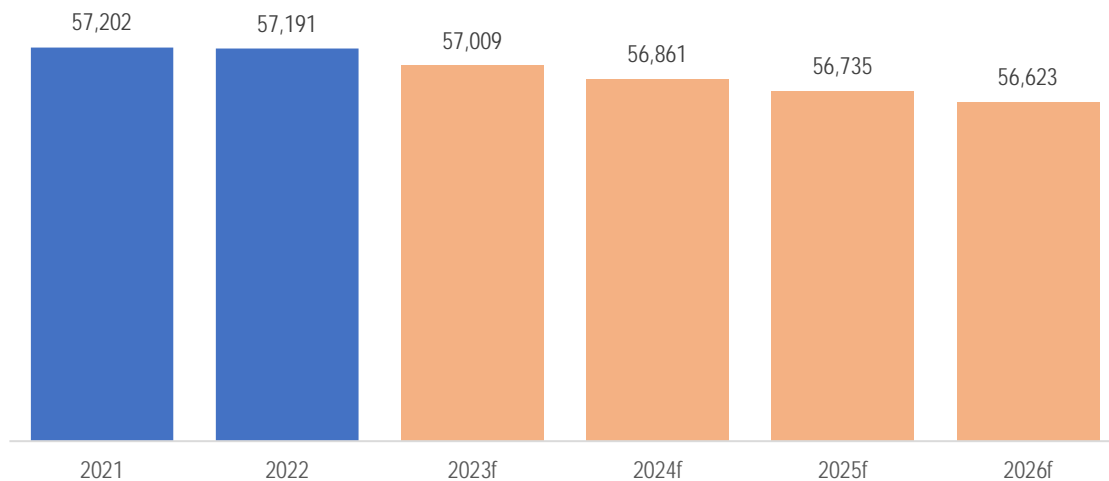
Exhibit X-X  
 Real Wage Growth in Aerospace Industries  
 Los Angeles County, 2011 to 2021



Source: CA EDD, Lightcast

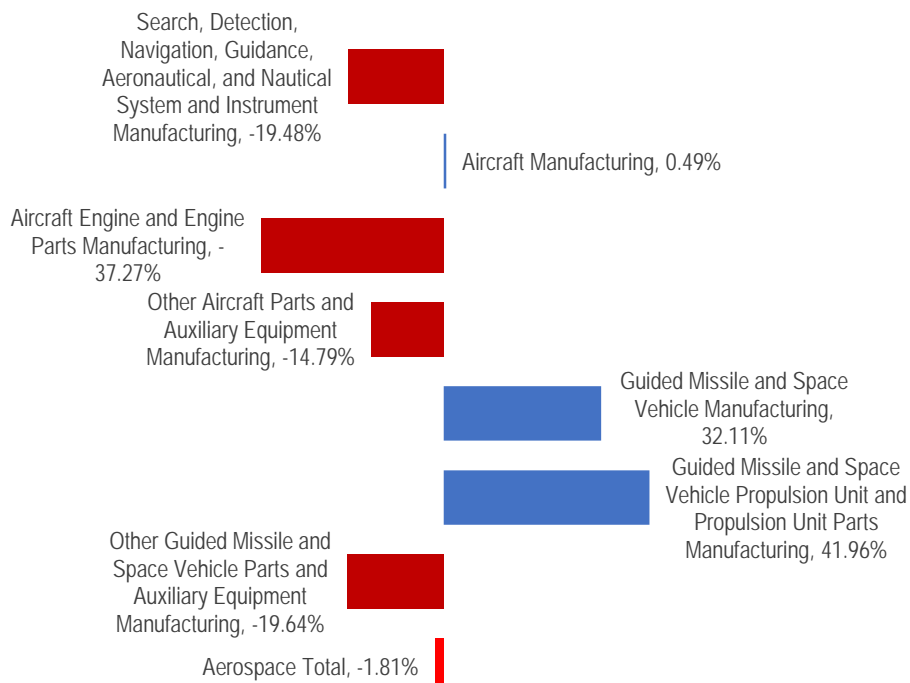
## Employment Forecast

Exhibit X-X  
Aerospace Forecasted Employment  
Los Angeles County, 2021 - 2026



Source: Lightcast

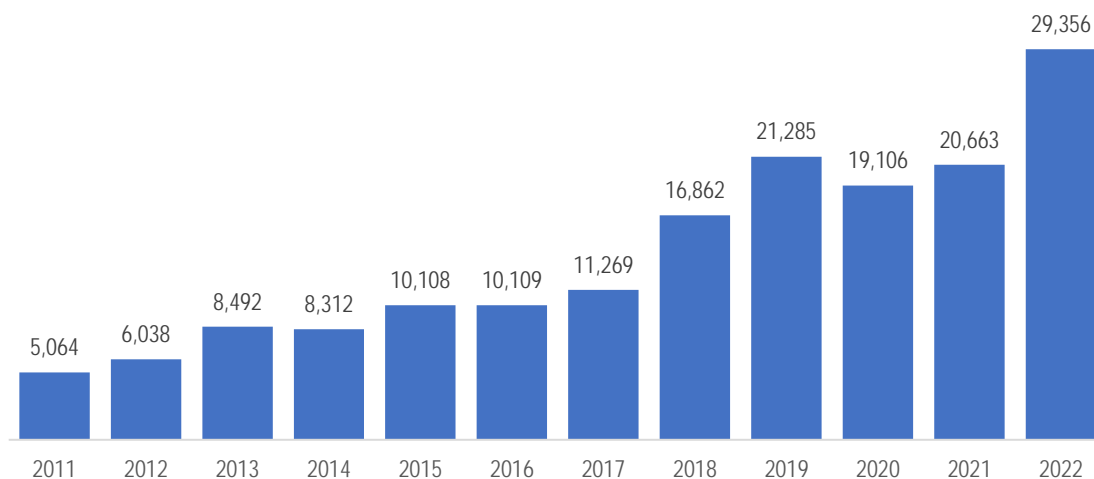
Exhibit X-X  
Forecasted Employment Growth in Aerospace Industries  
Los Angeles County, 2021 to 2026



Source: Lightcast

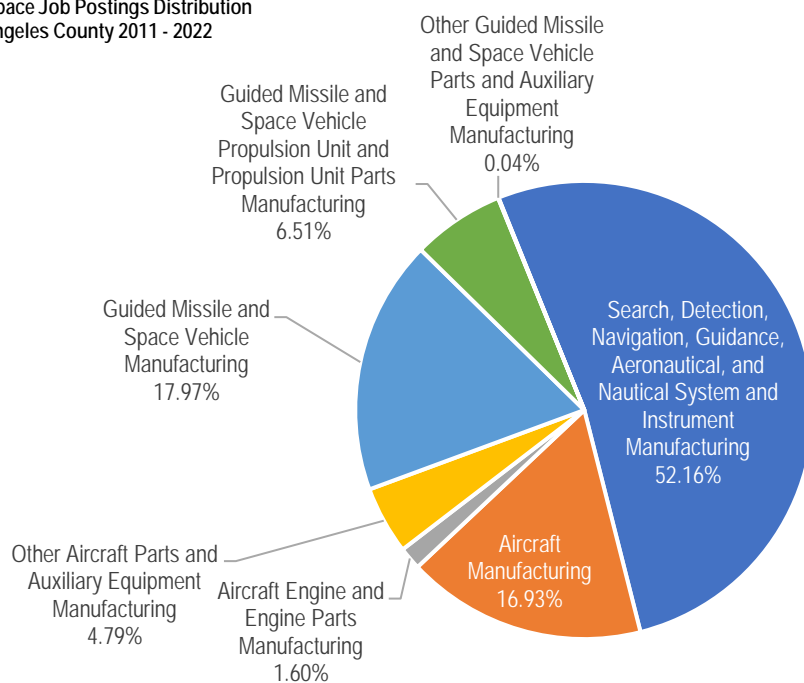
## Job Postings

Exhibit X-X  
Aerospace Job Postings  
Los Angeles County, 2011 - 2022



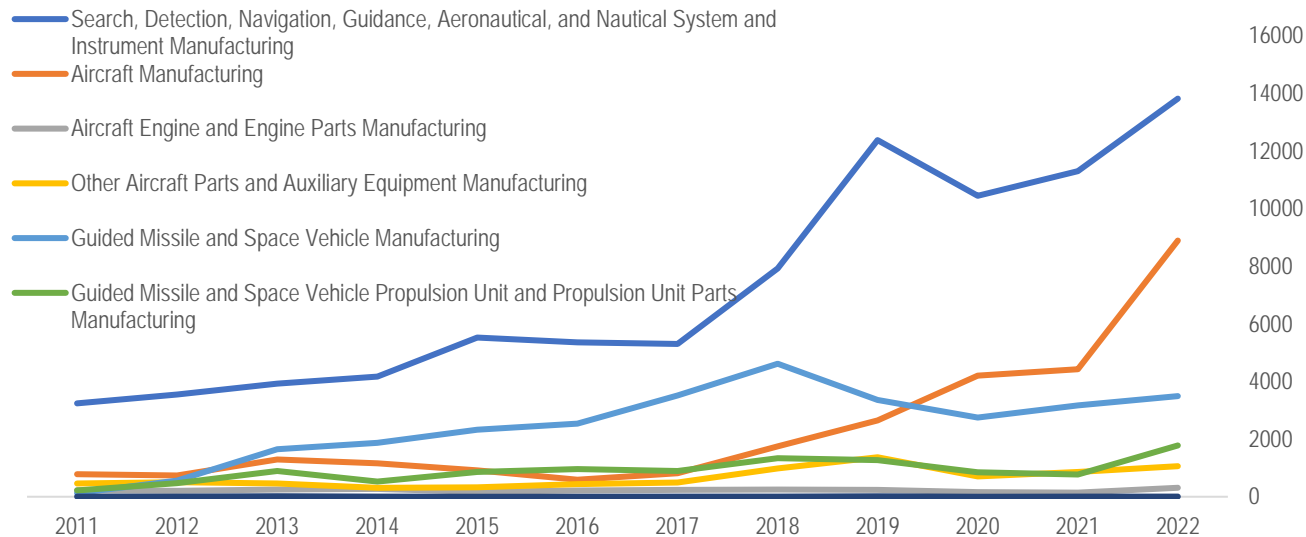
Source: Lightcast

Exhibit X-X  
Job Postings for  
Aerospace Job Postings Distribution  
Los Angeles County 2011 - 2022



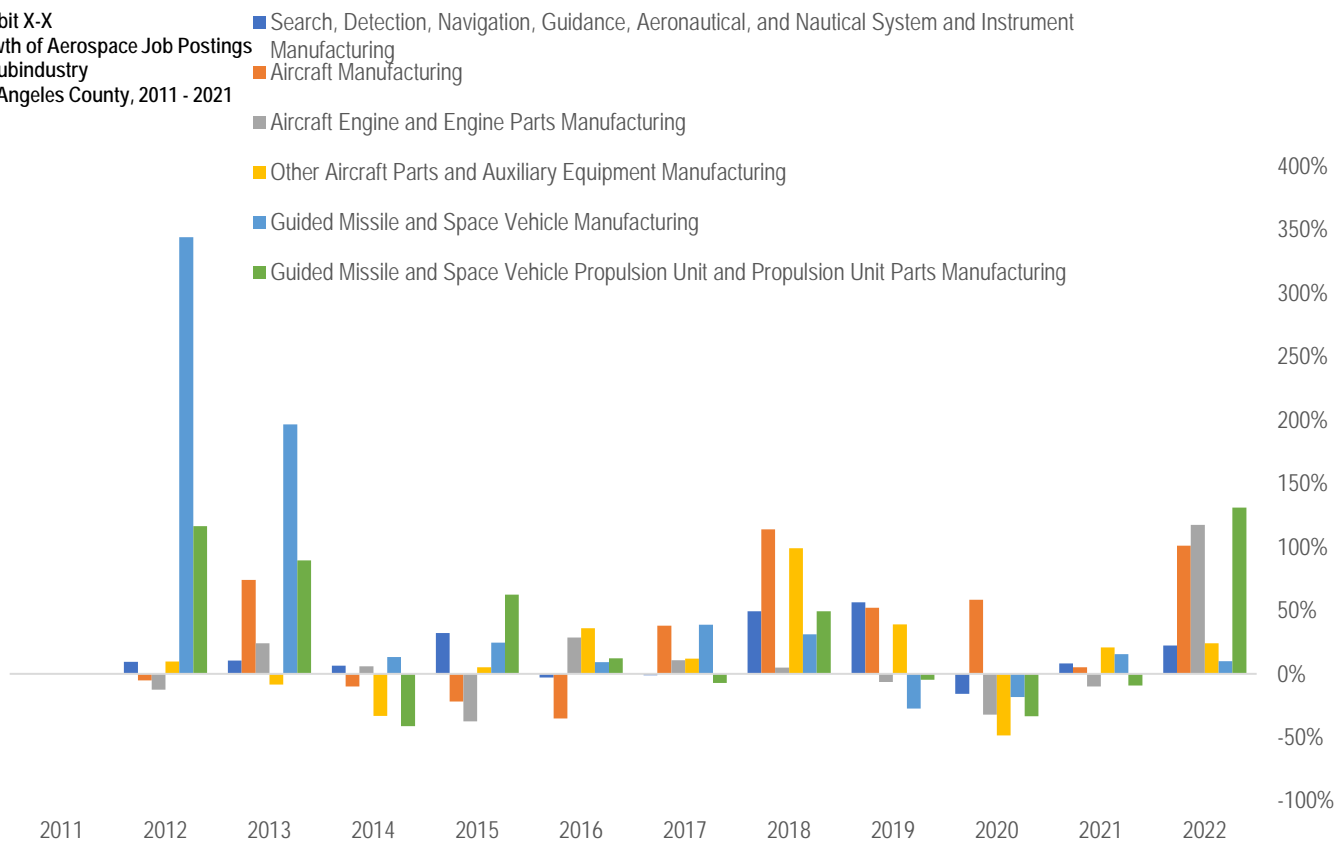
Source: Lightcast

**Exhibit X-X**  
**Aerospace Job Postings by Subindustry**  
**Los Angeles County, 2011 - 2021**



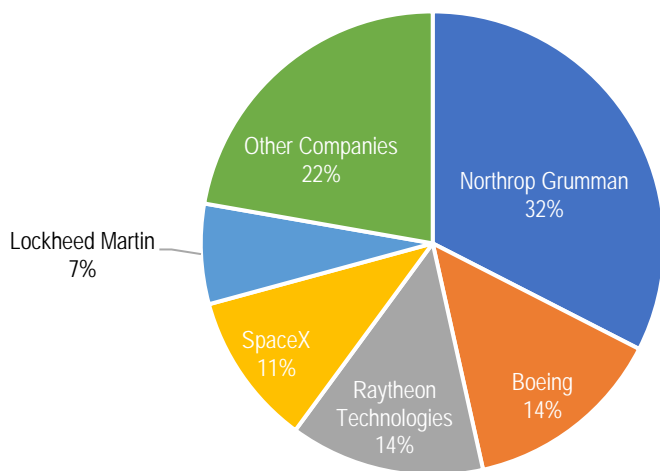
Source: Lightcast

**Exhibit X-X**  
**Growth of Aerospace Job Postings**  
**by Subindustry**  
**Los Angeles County, 2011 - 2021**



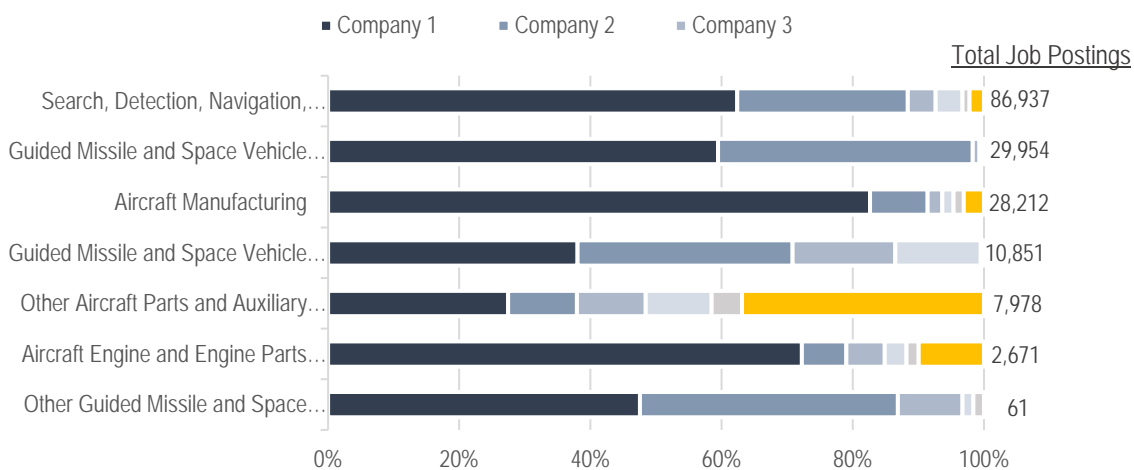
Source: Lightcast

Exhibit X-X  
 Concentration of Top 5 Companies by Job Postings for Aerospace Industry  
 Los Angeles County 2011 - 2022



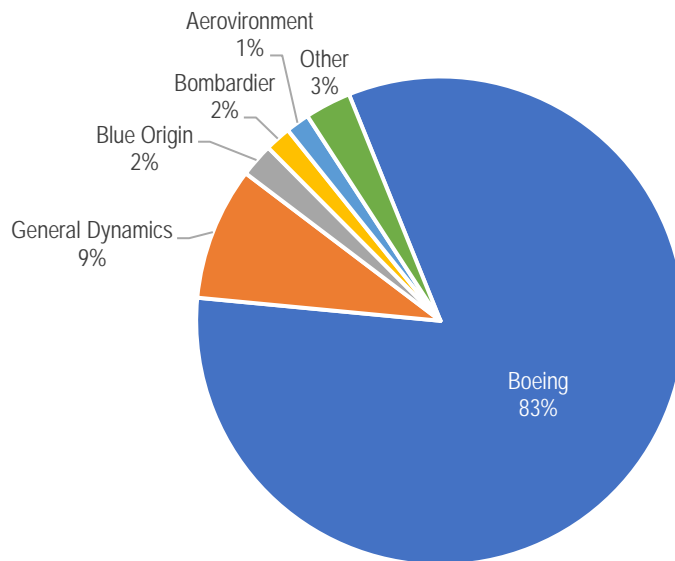
Source: Lightcast

Exhibit X-X  
 Concentration of Hiring Among the Top 5 Companies by Job Postings in the Aerospace Industry  
 Los Angeles County 2011 - 2022



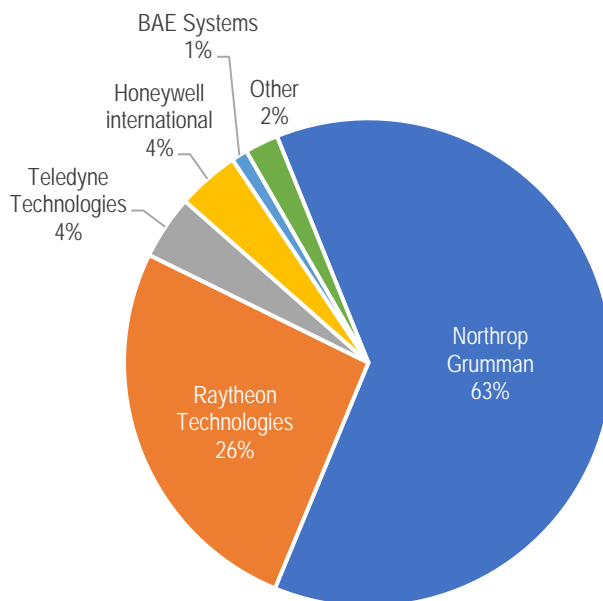
Source: Lightcast

Exhibit X-X  
 Job Postings for Aircraft Manufacturing  
 Los Angeles County 2011 - 2022



Source: Lightcast

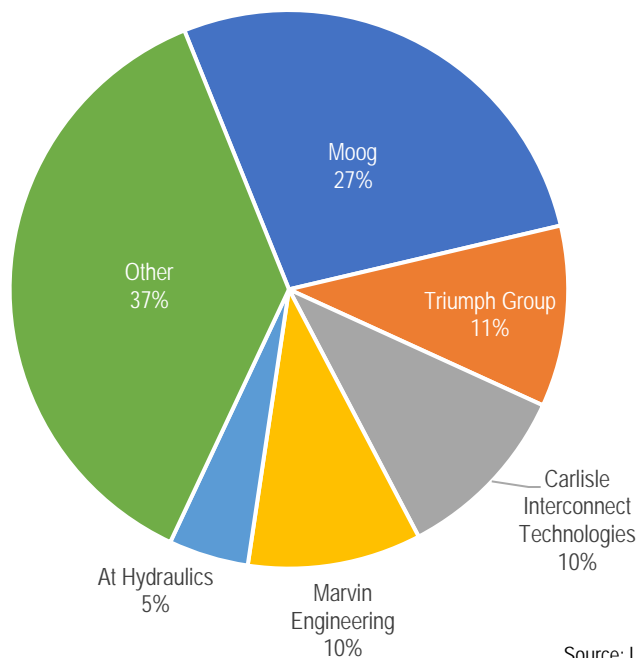
Exhibit X-X  
 Job Postings for Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing  
 Los Angeles County 2011 - 2022



Source: Lightcast

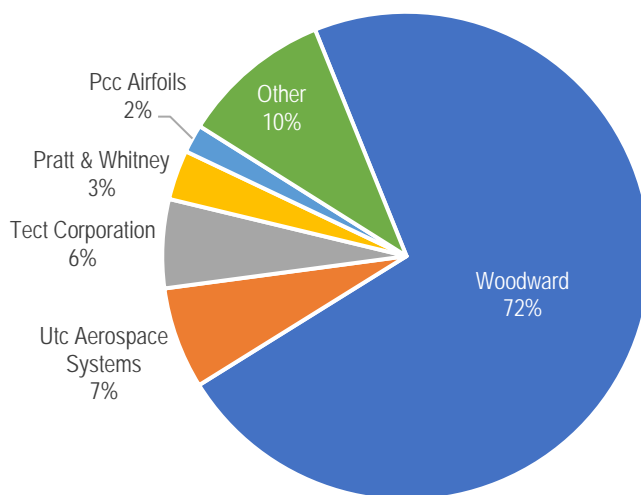


Exhibit X-X  
 Job Postings for Other Aircraft Parts and Auxiliary Equipment Manufacturing  
 Los Angeles County 2011 - 2022



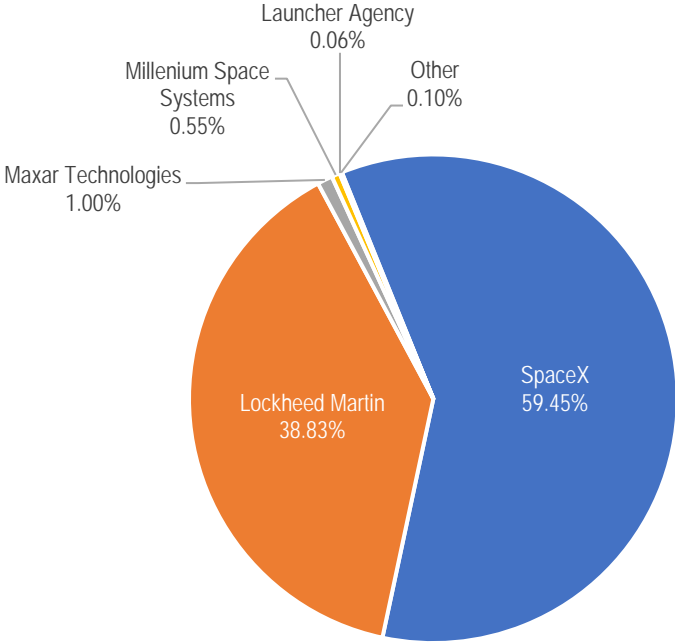
Source: Lightcast

Exhibit X-X  
 Job Postings for Aircraft Engine and Engine Parts Manufacturing  
 Los Angeles County 2011 - 2022



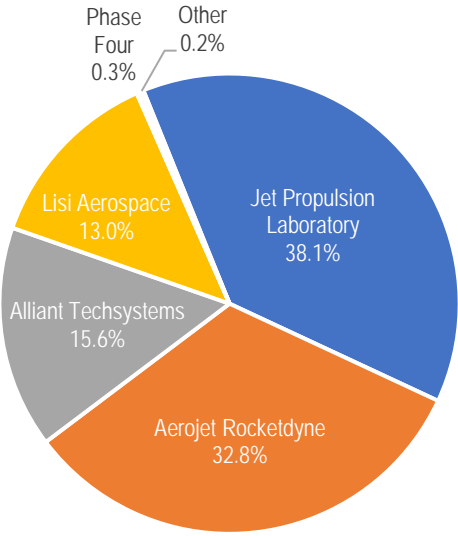
Source: Lightcast

Exhibit X-X  
 Job Postings for Guided Missile and Space Vehicle Manufacturing  
 Los Angeles County 2011 - 2022



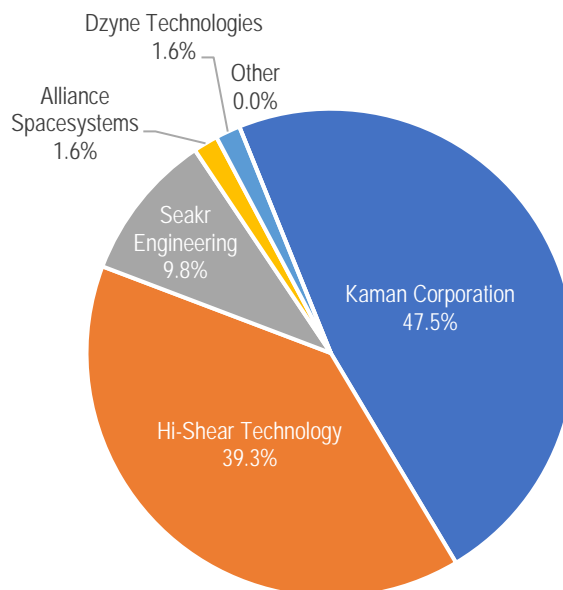
Source: Lightcast

Exhibit X-X  
 Job Postings for Guided Missile and Space Vehicle Propulsion Unit and  
 Propulsion Unit Parts Manufacturing  
 Los Angeles County 2011 - 2022



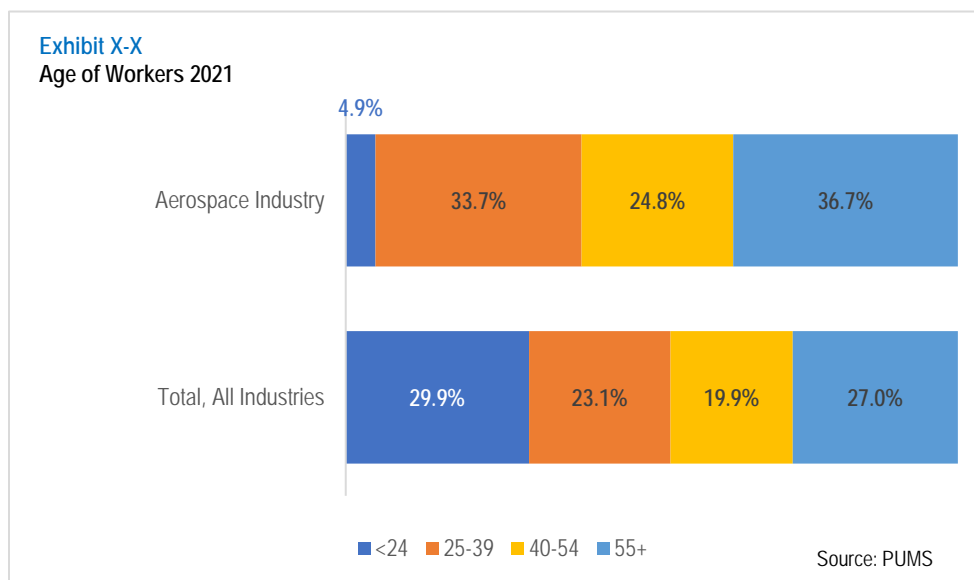
Source: Lightcast

Exhibit X-X  
 Job Postings for Other Guided Missile and Space Vehicle Parts and  
 Auxiliary Equipment Manufacturing  
 Los Angeles County 2011 - 2022

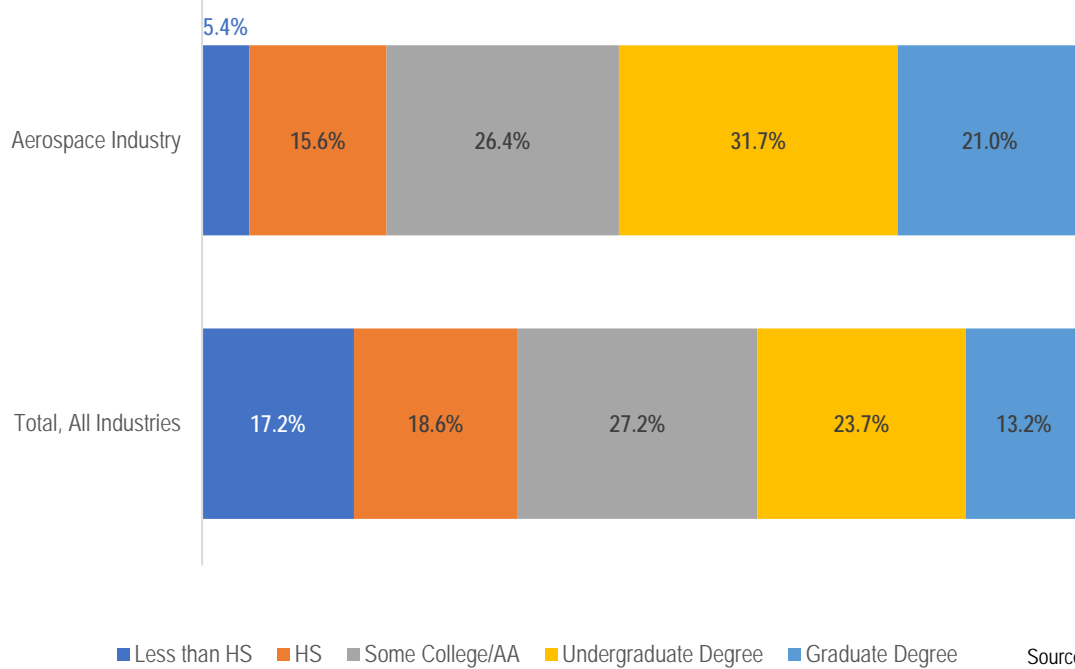


Source: Lightcast

### Industry Demographics



**Exhibit X-X**  
**Educational Attainment of Workers 2021**



**Exhibit X-X**  
**Race of Workers 2021**

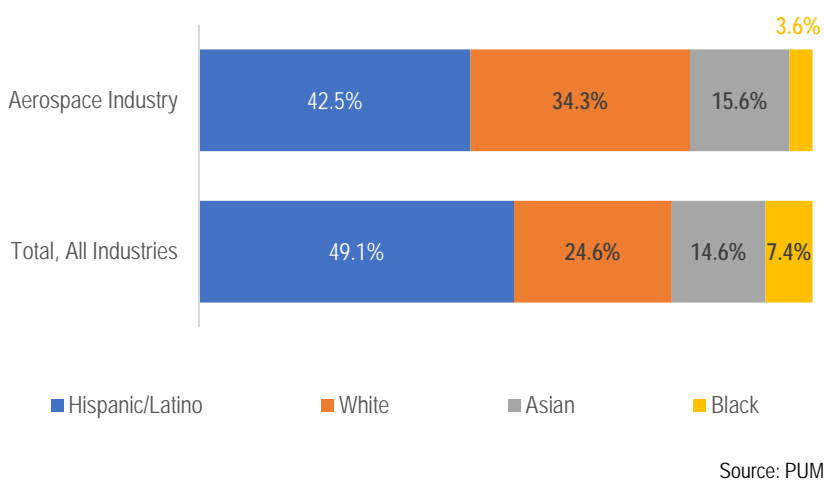
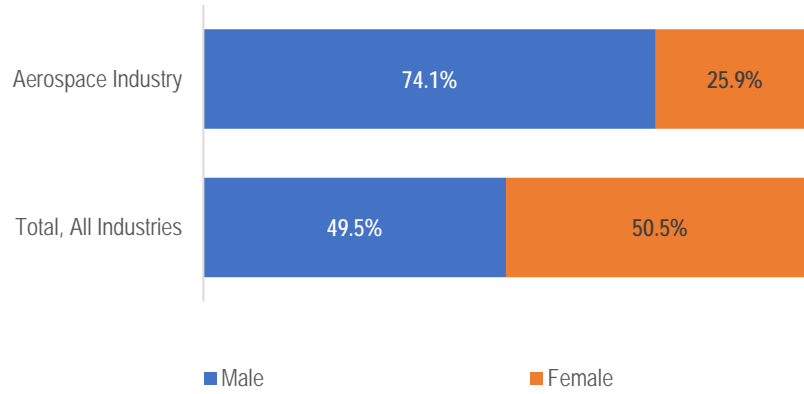


Exhibit X-X  
Gender of Workers 2021



Source: PUMS

### Occupational Profiles

Source: PUMS		Metric	Aircraft Mechanics And Service Technicians	Avionics Technicians	Other Assemblers and Fabricators	Other Engineering Technologists And Technicians, Except Drafters
Sex	Male		94%	100%	62%	75%
	Female		6%	0%	38%	25%
Education	Less than HS		2%	12%	27%	8%
	High School		27%	26%	36%	20%
	Some College/Associates		55%	55%	27%	44%
	Bachelors		7%	8%	8%	23%
	Masters or Higher		8%	0%	2%	6%
Age	<25		13%	0%	8%	12%
	25-39		41%	38%	25%	26%
	40-54		26%	6%	36%	32%
	>54		20%	56%	30%	31%
Race	Hispanic		64%	83%	73%	34%
	White		27%	10%	3%	30%
	Asian		8%	6%	18%	25%
	Black		0%	0%	5%	8%

# AEROSPACE & DEFENSE SUPPLY DATA

The California Community Colleges offer career-focused Aerospace programs in the following areas:

- **0950.00 – Aeronautical and Aviation Technology:** Theory of flight and the design, construction, operation, and maintenance of aircraft, aircraft propulsion units, and aerospace vehicles. Includes combined airframe and powerplant mechanics programs.
  - **0950.10 – Aviation Airframe Mechanics:** Inspection, repair, service, maintenance, and overhaul of airframes and aircraft systems. The program is designed to meet the Federal Aviation Administration (FAA) requirements for licensing as an airframe mechanic.
  - **0950.20 – Aviation Powerplant Mechanics:** Inspection, repair, service, maintenance, and overhaul of aircraft engines and engine systems. The program is designed to meet the Federal Aviation Administration (FAA) requirements for licensing as a powerplant mechanic.
  - **0950.40 – Aircraft Electronics (Avionics):** Electronic theory, applications and equipment used in aircraft, including installation, maintenance, and repair of aircraft electronic and other operating and control systems.
  - **0950.50 – Aircraft Fabrication:** Principles and techniques of aircraft structural and composites fabrication and assembly.

Aside from these highly specialized Aeronautics and Aviation programs, eighteen community colleges in the Los Angeles region have students enrolled in more general electrical and mechanical engineering courses and programs, and these courses lay foundational groundwork for employment in aerospace and aviation technology occupations. Three colleges in the region offer aviation-focused programs: Glendale, Mt. San Antonio College, and West LA. Regional employers having difficulty hiring for these aerospace work roles can proactively connect with the colleges listed to establish a reliable talent pipeline to avoid current and future workforce shortages.

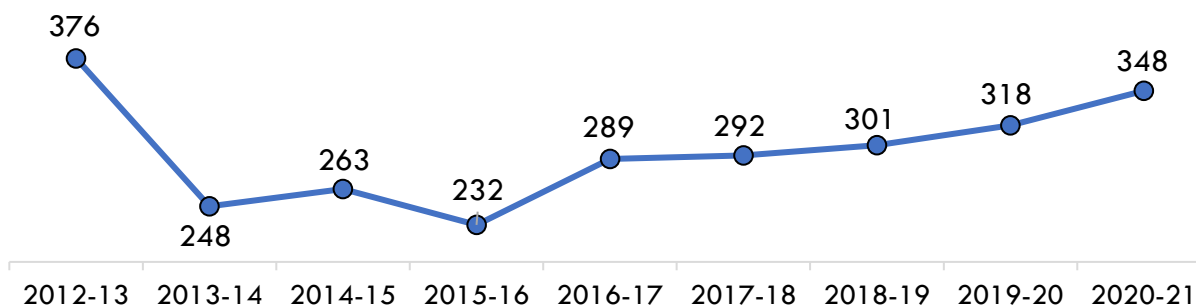
Aeronautical and Aviation Technology	Aviation Airframe Mechanics	Aviation Powerplant Mechanics	
<ul style="list-style-type: none"> <li>• Glendale</li> <li>• Mt. San Antonio</li> <li>• West LA</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. San Antonio</li> <li>• West LA</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. San Antonio</li> <li>• West LA</li> </ul>	
Engineering			
<ul style="list-style-type: none"> <li>• Cerritos</li> <li>• Citrus</li> <li>• Compton</li> <li>• East LA</li> <li>• El Camino</li> </ul>	<ul style="list-style-type: none"> <li>• Glendale</li> <li>• Long Beach</li> <li>• LA City</li> <li>• LA Harbor</li> </ul>	<ul style="list-style-type: none"> <li>• LA Mission</li> <li>• LA Pierce</li> <li>• LA Trade-Tech</li> <li>• LA Valley</li> </ul>	<ul style="list-style-type: none"> <li>• Mt. San Antonio</li> <li>• Pasadena</li> <li>• Rio Hondo</li> <li>• Santa Monica</li> <li>• West LA</li> </ul>

Source: [California Community Colleges Chancellor's Office Management Information Systems Data Mart](#) & [The California Community Colleges Chancellor's Office Curriculum Inventory System \(COCI\)](#)

## Aeronautical and Aviation Technology Students (0950)

There was a large drop in aeronautical and aviation technology enrollments in 2013, which is explained by Long Beach City College discontinuing their Aeronautical and Aviation Technology program (0950.00) after the 2012-13 academic year. However, the number of enrollments among all LA region community colleges has steadily increased since 2015-16, growing to 348 students in the 2020-21 academic year. The exhibit below shows the breakdown by academic year over the past decade.

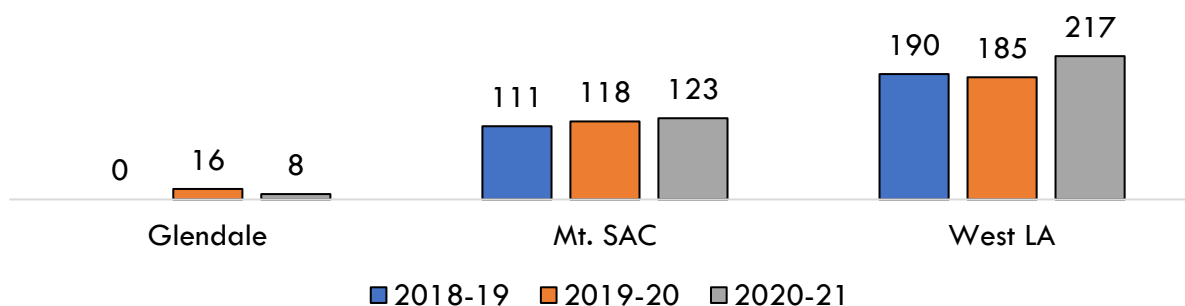
**LA Aeronautical and Aviation Technology (0950)  
Student Enrollments, 2012-13 to 2020-21**



Source: [California Community Colleges LaunchBoard](#)

Looking more closely at student enrollments from the past three academic years, the exhibit below displays the number of students taking courses in Aeronautical and Aviation Technology (0950) programs, with West LA leading the Los Angeles colleges with an average of 197 students enrolled annually over the past three years.

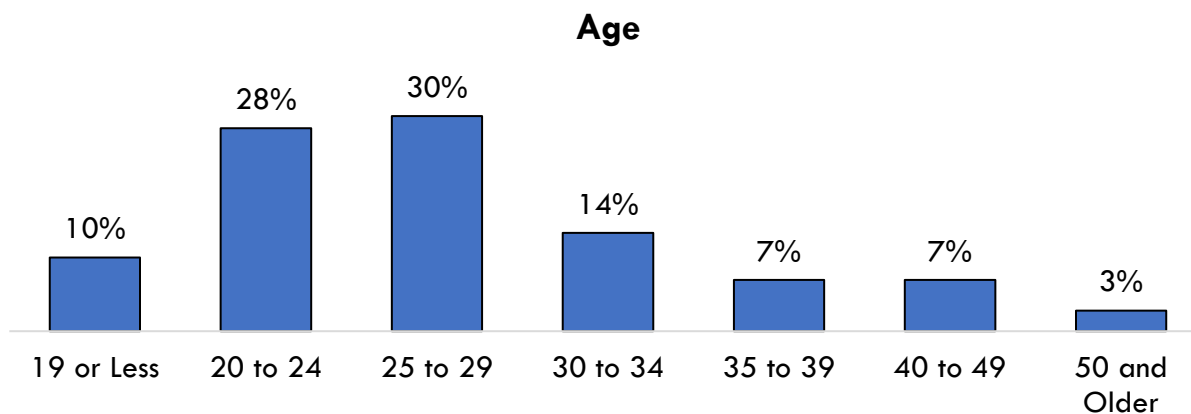
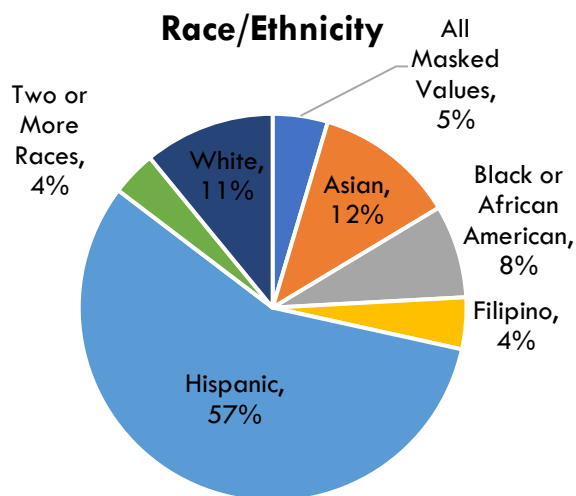
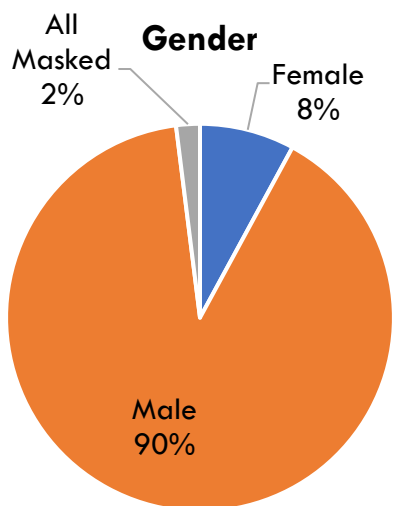
**LA Aeronautical and Aviation Technology Student  
Enrollments by College, 2018-2021**



Source: [California Community Colleges LaunchBoard](#)

## Aerospace Student Demographics

Nine of out every 10 aeronautical and aviation technology students at the LA community colleges are male, more than half identify as Hispanic, and more than two-thirds are 29-years-old or younger. The exhibits below display LA aeronautical and aviation technology student demographics from the 2020-21 academic year, based on the 348 students enrolled that year.



Source: [California Community Colleges LaunchBoard](#)



## Aerospace Programs at-a-glance

To demonstrate the size and breadth of aerospace programs offered by LA’s community colleges, the table below displays the number of awards issued (certificates and degrees) from LA’s aerospace and engineering programs over the most recent three academic years. Engineering Technology, General (requires Trigonometry) has issued the greatest number of awards, averaging more than 200 awards during the last three years. Overall, aerospace awards decreased slightly in the 20-19-20 academic year, but rebounded strongly in the 2020-21 academic year to 523 awards.

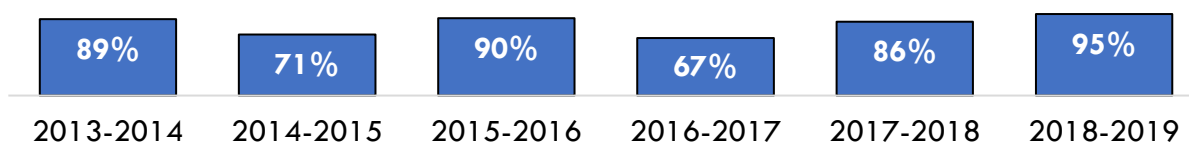
TOP6 - Program Title	2018-19	2019-20	2020-21	Latest 3 Yr Avg
0901.00 – Engineering, General (requires Calculus) (Transfer)	96	115	126	<b>112</b>
0924.00 – Engineering Technology, General (requires Trigonometry)	216	241	259	<b>239</b>
0950.00 – Aeronautical and Aviation Technology	21	11	21	<b>18</b>
0950.10 – Aviation Airframe Mechanics	105	47	63	<b>72</b>
0950.20 – Aviation Powerplant Mechanics	78	44	54	<b>59</b>
<b>Total</b>	<b>516</b>	<b>458</b>	<b>523</b>	<b>500</b>

Source: [California Community Colleges Chancellor’s Office Management Information Systems Data Mart](#)

## Aeronautical and Aviation Technology Student Outcomes

According to LaunchBoard, 67-95% percent of exiting students from LA’s aeronautical and aviation technology programs report working in a job closely related to their field of study since 2013. Median annual earnings for exiting students have increased by 16% since the 2015-16 academic year, from \$38,688 to just over \$46,000. There was a positive median change in annual earnings for exiting students, averaging about 48% over the past five years. Over the past three years of data collection, more than half of exiting students are earning a living wage (\$38,217 in Los Angeles County).

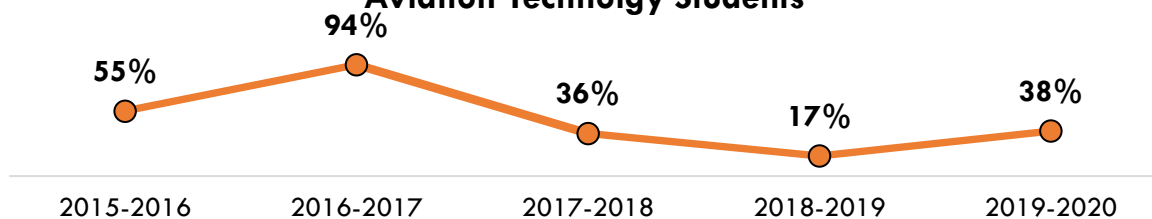
### LA Aeronautical and Aviation Technology Students with a Job Closely Related to Their Field of Study



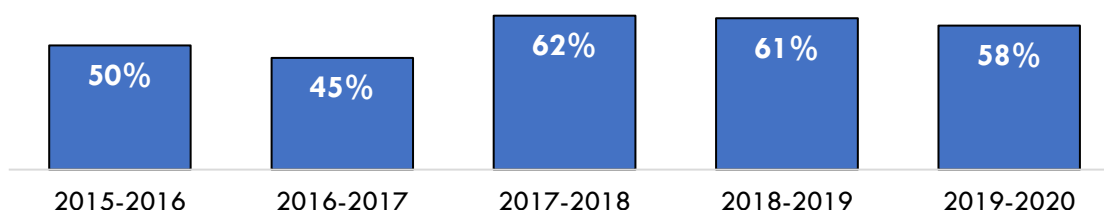
### Median Annual Earnings for Exiting Aeronautical and Aviation Technology Students



### Median Change in Earning for Exiting LA Aeronautical and Aviation Technology Students



### Exiting LA Aerospace and Aviation Technology Students Who Attained the Living Wage



Source: [California Community Colleges LaunchBoard](#)

### Target Aerospace Occupations for Regional Training Programs

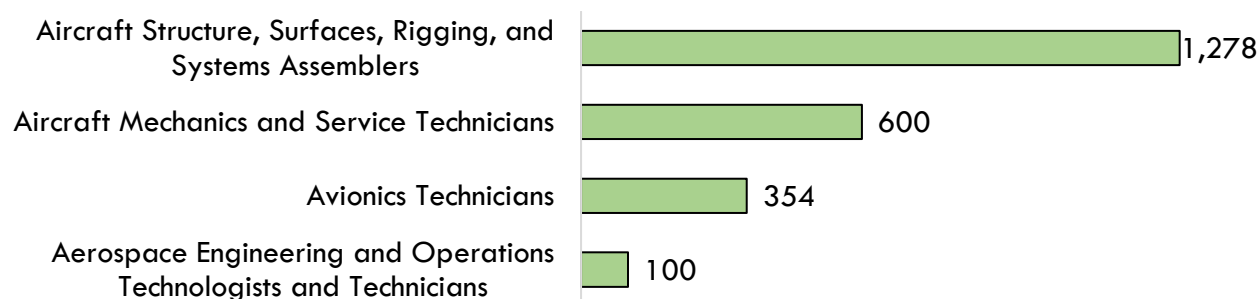
Occupation	2021 Jobs	2026 Jobs	2021 - 2026 % Change	Avg. Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Aircraft Mechanics and Service Technicians	4,842	5,449	13%	531	\$29.62	\$37.21	\$46.40
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	943	955	1%	120	\$18.50	\$22.95	\$29.23
Avionics Technicians	565	635	12%	59	\$36.10	\$38.40	\$46.95
Aerospace Engineering and Operations Technologists and Technicians	420	450	7%	49	\$36.30	\$38.23	\$46.54
<b>TOTAL</b>	<b>6,769</b>	<b>7,489</b>	<b>11%</b>	<b>759</b>	-	-	-

Source: [Lightcast, datarun 2023.1](#)

## Employer Job Postings

Over the past 12 months (March 2022 through Feb 2023), there were 2,332 online job postings for the four occupations of interest. The majority of job postings (55%) were for *aircraft structure, surfaces, rigging, and systems assembler*, followed by *aircraft mechanics and service technicians* (26%), and *avionics technicians* (15%).

### Number of Job Postings by Occupation



The highest number of job postings by job title were for *assemblers*, *avionics technicians*, and *airframe and powerplant mechanics*. The top employers, by number of job postings, in Los Angeles County were Aerotek (staffing company), Northrop Grumman, Flowserve, Boeing, and Randstad (staffing company). The top skills desired by employers for potential job candidates were blueprinting, power tool operation, knowledge of the Federal Aviation Administration (FAA), aircraft maintenance, avionics, and soldering.

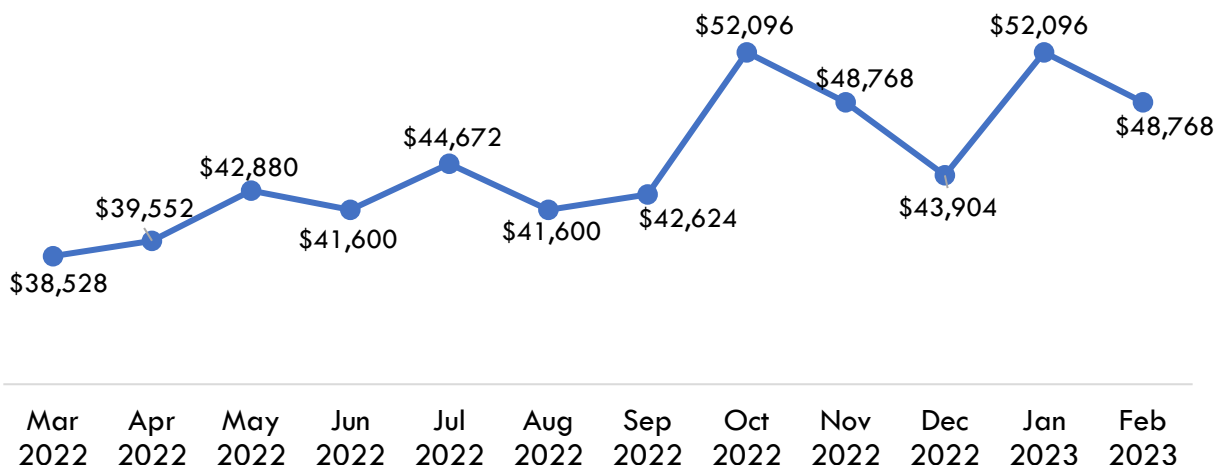
### Top Job Titles and Employers from Job Postings

Job Title	Job Ads	Employer	Job Ads
Assemblers	518	Aerotek	256
Avionics Technicians	125	Northrop Grumman	134
Airframe and Powerplant Mechanics	103	Flowserve	91
Aircraft Maintenance Technicians	86	Boeing	73
Aircraft Mechanics	74	Randstad	60
Composite Technicians	70	SpaceX	49
Aircraft Technicians	66	Gulfstream Aerospace	44
Aerospace Technicians	54	General Atomics	39
Precision Assemblers	53	Total Aviation Staffing	35
Assembler Technicians	52	Advantage Solutions	34

Since February 2022, advertised wages from job postings for these four aerospace and aviation occupations have risen by 27%. October 2022 and January 2023 had the highest advertised wages in the past 12 months, with job postings averaging an annual salary of \$52,096. Of the job postings that listed minimum experience criteria, the majority (38%) were for positions asking for 2-3 years of work experience. Only 55% of job postings listed a minimum education

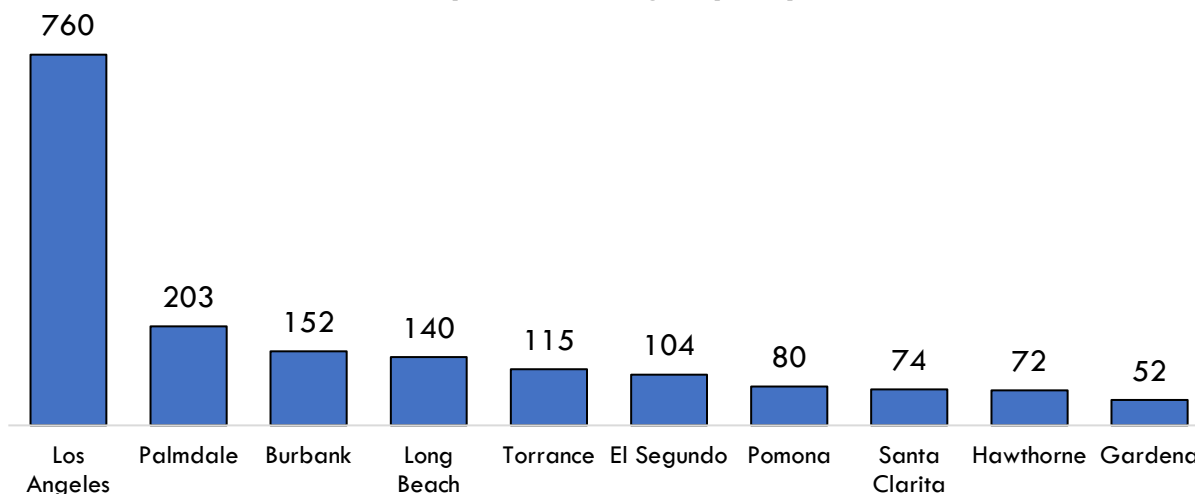
requirement for these aerospace and aviation occupations; of these job postings, 87% listed a high school diploma or GED, 5% listed an associate degree, and 7% listed a bachelor's degree.

### Advertised Wage Trend Over Last 12 Months



The top qualification from job postings was the airframe & powerplant (A&P) certificate, mentioned on 392 job postings. Within Los Angeles County, the top cities for these aerospace and aviation jobs were Los Angeles, Palmdale, Burbank, Long Beach, and Torrance. Unsurprisingly, each of these cities is home to a Southern California airport. Los Angeles accounted for 33% of the county's job postings.

### Top Job Postings by City



Source: [Lightcast, Job Postings, datarun 2023.1](#)

# COMMUNITY COLLEGE REPRESENTATION

## Cerritos College

<b>Program Name</b>	Engineering Technology
<b>Website</b>	<a href="https://www.cerritos.edu/et/default.htm">https://www.cerritos.edu/et/default.htm</a>
<b>Overview</b>	The Engineering Technology program prepares students for transfer to "Engineering Technology" programs and for employment in technical fields. By completing the certificate or degree, students acquire knowledge of the fundamentals of engineering technology and are able to specialize in one of three options. The first option is Electrical and Electronic Engineering Technology, the second option is Mechanical Engineering Technology and the third option is Industrial Engineering Technology. Careers in engineering technology involve assisting engineers in researching, developing, manufacturing, servicing, and maintaining a wide variety of products.

For more information, contact:

Dr. Miodrag Micic, Engineering Technology Department Chair, [mmicic@cerritos.edu](mailto:mmicic@cerritos.edu)

## Citrus College

<b>Program Name</b>	AS in Pre-Engineering
<b>Website</b>	<a href="http://catalog.citruscollege.edu/disciplines/engineering/pre-engineering-as/#text">http://catalog.citruscollege.edu/disciplines/engineering/pre-engineering-as/#text</a>
<b>Overview</b>	The A.S. Degree in Pre-Engineering includes core courses in mathematics and physics and provides students with a set of skills that prepares them for transfer into engineering programs at baccalaureate degree-granting institutions.

For more information, contact:

Victoria Dominguez, Dean of Math & Business, [vdominguez@citruscollege.edu](mailto:vdominguez@citruscollege.edu)

## Compton College

<b>Program Name</b>	Engineering Technician - Certificate of Achievement
<b>Website</b>	<a href="https://www.compton.edu/gpdiv/business-industrial-studies/engineering-technology/index.aspx">https://www.compton.edu/gpdiv/business-industrial-studies/engineering-technology/index.aspx</a>
<b>Overview</b>	The Engineering Technician Certificate of Achievement prepares students with skills and knowledge required for employment as an engineering aide, computer aided drafter, designer, engineering technician, or other technical support position in the field of engineering. The students demonstrate proficiency in document designs with appropriate technical drawings, perform and record engineering tests, and develop solutions for common engineering problems.

For more information, contact:

Dr. Paul Flor, Dean of Student Learning, [pflor@compton.edu](mailto:pflor@compton.edu)

## East Los Angeles College

<b>Program Name</b>	Engineering
<b>Website</b>	<a href="https://www.elac.edu/academics/cewd/cte/engineering">https://www.elac.edu/academics/cewd/cte/engineering</a>
<b>Overview</b>	Students are engaged in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and career preparation in four pathways that emphasize real-world, occupationally relevant experiences of significant scope and depth: Architectural Design; Engineering Technology; Engineering Design; and Environmental Engineering. To prepare students for continued training, advanced educational opportunities, and direct entry to a career, the Engineering programs offer the following components: classroom, laboratory, and hands-on contextual learning; project- and work-based instruction; and leadership and interpersonal skills development.

For more information, contact:

Dr. Djuradj Babic, Dean of Career Technical Education, [babidc@elac.edu](mailto:babidc@elac.edu)

## El Camino College

**Program Name** Engineering

**Website** <https://www.elcamino.edu/academics/divisions/mathematical-sciences/engineering/index.aspx>

**Overview** The degree is designed for students planning to transfer into an engineering program. The student will acquire the ability to apply principles of mathematics, physics, and chemistry. Competencies will be regularly assessed through problem solving involving differential and integral calculus of one and several variables; differential equations and linear algebra; mechanics of solids, fluids, heat, sound, electricity and magnetism; chemical reactions and chemical equations.

For more information contact:

Eric Carlson, Faculty of Engineering, [ecarlson@elcamino.edu](mailto:ecarlson@elcamino.edu)

## Glendale College

**Program Name** Engineering

**Website** <https://www.glendale.edu/academics/academic-divisions/engineering>

**Overview** The Engineering Transfer department curriculum is formulated to meet the specific needs of students whose goal is to transfer to a four-year Engineering Degree program.

For more information contact:

Christopher Herwerth, Associate Professor of Engineering, [cherwerth@glendale.edu](mailto:cherwerth@glendale.edu)

## Long Beach City College

**Program Name** Engineering

**Website** <https://www.lbcc.edu/engineering>

**Overview** The Long Beach City College Engineering program is to foster an environment that both challenges and supports its students. The department is committed to continuous revisions and improvements of the curriculum, making real-world connections, and incorporating technology. The department employs an assortment of assessment techniques, provides a variety of teaching styles, and maintains intervention plans for students who might be having difficulty.

For more information contact:

Ladera Barbee, Dept. Head & Professor, Math & Engineering, [lbarbee@lbcc.edu](mailto:lbarbee@lbcc.edu)

## Los Angeles City College

**Program Name** Engineering

**Website** <https://www.lacitycollege.edu/academics/aos/engineering>

**Overview** The Engineering Associate of Science degree consists of the math, physics, chemistry, and engineering courses that are typically required to fulfill lower division requirements for transfer as Mechanical, Civil, Electrical, or Computer Engineering majors at four-year colleges. Students should have completed precalculus level math to begin the sequence of math and physics courses that comprise this degree.

For more information contact:

Jayesh Bhakta, Chair of Engineering, [bhaktaj@lacitycollege.edu](mailto:bhaktaj@lacitycollege.edu)



## Los Angeles Harbor College

**Program Name**            Engineering

**Website**                    <https://www.lahc.edu/academics/pathways/stem>

**Overview**                    This program provides the student with the opportunity to experience a broad introduction into the field of engineering and aid in his or her selection of a specific area of specialization within the broad spectrum of engineering. This degree requires greater than 60 units and therefore may take more time to complete than other degrees.

For more information contact:

Dr. Nelly Rodriguez, Associate Dean of STEM Pathways, [rodriagn@lahc.edu](mailto:rodriagn@lahc.edu)

## Los Angeles Mission College

**Program Name**            Engineering

**Website**                    <https://www.lamission.edu/academics/aos/engineering>

**Overview**                    This program aims to prepare prospective engineering students to make an informed decision in choosing their engineering option (Civil, Mechanical, Computer Software, Electrical and etc.). Students can choose to first complete all the courses that are common to most engineering options and then choose from electives that are discipline specific.

For more information contact:

Karineh Abed, Professor, [abedk@lamission.edu](mailto:abedk@lamission.edu)

## Los Angeles Pierce College

**Program Name** Engineering

**Website** <https://lapc.edu/academics/pathways/stem>

**Overview** Students will be able to formulate and carry out plans to solve engineering problems using fundamental principles of chemistry and physics. Students will be familiar with computer programming and/or computer design tools used in solving engineering problems.

For more information contact:

Alexander Bojkov, Professor, [bojkova@piercecollege.edu](mailto:bojkova@piercecollege.edu)

## Los Angeles Southwest College

**Program Name** Electronics Technology

**Website** <https://www.lasc.edu/academics/aos/electronics-technology>

**Overview** Students gain invaluable experience working individually and in groups while learning about microcomputer applications, networking, and servicing hardware to keep things moving in business and industry, and enhance your mathematical knowledge with a suite of math and science courses incorporating reasoning and formulas they will use in the field.

For more information contact:

Dr. Allison Moore, Department Chair, [mooreap@lasc.edu](mailto:mooreap@lasc.edu)

## Los Angeles Trade Technical College

**Program Name** Electrical Maintenance

**Website** <https://www.lattc.edu/academics/aos/electrical-construction-and-maintenance>

**Overview** By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial Construction and Maintenance of Electrical Systems. Electrical theory, electrical controls, conduit installation, blueprints, low voltage systems, maintenance practices, equipment installation, etc. are just some of the skills that will be mastered during this program.

For more information contact:

Mo Zhang, Professor, [zhangm@lattc.edu](mailto:zhangm@lattc.edu)

## Los Angeles Valley College

**Program Name** Engineering

**Website** <https://www.lavc.edu/academics/pathways/stem>

**Overview** Students will be able to prepare a complete set of analyses involving engineering statics. Students will be able to analyze engineering design requirements as the basis for selecting materials with the needed properties. Students will be able to utilize working drawings to manufacture precision tools that involve the use of the engine lathe and the vertical and horizontal milling machines.

For more information contact:

Rebecca Stein, Professor and Chair, [steinrl@lavc.edu](mailto:steinrl@lavc.edu)

## Mt. San Antonio College

**Program Name** Aircraft Maintenance Technology

**Website** <https://www.mtsac.edu/aircraft-maintenance/>

**Overview** This program prepares students to enter employment as certified airframe and powerplant technicians in the aircraft maintenance industry. Training is given in the overhaul of various airframes, powerplants, and their components. Completion of this degree leads to an Associate in Science Degree or a Certificate. Excellent opportunities for employment exist in this area of training. Certain administrative, quality control, and flight personnel careers require the applicant to hold a valid A & P Certificate.

For more information contact:

David Yost, Department Chair at [dyost@mtsac.edu](mailto:dyost@mtsac.edu)



## Pasadena City College

**Program Name** Engineering & Technology

**Website** <https://pasadena.edu/academics/degrees-and-certificates/aa-degrees/engineering-and-technology.php>

**Overview** The Engineering and Technology area of emphasis allows students the opportunity to pursue multidisciplinary programs of study at the university level. This area of emphasis provides a flexible environment for high-achieving students to study complex engineering disciplines such as architectural engineering, biochemical engineering, computer sciences, electromechanical engineering, mathematics, mechanical engineering, engineering mathematics, engineering physics, and other similar disciplines at CSU, UC, and private universities.

For more information contact:

Dr. Armine Derdarian, CTE Dean, [aderdarian@pasadena.edu](mailto:aderdarian@pasadena.edu)

## Rio Hondo College

**Program Name** Engineering

**Website** <https://pathways.riohondo.edu/program/engineering-as/>

**Overview** The Associate of Science Degree in Engineering will prepare those students interested in laying a foundation for further study and for a Bachelor's Degree in an engineering field from a four-year college or university.

For more information contact:

Dr. Vann Priest, Dean of Math, Science, & Engineering, [vpriest@riohondo.edu](mailto:vpriest@riohondo.edu)

## Santa Monica College

**Program Name** Engineering

**Website** <https://www.smc.edu/academics/areas-of-interest/stem/physical-sciences/engineering.php>

**Overview** The Engineering program provides students with a fundamental knowledge of engineering and familiarizes them with modern engineering design tools and skills. In addition, students will be prepared for engineering internship opportunities or entry-level industrial jobs, through developing skills in areas such as computer drafting, solid modeling, circuit build and design, and problem-solving. Upon completion of this program, students will also have a strong academic foundation in the field and be prepared for upper-division baccalaureate study.

For more information contact:

Dr. Sehat Nauli, Department Chair of Physical Sciences, [nauli\\_sehat@smc.edu](mailto:nauli_sehat@smc.edu)

## West Los Angeles College

**Program Name** Aviation Technology

**Website** <https://www.wlac.edu/academics/aos/aviation-technology>

**Overview** The WLAC Aviation Maintenance Training Program was founded in 1974. This dynamic program is conducted in the most up-to-date facilities available for college aviation training in the region, if not the country. Graduates of the WLAC Airframe and Power Plant Programs have achieved their FAA license certification and successfully garnered high paying, professional aviation maintenance jobs with all levels of airlines and independent companies providing contract maintenance.

For more information contact:

Rudy Triviso, Division Chair at [Trivisry@wla.edu](mailto:Trivisry@wla.edu)