CAREER FACT SHEET

PATH 2 CAREERS
Pathways To Emerging Careers

Advanced Manufacturing

Los Angeles County, Orange County & Central Valley

The Bottom Line

The advanced manufacturing sector in Los Angeles County, Orange County, and the Central Valley was studied to better understand the demand for skilled workers, job requirements, and skill gaps. 392 advanced manufacturing employers participated in the study and reported employing 3,788 individuals in the 8 occupations studied within this career fact sheet. These employers projected an increase of 1,797 new jobs over the next five years, with a growth rate of 47%. As automation and digital supply chain management become standard across manufacturing companies, advanced manufacturing will continue to evolve and become more complex. Top trends in advanced manufacturing impacting the workforce include automation, 3-D printing, and high-speed machining.

Employers identified multi-axis machines (54%) and lasers (19%) as the most used machinery within their companies.

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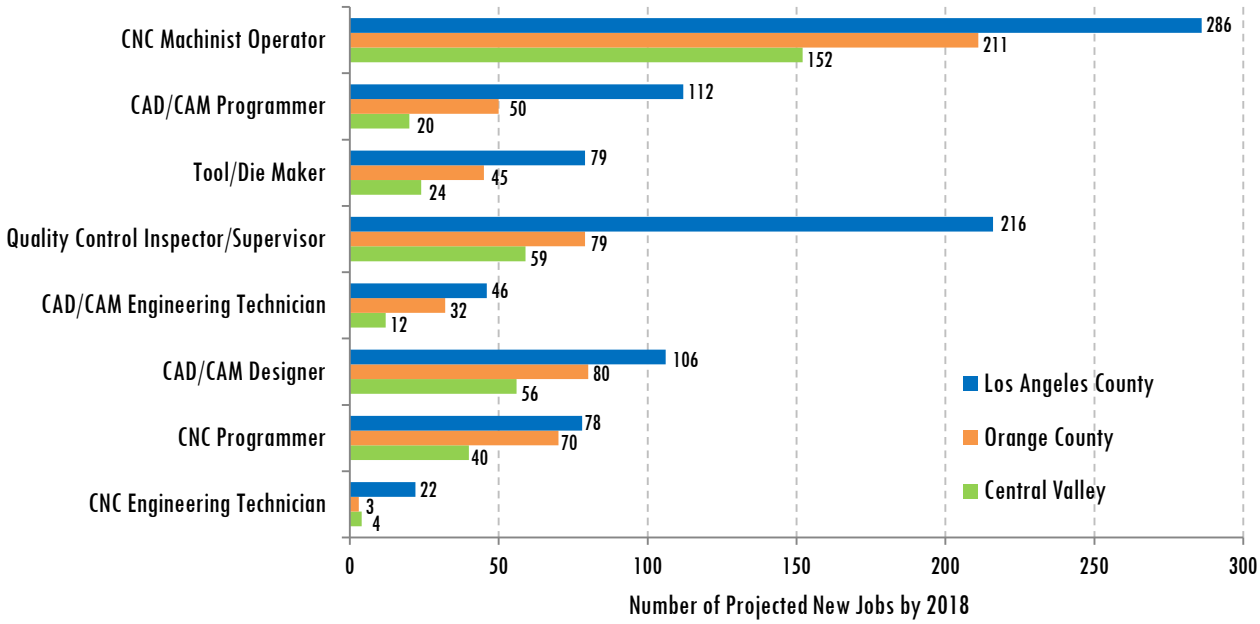
Occupational Outlook

Occupation	# of Current Employees	5-Year Job Growth	% Growth Rate
CNC Machinist Operator	1,225	653	53%
CAD/CAM Programmer	550	90	16%
Tool/Die Maker	452	149	33%
Quality Control Inspector/Supervisor	609	357	59%
CAD/CAM Engineering Technician	146	90	62%
CAD/CAM Designer	434	242	56%
CNC Programmer	319	186	58%
CNC Engineering Technician	53	29	55%
Total	3,788	1,796	47%

Over the next five years, the 392 manufacturing companies surveyed indicated that they expect to add a total of 1,796 jobs (359 average openings annually) for the eight occupations studied. CNC Machinist/Operator is the occupation with the largest number of current jobs, as well as projected new jobs (1,878 total). Each of the occupations studied have positive growth projections over the next five years, with an average growth rate of 47%.

Advanced Manufacturing Growth by Region



There is a large range of projected job openings by region, with Los Angeles County projected to experience the largest number of new jobs over the next five years (945). The Central Valley and Orange County have the highest percentages of projected growth rate, with employers expecting 62% and 61% growth, respectively.

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Student Tips

- The majority of employers surveyed required some college/trade school for six of the eight occupations: CAD/CAM Designers, CAD/CAM Programmers, CAD/CAM Engineering Technicians, CNC Programmers, CNC Engineering Technicians and Quality Control Inspectors/Supervisors.
- Los Angeles County employers reported a high level of difficulty finding qualified employees in all eight occupations.
- The most difficult "soft" skill to find for every occupation with the exception of CAD/CAM Engineering Technician was problem solving.
- Students may benefit from attending "soft" skill- focused workshops that address skills such as Microsoft Office, math, teamwork/collaboration, problem solving, oral communication and written communication.

Employers were asked to identify technical skill requirements for each occupation. Below are the top two "must have skills" and "preferred skills" employers are looking for when hiring for each of these occupations.

Occupation	Must Have Skills	Preferred Skills
CAD/CAM Designer	Reading blueprints CAD/CAM Systems knowledge	Experience with multi-axis machines Experience with MRP software
CAD/CAM Programmer	Reading blueprints CNC Programming	Experience with MRP Software Experience with ERP/SCN Systems
CAD/CAM Engineering Technician	CAD/CAM Systems knowledge Reading blueprints	Multi-axis programming 3-D modeling knowledge
CNC Machinist/Operator	Reading micrometers, calipers, and gauges Reading blueprints	Experience with multi-axis machines CNC Programming
CNC Programmer	Reading blueprints CNC Programming	MMP knowledge/experience Experience with multi-axis machines
CNC Engineering Technician	Reading micrometers, calipers, and gauges Reading blueprints	MMP knowledge/experience Experience with ERP/SCN systems
Quality Control Inspector	Reading micrometers, calipers and gauges Reading blueprints	Experience with ERP/SCN systems Experience with MRP software
Tool/Die Maker	Reading blueprints Reading micrometers, calipers, and gauges	CNC Machines knowledge CNC Machines (Sequencing)

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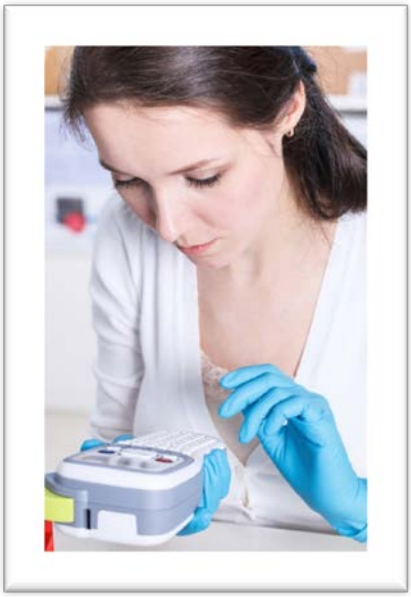
Existing Community College Programs

A review of education programs revealed 42 different manufacturing-related programs in Los Angeles County, Orange County and the Central Valley.

Advanced Manufacturing Programs			
Food Technology and Processing	Electromechanical Technology/Electromechanical Engineering Technology	Computer Technology/Computer Systems Technology	Industrial Electronics Technology/Technician
Wood Science and Wood Products/ Pulp and Paper Technology	Instrumentation Technology/Technician	Computer Hardware/Technology/Technician	Industrial Mechanics and Maintenance Technology
Materials Engineering	Plastics and Polymer Engineering Technology/Technician	Drafting and Design Technology/Technician, General	Machine Tool Technology/Machinist
Mechanical Engineering	Manufacturing Engineering Technology/Technician	CAD/CADD Drafting and/or Design Technology/Technician	Machine Shop Technology/Assistant
Systems Engineering	Semiconductor Manufacturing Technology	Architectural Drafting and/or Architectural CAD/CADD	Sheet Metal Technology/Sheet working
Textile Sciences and Engineering	Industrial Production Technologies/Technicians/Other	Electrical/ Electronic Drafting and Electrical/Electronic CAD/CADD	Welding Technology/Welder
Industrial Engineering	Quality Control Technology/Technician	Mechanical Drafting and Mechanical Drafting CAD/CADD	Computer Numerically Controlled (CNC) Machinist Technology/CNC Machinist
Manufacturing Engineering	Aeronautical/Aerospace Engineering Technology/Technician	Engineering/Industrial Management	Furniture Design and Manufacturing
Electromechanical Engineering	Automotive Engineering Technology/Technician	Apparel and Textile Manufacturing	Logistics, Materials, and Supply Chain Management
Mechatronics, Robotics, and Automation Engineering	Mechanical Engineering/Mechanical Technology/Technician	Chemical Process Technology	Operations Management and Supervision
Electrical and Electronic Engineering Technology/Technician	Computer Engineering Technology/Technician		

To view our full study of advanced manufacturing, visit
www.coeccc.net/mfg



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