

ADVANCED MANUFACTURING

Summary

The largest occupation in the region's advanced manufacturing sector is packaging and filling machine operators and tenders, with 9,865 workers in 2017, followed by first-line supervisors of production and operating workers, nearly 6,000 workers. These two occupations are projected to undergo modest growth and will offer 1,242 and 654 annual openings, respectively. The highest paid occupations are industrial production managers, \$45.05/hour median, and electrical and electronics engineering technicians, \$36.62/hour median. On average each year, community colleges in the region confer 280 certificates, 132 degrees, 32 non-credit awards and four other-credit awards related to advanced manufacturing. The gap analysis reveals a shortage of nearly 5,300 workers in the region.

Employment & Occupational Demand

Exhibit 32: Advanced manufacturing employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017-2022 OPENINGS	ANNUAL OPENINGS
Packaging and Filling Machine Operators and Tenders	9,865	10,302	437	4%	6,212	1,242
First-Line Supervisors of Production and Operating Workers	5,918	6,261	343	6%	3,272	654
Inspectors, Testers, Sorters, Samplers, and Weighers	4,985	5,064	79	2%	3,084	617
Industrial Machinery Mechanics	5,656	6,078	422	7%	2,915	583
Production, Planning, and Expediting Clerks	2,769	3,011	242	9%	1,687	337
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	1,814	1,897	83	5%	1,072	214
Mixing and Blending Machine Setters, Operators, and Tenders	1,607	1,668	61	4%	980	196
Maintenance Workers, Machinery	1,441	1,533	92	6%	836	167
Industrial Production Managers	1,572	1,644	72	5%	628	126
Electrical and Electronics Engineering Technicians	1,288	1,298	10	1%	588	118
Sawing Machine Setters, Operators, and Tenders, Wood	715	774	59	8%	485	97
Engineering Technicians, Except Drafters, All Other	990	1,005	15	2%	446	89
Woodworking Machine Setters, Operators, and Tenders, Except Sawing	596	651	55	9%	393	79
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	514	542	28	5%	344	69
Computer-Controlled Machine Tool Operators, Metal and Plastic	542	578	36	7%	312	62

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017-2022 OPENINGS	ANNUAL OPENINGS
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	515	508	(7)	(1%)	290	58
Conveyor Operators and Tenders	326	367	41	13%	271	54
Molders, Shapers, and Casters, Except Metal and Plastic	488	489	1	0%	260	52
Chemical Equipment Operators and Tenders	396	415	19	5%	237	47
Petroleum Pump System Operators, Refinery Operators, and Gaugers	405	404	(1)	(0%)	215	43

Wages

Exhibit 33: Advanced manufacturing wages

OCCUPATION	PCT. 25 HOURLY EARNINGS*	MEDIAN HOURLY EARNINGS
Industrial Production Managers	\$33.09	\$45.05
Electrical and Electronics Engineering Technicians	\$30.08	\$36.62
Petroleum Pump System Operators, Refinery Operators, and Gaugers	\$28.46	\$35.42
Engineering Technicians, Except Drafters, All Other	\$26.89	\$35.31
Industrial Machinery Mechanics	\$19.93	\$25.29
First-Line Supervisors of Production and Operating Workers	\$19.01	\$26.41
Production, Planning, and Expediting Clerks	\$17.18	\$22.55
Maintenance Workers, Machinery	\$15.88	\$20.58
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	\$15.84	\$20.67
Computer-Controlled Machine Tool Operators, Metal and Plastic	\$15.50	\$18.99
Chemical Equipment Operators and Tenders	\$13.92	\$17.69
Molders, Shapers, and Casters, Except Metal and Plastic	\$13.61	\$17.76
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	\$13.27	\$16.12
Mixing and Blending Machine Setters, Operators, and Tenders	\$13.05	\$17.04
Conveyor Operators and Tenders	\$12.82	\$14.88
Inspectors, Testers, Sorters, Samplers, and Weighers	\$12.49	\$16.03
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	\$12.15	\$14.40
Woodworking Machine Setters, Operators, and Tenders, Except Sawing	\$11.96	\$14.36

OCCUPATION	PCT. 25 HOURLY EARNINGS*	MEDIAN HOURLY EARNINGS
Packaging and Filling Machine Operators and Tenders	\$11.45	\$13.41
Sawing Machine Setters, Operators, and Tenders, Wood	\$11.42	\$12.59

*Due to fluctuations in 10th percentile wages, 25th percentile wages have been used to describe entry-level wages.

Community College Supply

Exhibit 34: Advanced manufacturing community college supply

TOP TITLE-CODE	CERTIFICATE	DEGREE	NON-CREDIT	OTHER CREDIT	SUBTOTAL
Industrial Arts (Transfer)-083900		0			0
Computer Electronics-093410	11	8			19
Drafting Technology-095300	41	20			61
Electron Microscopy-093470	15	5			20
Electronics and Electric Technology-093400	83	25		4	112
Engineering Technology, General (requires Trigonometry)-092400		2			2
Engineering, General (requires Calculus) (Transfer)-090100		35			35
Industrial Electronics-093420	21	10			31
Industrial Systems Technology and Maintenance-094500	37	4	9		50
Instrumentation Technology-094300	1	1			3
Manufacturing and Industrial Technology-095600	30	3	23		57
Mechanical Drafting-095340	16	9			25
Other Engineering and Related Industrial Technologies-099900	23	7			30
Printing and Lithography-093600	0	2			3
TOTAL	280	132	32	4	448

Gap Analysis

Exhibit 35: Advanced manufacturing annual demand and supply in the region

