Machinist Technology

Inland Empire/Desert Region (Riverside-San Bernardino-Ontario Metropolitan Statistical Area)

Summary

- New job employment for the machinist technology occupational group is expected to **increase by 1% between 2017 and 2022** in the Inland Empire/Desert region. A total of **4,487 job openings** will be available over the five-year projection period.
- The median-level wage for each occupation in the machinist technology occupational group is **above the MIT Living Wage estimate of $12.30 per hour** for a single adult living in the Inland Empire/Desert region.
- **There appears to be an opportunity for program growth** based on the average annual number of program completions for the machining and machine tools program in the region **(16 annual average regional credentials)**, and the annual openings for machinist technology occupations in the region **(897 average annual openings).**

Introduction

Completion of the machining and machine tools program (TOP 0956.30) provides knowledge of fabrication, assembly and repair of parts and components or systems on machines, such as lathes, grinders, drill presses, milling machines, and shaping machines. Includes Computer Numerical Control and tool design. The occupations related to the machining and machine tools training program are the following:

- Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic
- Computer-Controlled Machine Tool Operators, Metal and Plastic
- Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- Machinists
- Metal Workers and Plastic Workers, All Other
- Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
- Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- Tool and Die Makers

Job Opportunities

In 2017, there were an estimated 8,370 machinist technology jobs in the Inland Empire/Desert region. This occupational group is projecting increase employment 1% in the region through 2022. Employers will need to hire 4,487 more workers during the same timeframe to backfill jobs that workers are permanently vacating (includes retirements). Table 1 in the Appendix displays job growth, wages, education, training, and work experience required for this occupational group.

Exhibit 1: Five-year projections for the machinist technology occupational group

2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
8,370	1%	4,487	897	26%

Source: EMSI 2018.4

Earnings

The median-level wage for each of the occupations in the machinist technology occupational group is above the MIT Living Wage estimate of $12.30 per hour for a single adult living in the Inland Empire/Desert region. Detailed information on the MIT Living Wage Calculator, including additional wage requirements for adults with dependent children, is available on their website: http://livingwage.mit.edu/metros/40140.

Exhibit 2: Earnings for the machinist technology occupational group

Machinist Technology Occupations	Entry to Experienced Hourly Earnings Range*	Median Wage*	Average Annual Earnings
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	$21.87 to $38.33	$30.56	$63,800
Tool and Die Makers	$19.12 to $29.80	$23.27	$51,200
Machinists	$15.57 to $23.46	$18.65	$40,900
Computer-Controlled Machine Tool Operators, Metal and Plastic	$13.87 to $22.94	$17.73	$39,000

Machinist Technology Occupations	Entry to Experienced Hourly Earnings Range*	Median Wage*	Average Annual Earnings
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	$15.50 to $20.06	$17.51	$38,500
Metal Workers and Plastic Workers, All Other	$14.65 to $18.32	$16.62	$35,400
Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$13.20 to $21.70	$16.44	$37,500
Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$12.88 to $21.31	$15.35	$37,900
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$12.85 to $18.27	$14.76	$33,300
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	$11.36 to $16.22	$13.05	$30,300

Source: EMSI 2018.4
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Job Posting Data (Real-Time Labor Market Information)

On average, local employers fill online job postings for the machinist technology occupational group within 37 days. When compared to the national average, it takes one day longer for local employers to find qualified candidates, indicating that machinist technology positions are filled within a similar timeframe in the Inland Empire/Desert Region. Exhibit 3 shows the number of job ads posted during the last 12 months for each occupation along with the regional and national average time to fill. Time to fill information is not available for multiple machine tool setters, operators, and tenders, metal and plastic. There are no job postings for lathe and turning machine tool setters, operators, and tenders, metal and plastic, therefore this occupation has been omitted from Exhibits 4-6.

Exhibit 3: Job ads and time to fill for machinist technology occupations, Dec 2017 - Nov 2018

Machinist technology Occupations	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Computer-Controlled Machine Tool Operators, Metal and Plastic	221	36	35
Machinists	192	38	37
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	133	35	34
Tool and Die Makers	49	43	42
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	28	41	40
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	7	34	33
Metal Workers and Plastic Workers, All Other	5	34	33
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	5	-	-
Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1	34	33
Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	0	-	-
Total	**641**	**-**	**-**

Source: Burning Glass – Labor Insights

Employers

Exhibit 4 displays local employers posting the most job ads for machinist technology occupations during the last 12 months in the Inland Empire/Desert region. The drilling and boring machine tool setters, operators, and tenders, metal and plastic and the metal workers and plastic workers, all other occupations did not have enough employer results to display reliable employer data.

Exhibit 4: Employers most frequently posting job ads for the machinist technology occupations during the last 12 months, Dec 2017 – Nov 2018

Occupation	Top Employers
Computer-Controlled Machine Tool Operators, Metal and Plastic *(n=117)*	• Amtec, Inc. • Nestle
Machinists *(n=116)*	• Dover Corporation • Sabert Corporation
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic *(n=29)*	• Arconic • Rubicon Gear
Tool and Die Makers *(n=41)*	• Carlisle Companies • Amtec, Inc.
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic *(n=18)*	• Luxfer Group, Superform • Rockwell Collins
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic *(n=4)*	• Elementis PLC • American Turn-key Fabricators
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic *(n=5)*	• Sorenson Engineering Incorporated • Advanced Custom Manufacturing

Source: Burning Glass – Labor Insights

In-Demand Skills

Exhibit 5 lists a sample of in-demand specialized and employability skills that employers are seeking when looking for workers to fill machinist technology positions. Specialized skills are occupation-specific skills employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as "soft skills." The skills reported in job postings may be utilized as a helpful guide for curriculum development. The drilling and boring machine tool setters, operators, and tenders,

metal and plastic and the metal workers and plastic workers, all other occupations did not have enough employer results to display reliable employer data.

Exhibit 5: Sample of in-demand skills from employer job ads for machinist technology occupations, December 2017 – November 2018

Occupation	Specialized skills	Employability skills
Computer-Controlled Machine Tool Operators, Metal and Plastic *(n=202)*	• Micrometers • Calipers • Lathes	• Troubleshooting • Physical Abilities • Teamwork/Collaboration
Machinists *(n=179)*	• Computer Numerical Control (CNC) • Lathes • Repair	• Detail-Oriented • Computer Literacy • Organizational Skills
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic *(n=74)*	• Hand Tools • Welding • Bondo	• Detail-Oriented • Organizational Skills • Physical Abilities
Tool and Die Makers *(n=43)*	• Repair • Grinders • Lathes	• Physical Abilities • Troubleshooting • Teamwork/ Collaboration
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic *(n=26)*	• Mastercam • Lathes • Micrometers	• Planning • Communication Skills • Organizational Skills
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic *(n=7)*	• Directional Drilling • Forklift Operation • Good Manufacturing Practices (GMP)	• Communication Skills • Preventive Maintenance • Tool Selection
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic *(n=5)*	• Sorting • Quality Assurance and Control • Micrometers	• Physical Abilities • Detail-Oriented • Creativity

Source: Burning Glass – Labor Insights

Educational Requirements

Exhibit 6 displays the entry-level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with "some college, no degree" and an "associate degree" according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

Exhibit 6: Educational attainment and online job ads with minimum advertised education requirements for the machinist technology occupations, December 2017 - November 2018

Occupation	Work Experience Required	Typical Entry-Level Education Requirement	Two-Year Postsecondary Level of Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
				Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Computer-Controlled Machine Tool Operators, Metal and Plastic	None	High school diploma or equivalent	45%	*79*	95%	4%	1%
Machinists	None	High school diploma or equivalent	40%	*85*	95%	4%	1%
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	None	High school diploma or equivalent	24%	*45*	100%	-	-
Tool and Die Makers	None	Postsecondary nondegree award	48%	*6*	100%	-	-
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	None	Postsecondary nondegree award	45%	*14*	57%	43%	-

Occupation	Work Experience Required	Typical Entry-Level Education Requirement	Two-Year Postsecondary Level of Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
				Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	None	High school diploma or equivalent	24%	*2*	100%	-	-
Metal Workers and Plastic Workers, All Other	None	High school diploma or equivalent	29%	*1*	-	-	-
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	None	High school diploma or equivalent	29%	*5*	100%	-	-
Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	None	High school diploma or equivalent	24%	*1*	-	-	-

Source: EMSI 2018.4, Burning Glass – Labor Insights
*Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework

Student Completions

Exhibit 7 shows the annual average regional community college credentials (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code and the titles used at each college, sourced from the Chancellor's Office Curriculum Inventory (COCI). Please note, a credential is not equivalent to a single person in search of a job opening since a student may earn more than one credential, such as an associate degree in addition to a certificate. Community College student outcome information is from the CTE LaunchBoard based on the selected TOP code and region.

Exhibit 7: Annual average community college student completions for machining and machine tools programs

0956.30 Machining and Machine Tools	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Norco - *Computer Numerical Control Programming*	77	
Associate Degree		2
Certificate 18 to < 30 semester units		4
Certificate 6 to < 18 semester units		1
San Bernardino – *Machine Technology/Machinist Standard/Tool & Die*	85	
Associate Degree		1
Certificate 18 to < 30 semester units		4
Certificate 6 to < 18 semester units		4
Total Community College Headcount (2016-17)	**162**	
Total Annual Average Community College Credentials (2014-17)		**16**

Source: LaunchBoard, IPEDS, COCI

0956.30 Machining and Machine Tools program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of course enrollments: 232 (California median: 115) [2016-17]
- Completed 12+ CTE units in one year: 53 (CA: 27) [2016-17]
- Employed in the second fiscal quarter after exit: 74% (CA: 77%)
- Median earnings in the second fiscal quarter after exit: $9,690 (CA: $9,842)
- Employed in the fourth fiscal quarter after exit: 79% (CA: 78%)
- Median annual earnings after exit: $37,754 (CA: $36,276)
- Job closely related to field of study: N/A (CA: 78%) [2014-15]
- Median change in earnings: 17% (CA: 44%)
- The proportion of students who attained a living wage: 57% (CA: 72%)

Sources

California Community Colleges Chancellor's Office Management Information Systems (MIS)
Chancellor's Office Curriculum Inventory (COCI, version 2.0)
CTE LaunchBoard
Economic Modeling Specialists International (EMSI)
Integrated Postsecondary Education Data System (IPEDS)
Labor Insight/Jobs (Burning Glass)
MIT Living Wage Calculator
O*Net Online
Taxonomy of Programs, 6th Edition

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Appendix: Occupation definitions, sample job titles, five-year projections, and earnings for machinist technology occupations

Occupation Definitions* (SOC code), *Education and Training Requirement, Community College Education Attainment

Computer-Controlled Machine Tool Operators, Metal and Plastic (51-4011)

Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

Sample job titles: Brake Press Operator; Computer Numerical Control Lathe Operator (CNC Lathe Operator); Computer Numerical Control Machine Operator (CNC Machine Operator); Computer Numerical Control Machinist (CNC Machinist); Computer Numerical Control Mill Operator (CNC Mill Operator); Computer Numerical Control Operator (CNC Operator); Computer Numerical Control Set-Up and Operator (CNC Set-Up and Operator); Machine Operator; Machine Set-Up, Operator; Machinist

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 45%

Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic (51-4012)

Develop programs to control machining or processing of metal or plastic parts by automatic machine tools, equipment, or systems.

Sample job titles: CAD CAM Programmer (Computer-Aided Design Computer-Aided Manufacturing Programmer), Computer Numerical Control Machine Operator (CNC Machine Operator), Computer Numerical Control Machining Center Operator (CNC Machining Center Operator), Computer Numerical Control Machinist (CNC Machinist), Computer Numerical Control Operator (CNC Operator), Computer Numerical Control Programmer (CNC Programmer), Machine Shop Lead Man, Machining Manager, Process Engineer, Programmer

Entry-Level Educational Requirement: Postsecondary nondegree award
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 45%

Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4032)
Set up, operate, or tend drilling machines to drill, bore, ream, mill, or countersink metal or plastic work pieces.

Sample job titles: Bore Mill Operator, Computer Numerical Control Drilling Operator (CNC Drilling Operator), Drill Operator, Drill Press Operator, Drill Setup Operator, Driller, Machine Operator, Machinist, Punch Operator, Radial Drill Operator

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 24%

Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4033)
Set up, operate, or tend grinding and related tools that remove excess material or burrs from surfaces, sharpen edges or corners, or buff, hone, or polish metal or plastic work pieces.

Sample job titles: Cell Operator, Centerless Grinder Operator, CNC Operator (Computer Numerically Controlled Operator), Deburrer, Die Maintenance Technician, Finisher, Grinder, Grinder Operator, Grinding Machine Operator, Process Equipment Operator

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 24%

Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4034)
Set up, operate, or tend lathe and turning machines to turn, bore, thread, form, or face metal or plastic materials, such as wire, rod, or bar stock.

Sample job titles: Computer Numerical Control Lathe Operator (CNC Lathe Operator), Computer Numerical Control Operator (CNC Operator), Lathe Operator, Lathe Set Up Person, Machine Operator, Numerical Control Operator (NC Operator), Screw Machine Operator, Screw Machine Tool Setter, Set Up / Operator, Turn Operator

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 24%

Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic (51-4035)
Set up, operate, or tend milling or planing machines to mill, plane, shape, groove, or profile metal or plastic work pieces.

Sample job titles: CNC Machine Operator (Computerized Numerical Control Machine Operator), CNC Mill Operator (Computerized Numerical Control Mill Operator), CNC Mill Set Up Operator (Computerized Numerical Control Mill Set Up Operator), CNC Operator (Computerized Numerical Control Operator), CNC Programmer (Computerized Numerical Control Programmer), Machine Operator, Mill Operator, Miller, Milling Operator, Set Up Person

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 24%

Machinists (51-4041)

Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.

Sample job titles: Gear Machinist, Journeyman Machinist, Machine Operator, Machine Repair Person, Machinist, Maintenance Machinist, Maintenance Specialist, Production Machinist, Set-Up Machinist, Tool Room Machinist

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: More than twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 40%

Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4081)

Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

Sample job titles: Cell Technician, CNC Machine Setter (Computer Numerically Controlled Machine Setter), CNC Machinist (Computer Numerically Controlled Machinist), CNC Operator (Computer Numerically Controlled Operator), Die Setter, Machine Operator, Machine Technician, Machinist, Operator, Set-Up Person

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 29%

Tool and Die Makers (51-4111)

Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.

Sample job titles: Aircraft Tool Maker, Carbide Tool Die Maker, Die Maker, Jig and Fixture Builder, Jig and Fixture Repairer, Tool and Die Machinist, Tool and Die Maker, Tool Repairer, Toolmaker, Trim Die Maker

Entry-Level Educational Requirement: Postsecondary nondegree award
Training Requirement: More than twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 48%

Metal Workers and Plastic Workers, All Other (51-4199)

All metal workers and plastic workers not listed separately.

Sample job titles: Machine Operator, Machine Set Up Operator, Machine Setter, Machine Setter and Repairer, Machine Shop Worker, Machine Spring Former, Machined Parts Metal Sprayer, Metal Bonding Press Operator, Metal Bumper, Metal Fabricator Helper, Metal Rivet Machine Operator, Metal Riveter, Metal Riveting Machine Operator, Metal Spinner, Metal Sponge Making Machine Operator, Metal Worker, Miscellaneous Machine Operator, Monomer Purification Operator, Monomer Recovery Operator, Multi-Operation Forming Machine Operator, Multi-Operation Forming Machine Setter, Nail Assembly Machine Operator, Nail Maker, Nail Making Machine Setter

Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: One to twelve months on-the-job training
Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 29%

Table 1. 2017 to 2022 job growth, wages, education, training, and work experience required for the machinist technology occupational group, Inland Empire/Desert Region

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Machinists (51-4041)	3,273	121	4%	361	$15.57 to $23.46	$18.65	$40,900	High school diploma or equivalent & more than to 12 months	None
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4033)	1,299	(61)	(5%)	135	$11.36 to $16.22	$13.05	$30,300	High school diploma or equivalent & 1 to 12 months	None
Computer-Controlled Machine Tool Operators, Metal and Plastic (51-4011)	1,173	41	3%	125	$13.87 to $22.94	$17.73	$39,000	High school diploma or equivalent & 1 to 12 months	None
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4081)	938	4	0%	102	$12.85 to $18.27	$14.76	$33,300	High school diploma or equivalent & 1 to 12 months	None

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4034)	409	(10)	(2%)	40	$13.20 to $21.70	$16.44	$37,500	High school diploma or equivalent & 1 to 12 months	None
Tool and Die Makers (51-4111)	339	2	1%	32	$19.12 to $29.80	$23.27	$51,200	Postsecondary nondegree award more than 12 months	None
Milling and Planning Machine Setters, Operators, and Tenders, Metal and Plastic (51-4035)	311	(21)	(7%)	32	$15.50 to $20.06	$17.51	$38,500	High school diploma or equivalent & 1 to 12 months	None
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic (51-4012)	244	23	9%	30	$21.87 to $38.33	$30.56	$63,800	Postsecondary nondegree award & 1 to 12 months	None

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic (51-4032)	197	(14)	(7%)	20	$12.88 to $21.31	$15.35	$37,900	High school diploma or equivalent & 1 to 12 months	None
Metal Workers and Plastic Workers, All Other (51-4199)	187	(5)	(3%)	20	$14.65 to $18.32	$16.62	$35,400	High school diploma or equivalent & 1 to 12 months	None
Total	**8,370**	**80**	**1%**	**897**	**-**	**-**	**-**	**-**	**-**

Source: EMSI 2018.4
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage