

Engineering Technology Occupation Report



CIP 14.4201

Cochise, Pima, SC








Mechatronics, Robotics, and Automation Engineering

CIP 2010: A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer controlled electro-mechanical systems and products with embedded electronics, sensors, and actuators; and which includes, but is not limited to, automata, robots and automation systems. Includes instruction in mechanical engineering, electronic and electrical engineering, computer and software engineering, and control engineering.

Occupation Gender Breakdown 2016

	Gender	Jobs	Percent
•	Males	3,883	60.0% 
•	Females	2,590	40.0% 

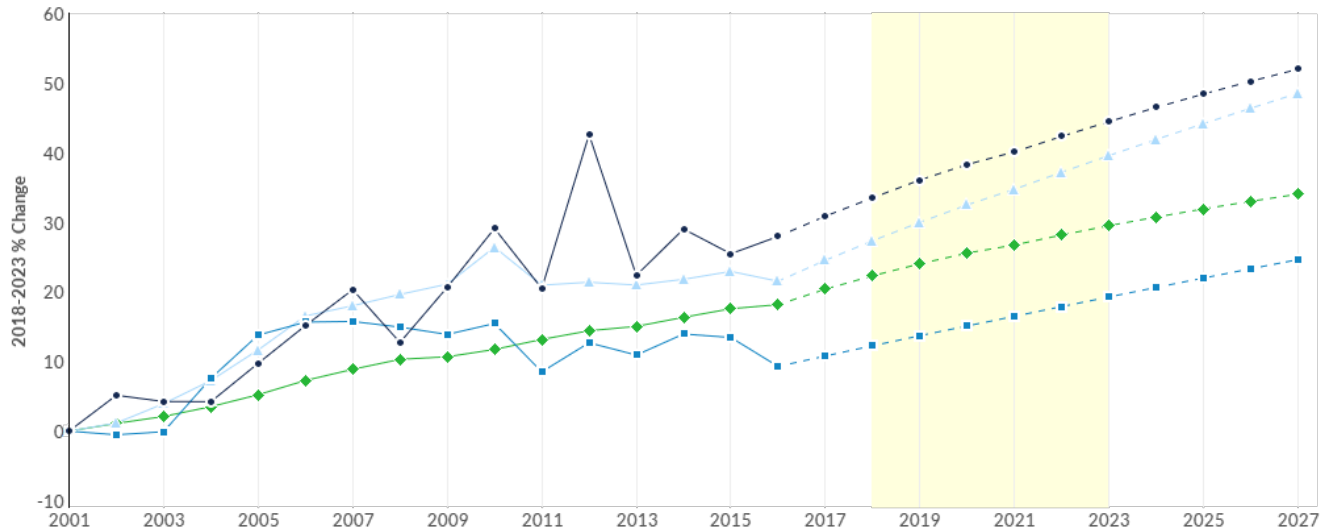
Occupation Age Breakdown 2016

	Age	Jobs	Percent
•	14-18	9	0.1% 
•	19-24	423	6.5% 
•	25-34	1,390	21.5% 
•	35-44	1,370	21.2% 
•	45-54	1,397	21.6% 
•	55-64	1,220	18.8% 
•	65+	665	10.3% 

Occupation Summary for 14.4201

6,473 Jobs (2016) 20% above National average	6.2% % Change (2018-2023) Nation: 5.9%	\$36.28/hr Median Hourly Earnings Nation: \$36.95/hr
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Occupation Change Summary



Region	2018 Jobs	2023 Jobs	Change	% Change	Median Hourly Earnings
● Cochise County, AZ	406	439	33	8%	\$36.65
● Cochise, Pima, SC	6,649	7,064	415	6%	\$36.28
● Arizona (AZ)	28,476	31,210	2,734	10%	\$36.36
● United States	1,875,107	1,985,331	110,224	6%	\$36.95

SOC	Description	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
11-9041	Architectural and Engineering Managers	Bachelor's degree	5 years or more	None
17-2199	Engineers, All Other	Bachelor's degree	None	None
25-1099	Postsecondary Teachers	Doctoral or professional degree	None	None

Occupation Breakdown - 2018 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
25-1099	Postsecondary Teachers	285	5,787	22,776	1,545,173
11-9041	Architectural and Engineering Managers	84	527	3,382	185,678
17-2199	Engineers, All Other	36	335	2,317	144,256
	Total	406	6,649	28,476	1,875,107

Occupation Breakdown - 2023 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
25-1099	Postsecondary Teachers	308	6,182	25,379	1,645,936
11-9041	Architectural and Engineering Managers	92	531	3,433	191,090
17-2199	Engineers, All Other	39	352	2,398	148,305
	Total	439	7,064	31,210	1,985,331

Occupation Breakdown - Change

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
25-1099	Postsecondary Teachers	23	395	2,603	100,763
11-9041	Architectural and Engineering Managers	8	4	51	5,412
17-2199	Engineers, All Other	3	17	81	4,049
	Total	33	415	2,734	110,224

Occupation Breakdown - Median Hourly Earnings

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
11-9041	Architectural and Engineering Managers	\$62.45	\$61.48	\$58.46	\$64.63
17-2199	Engineers, All Other	\$50.02	\$40.17	\$40.27	\$46.78
25-1099	Postsecondary Teachers	\$29.43	\$34.44	\$33.23	\$33.65
	Total	\$38.04	\$36.93	\$36.94	\$37.78

Top Industries – Change from 2018 - 2023

NAICS Code	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
903612	Colleges, Universities, and Professional Schools (Local Government)	17	90	735	21,471
541330	Engineering Services	10	2	4	2,789
611430	Professional and Management Development Training	4	4	9	382
901199	Federal Government, Civilian, Excluding Postal Service	0	8	20	-557
611310	Colleges, Universities, and Professional Schools	--	1	1,121	39,277
	Total	31	105	1,890	63,363

Source: QCEW Employees, Non-QCEW Employees & Self-Employed - Emsi 2017.3 Class of Worker

National Educational Attainment Postsecondary Teachers (25-1099)

Education Level	2016 Percent
Less than high school diploma	0.2%
High school diploma or equivalent	0.2%
Some college, no degree	2.4%
Associate's degree	2.0%
Bachelor's degree	16.2%
Master's degree	35.7%
Doctoral or professional degree	43.3%

* National Educational Attainment – Settings

National Educational Attainment
Architectural and Engineering Managers (11-9041)

	Education Level	2016 Percent
●	Less than high school diploma	0.3%
●	High school diploma or equivalent	3.9% ■
●	Some college, no degree	6.9% ■
●	Associate's degree	4.3% ■
●	Bachelor's degree	46.0% ■■■■■
●	Master's degree	33.4% ■■■■
●	Doctoral or professional degree	5.2% ■

* National Educational Attainment – Settings

National Educational Attainment
Engineers, All Other (17-2199)

	Education Level	2016 Percent
●	Less than high school diploma	0.2%
●	High school diploma or equivalent	2.2%
●	Some college, no degree	7.6% ■
●	Associate's degree	6.7% ■
●	Bachelor's degree	48.1% ■■■■■
●	Master's degree	28.0% ■■■■
●	Doctoral or professional degree	7.3% ■

* National Educational Attainment – Settings

Appendix A - Data Sources and Calculations

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

Completers Data

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

State Data Sources

This report uses state data from the following agencies: Arizona Department of Administration, Office of Employment and Population Statistics