

# Computer Programming Occupation Report



## CIP 11.0201

Cochise, Pima, SC






### Computer Programming/Programmer, General

CIP 2010: A program that focuses on the general writing and implementation of generic and customized programs to drive operating systems and that generally prepares individuals to apply the methods and procedures of software design and programming to software installation and maintenance. Includes instruction in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks.

### Occupation Gender Breakdown 2016

	Gender	Jobs	Percent
•	Males	7,165	76.9% 
•	Females	2,151	23.1% 

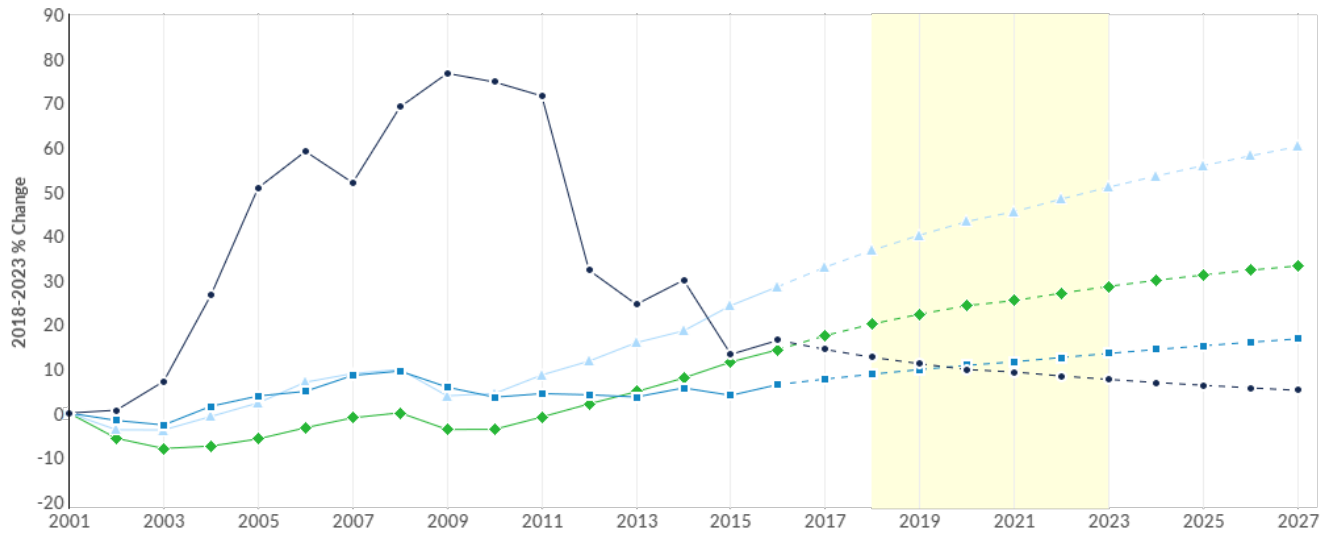
### Occupation Age Breakdown 2016

	Age	Jobs	Percent
•	14-18	24	0.3% 
•	19-24	515	5.5% 
•	25-34	2,394	25.7% 
•	35-44	2,682	28.8% 
•	45-54	2,097	22.5% 
•	55-64	1,369	14.7% 
•	65+	236	2.5% 

### Occupation Summary for 11.0201

<b>9,316</b> Jobs (2016) 8% above National average	<b>4.3%</b> % Change (2018-2023) Nation: 7.1%	<b>\$34.14/hr</b> Median Hourly Earnings Nation: \$37.55/hr
--	---	---

# Occupation Change Summary



	Region	2018 Jobs	2023 Jobs	Change	% Change	Median Hourly Earnings
●	Cochise County, AZ	687	657	-30	-4%	\$35.10
●	Cochise, Pima, SC	9,522	9,931	409	4%	\$34.14
●	Arizona (AZ)	65,947	72,808	6,861	10%	\$34.48
●	United States	3,028,324	3,242,220	213,896	7%	\$37.55

SOC	Description	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
15-1122	Information Security Analysts	Bachelor's degree	Less than 5 years	None
15-1131	Computer Programmers	Bachelor's degree	None	None
15-1132	Software Developers, Applications	Bachelor's degree	None	None
15-1133	Software Developers, Systems Software	Bachelor's degree	None	None
15-1134	Web Developers	Associate's degree	None	None
15-1143	Computer Network Architects	Bachelor's degree	5 years or more	None
15-1151	Computer User Support Specialists	Some college, no degree	None	None
15-1152	Computer Network Support Specialists	Associate's degree	None	None
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	High school diploma or equivalent	None	Long-term on-the-job training

## Occupation Breakdown - 2018 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1151	Computer User Support Specialists	167	2,473	16,158	716,167
15-1133	Software Developers, Systems Software	124	2,965	12,041	443,593
15-1132	Software Developers, Applications	105	1,568	15,659	875,959
15-1152	Computer Network Support Specialists	90	695	6,157	217,041
15-1122	Information Security Analysts	78	274	2,825	104,218
15-1143	Computer Network Architects	57	208	3,447	167,827
15-1131	Computer Programmers	33	832	5,294	296,921
15-1134	Web Developers	33	482	4,102	180,076
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	<10	24	265	26,523
	Total	687	9,522	65,947	3,028,324

## Occupation Breakdown - 2023 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1151	Computer User Support Specialists	167	2,643	17,877	768,760
15-1133	Software Developers, Systems Software	115	2,982	12,918	474,095
15-1132	Software Developers, Applications	105	1,703	17,927	960,276
15-1152	Computer Network Support Specialists	84	736	6,671	228,105
15-1122	Information Security Analysts	69	281	3,159	113,286
15-1143	Computer Network Architects	53	228	3,807	176,397
15-1134	Web Developers	33	523	4,733	201,690
15-1131	Computer Programmers	29	808	5,418	290,841
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	<10	28	299	28,769
	Total	657	9,931	72,808	3,242,220

## Occupation Breakdown - Change

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1151	Computer User Support Specialists	0	170	1,719	52,593
15-1132	Software Developers, Applications	0	135	2,268	84,317
15-1134	Web Developers	0	41	631	21,614
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	--	4	34	2,246
15-1143	Computer Network Architects	-4	20	360	8,570
15-1131	Computer Programmers	-4	-24	124	-6,080
15-1152	Computer Network Support Specialists	-6	41	514	11,064
15-1133	Software Developers, Systems Software	-9	17	877	30,502
15-1122	Information Security Analysts	-9	7	334	9,068
	Total	-30	409	6,861	213,896

## Occupation Breakdown - Median Hourly Earnings

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1133	Software Developers, Systems Software	\$46.40	\$47.53	\$46.98	\$50.95
15-1132	Software Developers, Applications	\$42.74	\$35.88	\$42.95	\$47.66
15-1131	Computer Programmers	\$42.42	\$37.62	\$37.43	\$37.08
15-1143	Computer Network Architects	\$40.74	\$37.25	\$44.85	\$48.66
15-1122	Information Security Analysts	\$36.77	\$35.83	\$37.04	\$44.52
15-1134	Web Developers	\$34.16	\$22.36	\$25.70	\$31.79
15-1152	Computer Network Support Specialists	\$32.06	\$25.99	\$28.50	\$30.13
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	--	\$24.40	\$26.95	\$24.32
15-1151	Computer User Support Specialists	\$21.11	\$22.58	\$22.27	\$23.74
	Total	\$35.62	\$34.96	\$35.55	\$38.95

## Top Industries – Change from 2018 - 2023

NAICS Code	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
541330	Engineering Services	12	-23	-18	2,752
524127	Direct Title Insurance Carriers	5	7	7	-110
541513	Computer Facilities Management Services	1	0	459	3,449
541512	Computer Systems Design Services	-8	122	1,056	50,187
541511	Custom Computer Programming Services	-47	-28	1,015	42,120
	Total	-39	77	2,519	98,398

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

### National Educational Attainment

Software Developers, Applications (15-1132)

	Education Level	2016 Percent
●	Less than high school diploma	0.4%
●	High school diploma or equivalent	2.2%
●	Some college, no degree	8.3% ■
●	Associate's degree	4.8% ■
●	Bachelor's degree	49.8% ■■■■■
●	Master's degree	30.6% ■■■■
●	Doctoral or professional degree	4.0% ■

\* National Educational Attainment - Settings

## Computer User Support Specialists (15-1151)

	Education Level	2016 Percent
●	Less than high school diploma	0.7%
●	High school diploma or equivalent	11.1% ■
●	Some college, no degree	28.0% ■■
●	Associate's degree	17.2% ■■
●	Bachelor's degree	34.2% ■■■■
●	Master's degree	8.0% ■
●	Doctoral or professional degree	0.8%

\* National Educational Attainment - Settings

## National Educational Attainment

### Software Developers, Systems Software (15-1133)

	Education Level	2016 Percent
●	Less than high school diploma	0.4%
●	High school diploma or equivalent	2.2%
●	Some college, no degree	8.3% ■
●	Associate's degree	4.8% ■
●	Bachelor's degree	49.8% ■■■■
●	Master's degree	30.6% ■■■
●	Doctoral or professional degree	4.0% ■

\* National Educational Attainment - Settings

## National Educational Attainment








### Computer Programmers (15-1131)

	Education Level	2016 Percent
●	Less than high school diploma	0.7%
●	High school diploma or equivalent	4.7% ■
●	Some college, no degree	13.1% ■■
●	Associate's degree	9.7% ■■
●	Bachelor's degree	49.7% ■■■■
●	Master's degree	19.6% ■■■
●	Doctoral or professional degree	2.5% ■

\* National Educational Attainment - Settings

## National Educational Attainment








### Computer Network Support Specialists (15-1152)

	Education Level	2016 Percent
●	Less than high school diploma	0.7% 
●	High school diploma or equivalent	11.1% 
●	Some college, no degree	28.0% 
●	Associate's degree	17.2% 
●	Bachelor's degree	34.2% 
●	Master's degree	8.0% 
●	Doctoral or professional degree	0.8% 

\* National Educational Attainment - Settings

## National Educational Attainment








### Web Developers (15-1134)

	Education Level	2016 Percent
●	Less than high school diploma	0.5% 
●	High school diploma or equivalent	4.3% 
●	Some college, no degree	17.3% 
●	Associate's degree	9.9% 
●	Bachelor's degree	52.2% 
●	Master's degree	14.6% 
●	Doctoral or professional degree	1.2% 

\* National Educational Attainment - Settings

## National Educational Attainment

### Computer Network Architects (15-1143)

	Education Level	2016 Percent
●	Less than high school diploma	0.2% 
●	High school diploma or equivalent	5.4% 
●	Some college, no degree	23.3% 
●	Associate's degree	13.7% 
●	Bachelor's degree	40.4% 
●	Master's degree	15.8% 
●	Doctoral or professional degree	1.2% 

\* National Educational Attainment - Settings

October 10, 2017

**National Educational Attainment**  
Information Security Analysts (15-1122)

	Education Level	2016 Percent
●	Less than high school diploma	0.8%
●	High school diploma or equivalent	5.5% ■
●	Some college, no degree	18.7% ■■
●	Associate's degree	8.9% ■
●	Bachelor's degree	44.6% ■■■■■
●	Master's degree	20.2% ■■
●	Doctoral or professional degree	1.4%

\* National Educational Attainment - Settings

**National Educational Attainment**  
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic (51-4012)

	Education Level	2016 Percent
●	Less than high school diploma	8.2% ■
●	High school diploma or equivalent	40.8% ■■■■■
●	Some college, no degree	31.2% ■■■■
●	Associate's degree	12.4% ■■
●	Bachelor's degree	6.4% ■
●	Master's degree	0.7%
●	Doctoral or professional degree	0.3%

\* 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