Computer Science
Occupation Report

CIP 11.0701

Cochise, Pima, SC

Computer Science

CIP 2010: A program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational science, computer development and programming, and applications to a variety of end-use situations.

Occupation Gender Breakdown 2016

Gender	Jobs	Percent
Males	8,737	76.2%
Females	2,728	23.8%

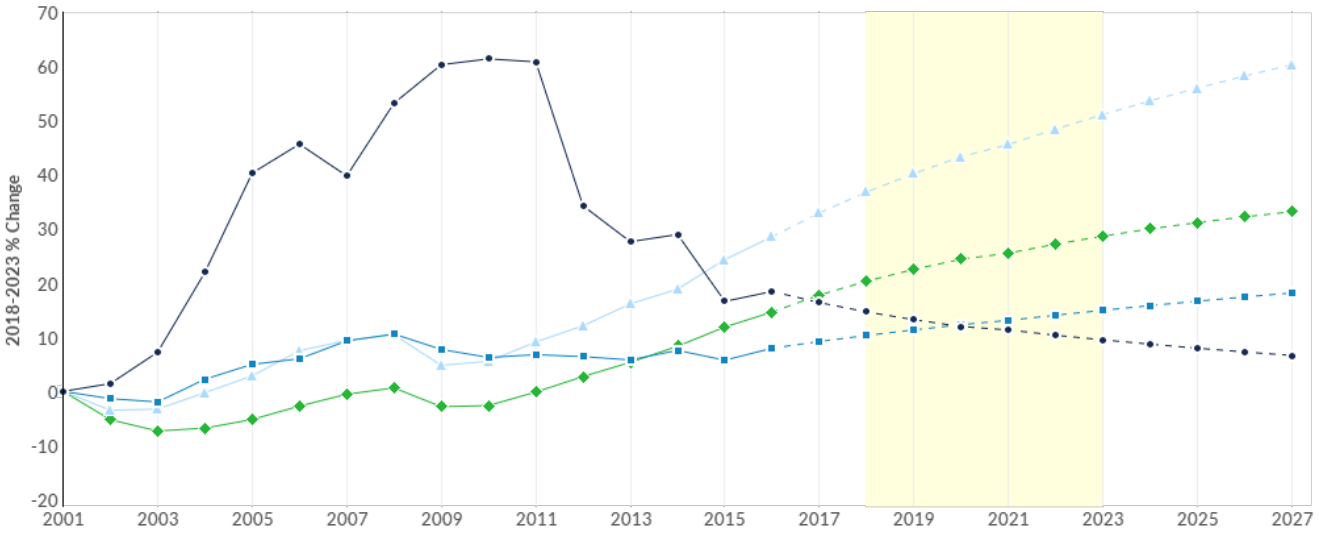
Occupation Age Breakdown 2016

Age	Jobs	Percent
14-18	28	0.2%
19-24	610	5.3%
25-34	2,853	24.9%
35-44	3,298	28.8%
45-54	2,638	23.0%
55-64	1,735	15.1%
65+	302	2.6%

Occupation Summary for 11.0701

11,464	4.2%	$35.98/hr
Jobs (2016)	**% Change (2018-2023)**	**Median Hourly Earnings**
9% above National average	Nation: 6.9%	Nation: $40.52/hr

Occupation Change Summary



	Region	2018 Jobs	2023 Jobs	Change	% Change	Median Hourly Earnings
●	Cochise County, AZ	1,229	1,174	-55	-4%	$40.41
●	Cochise, Pima, SC	11,715	12,208	493	4%	$35.98
●	Arizona (AZ)	78,438	86,649	8,211	10%	$36.46
●	United States	3,707,948	3,964,188	256,240	7%	$40.52

SOC	Description	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
11-3021	Computer and Information Systems Managers	Bachelor's degree	5 years or more	None
15-1111	Computer and Information Research Scientists	Doctoral or professional degree	None	None
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
15-1199	Computer Occupations, All Other	Bachelor's degree	None	None

Occupation Breakdown - 2018 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1199	Computer Occupations, All Other	419	1,267	5,101	290,560
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
11-3021	Computer and Information Systems Managers	90	873	7,411	386,267
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
15-1111	Computer and Information Research Scientists	34	77	244	29,320
15-1131	Computer Programmers	33	832	5,294	296,921
15-1134	Web Developers	33	482	4,102	180,076
	Total	1,229	11,715	78,438	3,707,948

Occupation Breakdown - 2023 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1199	Computer Occupations, All Other	400	1,296	5,519	301,557
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
11-3021	Computer and Information Systems Managers	87	929	8,344	418,244
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
15-1111	Computer and Information Research Scientists	31	80	276	30,936
15-1131	Computer Programmers	29	808	5,418	290,841
	Total	1,174	12,208	86,649	3,964,188

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
15-1111	Computer and Information Research Scientists	-3	3	32	1,616
11-3021	Computer and Information Systems Managers	-3	56	933	31,977
15-1131	Computer Programmers	-4	-24	124	-6,080
15-1143	Computer Network Architects	-4	20	360	8,570
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
15-1199	Computer Occupations, All Other	-19	29	418	10,997
	Total	-55	493	8,211	256,240

Occupation Breakdown - Median Hourly Earnings

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
15-1111	Computer and Information Research Scientists	$59.61	$59.18	$52.78	$53.77
15-1133	Software Developers, Systems Software	$46.61	$47.53	$46.98	$51.38
15-1199	Computer Occupations, All Other	$44.73	$38.85	$36.89	$41.59
15-1131	Computer Programmers	$42.42	$37.62	$37.43	$38.39
11-3021	Computer and Information Systems Managers	$42.08	$48.59	$61.47	$65.29
15-1132	Software Developers, Applications	$41.96	$35.88	$43.43	$48.12
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	$29.29	$27.38
15-1152	Computer Network Support Specialists	$32.06	$25.99	$28.50	$30.22
15-1151	Computer User Support Specialists	$21.21	$22.58	$22.12	$23.74
	Total	$39.84	$36.57	$38.38	$42.17

Top Industries – Change from 2018 - 2023

NAICS Code	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
541330	Engineering Services	13	-24	-18	3,260
541513	Computer Facilities Management Services	1	-1	531	4,066
541512	Computer Systems Design Services	-11	141	1,231	59,628
901199	Federal Government, Civilian, Excluding Postal Service	-14	12	40	-1,380
541511	Custom Computer Programming Services	-57	-35	1,184	49,943
	Total	-69	94	2,968	115,518

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*

National Educational Attainment
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 and Information Systems Managers (11-3021)

	Education Level	2016 Percent
●	Less than high school diploma	0.4%
●	High school diploma or equivalent	4.1%
●	Some college, no degree	14.8%
●	Associate's degree	7.8%
●	Bachelor's degree	46.6%
●	Master's degree	24.1%
●	Doctoral or professional degree	2.2%

** National Educational Attainment – Settings*

National Educational Attainment
Computer Occupations, All Other (15-1199)

	Education Level	2016 Percent
●	Less than high school diploma	0.7%
●	High school diploma or equivalent	8.1%
●	Some college, no degree	22.4%
●	Associate's degree	14.5%
●	Bachelor's degree	38.8%
●	Master's degree	14.4%
●	Doctoral or professional degree	1.2%

** 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*

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 and Information Research Scientists (15-1111)

Education Level	2016 Percent
Less than high school diploma	0.0%
High school diploma or equivalent	1.1%
Some college, no degree	4.7%
Associate's degree	2.1%
Bachelor's degree	38.3%
Master's degree	28.0%
Doctoral or professional degree	25.9%

** National Educational Attainment – Settings*

Appendix B - 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