

# Engineering Education Report

## CIP 14.0101

Cochise, Pima, SC

### Engineering, General

CIP 2010: A program that generally prepares individuals to apply mathematical and scientific principles to solve a wide variety of practical problems in industry, social organization, public works, and commerce. Includes instruction in undifferentiated and individualized programs in engineering.

\* *Program Description – Settings*

### Target Occupations

<b>1,285</b> Jobs (2016) 29% above National average		<b>-2.4%</b> % Change (2017-2022) Nation: 3.5%		<b>\$52.35/hr</b> Median Hourly Earnings Nation: \$56.30/hr	
Occupation	2017 Jobs	Annual Openings	Median Hourly Earnings	Growth (2017 - 2022)	Location Quotient (2017)
Architectural and Engineering Managers	671	22	\$65.37/hr	-2.68%	1.19
Engineers, All Other	598	12	\$37.56/hr	-2.01%	1.37

\* *Target Occupations - Settings*



<b>Occupational Programs</b>						
29.00	787.00	46.00				
Programs (2015)	Completions (2015)	Openings (2015)				
CIP Code	Program	Completions (2011)	(2012)	(2013)	(2014)	(2015)
14.1099	Electrical, Electronics and Communications Engineering, Other	56	52	68	103	155
14.1901	Mechanical Engineering	94	99	89	98	112
04.0301	City/Urban, Community and Regional Planning	119	97	83	77	77
04.0201	Architecture	69	66	70	78	58
14.0501	Bioengineering and Biomedical Engineering	14	11	35	48	50
14.0701	Chemical Engineering	47	52	73	68	49
14.2701	Systems Engineering	41	34	37	35	41
40.1001	Materials Science	24	35	28	34	41
14.0801	Civil Engineering, General	59	54	53	46	35
14.2101	Mining and Mineral Engineering	19	26	22	20	31
14.3501	Industrial Engineering	13	16	20	24	29
14.0201	Aerospace, Aeronautical and Astronautical/Space Engineering	37	48	39	45	27
14.1401	Environmental/Environmental Health Engineering	11	10	9	14	23
04.0601	Landscape Architecture	8	21	25	18	16
14.4501	Biological/Biosystems Engineering	19	16	12	15	15
14.0101	Engineering, General	17	17	13	14	13
14.0301	Agricultural Engineering	4	12	9	10	8
14.0899	Civil Engineering, Other	6	9	12	14	7
14.9999	Engineering, Other	0	0	0	0	0
14.3601	Manufacturing Engineering	1	1	2	0	0
14.4201	Mechatronics, Robotics, and Automation Engineering	1	0	0	0	0
14.3901	Geological/Geophysical Engineering	2	0	0	1	0
14.1101	Engineering Mechanics	1	2	1	1	0
14.0901	Computer Engineering, General	0	0	0	0	0
14.0805	Water Resources Engineering	0	0	0	0	0
14.1001	Electrical and Electronics Engineering	0	0	0	0	0
14.1201	Engineering Physics/Applied Physics	1	2	0	0	0
14.1301	Engineering Science	7	1	0	0	0
14.2301	Nuclear Engineering	0	0	0	0	0

<b>Programs by Institution</b>				
<b>CIP Code</b>	<b>Title</b>	<b>Institution</b>	<b>Award Level</b>	<b>Completions (2015)</b>
04.0201	Architecture	Pima Community College	Associates degree	0
04.0201	Architecture	University of Arizona	Bachelors degree	40
04.0201	Architecture	University of Arizona	Masters degree	18
04.0301	City/Urban, Community and Regional Planning	University of Arizona	Bachelors degree	62
04.0301	City/Urban, Community and Regional Planning	University of Arizona	Masters degree	15
04.0601	Landscape Architecture	Southwest University of Visual Arts-Tucson	Bachelors degree	3
04.0601	Landscape Architecture	University of Arizona	Bachelors degree	0
04.0601	Landscape Architecture	University of Arizona	Masters degree	13
14.0101	Engineering, General	Cochise County Community College District	Associates degree	2
14.0101	Engineering, General	Pima Community College	Associates degree	0
14.0101	Engineering, General	University of Arizona	Bachelors degree	0
14.0101	Engineering, General	University of Arizona	Masters degree	11
14.0201	Aerospace, Aeronautical and Astronautical/Space Engineering	University of Arizona	Bachelors degree	24
14.0201	Aerospace, Aeronautical and Astronautical/Space Engineering	University of Arizona	Masters degree	3
14.0201	Aerospace, Aeronautical and Astronautical/Space Engineering	University of Arizona	Doctors degree	0
14.0301	Agricultural Engineering	University of Arizona	Bachelors degree	0
14.0301	Agricultural Engineering	University of Arizona	Masters degree	5
14.0301	Agricultural Engineering	University of Arizona	Doctors degree	3
14.0501	Bioengineering and Biomedical Engineering	University of Arizona	Bachelors degree	42
14.0501	Bioengineering and Biomedical Engineering	University of Arizona	Masters degree	3
14.0501	Bioengineering and Biomedical Engineering	University of Arizona	Doctors degree	5
14.0701	Chemical Engineering	Pima Community College	Associates degree	0
14.0701	Chemical Engineering	University of Arizona	Bachelors degree	36
14.0701	Chemical Engineering	University of Arizona	Masters degree	11
14.0701	Chemical Engineering	University of Arizona	Doctors degree	2
14.0801	Civil Engineering, General	University of Arizona	Bachelors degree	32
14.0801	Civil Engineering, General	University of Arizona	Masters degree	1
14.0801	Civil Engineering, General	University of Arizona	Doctors degree	2
14.0805	Water Resources Engineering	University of Arizona	Bachelors degree	0

14.0805	Water Resources Engineering	University of Arizona	Masters degree	0
14.0805	Water Resources Engineering	University of Arizona	Doctors degree	0
14.0899	Civil Engineering, Other	University of Arizona	Masters degree	5
14.0899	Civil Engineering, Other	University of Arizona	Doctors degree	2
14.0901	Computer Engineering, General	University of Arizona	Bachelors degree	0
14.1001	Electrical and Electronics Engineering	University of Arizona	Bachelors degree	0
14.1001	Electrical and Electronics Engineering	University of Arizona	Masters degree	0
14.1001	Electrical and Electronics Engineering	University of Arizona	Doctors degree	0
14.1099	Electrical, Electronics and Communications Engineering, Other	University of Arizona	Bachelors degree	87
14.1099	Electrical, Electronics and Communications Engineering, Other	University of Arizona	Masters degree	53
14.1099	Electrical, Electronics and Communications Engineering, Other	University of Arizona	Doctors degree	15
14.1101	Engineering Mechanics	University of Arizona	Masters degree	0
14.1101	Engineering Mechanics	University of Arizona	Doctors degree	0
14.1201	Engineering Physics/Applied Physics	University of Arizona	Bachelors degree	0
14.1301	Engineering Science	University of Arizona	Bachelors degree	0
14.1401	Environmental/Environmental Health Engineering	University of Arizona	Masters degree	14
14.1401	Environmental/Environmental Health Engineering	University of Arizona	Doctors degree	9
14.1901	Mechanical Engineering	University of Arizona	Bachelors degree	88
14.1901	Mechanical Engineering	University of Arizona	Masters degree	13
14.1901	Mechanical Engineering	University of Arizona	Doctors degree	11
14.2101	Mining and Mineral Engineering	University of Arizona	Bachelors degree	27
14.2101	Mining and Mineral Engineering	University of Arizona	Masters degree	1
14.2101	Mining and Mineral Engineering	University of Arizona	Doctors degree	3
14.2301	Nuclear Engineering	University of Arizona	Bachelors degree	0
14.2301	Nuclear Engineering	University of Arizona	Doctors degree	0
14.2701	Systems Engineering	University of Arizona	Bachelors degree	24
14.2701	Systems Engineering	University of Arizona	Masters degree	11
14.2701	Systems Engineering	University of Arizona	Doctors degree	6
14.3501	Industrial Engineering	Pima Community College	Associates degree	0
14.3501	Industrial Engineering	University of Arizona	Bachelors degree	22
14.3501	Industrial Engineering	University of Arizona	Masters degree	7

14.3601	Manufacturing Engineering	Cochise County Community College District	Associates degree	0
14.3901	Geological/Geophysical Engineering	University of Arizona	Bachelors degree	0
14.4201	Mechatronics, Robotics, and Automation Engineering	Cochise County Community College District	Award of less than 1 academic year	0
14.4501	Biological/Biosystems Engineering	University of Arizona	Bachelors degree	15
14.9999	Engineering, Other	University of Arizona	Bachelors degree	0
14.9999	Engineering, Other	University of Arizona	Masters degree	0
40.1001	Materials Science	University of Arizona	Bachelors degree	26
40.1001	Materials Science	University of Arizona	Masters degree	9
40.1001	Materials Science	University of Arizona	Doctors degree	6

## Regional Completions by Award Level

Award Level	Completions (2015)	Percent
● Associates degree	2	15.4% 
● Masters degree	11	84.6% 
Award of less than 1 academic year	0	0.0%
Award of at least 1 but less than 2 academic years	0	0.0%
Award of at least 2 but less than 4 academic years	0	0.0%
Bachelors degree	0	0.0%
Postbaccalaureate certificate	0	0.0%
Post-masters certificate	0	0.0%
Doctors degree	0	0.0%

\* Regional Completions by Award Level - Settings

## Regional Completions by Institution

Institution	Certificates (2015)	Degrees (2015)	Total Completions (2015)
University of Arizona	0	11	11
Cochise County Community College District	0	2	2
Pima Community College	0	0	0

\* Regional Completions by Institution - Settings

November 30, 2016

# 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.

## State Data Sources

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