Oklahoma Department of Career and Technology Education

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State of Oklahoma

Science, Technology, Engineering & Mathematics Career Cluster Report

Region Info - Oklahoma

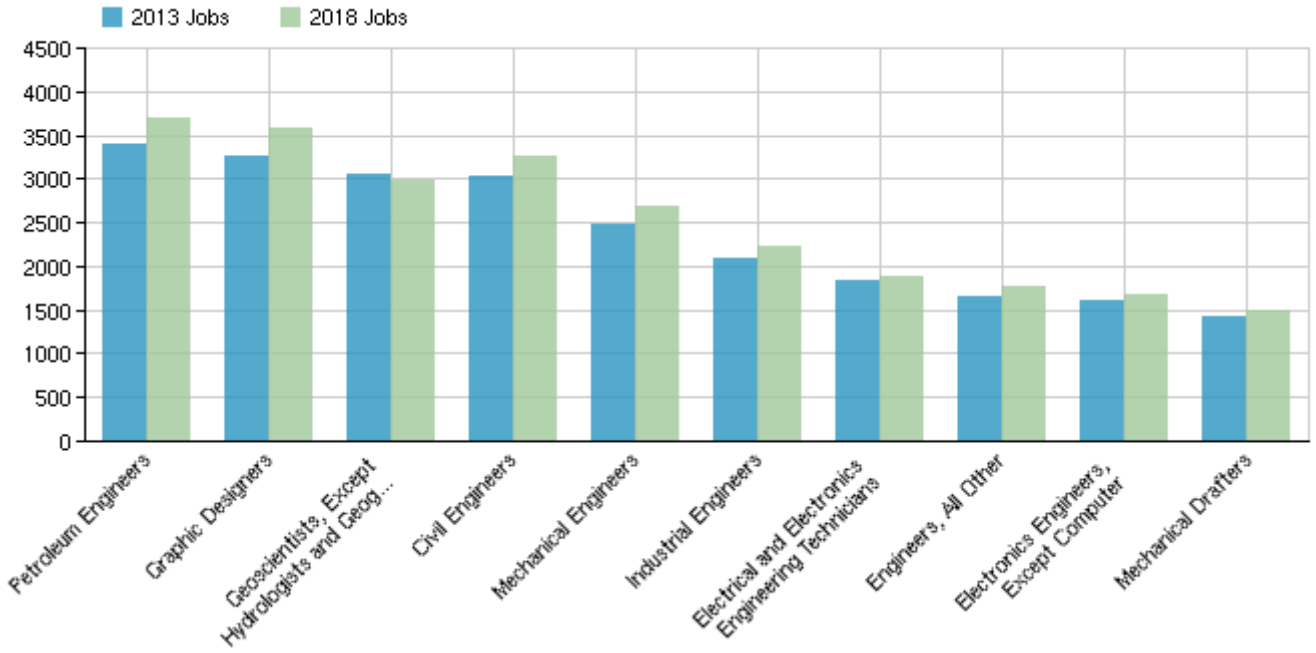
State Areas	Oklahoma (OK)

Executive Summary for Science, Technology, Engineering & Mathematics Career Cluster (Bachelor_degree and below)

Education	2013 Jobs	2018 Jobs	Change	Annual Openings	2012 Hourly Earnings
Short-term on-the-job training	21	22	1	1	$12.39
Moderate-term on-the-job training	925	998	73	32	$15.45
Long-term on-the-job training	1,026	1,104	78	43	$14.36
Postsecondary non-degree award	828	900	72	39	$16.96
Associate's degree	6,199	6,425	226	196	$22.52
Bachelor's degree	29,292	31,163	1,871	1,189	$38.16
Total	38,291	40,612	2,321	1,501	$33.95

Source: EMSI Complete Employment - 2012.4

Largest Occupations

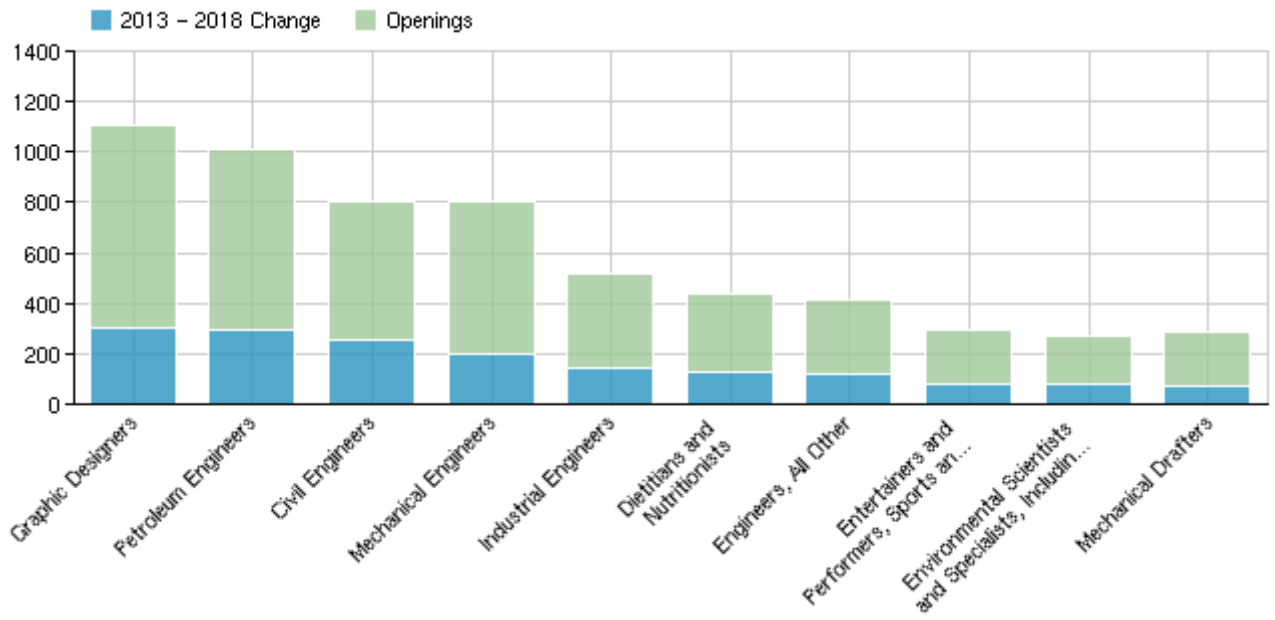


SOC Code	Description	2013 Jobs	2018 Jobs	Change	2012 Hourly Earnings	Education
17-2171	Petroleum Engineers	3,390	3,685	295	$60.55	Bachelor's degree
27-1024	Graphic Designers	3,270	3,574	304	$15.78	Bachelor's degree
19-2042	Geoscientists, Except Hydrologists and Geographers	3,057	2,993	-64	$62.04	Bachelor's degree
17-2051	Civil Engineers	3,020	3,271	251	$33.90	Bachelor's degree
17-2141	Mechanical Engineers	2,485	2,687	202	$35.22	Bachelor's degree
17-2112	Industrial Engineers	2,093	2,233	140	$33.71	Bachelor's degree
17-3023	Electrical and Electronics Engineering Technicians	1,842	1,874	32	$26.99	Associate's degree
17-2199	Engineers, All Other	1,643	1,761	118	$37.96	Bachelor's degree
17-2072	Electronics Engineers, Except Computer	1,616	1,685	69	$41.61	Bachelor's degree
17-3013	Mechanical Drafters	1,424	1,498	74	$22.94	Associate's degree
17-2071	Electrical Engineers	1,326	1,394	68	$36.15	Bachelor's degree
17-3011	Architectural and Civil Drafters	1,287	1,284	-3	$21.65	Associate's degree
29-1031	Dietitians and Nutritionists	1,096	1,223	127	$24.57	Bachelor's degree
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	1,026	1,104	78	$14.36	Long-term on-the-job training
17-3031	Surveying and Mapping Technicians	925	998	73	$15.45	Moderate-term on-the-job training
17-2011	Aerospace Engineers	891	922	31	$41.97	Bachelor's degree
27-3042	Technical Writers	818	800	-18	$29.41	Bachelor's degree
19-2041	Environmental Scientists and Specialists, Including Health	780	857	77	$23.82	Bachelor's degree
19-4099	Life, Physical, and Social Science Technicians, All Other	673	735	62	$18.04	Associate's degree
27-4011	Audio and Video Equipment Technicians	666	739	73	$16.71	Postsecondary non-degree award
19-4031	Chemical Technicians	531	554	23	$18.33	Associate's degree
19-2031	Chemists	466	496	30	$31.13	Bachelor's degree
17-2081	Environmental Engineers	448	505	57	$33.61	Bachelor's degree
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	442	457	15	$32.74	Bachelor's degree
27-4012	Broadcast Technicians	342	376	34	$13.78	Associate's degree
17-2131	Materials Engineers	301	325	24	$22.82	Bachelor's degree
17-2041	Chemical Engineers	301	325	24	$38.29	Bachelor's degree
19-1031	Conservation Scientists	292	310	18	$29.33	Bachelor's degree
17-2161	Nuclear Engineers	277	289	12	$43.53	Bachelor's degree
19-2021	Atmospheric and Space Scientists	267	277	10	$43.01	Bachelor's degree
17-2061	Computer Hardware Engineers	258	280	22	$41.38	Bachelor's degree
19-1023	Zoologists and Wildlife Biologists	171	184	13	$17.29	Bachelor's degree
27-4014	Sound Engineering Technicians	162	161	-1	$17.98	Postsecondary non-degree award
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	156	156	0	$55.37	Bachelor's degree
19-1022	Microbiologists	149	164	15	$19.55	Bachelor's degree
19-4051	Nuclear Technicians	100	105	5	$26.54	Associate's degree
19-1099	Life Scientists, All Other	89	93	4	$19.26	Bachelor's degree
17-2031	Biomedical Engineers	68	89	21	$25.83	Bachelor's degree

SOC Code	Description	2013 Jobs	2018 Jobs	Change	2012 Hourly Earnings	Education
19-2032	Materials Scientists	45	47	2	$25.02	Bachelor's degree
17-2121	Marine Engineers and Naval Architects	37	41	4	$33.54	Bachelor's degree
17-2021	Agricultural Engineers	37	41	4	$24.51	Bachelor's degree
27-4013	Radio Operators	21	22	1	$12.39	Short-term on-the-job training

Source: EMSI Complete Employment - 2012.4

Largest Growth



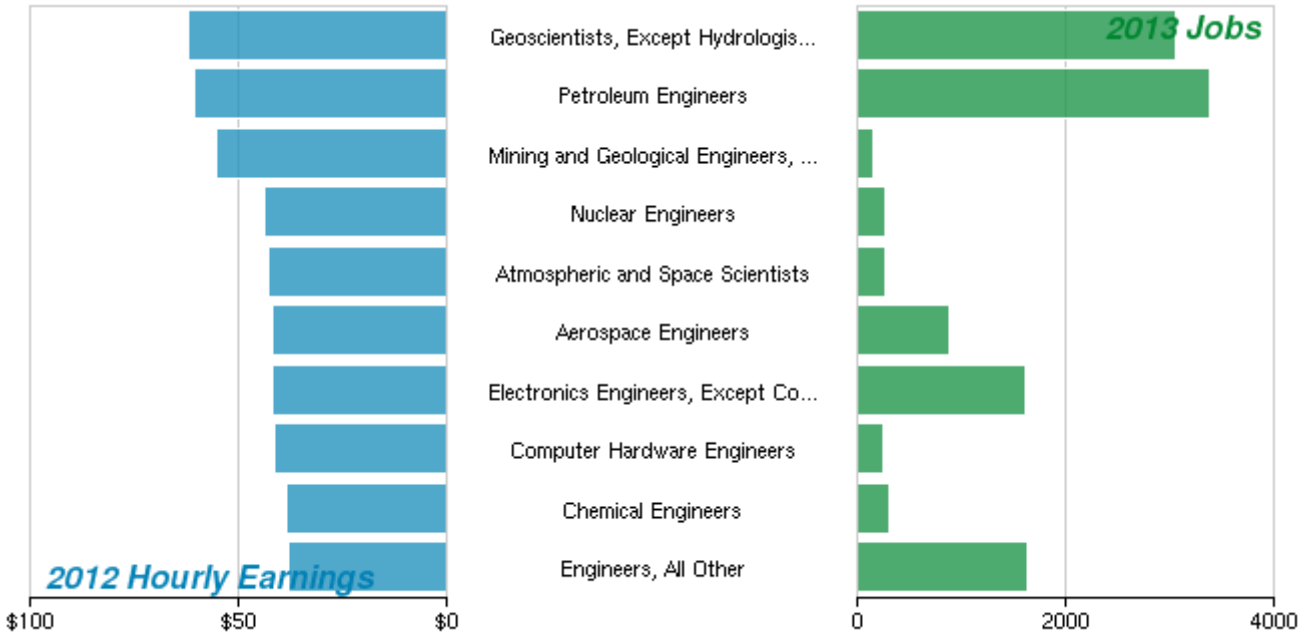
SOC Code	Description	2013 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
27-1024	Graphic Designers	304	802	160	$15.78	Bachelor's degree
17-2171	Petroleum Engineers	295	718	144	$60.55	Bachelor's degree
17-2051	Civil Engineers	251	552	110	$33.90	Bachelor's degree
17-2141	Mechanical Engineers	202	602	120	$35.22	Bachelor's degree
17-2112	Industrial Engineers	140	374	75	$33.71	Bachelor's degree
29-1031	Dietitians and Nutritionists	127	314	63	$24.57	Bachelor's degree
17-2199	Engineers, All Other	118	296	59	$37.96	Bachelor's degree
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	78	214	43	$14.36	Long-term on-the-job training
19-2041	Environmental Scientists and Specialists, Including Health	77	190	38	$23.82	Bachelor's degree

SOC Code	Description	2013 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
17-3013	Mechanical Drafters	74	214	43	$22.94	Associate's degree
17-3031	Surveying and Mapping Technicians	73	160	32	$15.45	Moderate-term on-the-job training
27-4011	Audio and Video Equipment Technicians	73	167	33	$16.71	Postsecondary non-degree award
17-2072	Electronics Engineers, Except Computer	69	275	55	$41.61	Bachelor's degree
17-2071	Electrical Engineers	68	234	47	$36.15	Bachelor's degree
19-4099	Life, Physical, and Social Science Technicians, All Other	62	201	40	$18.04	Associate's degree
17-2081	Environmental Engineers	57	105	21	$33.61	Bachelor's degree
27-4012	Broadcast Technicians	34	85	17	$13.78	Associate's degree
17-3023	Electrical and Electronics Engineering Technicians	32	227	45	$26.99	Associate's degree
17-2011	Aerospace Engineers	31	140	28	$41.97	Bachelor's degree
19-2031	Chemists	30	108	22	$31.13	Bachelor's degree
17-2041	Chemical Engineers	24	73	15	$38.29	Bachelor's degree
17-2131	Materials Engineers	24	67	13	$22.82	Bachelor's degree
19-4031	Chemical Technicians	23	71	14	$18.33	Associate's degree
17-2061	Computer Hardware Engineers	22	55	11	$41.38	Bachelor's degree
17-2031	Biomedical Engineers	21	28	6	$25.83	Bachelor's degree
19-1031	Conservation Scientists	18	37	7	$29.33	Bachelor's degree
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	15	67	13	$32.74	Bachelor's degree
19-1022	Microbiologists	15	31	6	$19.55	Bachelor's degree
19-1023	Zoologists and Wildlife Biologists	13	32	6	$17.29	Bachelor's degree
17-2161	Nuclear Engineers	12	46	9	$43.53	Bachelor's degree
19-2021	Atmospheric and Space Scientists	10	25	5	$43.01	Bachelor's degree
19-4051	Nuclear Technicians	5	24	5	$26.54	Associate's degree
17-2021	Agricultural Engineers	4	8	2	$24.51	Bachelor's degree
17-2121	Marine Engineers and Naval Architects	4	8	2	$33.54	Bachelor's degree
19-1099	Life Scientists, All Other	4	7	1	$19.26	Bachelor's degree
19-2032	Materials Scientists	2	10	2	$25.02	Bachelor's degree
27-4013	Radio Operators	1	4	1	$12.39	Short-term on-the-job training
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	0	23	5	$55.37	Bachelor's degree
27-4014	Sound Engineering Technicians	-1	30	6	$17.98	Postsecondary non-degree award
17-3011	Architectural and Civil Drafters	-3	159	32	$21.65	Associate's degree
27-3042	Technical Writers	-18	95	19	$29.41	Bachelor's degree
19-2042	Geoscientists, Except	-64	626	125	$62.04	Bachelor's degree

SOC Code	Description	2013 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
	Hydrologists and Geographers					

Source: EMSI Complete Employment - 2012.4

Highest Earnings



SOC Code	Description	2012 Hourly Earnings	2013 Jobs	2013 - 2018 Change	Annual Openings	Education
19-2042	Geoscientists, Except Hydrologists and Geographers	$62.04	3,057	-64	125	Bachelor's degree
17-2171	Petroleum Engineers	$60.55	3,390	295	144	Bachelor's degree
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	$55.37	156	0	5	Bachelor's degree
17-2161	Nuclear Engineers	$43.53	277	12	9	Bachelor's degree
19-2021	Atmospheric and Space Scientists	$43.01	267	10	5	Bachelor's degree
17-2011	Aerospace Engineers	$41.97	891	31	28	Bachelor's degree
17-2072	Electronics Engineers, Except Computer	$41.61	1,616	69	55	Bachelor's degree
17-2061	Computer Hardware Engineers	$41.38	258	22	11	Bachelor's degree
17-2041	Chemical Engineers	$38.29	301	24	15	Bachelor's degree
17-2199	Engineers, All Other	$37.96	1,643	118	59	Bachelor's degree

SOC Code	Description	2012 Hourly Earnings	2013 Jobs	2013 - 2018 Change	Annual Openings	Education
17-2071	Electrical Engineers	$36.15	1,326	68	47	Bachelor's degree
17-2141	Mechanical Engineers	$35.22	2,485	202	120	Bachelor's degree
17-2051	Civil Engineers	$33.90	3,020	251	110	Bachelor's degree
17-2112	Industrial Engineers	$33.71	2,093	140	75	Bachelor's degree
17-2081	Environmental Engineers	$33.61	448	57	21	Bachelor's degree
17-2121	Marine Engineers and Naval Architects	$33.54	37	4	2	Bachelor's degree
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	$32.74	442	15	13	Bachelor's degree
19-2031	Chemists	$31.13	466	30	22	Bachelor's degree
27-3042	Technical Writers	$29.41	818	-18	19	Bachelor's degree
19-1031	Conservation Scientists	$29.33	292	18	7	Bachelor's degree
17-3023	Electrical and Electronics Engineering Technicians	$26.99	1,842	32	45	Associate's degree
19-4051	Nuclear Technicians	$26.54	100	5	5	Associate's degree
17-2031	Biomedical Engineers	$25.83	68	21	6	Bachelor's degree
19-2032	Materials Scientists	$25.02	45	2	2	Bachelor's degree
29-1031	Dietitians and Nutritionists	$24.57	1,096	127	63	Bachelor's degree
17-2021	Agricultural Engineers	$24.51	37	4	2	Bachelor's degree
19-2041	Environmental Scientists and Specialists, Including Health	$23.82	780	77	38	Bachelor's degree
17-3013	Mechanical Drafters	$22.94	1,424	74	43	Associate's degree
17-2131	Materials Engineers	$22.82	301	24	13	Bachelor's degree
17-3011	Architectural and Civil Drafters	$21.65	1,287	-3	32	Associate's degree
19-1022	Microbiologists	$19.55	149	15	6	Bachelor's degree
19-1099	Life Scientists, All Other	$19.26	89	4	1	Bachelor's degree
19-4031	Chemical Technicians	$18.33	531	23	14	Associate's degree
19-4099	Life, Physical, and Social Science Technicians, All Other	$18.04	673	62	40	Associate's degree
27-4014	Sound Engineering Technicians	$17.98	162	-1	6	Postsecondary non-degree award
19-1023	Zoologists and Wildlife Biologists	$17.29	171	13	6	Bachelor's degree
27-4011	Audio and Video Equipment Technicians	$16.71	666	73	33	Postsecondary non-degree award
27-1024	Graphic Designers	$15.78	3,270	304	160	Bachelor's degree
17-3031	Surveying and Mapping Technicians	$15.45	925	73	32	Moderate-term on-the-job training
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	$14.36	1,026	78	43	Long-term on-the-job training
27-4012	Broadcast Technicians	$13.78	342	34	17	Associate's degree
27-4013	Radio Operators	$12.39	21	1	1	Short-term on-the-job training

Source: EMSI Complete Employment - 2012.4

*Note: Occupations with fewer than 10 employees are not shown.

Career Cluster Data

Career clusters and pathways are collections of standard occupation (SOC) codes. They are defined by the States' Career Cluster Initiative.

Occupation Data

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

State Data Sources

This report uses state data from the following agencies: Oklahoma Employment Security Commission.