

2017 Critical Occupation List

SOC	Description	2016 Jobs	2025 Jobs	Change (2016-2025)	Median Hourly Earnings	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	For Educational Levels of High School Diploma or Less, there is a Certificate available.	Annual Openings	Job Postings (July 2016-June 2017)
29-1069	Physicians and Surgeons, All Other	2,828	3,091	263	\$93.87	Doctoral or professional	None	Internship/residency		120	12,755
17-2171	Petroleum Engineers	3,285	3,560	275	\$56.53	Bachelor's	None	None		125	814
11-9041	Architectural and Engineering Managers	1,979	2,133	154	\$55.75	Bachelor's	5 years or more	None		73	780
29-1051	Pharmacists	3,670	3,809	139	\$55.58	Doctoral or professional	None	None		105	2,617
19-2042	Geoscientists, Except Hydrologists and Geographers	1,005	1,081	76	\$51.96	Bachelor's	None	None		42	117
29-1071	Physician Assistants	1,435	1,692	257	\$49.48	Master's	None	None		65	2,970
29-1041	Optometrists	624	772	148	\$47.71	Doctoral or professional	None	None		42	110
11-3021	Computer and Information Systems Managers	3,143	3,483	340	\$45.79	Bachelor's	5 years or more	None		74	866
29-1171	Nurse Practitioners	1,150	1,454	304	\$42.26	Master's	None	None		64	4,139
11-3051	Industrial Production Managers	2,806	2,915	109	\$41.91	Bachelor's	5 years or more	None		86	929
17-2011	Aerospace Engineers	1,540	1,642	102	\$41.68	Bachelor's	None	None		31	882
11-3031	Financial Managers	6,344	6,942	598	\$41.19	Bachelor's	5 years or more	None		222	3,065
29-1123	Physical Therapists	1,881	2,346	465	\$40.46	Doctoral or professional	None	None		109	7,167
17-2071	Electrical Engineers	1,443	1,536	93	\$39.94	Bachelor's	None	None		39	2,025
17-2141	Mechanical Engineers	2,805	3,042	237	\$38.71	Bachelor's	None	None		103	2,028
17-2081	Environmental Engineers	553	618	65	\$38.43	Bachelor's	None	None		24	963
29-1131	Veterinarians	876	976	100	\$38.42	Doctoral or professional	None	None		26	326
17-2112	Industrial Engineers	2,426	2,687	261	\$38.26	Bachelor's	None	None		78	3,481
11-1021	General and Operations Managers	26,496	28,938	2,442	\$37.95	Bachelor's	5 years or more	None		973	7,623
11-9111	Medical and Health Services Managers	5,335	5,722	387	\$36.44	Bachelor's	Less than 5 years	None		190	6,530
15-1132	Software Developers, Applications	4,443	5,002	559	\$36.44	Bachelor's	None	None		120	3,422
29-2021	Dental Hygienists	1,779	2,095	316	\$35.61	Associate	None	None		67	563
17-2051	Civil Engineers	2,400	2,668	268	\$35.08	Bachelor's	None	None		106	1,703
13-1081	Logisticians	2,078	2,182	104	\$34.87	Bachelor's	None	None		44	1,351
15-1121	Computer Systems Analysts	3,273	3,884	611	\$34.75	Bachelor's	None	None		108	3,114
15-1133	Software Developers, Systems Software	2,496	2,759	263	\$33.89	Bachelor's	None	None		56	1,142
13-2052	Personal Financial Advisors	1,186	1,454	268	\$33.15	Bachelor's	None	Long-term on-the-job training		62	1,842
15-1141	Database Administrators	914	1,000	86	\$32.60	Bachelor's	Less than 5 years	None		29	834
13-2051	Financial Analysts	1,602	1,828	226	\$31.58	Bachelor's	None	None		57	769
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	1,966	2,171	205	\$31.46	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	102	30
29-2032	Diagnostic Medical Sonographers	851	1,010	159	\$31.28	Associate	None	None		35	889
13-1111	Management Analysts	4,697	5,224	527	\$31.20	Bachelor's	Less than 5 years	None		133	2,267
29-9011	Occupational Health and Safety Specialists	1,195	1,271	76	\$30.86	Bachelor's	None	None		35	1,284
15-1142	Network and Computer Systems Administrators	2,702	2,891	189	\$30.15	Bachelor's	None	None		56	4,063
19-2041	Environmental Scientists and Specialists, Including Health	482	562	80	\$29.87	Bachelor's	None	None		25	198
17-3023	Electrical and Electronics Engineering Technicians	1,690	1,716	26	\$29.52	Associate	None	None		46	988
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	6,126	6,597	471	\$29.27	High school diploma or equivalent	Less than 5 years	None	Certificate Available	183	4,131
15-2031	Operations Research Analysts	896	1,111	215	\$29.05	Bachelor's	None	None		39	651
19-4041	Geological and Petroleum Technicians	1,281	1,375	94	\$29.00	Associate	None	Moderate-term on-the-job training		59	104
15-1122	Information Security Analysts	675	752	77	\$28.95	Bachelor's	Less than 5 years	None		17	1,538
17-3026	Industrial Engineering Technicians	836	885	49	\$28.70	Associate	None	None		22	649
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	8,166	9,338	1,172	\$28.18	High school diploma or equivalent	5 years or more	None	Certificate Available	200	1,508
29-1141	Registered Nurses	25,772	28,290	2,518	\$28.10	Associate	None	None		940	62,257
15-1152	Computer Network Support Specialists	1,959	1,997	38	\$27.71	Associate	None	None		29	261
13-2011	Accountants and Auditors	15,265	17,242	1,977	\$27.43	Bachelor's	None	None		658	5,335
13-2072	Loan Officers	4,337	4,862	525	\$26.98	Bachelor's	None	Moderate-term on-the-job training		136	1,708
13-1051	Cost Estimators	1,956	2,290	334	\$26.73	Bachelor's	None	None		93	221
29-2011	Medical and Clinical Laboratory Technologists	1,997	2,222	225	\$26.66	Bachelor's	None	None		78	2,103
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	3,544	3,667	123	\$26.52	Bachelor's	None	Long-term on-the-job training		113	7,424
13-1022	Wholesale and Retail Buyers, Except Farm Products	1,406	1,551	145	\$25.76	Bachelor's	None	Long-term on-the-job training		61	219
13-2041	Credit Analysts	548	626	78	\$25.62	Bachelor's	None	None		33	255
49-9051	Electrical Power-Line Installers and Repairers	1,970	2,288	318	\$25.58	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	121	378

47-5012	Rotary Drill Operators, Oil and Gas	2,209	2,374	165	\$25.55	No formal educational credential	None	Moderate-term on-the-job training		97	100
29-1031	Dietitians and Nutritionists	661	744	83	\$25.39	Bachelor's	None	Internship/residency		15	645
51-1011	First-Line Supervisors of Production and Operating Workers	8,366	8,722	356	\$25.31	High school diploma or equivalent	Less than 5 years	None	Certificate Available	170	4,600
17-3022	Civil Engineering Technicians	621	681	60	\$24.78	Associate	None	None		22	360
17-3027	Mechanical Engineering Technicians	825	854	29	\$24.71	Associate	None	None		22	247
29-1126	Respiratory Therapists	1,173	1,279	106	\$24.65	Associate	None	None		41	1,856
13-1151	Training and Development Specialists	2,582	2,786	204	\$24.58	Bachelor's	Less than 5 years	None		86	2,161
29-2034	Radiologic Technologists	2,221	2,358	137	\$24.00	Associate	None	None		60	2,645
47-2211	Sheet Metal Workers	3,457	3,675	218	\$24.00	High school diploma or equivalent	None	Apprenticeship	Certificate Available	105	554
47-5011	Derrick Operators, Oil and Gas	1,347	1,446	99	\$23.51	No formal educational credential	None	Short-term on-the-job training		59	7
15-1134	Web Developers	966	1,146	180	\$23.39	Associate	None	None		33	2,083
49-9041	Industrial Machinery Mechanics	4,131	5,020	889	\$23.03	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	213	1,309
47-2111	Electricians	6,779	8,072	1,293	\$22.81	High school diploma or equivalent	None	Apprenticeship	Certificate Available	256	2,437
19-3031	Clinical, Counseling, and School Psychologists	985	1,113	128	\$22.50	Doctoral or professional	None	Internship/residency		37	2,821
49-9081	Wind Turbine Service Technicians	41	102	61	\$21.53	Some college, no degree	None	Long-term on-the-job training		8	357
47-2152	Plumbers, Pipefitters, and Steamfitters	5,923	6,938	1,015	\$20.87	High school diploma or equivalent	None	Apprenticeship	Certificate Available	199	742
47-5013	Service Unit Operators, Oil, Gas, and Mining	3,345	3,424	79	\$20.44	No formal educational credential	None	Moderate-term on-the-job training		124	708
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3,927	4,620	693	\$20.34	Postsecondary nondegree award	None	Long-term on-the-job training		143	878
49-9044	Millwrights	271	339	68	\$20.30	High school diploma or equivalent	None	Apprenticeship	Certificate Available	13	10
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	1,859	2,038	179	\$20.16	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	68	467
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	11,163	11,625	462	\$19.85	Bachelor	None	Internship/residency		321	599
19-4091	Environmental Science and Protection Technicians, Including Health	591	629	38	\$19.58	Associate	None	None		30	998
25-2022	Middle School Teachers, Except Special and Career/Technical Education	7,094	7,429	335	\$19.58	Bachelor's	None	Internship/residency		198	384
15-1151	Computer User Support Specialists	7,781	8,209	428	\$19.43	Some college, no degree	None	None		150	6,577
25-2052	Special Education Teachers, Kindergarten and Elementary School	2,178	2,289	111	\$19.43	Bachelor's	None	Internship/residency		54	411
53-3032	Heavy and Tractor-Trailer Truck Drivers	23,472	26,177	2,705	\$19.20	Postsecondary nondegree award	None	Short-term on-the-job training		724	400,263
47-2221	Structural Iron and Steel Workers	727	833	106	\$18.94	High school diploma or equivalent	None	Apprenticeship	Certificate Available	25	41
49-3021	Automotive Body and Related Repairers	1,759	1,991	232	\$18.93	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	69	235
49-9043	Maintenance Workers, Machinery	2,453	2,688	235	\$18.89	High school diploma or equivalent	None	Moderate-term on-the-job training	Certificate Available	67	11
25-2021	Elementary School Teachers, Except Special Education	16,432	17,179	747	\$18.88	Bachelor's	None	Internship/residency		454	1,116
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	3,101	3,532	431	\$18.75	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	105	3,178
51-4041	Machinists	5,813	6,464	651	\$18.70	High school diploma or equivalent	None	Long-term on-the-job training	Certificate Available	228	934
29-2061	Licensed Practical and Licensed Vocational Nurses	11,374	11,760	386	\$18.27	Postsecondary nondegree award	None	None		379	7,975
19-4031	Chemical Technicians	474	514	40	\$18.24	Associate	None	Moderate-term on-the-job training		19	160
29-2031	Cardiovascular Technologists and Technicians	623	723	100	\$18.18	Associate	None	None		24	1,470
51-4121	Welders, Cutters, Solderers, and Brazers	9,446	10,143	697	\$18.07	High school diploma or equivalent	None	Moderate-term on-the-job training	Certificate Available	358	1,273
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	2,402	2,834	432	\$17.76	High school diploma or equivalent	None	Moderate-term on-the-job training	Certificate Available	111	314
47-2073	Operating Engineers and Other Construction Equipment Operators	5,885	6,850	965	\$17.75	High school diploma or equivalent	None	Moderate-term on-the-job training	Certificate Available	215	477
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	6,549	6,881	332	\$17.64	High school diploma or equivalent	None	Moderate-term on-the-job training	Certificate Available	187	930
47-2031	Carpenters	4,896	5,555	659	\$17.20	High school diploma or equivalent	None	Apprenticeship	Certificate Available	133	522
49-3023	Automotive Service Technicians and Mechanics	7,558	8,031	473	\$17.01	Postsecondary nondegree award	None	Short-term on-the-job training		262	3,373
47-2121	Glaziers	442	489	47	\$15.81	High school diploma or equivalent	None	Apprenticeship	Certificate Available	12	61
29-2056	Veterinary Technologists and Technicians	906	1,104	198	\$15.39	Associate	None	None		32	270
51-8031	Water and Wastewater Treatment Plant and System Operators	2,040	2,397	357	\$15.27	High school diploma or equivalent	None	Long-term on-the-job training		96	306
29-2012	Medical and Clinical Laboratory Technicians	2,239	2,533	294	\$14.84	Associate	None	None		92	2,103
29-2052	Pharmacy Technicians	5,256	5,694	438	\$13.68	High school diploma or equivalent	None	Moderate-term on-the-job training	Certificate Available	105	2,178
51-2092	Team Assemblers	10,123	10,475	352	\$13.64	High school diploma or equivalent	None	Moderate-term on-the-job training		254	372
29-2041	Emergency Medical Technicians and Paramedics	3,484	4,305	821	\$13.54	Postsecondary nondegree award	None	None		155	1,427

Source: EMSI 2017.2

428,313

636,333

The jobs listed on the Top 100 Critical Occupation List represent:

23.8% of all jobs projected for 2025

24.1% of all annual job openings

47.6% of all jobs in 2016 requiring a Postsecondary Nondegree Award or higher

50.5% of all job postings, July 2016 - June 2017

Northwestern Oklahoma State University
Employment and Average Salary by CIP Code
Oklahoma & Non-Oklahoma Residents Combined
2012-13 Graduates - After One Year

August 2017

Bachelor's Degree Recipients					
FIELD OF STUDY ¹	PROGRAM CODE	NUMBER OF GRADUATES	TOTAL # OF GRADUATES EMPLOYED	PERCENT EMPLOYED	AVERAGE SALARY
Agribusiness/Agricultural Business Operations.	003	16	10	62.5%	\$36,038
Communication, Journalism, and Related Programs, Other.	052	5	*	*	*
Computer and Information Sciences, General.	049	9	7	77.8%	\$23,569
Education/Teaching of Individuals with Specific Learning Disabilities.	055	2	*	*	*
Elementary Education and Teaching.	013	11	9	81.8%	\$59,198
Early Childhood Education and Teaching.	057	19	17	89.5%	\$45,721
Agricultural Teacher Education.	065	4	*	*	*
English/Language Arts Teacher Education.	058	4	*	*	*
Mathematics Teacher Education.	062	2	*	*	*
Physical Education Teaching and Coaching.	059	9	7	77.8%	\$60,051
Social Studies Teacher Education.	035	1	*	*	*
Spanish Language and Literature.	038	2	*	*	*
English Language and Literature, General.	015	7	*	*	*
General Studies.	016	10	6	60.0%	\$26,603
Biology/Biological Sciences, General.	005	11	8	72.7%	\$16,266
Mathematics and Statistics, Other.	024	3	*	*	*
Multi-/Interdisciplinary Studies, Other.	775	2	*	*	*
Parks, Recreation, Leisure, and Fitness Studies, Other.	018	34	25	73.5%	\$24,001
Chemistry, General.	009	5	*	*	*
Psychology, General.	056	27	24	88.9%	\$20,931
Criminal Justice/Police Science.	022	10	8	80.0%	\$34,310
Homeland Security, Law Enforcement, Firefighting and Related Protective Services, Other.	010	1	*	*	*
Social Work.	036	8	8	100.0%	\$14,547
Political Science and Government, General.	030	1	*	*	*
Sociology.	037	5	*	*	*
Mason/Masonry.	060	1	*	*	*
Music, General.	053	1	*	*	*
Registered Nursing/Registered Nurse.	047	27	25	92.6%	\$39,758
Business Administration and Management, General.	007	30	25	83.3%	\$37,784
Accounting.	001	10	8	80.0%	\$37,172
History, General.	019	3	*	*	*
Total Bachelor's Degree Recipients		280	187	66.8%	\$32,398

Master's Degree Recipients					
FIELD OF STUDY ¹	PROGRAM CODE	NUMBER OF GRADUATES	TOTAL # OF GRADUATES EMPLOYED	PERCENT EMPLOYED	AVERAGE SALARY
Counselor Education/School Counseling and Guidance Services.	011	3	*	*	*
Elementary Education and Teaching.	014	9	9	100.0%	\$63,365
Secondary Education and Teaching.	033	21	17	81.0%	\$65,902
Counseling Psychology.	043	12	11	91.7%	\$28,414
Total Master's Degree Recipients		45	37	82.2%	\$53,752

* When there are fewer than six employed graduates, data are withheld to protect student privacy.

¹ Degree programs are aggregated into fields of study using Classification of Instructional Program (CIP) codes; this is not the specific title of the degree program.