

Oklahoma Department of Career and Technology Education

*career*tech

Innovative Programs, Research and Development

May 2013

Meridian Technology Center

Agriculture, Food & Natural Resources

Career Cluster Report



Region Info - Meridian Technology Center

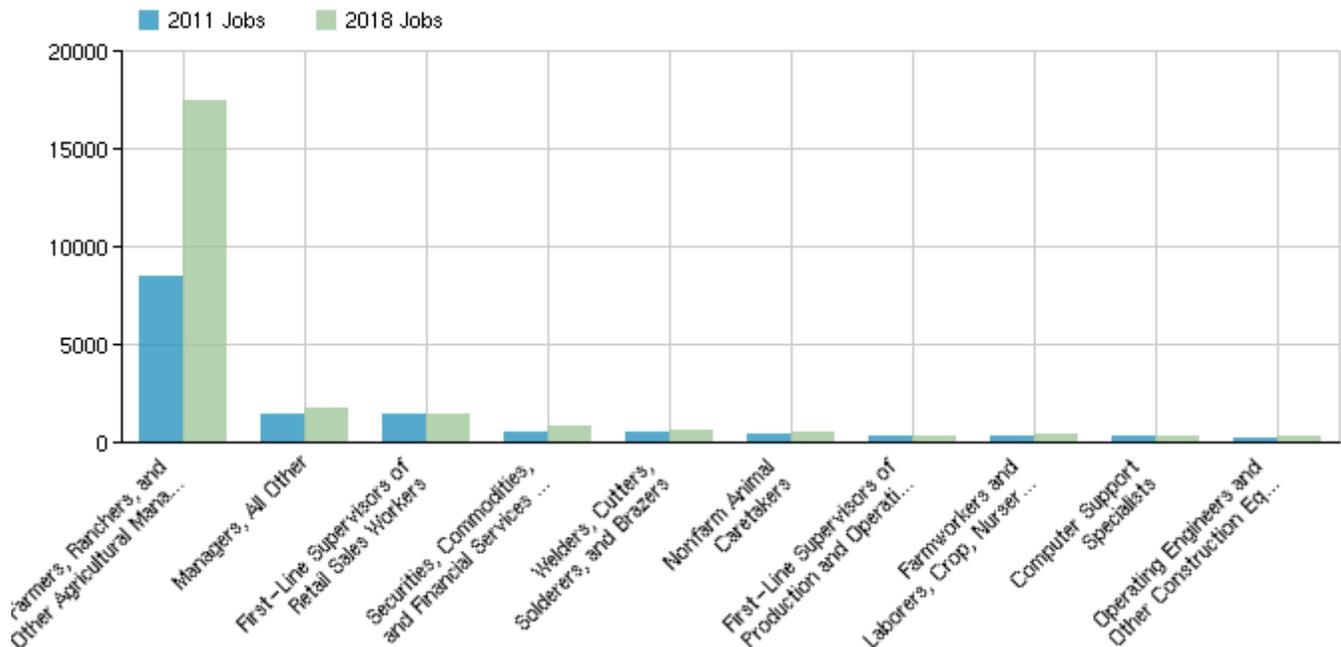
County Areas	Lincoln, OK (40081), Logan, OK (40083), Noble, OK (40103), Pawnee, OK (40117), Payne, OK (40119)
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Executive Summary for Agriculture, Food & Natural Resources Career Cluster (Bachelor_degree and below)

Education	2011 Jobs	2018 Jobs	Change	Annual Openings	2012 Hourly Earnings
Short-term on-the-job training	1,365	1,589	224	80	\$10.63
Moderate-term on-the-job training	753	835	82	36	\$17.11
Long-term on-the-job training	8,936	17,971	9,035	1,648	\$6.53
Work experience in a related occupation	3,481	3,854	373	135	\$14.91
Postsecondary non-degree award	569	613	44	27	\$15.87
Associate's degree	508	545	37	21	\$17.26
Bachelor's degree	1,236	1,596	360	86	\$20.80
Total	16,849	27,002	10,153	2,032	\$10.52

Source: EMSI Complete Employment - 2012.3

Largest Occupations



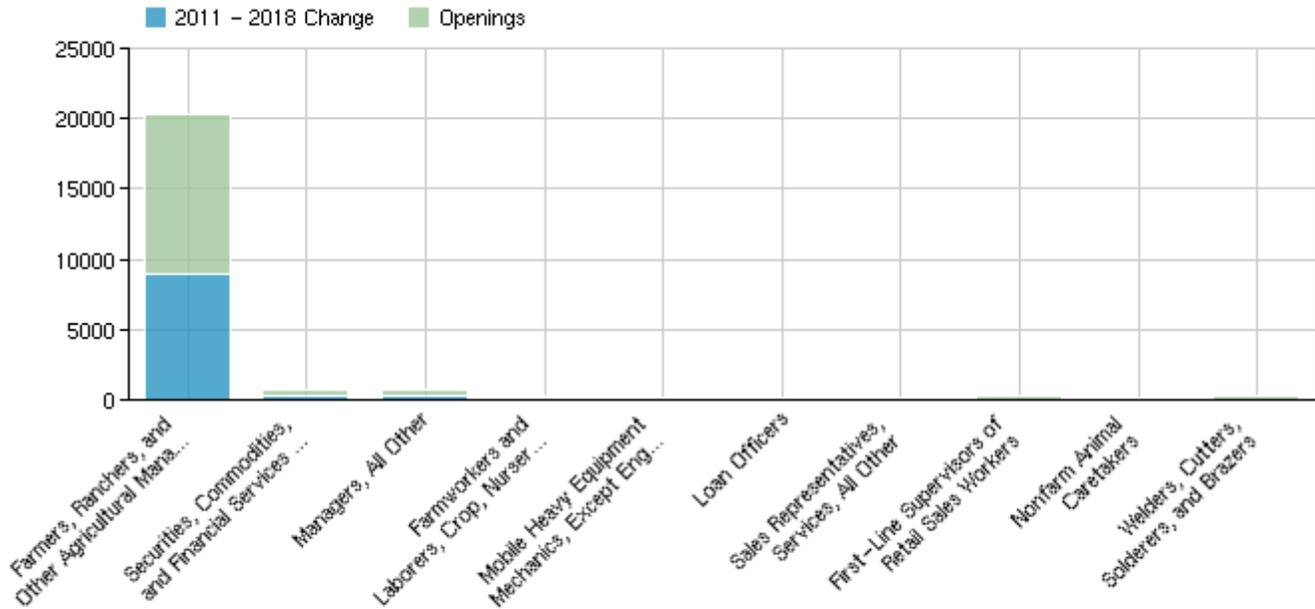
SOC Code	Description	2011 Jobs	2018 Jobs	Change	2012 Hourly Earnings	Education
11-9013	Farmers, Ranchers, and Other Agricultural Managers	8,471	17,438	8,967	\$6.05	Long-term on-the-job training
11-9199	Managers, All Other	1,456	1,727	271	\$15.49	Work experience in a related occupation
41-1011	First-Line Supervisors of Retail Sales Workers	1,418	1,463	45	\$11.76	Work experience in a related occupation
41-3031	Securities, Commodities, and Financial Services Sales Agents	559	862	303	\$17.34	Bachelor's degree
51-4121	Welders, Cutters, Solderers, and Brazers	540	578	38	\$15.86	Postsecondary non-degree award
39-2021	Nonfarm Animal Caretakers	449	488	39	\$10.02	Short-term on-the-job training
51-1011	First-Line Supervisors of Production and Operating Workers	295	306	11	\$23.23	Work experience in a related occupation
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	294	408	114	\$7.33	Short-term on-the-job training
15-1159	Computer Support Specialists	262	272	10	\$16.62	Associate's degree
47-2073	Operating Engineers and Other Construction Equipment Operators	248	277	29	\$14.70	Moderate-term on-the-job training
13-2072	Loan Officers	220	267	47	\$24.33	Moderate-term on-the-job training
41-3099	Sales Representatives, Services, All Other	215	261	46	\$15.75	Short-term on-the-job training
51-4041	Machinists	195	209	14	\$18.44	Long-term on-the-job training
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	171	182	11	\$22.48	Bachelor's degree
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	142	138	-4	\$11.02	Short-term on-the-job training
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	122	116	-6	\$11.85	Short-term on-the-job training
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	119	181	62	\$15.29	Long-term on-the-job training
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	118	145	27	\$13.62	Work experience in a related occupation
41-2022	Parts Salespersons	117	112	-5	\$11.82	Moderate-term on-the-job training
15-1121	Computer Systems Analysts	106	117	11	\$22.88	Bachelor's degree
17-3023	Electrical and Electronics Engineering Technicians	101	106	5	\$18.18	Associate's degree
17-2112	Industrial Engineers	96	99	3	\$35.02	Bachelor's degree
53-7032	Excavating and Loading Machine and Dragline Operators	92	100	8	\$18.24	Moderate-term on-the-job training
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	91	100	9	\$20.61	Work experience in a related occupation
51-8031	Water and Wastewater Treatment Plant and System Operators	90	100	10	\$14.99	Long-term on-the-job training

SOC Code	Description	2011 Jobs	2018 Jobs	Change	2012 Hourly Earnings	Education
37-3013	Tree Trimmers and Pruners	69	90	21	\$10.27	Short-term on-the-job training
11-9151	Social and Community Service Managers	64	72	8	\$21.19	Bachelor's degree
51-3021	Butchers and Meat Cutters	53	40	-13	\$10.32	Long-term on-the-job training
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	52	59	7	\$20.79	Work experience in a related occupation
19-4041	Geological and Petroleum Technicians	51	51	0	\$22.23	Associate's degree
29-2056	Veterinary Technologists and Technicians	50	60	10	\$12.61	Associate's degree
45-3011	Fishers and Related Fishing Workers	46	53	7	\$8.27	Moderate-term on-the-job training
29-1031	Dietitians and Nutritionists	41	45	4	\$23.05	Bachelor's degree
27-3022	Reporters and Correspondents	37	43	6	\$12.66	Bachelor's degree
15-1141	Database Administrators	35	39	4	\$25.19	Bachelor's degree
19-4021	Biological Technicians	33	35	2	\$16.42	Bachelor's degree
45-2091	Agricultural Equipment Operators	28	40	12	\$9.43	Short-term on-the-job training
11-3071	Transportation, Storage, and Distribution Managers	27	31	4	\$29.45	Work experience in a related occupation
19-4091	Environmental Science and Protection Technicians, Including Health	24	31	7	\$19.91	Associate's degree
27-4011	Audio and Video Equipment Technicians	22	27	5	\$15.36	Postsecondary non-degree award
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	20	20	0	\$17.22	Work experience in a related occupation
19-1013	Soil and Plant Scientists	15	16	1	\$21.99	Bachelor's degree
19-1032	Foresters	14	14	0	\$20.71	Bachelor's degree
51-3092	Food Batchmakers	13	14	1	\$11.05	Short-term on-the-job training
19-1031	Conservation Scientists	13	14	1	\$29.65	Bachelor's degree
17-2081	Environmental Engineers	11	13	2	\$30.97	Bachelor's degree
47-4041	Hazardous Materials Removal Workers	10	13	3	\$14.96	Moderate-term on-the-job training
45-4022	Logging Equipment Operators	10	<10	--	--	Moderate-term on-the-job training
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	<10	<10	--	--	Short-term on-the-job training
45-2099	Agricultural Workers, All Other	<10	13	--	--	Short-term on-the-job training
27-4012	Broadcast Technicians	<10	14	--	--	Associate's degree
19-1023	Zoologists and Wildlife Biologists	<10	10	--	--	Bachelor's degree
19-1012	Food Scientists and Technologists	<10	<10	--	--	Bachelor's degree
45-2011	Agricultural Inspectors	<10	<10	--	--	Bachelor's degree
13-1021	Buyers and Purchasing Agents, Farm Products	<10	<10	--	--	Long-term on-the-job training
51-3093	Food Cooking Machine Operators and Tenders	<10	<10	--	--	Short-term on-the-job training

SOC Code	Description	2011 Jobs	2018 Jobs	Change	2012 Hourly Earnings	Education
27-4014	Sound Engineering Technicians	<10	<10	--	--	Postsecondary non-degree award
19-4093	Forest and Conservation Technicians	<10	<10	--	--	Associate's degree
25-9021	Farm and Home Management Advisors	<10	<10	--	--	Bachelor's degree
53-5011	Sailors and Marine Oilers	<10	<10	--	--	Short-term on-the-job training
45-2021	Animal Breeders	<10	<10	--	--	Work experience in a related occupation
33-3031	Fish and Game Wardens	<10	<10	--	--	Associate's degree
17-1021	Cartographers and Photogrammetrists	<10	<10	--	--	Bachelor's degree
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	<10	<10	--	--	Bachelor's degree
51-3023	Slaughterers and Meat Packers	<10	<10	--	--	Moderate-term on-the-job training
45-4021	Fallers	<10	<10	--	--	Moderate-term on-the-job training
17-2021	Agricultural Engineers	<10	<10	--	--	Bachelor's degree
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	<10	<10	--	--	Moderate-term on-the-job training
45-4023	Log Graders and Scalers	<10	<10	--	--	Moderate-term on-the-job training
27-4013	Radio Operators	<10	<10	--	--	Short-term on-the-job training

Source: EMSI Complete Employment - 2012.3

Largest Growth



SOC Code	Description	2011 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
11-9013	Farmers, Ranchers, and Other Agricultural Managers	8,967	11,359	1,623	\$6.05	Long-term on-the-job training
41-3031	Securities, Commodities, and Financial Services Sales Agents	303	421	60	\$17.34	Bachelor's degree
11-9199	Managers, All Other	271	509	73	\$15.49	Work experience in a related occupation
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	114	214	31	\$7.33	Short-term on-the-job training
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	62	85	12	\$15.29	Long-term on-the-job training
13-2072	Loan Officers	47	89	13	\$24.33	Moderate-term on-the-job training
41-3099	Sales Representatives, Services, All Other	46	92	13	\$15.75	Short-term on-the-job training
41-1011	First-Line Supervisors of Retail Sales Workers	45	292	42	\$11.76	Work experience in a related occupation
39-2021	Nonfarm Animal Caretakers	39	116	17	\$10.02	Short-term on-the-job training
51-4121	Welders, Cutters, Solderers, and Brazers	38	175	25	\$15.86	Postsecondary non-degree award
47-2073	Operating Engineers and Other Construction Equipment Operators	29	73	10	\$14.70	Moderate-term on-the-job training
37-1012	First-Line Supervisors of	27	41	6	\$13.62	Work experience in

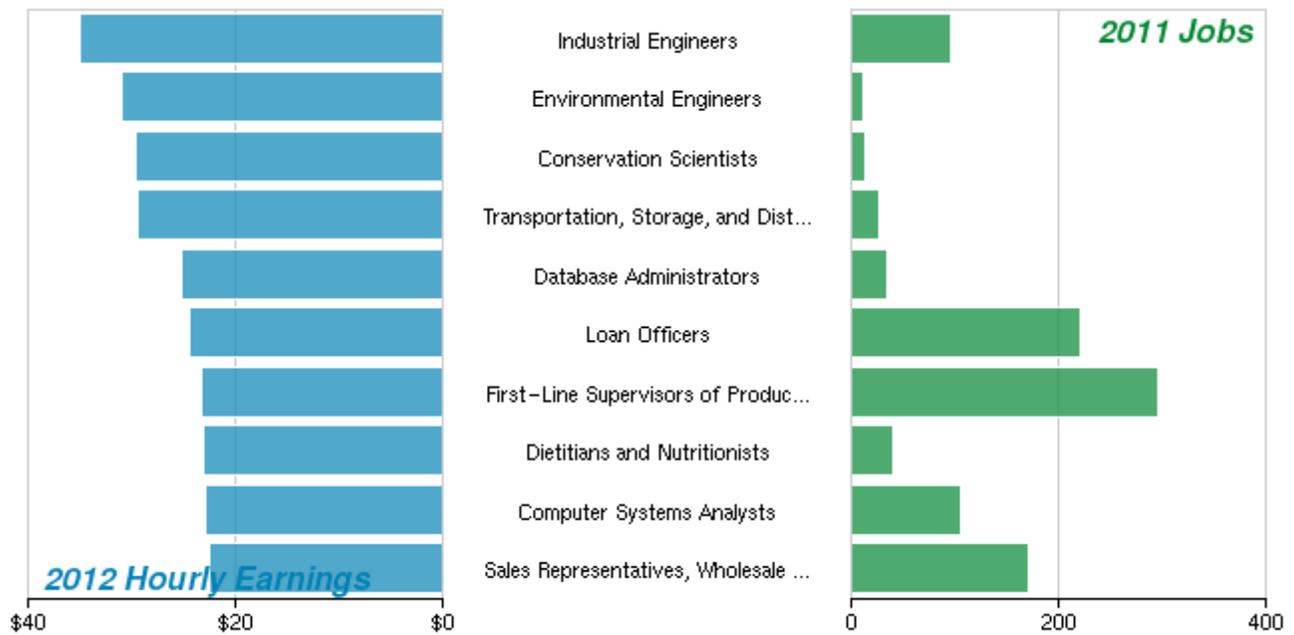
SOC Code	Description	2011 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
	Landscaping, Lawn Service, and Groundskeeping Workers					a related occupation
37-3013	Tree Trimmers and Pruners	21	31	4	\$10.27	Short-term on-the-job training
51-4041	Machinists	14	57	8	\$18.44	Long-term on-the-job training
45-2091	Agricultural Equipment Operators	12	21	3	\$9.43	Short-term on-the-job training
15-1121	Computer Systems Analysts	11	26	4	\$22.88	Bachelor's degree
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	11	41	6	\$22.48	Bachelor's degree
51-1011	First-Line Supervisors of Production and Operating Workers	11	47	7	\$23.23	Work experience in a related occupation
29-2056	Veterinary Technologists and Technicians	10	18	3	\$12.61	Associate's degree
51-8031	Water and Wastewater Treatment Plant and System Operators	10	27	4	\$14.99	Long-term on-the-job training
15-1159	Computer Support Specialists	10	61	9	\$16.62	Associate's degree
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	9	23	3	\$20.61	Work experience in a related occupation
11-9151	Social and Community Service Managers	8	18	3	\$21.19	Bachelor's degree
53-7032	Excavating and Loading Machine and Dragline Operators	8	28	4	\$18.24	Moderate-term on-the-job training
19-4091	Environmental Science and Protection Technicians, Including Health	7	14	2	\$19.91	Associate's degree
45-3011	Fishers and Related Fishing Workers	7	18	3	\$8.27	Moderate-term on-the-job training
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	7	15	2	\$20.79	Work experience in a related occupation
27-3022	Reporters and Correspondents	6	16	2	\$12.66	Bachelor's degree
27-4011	Audio and Video Equipment Technicians	5	9	1	\$15.36	Postsecondary non-degree award
27-4012	Broadcast Technicians	5	7	1	\$13.58	Associate's degree
17-3023	Electrical and Electronics Engineering Technicians	5	21	3	\$18.18	Associate's degree
11-3071	Transportation, Storage, and Distribution Managers	4	9	1	\$29.45	Work experience in a related occupation
15-1141	Database Administrators	4	9	1	\$25.19	Bachelor's degree
29-1031	Dietitians and Nutritionists	4	15	2	\$23.05	Bachelor's degree
17-2112	Industrial Engineers	3	23	3	\$35.02	Bachelor's degree

SOC Code	Description	2011 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
45-2099	Agricultural Workers, All Other	3	6	1	\$10.05	Short-term on-the-job training
47-4041	Hazardous Materials Removal Workers	3	5	1	\$14.96	Moderate-term on-the-job training
27-4014	Sound Engineering Technicians	2	3	0	\$18.09	Postsecondary non-degree award
17-2081	Environmental Engineers	2	4	1	\$30.97	Bachelor's degree
19-4021	Biological Technicians	2	11	2	\$16.42	Bachelor's degree
19-4093	Forest and Conservation Technicians	1	2	0	\$15.77	Associate's degree
17-1021	Cartographers and Photogrammetrists	1	2	0	\$18.31	Bachelor's degree
25-9021	Farm and Home Management Advisors	1	2	0	\$19.15	Bachelor's degree
19-1031	Conservation Scientists	1	2	0	\$29.65	Bachelor's degree
19-1023	Zoologists and Wildlife Biologists	1	3	0	\$23.49	Bachelor's degree
51-3092	Food Batchmakers	1	5	1	\$11.05	Short-term on-the-job training
19-1013	Soil and Plant Scientists	1	5	1	\$21.99	Bachelor's degree
45-4023	Log Graders and Scalers	0	0	0	\$13.07	Moderate-term on-the-job training
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	0	1	0	\$40.22	Bachelor's degree
27-4013	Radio Operators	0	0	0	\$18.66	Short-term on-the-job training
53-5011	Sailors and Marine Oilers	0	2	0	\$16.30	Short-term on-the-job training
45-2021	Animal Breeders	0	2	0	\$15.45	Work experience in a related occupation
33-3031	Fish and Game Wardens	0	1	0	\$18.62	Associate's degree
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	0	1	0	\$10.50	Moderate-term on-the-job training
19-4041	Geological and Petroleum Technicians	0	22	3	\$22.23	Associate's degree
51-3093	Food Cooking Machine Operators and Tenders	0	2	0	\$9.63	Short-term on-the-job training
19-1032	Foresters	0	2	0	\$20.71	Bachelor's degree
19-1012	Food Scientists and Technologists	0	3	0	\$23.34	Bachelor's degree
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	0	5	1	\$17.22	Work experience in a related occupation
45-2011	Agricultural Inspectors	0	2	0	\$20.63	Bachelor's degree
51-3023	Slaughterers and Meat Packers	-1	1	0	\$11.73	Moderate-term on-the-job training
17-2021	Agricultural Engineers	-1	1	0	\$31.28	Bachelor's degree
45-4021	Fallers	-1	1	0	\$11.99	Moderate-term

SOC Code	Description	2011 - 2018 Change	Openings	Annual Openings	2012 Hourly Earnings	Education
						on-the-job training
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	-3	2	0	\$11.65	Short-term on-the-job training
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	-4	22	3	\$11.02	Short-term on-the-job training
13-1021	Buyers and Purchasing Agents, Farm Products	-4	1	0	\$17.04	Long-term on-the-job training
45-4022	Logging Equipment Operators	-4	2	0	\$10.38	Moderate-term on-the-job training
41-2022	Parts Salespersons	-5	33	5	\$11.82	Moderate-term on-the-job training
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	-6	44	6	\$11.85	Short-term on-the-job training
51-3021	Butchers and Meat Cutters	-13	10	1	\$10.32	Long-term on-the-job training

Source: EMSI Complete Employment - 2012.3

Highest Earnings



SOC Code	Description	2012 Hourly Earnings	2011 Jobs	2011 - 2018 Change	Annual Openings	Education
17-2112	Industrial Engineers	\$35.02	96	3	3	Bachelor's degree
17-2081	Environmental Engineers	\$30.97	11	2	1	Bachelor's degree
19-1031	Conservation Scientists	\$29.65	13	1	0	Bachelor's degree
11-3071	Transportation, Storage, and Distribution Managers	\$29.45	27	4	1	Work experience in a related occupation
15-1141	Database Administrators	\$25.19	35	4	1	Bachelor's degree
13-2072	Loan Officers	\$24.33	220	47	13	Moderate-term on-the-job training
51-1011	First-Line Supervisors of Production and Operating Workers	\$23.23	295	11	7	Work experience in a related occupation
29-1031	Dietitians and Nutritionists	\$23.05	41	4	2	Bachelor's degree
15-1121	Computer Systems Analysts	\$22.88	106	11	4	Bachelor's degree
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$22.48	171	11	6	Bachelor's degree
19-4041	Geological and Petroleum Technicians	\$22.23	51	0	3	Associate's degree
19-1013	Soil and Plant Scientists	\$21.99	15	1	1	Bachelor's degree
11-9151	Social and Community Service Managers	\$21.19	64	8	3	Bachelor's degree
53-1021	First-Line Supervisors of Helpers, Laborers, and Material	\$20.79	52	7	2	Work experience in a related occupation

SOC Code	Description	2012 Hourly Earnings	2011 Jobs	2011 - 2018 Change	Annual Openings	Education
	Movers, Hand					
19-1032	Foresters	\$20.71	14	0	0	Bachelor's degree
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	\$20.61	91	9	3	Work experience in a related occupation
19-4091	Environmental Science and Protection Technicians, Including Health	\$19.91	24	7	2	Associate's degree
51-4041	Machinists	\$18.44	195	14	8	Long-term on-the-job training
53-7032	Excavating and Loading Machine and Dragline Operators	\$18.24	92	8	4	Moderate-term on-the-job training
17-3023	Electrical and Electronics Engineering Technicians	\$18.18	101	5	3	Associate's degree
41-3031	Securities, Commodities, and Financial Services Sales Agents	\$17.34	559	303	60	Bachelor's degree
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$17.22	20	0	1	Work experience in a related occupation
15-1159	Computer Support Specialists	\$16.62	262	10	9	Associate's degree
19-4021	Biological Technicians	\$16.42	33	2	2	Bachelor's degree
51-4121	Welders, Cutters, Solderers, and Brazers	\$15.86	540	38	25	Postsecondary non-degree award
41-3099	Sales Representatives, Services, All Other	\$15.75	215	46	13	Short-term on-the-job training
11-9199	Managers, All Other	\$15.49	1,456	271	73	Work experience in a related occupation
27-4011	Audio and Video Equipment Technicians	\$15.36	22	5	1	Postsecondary non-degree award
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	\$15.29	119	62	12	Long-term on-the-job training
51-8031	Water and Wastewater Treatment Plant and System Operators	\$14.99	90	10	4	Long-term on-the-job training
47-4041	Hazardous Materials Removal Workers	\$14.96	10	3	1	Moderate-term on-the-job training
47-2073	Operating Engineers and Other Construction Equipment Operators	\$14.70	248	29	10	Moderate-term on-the-job training
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$13.62	118	27	6	Work experience in a related occupation
27-3022	Reporters and Correspondents	\$12.66	37	6	2	Bachelor's degree
29-2056	Veterinary Technologists and Technicians	\$12.61	50	10	3	Associate's degree
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	\$11.85	122	-6	6	Short-term on-the-job training
41-2022	Parts Salespersons	\$11.82	117	-5	5	Moderate-term on-the-job training
41-1011	First-Line Supervisors of Retail	\$11.76	1,418	45	42	Work experience in

SOC Code	Description	2012 Hourly Earnings	2011 Jobs	2011 - 2018 Change	Annual Openings	Education
	Sales Workers					a related occupation
51-3092	Food Batchmakers	\$11.05	13	1	1	Short-term on-the-job training
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	\$11.02	142	-4	3	Short-term on-the-job training
51-3021	Butchers and Meat Cutters	\$10.32	53	-13	1	Long-term on-the-job training
37-3013	Tree Trimmers and Pruners	\$10.27	69	21	4	Short-term on-the-job training
39-2021	Nonfarm Animal Caretakers	\$10.02	449	39	17	Short-term on-the-job training
45-2091	Agricultural Equipment Operators	\$9.43	28	12	3	Short-term on-the-job training
45-3011	Fishers and Related Fishing Workers	\$8.27	46	7	3	Moderate-term on-the-job training
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$7.33	294	114	31	Short-term on-the-job training
11-9013	Farmers, Ranchers, and Other Agricultural Managers	\$6.05	8,471	8,967	1,623	Long-term on-the-job training

Source: EMSI Complete Employment - 2012.3

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

Data Sources and Calculations

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.