

# Oklahoma Department of Career and Technology Education

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Information Commons

June 2010

## High Plains Technology Center Industry Sector Environmental Analysis

### Agriculture, Food & Natural Resources Career Cluster Report



Economic Modeling Specialists, Inc. [www.economicmodeling.com](http://www.economicmodeling.com)

**EMSI**

## High Plains TC Agriculture, Food & Natural Resources Career Cluster 2010- 2015

### Region Info

Region: OK: High Plains Technology Center

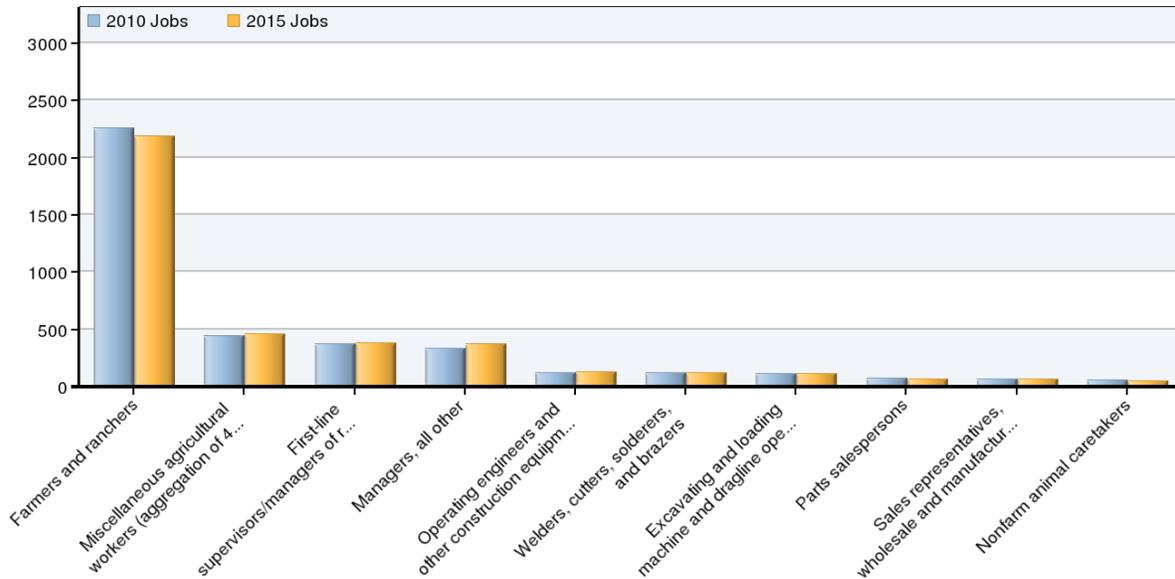
County Areas: Dewey, Oklahoma (40043), Ellis, Oklahoma (40045), Harper, Oklahoma (40059), Woodward, Oklahoma (40153)

### Executive Summary for Agriculture, Food & Natural Resources Career Cluster (Bachelor's degree and below)

Education	2010 Jobs	2015 Jobs	Change	Replacement	Current Hourly Earnings
Short-term on-the-job training	545	555	10	70	\$9.43
Moderate-term on-the-job training	417	430	13	51	\$16.27
Long-term on-the-job training	2,465	2,397	-68	95	\$9.78
Work experience in a related field	876	932	56	96	\$16.29
Postsecondary vocational award	33	34	1	3	\$22.65
Associate's degree	66	66	0	10	\$14.33
Bachelor's degree	189	209	20	19	\$18.54
Total	4,592	4,624	32	344	\$12.02

Source: EMSI Complete Employment - 1st Quarter 2010

## Largest Occupations



SOC Code	Description	2010 Jobs	2015 Jobs	Change	Current Hourly Earnings	Education
11-9012	Farmers and ranchers	2,261	2,189	-72	\$9.26	Long-term on-the-job training
45-209A	Miscellaneous agricultural workers (aggregation of 45-2091,2,3,9)	443	456	13	\$8.88	Short-term on-the-job training
41-1011	First-line supervisors/managers of retail sales workers	369	381	12	\$12.70	Work experience in a related field
11-9199	Managers, all other	333	369	36	\$16.07	Work experience in a related field
47-2073	Operating engineers and other construction equipment operators	122	127	5	\$15.85	Moderate-term on-the-job training
51-4121	Welders, cutters, solderers, and brazers	122	117	-5	\$16.63	Long-term on-the-job training
53-7032	Excavating and loading machine and dragline operators	108	107	-1	\$16.21	Moderate-term on-the-job training
41-2022	Parts salespersons	68	67	-1	\$11.19	Moderate-term on-the-job training
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	64	66	2	\$25.73	Moderate-term on-the-job training
39-2021	Nonfarm animal caretakers	59	50	-9	\$13.37	Short-term on-the-job training
41-3031	Securities, commodities, and financial services sales agents	55	68	13	\$11.14	Bachelor's degree
13-2072	Loan officers	52	52	0	\$21.47	Bachelor's degree
51-1011	First-line supervisors/managers of production and operating workers	48	50	2	\$30.12	Work experience in a related field

51-4041	Machinists	47	53	6	\$16.23	Long-term on-the-job training
49-3042	Mobile heavy equipment mechanics, except engines	33	33	0	\$22.82	Postsecondary vocational award
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	31	31	0	\$26.81	Work experience in a related field
15-1041	Computer support specialists	30	30	0	\$14.76	Associate's degree
51-8031	Water and liquid waste treatment plant and system operators	30	32	2	\$12.51	Long-term on-the-job training
41-3099	Sales representatives, services, all other	28	32	4	\$14.18	Moderate-term on-the-job training
45-1099	Supervisors, farming, fishing, and forestry workers	26	28	2	\$16.12	Work experience in a related field
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	24	25	1	\$20.26	Work experience in a related field
19-4041	Geological and petroleum technicians	20	19	-1	\$12.55	Associate's degree
11-9151	Social and community service managers	18	17	-1	\$9.17	Bachelor's degree
37-3013	Tree trimmers and pruners	17	20	3	\$8.54	Short-term on-the-job training
17-2151	Mining and geological engineers, including mining safety engineers	17	20	3	\$29.28	Bachelor's degree
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	17	18	1	\$9.99	Work experience in a related field
11-3051	Industrial production managers	14	14	0	\$42.23	Work experience in a related field
15-1051	Computer systems analysts	14	15	1	\$24.57	Bachelor's degree
45-3011	Fishers and related fishing workers	11	12	1	\$7.26	Moderate-term on-the-job training
45-2021	Animal breeders	<10	<10	--	--	Short-term on-the-job training
11-3071	Transportation, storage, and distribution managers	<10	10	--	--	Work experience in a related field
31-9096	Veterinary assistants and laboratory animal caretakers	<10	<10	--	--	Short-term on-the-job training
19-1031	Conservation scientists	<10	<10	--	--	Bachelor's degree
17-2112	Industrial engineers	<10	<10	--	--	Bachelor's degree
29-1031	Dietitians and nutritionists	<10	<10	--	--	Bachelor's degree
45-4022	Logging equipment operators	<10	<10	--	--	Moderate-term on-the-job training
19-1032	Foresters	<10	<10	--	--	Bachelor's degree
19-4021	Biological technicians	<10	<10	--	--	Associate's degree
29-2056	Veterinary technologists and technicians	<10	<10	--	--	Associate's degree
51-3023	Slaughterers and meat packers	<10	<10	--	--	Moderate-term on-the-job training

51-3092	Food batchmakers	<10	<10	--	--	Short-term on-the-job training
45-4021	Fallers	<10	<10	--	--	Moderate-term on-the-job training
51-3021	Butchers and meat cutters	<10	<10	--	--	Long-term on-the-job training
27-4011	Audio and video equipment technicians	<10	<10	--	--	Long-term on-the-job training
19-4093	Forest and conservation technicians	<10	<10	--	--	Associate's degree
47-4041	Hazardous materials removal workers	<10	<10	--	--	Moderate-term on-the-job training
17-3023	Electrical and electronic engineering technicians	<10	<10	--	--	Associate's degree
13-1021	Purchasing agents and buyers, farm products	<10	<10	--	--	Work experience in a related field
19-4091	Environmental science and protection technicians, including health	<10	<10	--	--	Associate's degree
19-1012	Food scientists and technologists	<10	<10	--	--	Bachelor's degree
45-2011	Agricultural inspectors	<10	<10	--	--	Work experience in a related field
15-1061	Database administrators	<10	<10	--	--	Bachelor's degree
51-3091	Food and tobacco roasting, baking, and drying machine operators and tenders	<10	<10	--	--	Short-term on-the-job training
51-3022	Meat, poultry, and fish cutters and trimmers	<10	<10	--	--	Short-term on-the-job training
51-3093	Food cooking machine operators and tenders	<10	<10	--	--	Short-term on-the-job training
25-9021	Farm and home management advisors	<10	<10	--	--	Bachelor's degree
45-4023	Log graders and scalers	<10	<10	--	--	Moderate-term on-the-job training
19-1029	Biological scientists, all other	<10	<10	--	--	Bachelor's degree
17-2081	Environmental engineers	<10	<10	--	--	Bachelor's degree
17-1021	Cartographers and photogrammetrists	<10	<10	--	--	Bachelor's degree
19-1013	Soil and plant Scientists	<10	<10	--	--	Bachelor's degree
27-4012	Broadcast technicians	<10	<10	--	--	Associate's degree
19-1023	Zoologists and wildlife biologists	<10	<10	--	--	Bachelor's degree
33-3031	Fish and game wardens	<10	<10	--	--	Associate's degree
19-1011	Animal scientists	<10	<10	--	--	Bachelor's degree
27-4014	Sound engineering technicians	<10	<10	--	--	Postsecondary vocational award
53-5011	Sailors and marine oilers	<10	<10	--	--	Short-term on-the-job training
27-4013	Radio operators	<10	<10	--	--	Moderate-term on-the-job training
17-2021	Agricultural engineers	0	0	0	\$0.00	Bachelor's degree

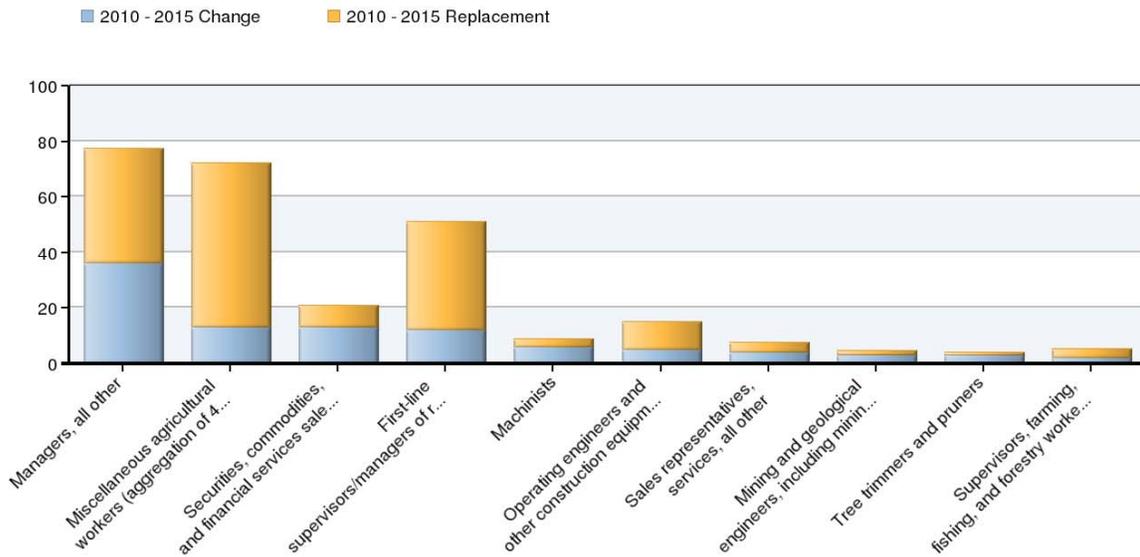
Source: EMSI Complete Employment - 1st Quarter 2010



County	2010 Jobs
Woodward, OK (40153)	2,180
Dewey, OK (40043)	967
Ellis, OK (40045)	821
Harper, OK (40059)	624

Source: EMSI Complete Employment - 1st Quarter 2010

## Largest Growth



SOC Code	Description	2010 - 2015 Change	Replacement	Annual Openings	Current Hourly Earnings	Education
11-9199	Managers, all other	36	41	15	\$16.07	Work experience in a related field
45-209A	Miscellaneous agricultural workers (aggregation of 45-2091,2,3,9)	13	59	14	\$8.88	Short-term on-the-job training
41-3031	Securities, commodities, and financial services sales agents	13	8	4	\$11.14	Bachelor's degree
41-1011	First-line supervisors/managers of retail sales workers	12	39	10	\$12.70	Work experience in a related field
51-4041	Machinists	6	3	2	\$16.23	Long-term on-the-job training
47-2073	Operating engineers and other construction equipment operators	5	10	3	\$15.85	Moderate-term on-the-job training
41-3099	Sales representatives, services, all other	4	3	1	\$14.18	Moderate-term on-the-job training
17-2151	Mining and geological engineers, including mining safety engineers	3	2	1	\$29.28	Bachelor's degree
37-3013	Tree trimmers and pruners	3	1	1	\$8.54	Short-term on-the-job training
45-1099	Supervisors, farming, fishing, and forestry workers	2	3	1	\$16.12	Work experience in a related field

51-1011	First-line supervisors/managers of production and operating workers	2	3	1	\$30.12	Work experience in a related field
51-8031	Water and liquid waste treatment plant and system operators	2	3	1	\$12.51	Long-term on-the-job training
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	2	7	2	\$25.73	Moderate-term on-the-job training
45-4022	Logging equipment operators	1	1	0	\$14.08	Moderate-term on-the-job training
19-1032	Foresters	1	0	0	\$8.72	Bachelor's degree
17-2112	Industrial engineers	1	1	0	\$45.89	Bachelor's degree
19-1031	Conservation scientists	1	0	0	\$18.60	Bachelor's degree
45-3011	Fishers and related fishing workers	1	1	0	\$7.26	Moderate-term on-the-job training
31-9096	Veterinary assistants and laboratory animal caretakers	1	0	0	\$8.96	Short-term on-the-job training
51-3093	Food cooking machine operators and tenders	1	0	0	\$7.37	Short-term on-the-job training
51-3092	Food batchmakers	1	0	0	\$8.36	Short-term on-the-job training
45-4021	Fallers	1	0	0	\$18.15	Moderate-term on-the-job training
51-3023	Slaughterers and meat packers	1	1	0	\$12.10	Moderate-term on-the-job training
51-3022	Meat, poultry, and fish cutters and trimmers	1	0	0	\$14.17	Short-term on-the-job training
27-4014	Sound engineering technicians	1	0	0	\$0.00	Postsecondary vocational award
51-3091	Food and tobacco roasting, baking, and drying machine operators and tenders	1	0	0	\$10.06	Short-term on-the-job training
15-1051	Computer systems analysts	1	1	0	\$24.57	Bachelor's degree
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	1	1	0	\$9.99	Work experience in a related field
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	1	2	1	\$20.26	Work experience in a related field
53-5011	Sailors and marine oilers	0	0	0	\$0.00	Short-term on-the-job training
33-3031	Fish and game wardens	0	0	0	\$17.18	Associate's degree
19-1023	Zoologists and wildlife biologists	0	0	0	\$15.15	Bachelor's degree
19-1011	Animal scientists	0	0	0	\$10.79	Bachelor's degree
15-1061	Database administrators	0	0	0	\$16.96	Bachelor's degree

19-4091	Environmental science and protection technicians, including health	0	0	0	\$14.53	Associate's degree
19-1012	Food scientists and technologists	0	0	0	\$13.95	Bachelor's degree
45-2011	Agricultural inspectors	0	0	0	\$14.13	Work experience in a related field
27-4012	Broadcast technicians	0	0	0	\$9.25	Associate's degree
27-4013	Radio operators	0	0	0	\$0.00	Moderate-term on-the-job training
13-1021	Purchasing agents and buyers, farm products	0	0	0	\$14.49	Work experience in a related field
17-2021	Agricultural engineers	0	0	0	\$0.00	Bachelor's degree
45-4023	Log graders and scalers	0	0	0	\$19.68	Moderate-term on-the-job training
17-1021	Cartographers and photogrammetrists	0	0	0	\$18.94	Bachelor's degree
25-9021	Farm and home management advisors	0	0	0	\$21.75	Bachelor's degree
17-2081	Environmental engineers	0	0	0	\$35.95	Bachelor's degree
19-1013	Soil and plant Scientists	0	0	0	\$13.57	Bachelor's degree
19-1029	Biological scientists, all other	0	0	0	\$24.78	Bachelor's degree
29-1031	Dietitians and nutritionists	0	1	0	\$19.73	Bachelor's degree
15-1041	Computer support specialists	0	4	1	\$14.76	Associate's degree
45-2021	Animal breeders	0	1	0	\$10.63	Short-term on-the-job training
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	0	3	1	\$26.81	Work experience in a related field
49-3042	Mobile heavy equipment mechanics, except engines	0	3	1	\$22.82	Postsecondary vocational award
13-2072	Loan officers	0	3	1	\$21.47	Bachelor's degree
11-3071	Transportation, storage, and distribution managers	0	1	0	\$24.12	Work experience in a related field
11-3051	Industrial production managers	0	2	0	\$42.23	Work experience in a related field
19-4093	Forest and conservation technicians	0	1	0	\$15.35	Associate's degree
47-4041	Hazardous materials removal workers	0	0	0	\$11.90	Moderate-term on-the-job training
27-4011	Audio and video equipment technicians	0	0	0	\$11.33	Long-term on-the-job training
51-3021	Butchers and meat cutters	0	0	0	\$10.31	Long-term on-the-job training
19-4021	Biological technicians	0	1	0	\$12.34	Associate's degree
29-2056	Veterinary technologists and technicians	0	0	0	\$12.40	Associate's degree

53-7032	Excavating and loading machine and dragline operators	-1	15	3	\$16.21	Moderate-term on-the-job training
41-2022	Parts salespersons	-1	12	2	\$11.19	Moderate-term on-the-job training
19-4041	Geological and petroleum technicians	-1	3	1	\$12.55	Associate's degree
17-3023	Electrical and electronic engineering technicians	-1	0	0	\$28.60	Associate's degree
11-9151	Social and community service managers	-1	2	0	\$9.17	Bachelor's degree
51-4121	Welders, cutters, solderers, and brazers	-5	18	4	\$16.63	Long-term on-the-job training
39-2021	Nonfarm animal caretakers	-9	7	1	\$13.37	Short-term on-the-job training
11-9012	Farmers and ranchers	-72	70	14	\$9.26	Long-term on-the-job training

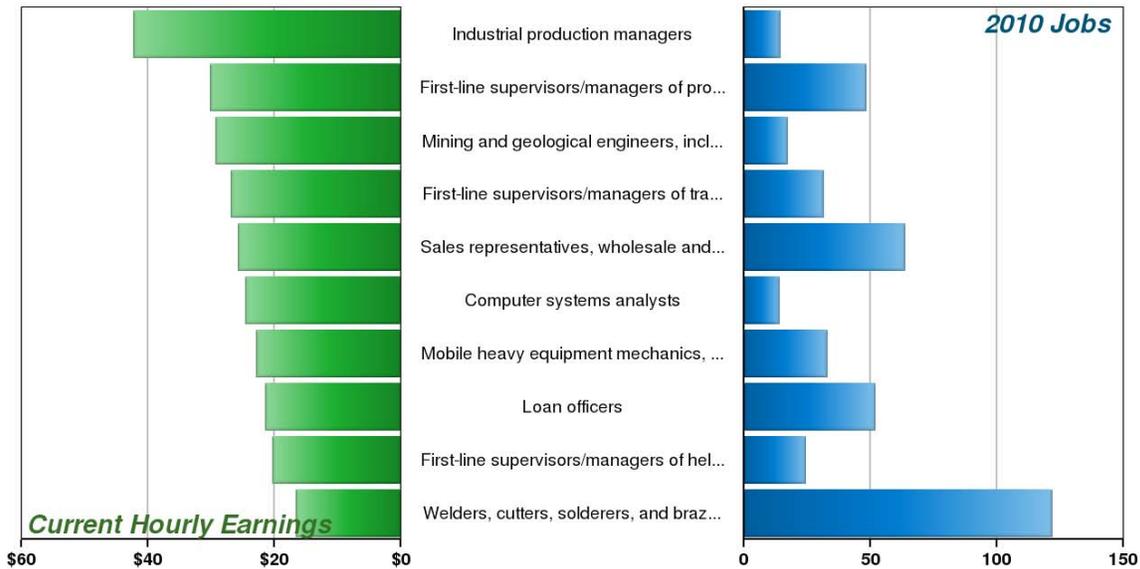
Source: EMSI Complete Employment - 1st Quarter 2010



County	2010 - 2015 Change
Woodward, OK (40153)	34
Ellis, OK (40045)	10
Dewey, OK (40043)	8
Harper, OK (40059)	-20

Source: EMSI Complete Employment - 1st Quarter 2010

## Highest Earnings

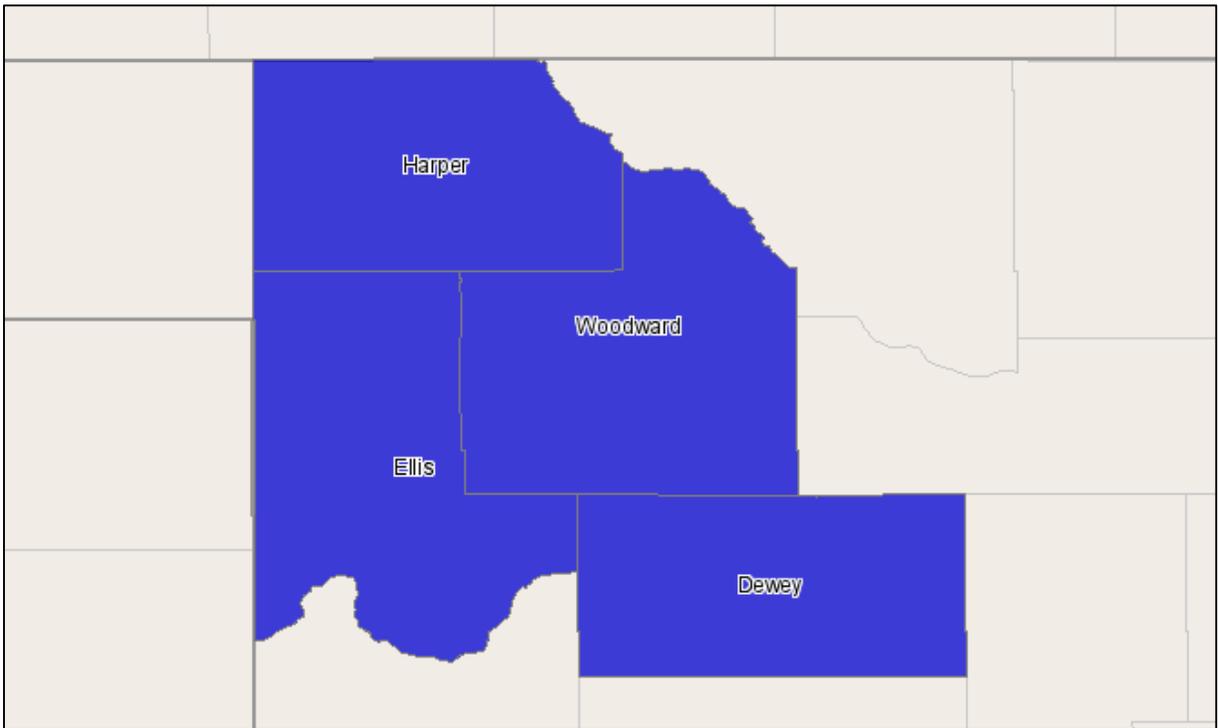


SOC Code	Description	Current Hourly Earnings	2010 Jobs	2010 - 2015 Change	Replacement	Education
11-3051	Industrial production managers	\$42.23	14	0	2	Work experience in a related field
51-1011	First-line supervisors/managers of production and operating workers	\$30.12	48	2	3	Work experience in a related field
17-2151	Mining and geological engineers, including mining safety engineers	\$29.28	17	3	2	Bachelor's degree
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	\$26.81	31	0	3	Work experience in a related field
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	\$25.73	64	2	7	Moderate-term on-the-job training
15-1051	Computer systems analysts	\$24.57	14	1	1	Bachelor's degree
49-3042	Mobile heavy equipment mechanics, except engines	\$22.82	33	0	3	Postsecondary vocational award
13-2072	Loan officers	\$21.47	52	0	3	Bachelor's degree
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	\$20.26	24	1	2	Work experience in a related field
51-4121	Welders, cutters, solderers, and brazers	\$16.63	122	-5	18	Long-term on-the-job training
51-4041	Machinists	\$16.23	47	6	3	Long-term on-the-job training

53-7032	Excavating and loading machine and dragline operators	\$16.21	108	-1	15	Moderate-term on-the-job training
45-1099	Supervisors, farming, fishing, and forestry workers	\$16.12	26	2	3	Work experience in a related field
11-9199	Managers, all other	\$16.07	333	36	41	Work experience in a related field
47-2073	Operating engineers and other construction equipment operators	\$15.85	122	5	10	Moderate-term on-the-job training
15-1041	Computer support specialists	\$14.76	30	0	4	Associate's degree
41-3099	Sales representatives, services, all other	\$14.18	28	4	3	Moderate-term on-the-job training
39-2021	Nonfarm animal caretakers	\$13.37	59	-9	7	Short-term on-the-job training
41-1011	First-line supervisors/managers of retail sales workers	\$12.70	369	12	39	Work experience in a related field
19-4041	Geological and petroleum technicians	\$12.55	20	-1	3	Associate's degree
51-8031	Water and liquid waste treatment plant and system operators	\$12.51	30	2	3	Long-term on-the-job training
41-2022	Parts salespersons	\$11.19	68	-1	12	Moderate-term on-the-job training
41-3031	Securities, commodities, and financial services sales agents	\$11.14	55	13	8	Bachelor's degree
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	\$9.99	17	1	1	Work experience in a related field
11-9012	Farmers and ranchers	\$9.26	2,261	-72	70	Long-term on-the-job training
11-9151	Social and community service managers	\$9.17	18	-1	2	Bachelor's degree
45-209A	Miscellaneous agricultural workers (aggregation of 45-2091,2,3,9)	\$8.88	443	13	59	Short-term on-the-job training
37-3013	Tree trimmers and pruners	\$8.54	17	3	1	Short-term on-the-job training
45-3011	Fishers and related fishing workers	\$7.26	11	1	1	Moderate-term on-the-job training

Source: EMSI Complete Employment - 1st Quarter 2010

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



County	Current Average Hourly Earnings
Woodward, OK (40153)	\$13.95
Dewey, OK (40043)	\$11.40
Harper, OK (40059)	\$10.66
Ellis, OK (40045)	\$8.76

Source: EMSI Complete Employment - 1st Quarter 2010

## **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.