

# Ohio Short-Term Employment Forecast

**1st Quarter 2018 to 1st Quarter 2020**



## **Summary**

Employment in Ohio is expected to increase by 1.4 percent from first quarter 2018 to first quarter 2020, a gain of 82,366 jobs. In addition, 670,119 job openings are projected annually. Of those, 269,806 are expected to be created because of workers leaving the labor force, and another 359,130 are expected to occur because of workers moving from one occupation to another occupation. Users familiar with projections data may notice that these values are significantly higher than past projections. This is due to a new methodology developed by the U.S. Bureau of Labor Statistics that changes the way job openings are estimated. The new methodology provides greater clarity in what is being measured, and the results are more reliable and more accurate for smaller occupations. However, because it is new, short-term projections from previous time periods should not be compared to newer projections going forward.

## **Methodology**

The methodology reflects the changing workforce of the 21<sup>st</sup> century and recognizes that workers may have several career changes during their working lives. It considers job openings resulting from labor force exits (workers who leave the labor force entirely due to retirement or other reasons) and from occupational transfers (workers who move from one occupation into another occupation). The latter are much more common. Occupational transfers do not include workers who change jobs but stay in the same occupation.

## **Total Openings in an Occupation**

The other source of job openings is industry growth. As the demand for products and services in an industry increases, the number of workers employed in that industry also increases. Occupational job growth is the difference between the base employment and projected employment for a time period. Overall, for most occupations, the number of openings created by growth is lower than the number of openings due to labor force exits and transfers.

## **Key Points**

Educators, workforce professionals, employers, job seekers, students and others can use projections to learn about:

- Areas of the economy that are projected to have positive or negative growth.
- Occupations projected to have a significant number of job openings, informing those who prepare and train the workforce.
- Promising career pathways in occupations expected to have a high demand for workers.

## **Technical Notes**

The Ohio short-term industry and occupational forecasts were derived primarily from data produced by the Occupational Employment Statistics (OES) and the Quarterly Census of Employment and Wages (QCEW) programs. The forecasts were funded by a grant from the U.S. Department of Labor (DOL).

Short-term (two-year) and long-term (ten-year) employment forecasts are calculated differently and serve different purposes. The two-year forecasts reflect seasonal and business-cycle changes; the 10-year forecasts are strongly influenced by structural changes in the economy. Short-term forecasts provide more timely information; long-term forecasts are helpful for extended economic planning and evaluation.

### ***Industry Employment Forecast***

The forecasting models utilized a historical monthly employment series from the QCEW program data through March 2018. Industry groups with three- or four-digit North American Industry Classification System (NAICS) codes were chosen. Trend, ordinary least squares regression, and autoregressive forecasting models were used. These methods measure the relationships between employment and one or more other economic variables, such as populations, labor force participation rate, income, housing, related industries, and more.

### ***Occupational Employment Forecasts***

Occupational estimates were derived from an industry-occupation matrix. From a three-year OES survey cycle, industry staffing patterns were generated based on the Standard Occupational Classification (SOC) coding structure. Occupational patterns for work arrangements outside the scope of the OES program (including agriculture, private household, self-employed and unpaid family workers) were developed using U.S. national staffing patterns and U.S. Census of Agriculture information.

### ***Wages***

The median wage estimates were produced using OES data, which are based on a semiannual mail survey. The survey gathers employment and wage data for specific occupations by geographic area and industry. Statewide Ohio wages were used when available.

### ***Annual Openings***

To project occupational openings, Ohio uses national separation rates calculated by the Bureau of Labor Statistics (BLS) caused by workers exiting the labor force due to retirement or other reasons (labor force exits) and separations caused by workers transferring to different occupations (occupational transfers). Projections of separations are combined with projections of employment change to determine occupational openings.

### ***Educational and Training Classifications***

DOL's educational and training classification system consists of three categories: a) typical education needed for entry, b) commonly required work experience in related occupations, and c) typical on-the-job training needed to obtain competency in the occupation. Complete definitions can be found at <https://www.bls.gov/emp/documentation/education-training-system.htm>.

### ***Data Limitations***

Every effort was made to ensure the accuracy of the projections, but data and forecasts are subject to error. The information in this report is best used as an indicator of employment trends, not as an exact count or prediction. It should be used in combination with other data sources and information. Employment forecasts cannot predict unforeseen events or actions.

This report provides estimates of the number of jobs, not the number of employees. It makes no distinctions for employment characteristics such as full-time, part-time or secondary jobs.

For additional information or questions, visit <http://OhioLMI.com>, email [ContactLMI@jfs.ohio.gov](mailto:ContactLMI@jfs.ohio.gov), or call (888) 296-7541, option 6.

## Employment Forecast Report by Major Industry

### First Quarter 2018 to First Quarter 2020

Industry Title	2018 Employment	2020 Forecast	Change 2018-2020	
			Employment	Percent
<b>Total, All Industries</b>	<b>5,788,293</b>	<b>5,870,659</b>	<b>82,366</b>	<b>1.4%</b>
<b>Goods-Producing</b>	<b>997,325</b>	<b>1,009,333</b>	<b>12,008</b>	<b>1.2%</b>
Agriculture, Forestry, Fishing and Hunting	95,224	95,140	-84	-0.1%
Mining	11,566	12,105	539	4.7%
Construction	197,055	208,248	11,193	5.7%
Manufacturing	693,480	693,840	360	0.1%
<b>Service-Providing</b>	<b>4,501,116</b>	<b>4,565,377</b>	<b>64,261</b>	<b>1.4%</b>
Wholesale Trade	230,970	234,675	3,705	1.6%
Retail Trade	559,390	555,096	-4,294	-0.8%
Transportation and Warehousing	200,786	204,174	3,388	1.7%
Utilities	19,259	19,722	463	2.4%
Information	70,919	69,259	-1,660	-2.3%
Finance and Insurance	244,162	248,813	4,651	1.9%
Real Estate and Rental and Leasing	61,993	63,473	1,480	2.4%
Professional, Scientific, and Technical Services	261,760	265,704	3,944	1.5%
Management of Companies and Enterprises	140,131	142,564	2,433	1.7%
Administrative and Waste Services	312,607	317,353	4,746	1.5%
Educational Services	459,192	459,883	691	0.2%
Health Care and Social Assistance	830,945	854,583	23,638	2.8%
Arts, Entertainment, and Recreation	64,693	69,377	4,684	7.2%
Accommodation and Food Services	468,849	483,406	14,557	3.1%
Other Services (Except Government)	229,886	231,633	1,747	0.8%
Government	345,574	345,662	88	0.0%
<b>Self-Employed and Unpaid Family Workers</b>	<b>289,852</b>	<b>295,949</b>	<b>6,097</b>	<b>2.1%</b>

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019.



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				Employment	Percent
	<b>Total, All Industries</b>	<b>5,788,293</b>	<b>5,870,659</b>	<b>82,366</b>	<b>1.4%</b>
	<b>Goods-Producing</b>	<b>997,325</b>	<b>1,009,333</b>	<b>12,008</b>	<b>1.2%</b>
	<b>Natural Resources, inc. Agriculture and Mining</b>	<b>106,790</b>	<b>107,245</b>	<b>455</b>	<b>0.4%</b>
	Agriculture, Forestry, Fishing and Hunting	95,224	95,140	-84	-0.1%
	Mining	11,566	12,105	539	4.7%
	<b>Construction</b>	<b>197,055</b>	<b>208,248</b>	<b>11,193</b>	<b>5.7%</b>
236	Construction of Buildings	45,037	47,379	2,342	5.2%
237	Heavy and Civil Engineering Construction	24,994	26,716	1,722	6.9%
238	Specialty Trade Contractors	127,024	134,153	7,129	5.6%
	<b>Manufacturing</b>	<b>693,480</b>	<b>693,840</b>	<b>360</b>	<b>0.1%</b>
311	Food Manufacturing	61,155	62,900	1,745	2.9%
312	Beverage and Tobacco Product Manufacturing	9,030	9,652	622	6.9%
321	Wood Product Manufacturing	12,845	12,413	-432	-3.4%
322	Paper Manufacturing	19,975	19,199	-776	-3.9%
323	Printing and Related Support Activities	21,267	19,724	-1,543	-7.3%
325	Chemical Manufacturing	45,303	44,807	-496	-1.1%
326	Plastics and Rubber Products Manufacturing	57,574	58,229	655	1.1%
327	Nonmetallic Mineral Product Manufacturing	26,609	26,850	241	0.9%
331	Primary Metal Manufacturing	35,747	34,447	-1,300	-3.6%
332	Fabricated Metal Product Manufacturing	100,502	100,617	115	0.1%
333	Machinery Manufacturing	78,809	81,346	2,537	3.2%
334	Computer and Electronic Product Manufacturing	20,391	20,090	-301	-1.5%
335	Electrical Equipment and Appliance Mfg.	26,865	26,204	-661	-2.5%
336	Transportation Equipment Manufacturing	128,509	128,028	-481	-0.4%
337	Furniture and Related Product Manufacturing	16,121	16,853	732	4.5%
339	Miscellaneous Manufacturing	21,546	21,502	-44	-0.2%
	<b>Service-Providing</b>	<b>4,501,116</b>	<b>4,565,377</b>	<b>64,261</b>	<b>1.4%</b>
	<b>Trade, Transportation and Utilities</b>	<b>1,010,405</b>	<b>1,013,667</b>	<b>3,262</b>	<b>0.3%</b>
	Wholesale Trade	230,970	234,675	3,705	1.6%
423	Merchant Wholesalers, Durable Goods	136,567	138,955	2,388	1.7%
424	Merchant Wholesalers, Nondurable Goods	75,810	77,163	1,353	1.8%
425	Wholesale Electronic Markets and Agents and Brokers	18,593	18,557	-36	-0.2%
	Retail Trade	559,390	555,096	-4,294	-0.8%
441	Motor Vehicle and Parts Dealers	78,230	79,656	1,426	1.8%
442	Furniture and Home Furnishings Stores	13,692	13,610	-82	-0.6%
443	Electronics and Appliance Stores	15,648	15,479	-169	-1.1%
444	Building Mat./Garden Equip. and Supplies Dealers	49,453	51,991	2,538	5.1%
445	Food and Beverage Stores	102,977	102,540	-437	-0.4%
446	Health and Personal Care Stores	36,170	34,734	-1,436	-4.0%
447	Gasoline Stations	35,771	35,337	-434	-1.2%
448	Clothing and Clothing Accessories Stores	38,045	37,192	-853	-2.2%
451	Sporting Goods, Hobby, Book, and Music Stores	19,622	19,088	-534	-2.7%
452	General Merchandise Stores	112,644	109,707	-2,937	-2.6%
453	Miscellaneous Store Retailers	28,658	27,854	-804	-2.8%
454	Nonstore Retailers	28,480	27,908	-572	-2.0%
	Transportation and Warehousing	200,786	204,174	3,388	1.7%
481	Air Transportation	10,102	10,215	113	1.1%
484	Truck Transportation	69,269	71,909	2,640	3.8%
485	Transit and Ground Passenger Transport	10,820	11,113	293	2.7%
488	Support Activities for Transportation	20,038	20,363	325	1.6%
492	Couriers and Messengers	24,702	25,334	632	2.6%
493	Warehousing and Storage	55,884	55,170	-714	-1.3%

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				Employment	Percent
	Utilities	19,259	19,722	463	2.4%
	<b>Information</b>	<b>70,919</b>	<b>69,259</b>	<b>-1,660</b>	<b>-2.3%</b>
511	Publishing Industries	21,384	19,777	-1,607	-7.5%
512	Motion Picture and Sound Recording Industries	5,760	5,698	-62	-1.1%
515	Broadcasting (except Internet)	5,981	5,649	-332	-5.6%
517	Telecommunications	24,051	24,030	-21	-0.1%
518	Data processing, hosting and related services	7,870	8,062	192	2.4%
519	Other Information Services	5,873	6,043	170	2.9%
	<b>Financial Activities</b>	<b>306,155</b>	<b>312,286</b>	<b>6,131</b>	<b>2.0%</b>
	Finance and Insurance	244,162	248,813	4,651	1.9%
522	Credit Intermediation and Related Activities	97,750	100,377	2,627	2.7%
523	Securities, commodity contracts and investments	18,857	19,539	682	3.6%
524	Insurance Carriers and Related Activities	126,317	127,665	1,348	1.1%
	<b>Real Estate and Rental and Leasing</b>	<b>61,993</b>	<b>63,473</b>	<b>1,480</b>	<b>2.4%</b>
531	Real Estate	43,986	45,573	1,587	3.6%
532	Rental and Leasing Services	17,324	17,211	-113	-0.7%
	<b>Professional and Business Services</b>	<b>714,498</b>	<b>725,621</b>	<b>11,123</b>	<b>1.6%</b>
	Professional, Scientific, and Technical Services	261,760	265,704	3,944	1.5%
5411	Legal Services	31,660	30,966	-694	-2.2%
5412	Accounting and Bookkeeping Services	33,604	33,500	-104	-0.3%
5413	Architectural, Engineering, and Related Services	41,242	41,680	438	1.1%
5414	Specialized Design Services	6,870	7,107	237	3.4%
5415	Computer Systems Design and Related Services	61,612	63,276	1,664	2.7%
5416	Management and Technical Consulting Services	33,711	33,862	151	0.4%
5417	Scientific Research and Development Services	17,221	18,147	926	5.4%
5418	Advertising and Related Services	12,840	12,889	49	0.4%
5419	Other Professional and Technical Services	23,000	24,277	1,277	5.6%
	<b>Management of Companies and Enterprises</b>	<b>140,131</b>	<b>142,564</b>	<b>2,433</b>	<b>1.7%</b>
	<b>Administrative and Waste Services</b>	<b>312,607</b>	<b>317,353</b>	<b>4,746</b>	<b>1.5%</b>
561	Administrative and Support Services	295,958	299,881	3,923	1.3%
562	Waste Management and Remediation Service	16,649	17,472	823	4.9%
	<b>Education and Health Services</b>	<b>1,290,137</b>	<b>1,314,466</b>	<b>24,329</b>	<b>1.9%</b>
	Educational Services	459,192	459,883	691	0.2%
6111	Elementary and Secondary Schools	285,490	283,797	-1,693	-0.6%
6112	Junior Colleges	23,669	23,278	-391	-1.7%
6113	Colleges, Universities, and Professional Schools	110,154	110,688	534	0.5%
6116	Other Schools and Instruction	11,187	11,073	-114	-1.0%
6117	Educational Support Services	24,109	26,781	2,672	11.1%
	<b>Health Care and Social Assistance</b>	<b>830,945</b>	<b>854,583</b>	<b>23,638</b>	<b>2.8%</b>
621	Ambulatory Health Care Services	270,028	280,466	10,438	3.9%
622	Hospitals	274,501	280,092	5,591	2.0%
623	Nursing and Residential Care Facilities	168,028	169,290	1,262	0.8%
624	Social Assistance	118,388	124,735	6,347	5.4%
	<b>Leisure and Hospitality</b>	<b>533,542</b>	<b>552,783</b>	<b>19,241</b>	<b>3.6%</b>
	Arts, Entertainment, and Recreation	64,693	69,377	4,684	7.2%
711	Performing Arts and Spectator Sports	12,743	13,088	345	2.7%
712	Museums, Historical Sites, and Similar Institution	6,263	6,487	224	3.6%
713	Amusement, Gambling, and Recreation Industries	45,687	49,802	4,115	9.0%
	<b>Accommodation and Food Services</b>	<b>468,849</b>	<b>483,406</b>	<b>14,557</b>	<b>3.1%</b>
721	Accommodation	35,864	37,874	2,010	5.6%
722	Food Services and Drinking Places	432,985	445,532	12,547	2.9%

# Ohio Short-Term Industry Employment\* Forecast

## First Quarter 2018 to First Quarter 2020

NAICS Code	Industry Title	2018 Employment	2020 Forecast	Change 2018-2020	
				Employment	Percent
	<b>Other Services (Except Government)</b>	<b>229,886</b>	<b>231,633</b>	<b>1,747</b>	<b>0.8%</b>
811	Repair and Maintenance	47,756	48,576	820	1.7%
812	Personal and Laundry Services	55,031	55,990	959	1.7%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	108,121	108,701	580	0.5%
814	Private Household	18,978	18,366	-612	-3.2%
	<b>Government</b>	<b>345,574</b>	<b>345,662</b>	<b>88</b>	<b>0.0%</b>
4911	Postal Service	22,956	23,292	336	1.5%
9991	Federal Government, Excluding Post Office	55,137	56,209	1,072	1.9%
9992	State Govt, excluding Education and Hospitals	52,759	51,383	-1,376	-2.6%
9993	Local Govt, excluding Education and Hospitals	214,722	214,778	56	0.0%
	<b>Self-Employed and Unpaid Family Workers</b>	<b>289,852</b>	<b>295,949</b>	<b>6,097</b>	<b>2.1%</b>

\*Industries with at least 5,000 employment.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019.



**Ohio Occupational Employment Forecast by Major Occupational Group**  
**First Quarter 2018 to First Quarter 2020**  
**Breakdown of Annual Openings**

SOC Code	Occupational Title	Employment		Change in Employment 2018- 2020	Annual Openings			
		2018 Employment	2020 Forecast		Change [1]	Exits [2]	Transfers [3]	Total
00-0000	<b>Total, All Occupations</b>	<b>5,788,293</b>	<b>5,870,659</b>	<b>82,366</b>	<b>41,183</b>	<b>269,806</b>	<b>359,130</b>	<b>670,119</b>
11-0000	Management Occupations	356,615	362,031	5,416	2,708	11,618	15,671	29,997
13-0000	Business and Financial Operations Occupations	286,506	291,458	4,952	2,476	8,425	16,958	27,859
15-0000	Computer and Mathematical Occupations	150,844	154,239	3,395	1,698	2,585	7,279	11,562
17-0000	Architecture and Engineering Occupations	96,672	98,748	2,076	1,038	2,404	4,370	7,812
19-0000	Life, Physical, and Social Science Occupations	37,412	38,090	678	339	990	2,337	3,666
21-0000	Community and Social Service Occupations	104,603	107,292	2,689	1,344	4,302	6,952	12,598
23-0000	Legal Occupations	35,399	35,487	88	44	874	1,234	2,152
25-0000	Education, Training, and Library Occupations	332,510	334,586	2,076	1,038	13,578	13,546	28,162
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	86,189	86,510	321	160	3,634	4,606	8,400
29-0000	Healthcare Practitioners and Technical Occupations	371,952	380,140	8,188	4,094	10,034	9,660	23,788
31-0000	Healthcare Support Occupations	205,853	212,183	6,330	3,165	11,957	11,337	26,459
33-0000	Protective Service Occupations	115,978	116,477	499	250	5,742	6,462	12,454
35-0000	Food Preparation and Serving Related Occupations	501,982	515,861	13,879	6,940	38,754	48,184	93,878
37-0000	Building and Grounds Cleaning and Maintenance Occupations	185,656	188,338	2,682	1,341	11,390	11,876	24,607
39-0000	Personal Care and Service Occupations	171,494	176,162	4,668	2,334	13,003	12,142	27,479
41-0000	Sales and Related Occupations	535,957	536,979	1,022	511	30,852	40,904	72,267
43-0000	Office and Administrative Support Occupations	844,793	847,266	2,473	1,236	43,048	50,428	94,712
45-0000	Farming, Fishing, and Forestry Occupations	13,771	13,712	-59	-30	504	1,522	1,996
47-0000	Construction and Extraction Occupations	204,041	214,128	10,087	5,044	7,338	13,766	26,148
49-0000	Installation, Maintenance, and Repair Occupations	222,867	227,134	4,267	2,134	7,826	13,160	23,120
51-0000	Production Occupations	508,043	506,907	-1,136	-568	20,051	36,250	55,733
53-0000	Transportation and Material Moving Occupations	419,156	426,931	7,775	3,888	20,898	30,486	55,272

[1] Numeric change measures the projected annual number of job gains or losses in an occupation for the projection period.

[2] Exits are the projected number of workers leaving an occupation and exiting the labor force entirely.

[3] Transfers are the projected number of workers leaving an occupation and transferring to a different occupation.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019.

**Ohio's Fastest Growing Occupations\***  
**First Quarter 2018 to First Quarter 2020**

<b>SOC Code</b>	<b>Occupational Title</b>	<b>Percent Change</b>	<b>Total Annual Openings</b>	<b>Median Hourly Wage May 2018</b>
47-2181	Roofers	11.5%	814	\$18.65
47-2021	Brickmasons and Blockmasons	10.4%	513	\$26.63
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	10.4%	111	\$17.93
47-2051	Cement Masons and Concrete Finishers	9.8%	661	\$22.25
47-2121	Glaziers	9.6%	220	\$20.53
53-7032	Excavating and Loading Machine and Dragline Operators	9.3%	162	\$20.47
47-2044	Tile and Marble Setters	7.4%	110	\$20.51
47-2221	Structural Iron and Steel Workers	7.4%	421	\$29.02
47-4031	Fence Erectors	7.3%	101	\$18.06
29-1071	Physician Assistants	7.2%	296	\$50.94
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	7.2%	137	\$9.75
39-3091	Amusement and Recreation Attendants	7.1%	2,478	\$9.34
39-9021	Personal Care Aides	7.1%	5,908	\$10.94
47-2071	Paving, Surfacing, and Tamping Equipment Operators	7.0%	142	\$23.05
29-2056	Veterinary Technologists and Technicians	6.8%	395	\$15.41
29-1171	Nurse Practitioners	6.6%	569	\$48.56
29-1131	Veterinarians	6.6%	238	\$45.82
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	6.5%	532	\$12.08
47-2061	Construction Laborers	6.3%	5,684	\$19.22
49-9011	Mechanical Door Repairers	6.3%	120	\$20.06
25-9099	Education, Training, and Library Workers, All Other	6.1%	501	\$21.38
47-2141	Painters, Construction and Maintenance	5.9%	1,040	\$19.36
41-9021	Real Estate Brokers	5.9%	199	\$27.10
43-4081	Hotel, Motel, and Resort Desk Clerks	5.9%	1,130	\$10.30
31-1011	Home Health Aides	5.7%	9,894	\$10.67
47-2081	Drywall and Ceiling Tile Installers	5.6%	177	\$20.02
15-2041	Statisticians	5.6%	74	\$37.82
11-9081	Lodging Managers	5.6%	156	\$19.78
47-3012	Helpers--Carpenters	5.6%	137	\$14.14
47-2031	Carpenters	5.5%	3,259	\$22.23

\*Based on occupations with at least 500 workers.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019.

## Occupations in Ohio with the Most Annual Openings

### First Quarter 2018 to First Quarter 2020

SOC Code	Occupational Title	Total Annual Openings	Median Hourly Wage May 2018
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	33,145	\$9.31
41-2031	Retail Salespersons	21,240	\$11.06
41-2011	Cashiers	20,273	\$9.71
35-3031	Waiters and Waitresses	19,697	\$9.37
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	16,433	\$13.67
43-4051	Customer Service Representatives	11,942	\$16.18
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	11,780	\$12.03
43-9061	Office Clerks, General	10,917	\$15.74
43-5081	Stock Clerks and Order Fillers	10,381	\$11.96
31-1011	Home Health Aides	9,894	\$10.67
53-3032	Heavy and Tractor-Trailer Truck Drivers	9,246	\$20.66
43-6014	Secretaries and Administrative Assistants, Ex. Legal, Medical, and Executive	8,324	\$17.09
29-1141	Registered Nurses	8,196	\$30.87
31-1014	Nursing Assistants	7,413	\$13.00
43-3031	Bookkeeping, Accounting, and Auditing Clerks	7,301	\$18.50
53-7064	Packers and Packagers, Hand	6,402	\$11.82
49-9071	Maintenance and Repair Workers, General	6,092	\$19.15
39-9011	Childcare Workers	5,948	\$10.01
35-2014	Cooks, Restaurant	5,922	\$11.89
39-9021	Personal Care Aides	5,908	\$10.94
11-9013	Farmers, Ranchers, and Other Agricultural Managers	5,887	\$34.65
11-1021	General and Operations Managers	5,759	\$46.21
47-2061	Construction Laborers	5,684	\$19.22
37-2012	Maids and Housekeeping Cleaners	5,492	\$10.47
35-1012	FL Supervisors of Food Preparation and Serving Workers	5,445	\$14.43
37-3011	Landscaping and Groundskeeping Workers	5,354	\$13.22
41-1011	FL Supervisors of Retail Sales Workers	5,263	\$18.34
41-4012	Sales Reps, Wholesale and Manufacturing, Ex. Tech and Scientific Products	5,232	\$27.60
43-6013	Medical Secretaries	5,197	\$16.30
43-1011	FL Supervisors of Office and Administrative Support Workers	4,656	\$25.93

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019.

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
<b>00-0000</b>	<b>Total, All Occupations</b>	<b>5,788,293</b>	<b>5,870,659</b>	<b>82,366</b>	<b>1.4%</b>	<b>41,183</b>	<b>269,806</b>	<b>359,130</b>	<b>670,119</b>	<b>\$17.96</b>
<b>11-0000</b>	<b>Management Occupations</b>	<b>356,615</b>	<b>362,031</b>	<b>5,416</b>	<b>1.5%</b>	<b>2,708</b>	<b>11,618</b>	<b>15,671</b>	<b>29,997</b>	<b>\$46.45</b>
11-1011	Chief Executives	7,145	7,059	-86	-1.2%	-43	205	292	454	\$94.47
11-1021	General and Operations Managers	65,100	66,074	974	1.5%	487	1,360	3,912	5,759	\$46.21
11-1031	Legislators	3,332	3,347	15	0.5%	8	90	140	238	\$19,350 **
11-2011	Advertising and Promotions Managers	470	473	3	0.6%	2	12	35	49	\$47.38
11-2021	Marketing Managers	5,638	5,751	113	2.0%	56	130	346	532	\$58.77
11-2022	Sales Managers	11,819	11,998	179	1.5%	90	270	723	1,083	\$58.23
11-2031	Public Relations and Fundraising Managers	1,876	1,911	35	1.9%	18	42	108	168	\$49.19
11-3011	Administrative Services Managers	10,080	10,240	160	1.6%	80	304	497	881	\$40.84
11-3021	Computer and Information Systems Managers	13,869	14,123	254	1.8%	127	246	763	1,136	\$59.97
11-3031	Financial Managers	21,928	22,751	823	3.8%	412	514	1,106	2,032	\$56.78
11-3051	Industrial Production Managers	11,067	11,156	89	0.8%	44	259	508	811	\$47.96
11-3061	Purchasing Managers	2,572	2,618	46	1.8%	23	76	128	227	\$56.16
11-3071	Transportation, Storage, and Distribution Managers	5,649	5,739	90	1.6%	45	130	296	471	\$42.85
11-3111	Compensation and Benefits Managers	578	581	3	0.5%	2	13	28	43	\$57.10
11-3121	Human Resources Managers	4,401	4,471	70	1.6%	35	110	238	383	\$52.70
11-3131	Training and Development Managers	812	822	10	1.2%	5	22	48	75	\$49.36
11-9013	Farmers, Ranchers, and Other Agricultural Managers	80,209	80,220	11	0.0%	6	4,690	1,191	5,887	\$34.65
11-9021	Construction Managers	14,711	15,413	702	4.8%	351	345	670	1,366	\$43.81
11-9031	Education Administrators, Preschool and Childcare Center/Program	2,691	2,722	31	1.2%	16	76	123	215	\$21.13
11-9032	Education Administrators, Elementary and Secondary School	9,809	9,837	28	0.3%	14	276	447	737	\$87,700 **
11-9033	Education Administrators, Postsecondary	5,503	5,511	8	0.1%	4	154	250	408	\$43.80
11-9039	Education Administrators, All Other	1,053	1,092	39	3.7%	20	30	49	99	\$41.17
11-9041	Architectural and Engineering Managers	6,572	6,702	130	2.0%	65	134	319	518	\$61.82
11-9051	Food Service Managers	11,397	11,681	284	2.5%	142	365	851	1,358	\$24.33
11-9061	Funeral Service Managers	1,283	1,289	6	0.5%	3	35	54	92	\$42.82
11-9081	Lodging Managers	1,203	1,270	67	5.6%	34	42	80	156	\$19.78
11-9111	Medical and Health Services Managers	16,090	16,507	417	2.6%	208	442	795	1,445	\$43.89
11-9121	Natural Sciences Managers	1,090	1,121	31	2.8%	16	25	62	103	\$58.04
11-9131	Postmasters and Mail Superintendents	490	488	-2	-0.4%	-1	13	20	32	\$36.68
11-9141	Property, Real Estate, and Community Association Managers	8,882	9,155	273	3.1%	136	374	302	812	\$24.88
11-9151	Social and Community Service Managers	4,811	5,007	196	4.1%	98	162	256	516	\$32.69
11-9161	Emergency Management Directors	310	312	2	0.6%	1	12	11	24	\$33.14
11-9199	Managers, All Other	24,143	24,557	414	1.7%	207	658	1,022	1,887	\$46.92
<b>13-0000</b>	<b>Business and Financial Operations Occupations</b>	<b>286,506</b>	<b>291,458</b>	<b>4,952</b>	<b>1.7%</b>	<b>2,476</b>	<b>8,425</b>	<b>16,958</b>	<b>27,859</b>	<b>\$30.59</b>
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	117	117	0	0.0%	0	5	8	13	\$16.73
13-1021	Buyers and Purchasing Agents, Farm Products	333	329	-4	-1.2%	-2	15	22	35	▲
13-1022	Wholesale and Retail Buyers, Except Farm Products	4,987	4,971	-16	-0.3%	-8	197	360	549	▲
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	13,317	13,260	-57	-0.4%	-28	394	734	1,100	▲
13-1031	Claims Adjusters, Examiners, and Investigators	11,558	11,488	-70	-0.6%	-35	289	642	896	\$31.25
13-1032	Insurance Appraisers, Auto Damage	727	722	-5	-0.7%	-2	18	40	56	\$29.59
13-1041	Compliance Officers	7,324	7,418	94	1.3%	47	206	372	625	\$29.80
13-1051	Cost Estimators	10,817	11,302	485	4.5%	242	348	718	1,308	\$29.15
13-1071	Human Resources Specialists	20,179	20,442	263	1.3%	132	590	1,335	2,057	\$27.80
13-1075	Labor Relations Specialists	6,319	6,329	10	0.2%	5	184	416	605	\$18.80
13-1081	Logisticians	5,890	5,981	91	1.5%	46	146	418	610	\$34.87
13-1111	Management Analysts	22,388	22,757	369	1.6%	184	725	1,166	2,075	\$37.37
13-1121	Meeting, Convention, and Event Planners	2,582	2,655	73	2.8%	36	99	196	331	\$21.58
13-1131	Fundraisers	4,844	4,925	81	1.7%	40	152	320	512	\$25.95
13-1141	Compensation, Benefits, and Job Analysis Specialists	3,209	3,281	72	2.2%	36	82	176	294	\$28.10
13-1151	Training and Development Specialists	9,402	9,573	171	1.8%	86	292	610	988	\$27.12
13-1161	Market Research Analysts and Marketing Specialists	22,223	23,164	941	4.2%	470	602	1,558	2,630	\$28.82
13-1199	Business Operations Specialists, All Other	34,548	35,114	566	1.6%	283	1,092	2,010	3,385	\$31.70
13-2011	Accountants and Auditors	48,592	49,241	649	1.3%	324	1,444	2,814	4,582	\$31.07
13-2021	Appraisers and Assessors of Real Estate	2,272	2,327	55	2.4%	28	80	66	174	\$27.10
13-2041	Credit Analysts	2,898	2,968	70	2.4%	35	68	168	271	\$33.90
13-2051	Financial Analysts	9,395	9,618	223	2.4%	112	190	598	900	\$34.58
13-2052	Personal Financial Advisors	7,792	8,120	328	4.2%	164	196	389	749	\$35.76
13-2053	Insurance Underwriters	5,892	5,741	-151	-2.6%	-76	150	312	386	\$32.78
13-2061	Financial Examiners	3,533	3,652	119	3.4%	60	100	164	324	\$34.69
13-2072	Loan Officers	12,907	13,336	429	3.3%	214	317	728	1,259	\$31.14
13-2081	Tax Examiners and Collectors, and Revenue Agents	1,654	1,651	-3	-0.2%	-2	50	64	112	\$30.01
13-2082	Tax Preparers	2,983	2,983	0	0.0%	0	162	148	310	\$17.98
13-2099	Financial Specialists, All Other	5,793	5,940	147	2.5%	74	181	303	558	\$36.38
<b>15-0000</b>	<b>Computer and Mathematical Occupations</b>	<b>150,844</b>	<b>154,239</b>	<b>3,395</b>	<b>2.3%</b>	<b>1,698</b>	<b>2,585</b>	<b>7,279</b>	<b>11,562</b>	<b>\$37.47</b>
15-1111	Computer and Information Research Scientists	179	184	5	2.8%	2	2	10	14	\$53.05
15-1121	Computer Systems Analysts	29,604	29,982	378	1.3%	189	544	1,330	2,063	\$40.43
15-1122	Information Security Analysts	2,969	3,130	161	5.4%	80	54	148	282	\$42.97
15-1131	Computer Programmers	6,037	5,928	-109	-1.8%	-54	104	267	317	\$34.99
15-1132	Software Developers, Applications	36,073	37,758	1,685	4.7%	842	504	1,812	3,158	\$43.88
15-1133	Software Developers, Systems Software	5,956	6,060	104	1.7%	52	82	295	429	\$47.51
15-1134	Web Developers	3,850	3,893	43	1.1%	22	72	196	290	\$29.88
15-1141	Database Administrators	4,418	4,491	73	1.7%	36	94	185	315	\$43.26
15-1142	Network and Computer Systems Administrators	14,280	14,392	112	0.8%	56	202	674	932	\$36.15
15-1143	Computer Network Architects	5,609	5,645	36	0.6%	18	79	277	374	\$46.41
15-1151	Computer User Support Specialists	19,218	19,560	342	1.8%	171	394	998	1,563	\$22.66
15-1152	Computer Network Support Specialists	10,237	10,389	152	1.5%	76	210	531	817	\$27.60
15-1199	Computer Occupations, All Other	6,545	6,676	131	2.0%	66	128	307	501	\$39.73
15-2011	Actuaries	1,139	1,180	41	3.6%	20	14	54	88	\$45.19
15-2031	Operations Research Analysts	3,919	4,115	196	5.0%	98	82	151	331	\$38.26
15-2041	Statisticians	716	756	40	5.6%	20	16	38	74	\$37.82
<b>17-0000</b>	<b>Architecture and Engineering Occupations</b>	<b>96,672</b>	<b>98,748</b>	<b>2,076</b>	<b>2.1%</b>	<b>1,038</b>	<b>2,404</b>	<b>4,370</b>	<b>7,812</b>	<b>\$36.07</b>
17-1011	Architects, Except Landscape and Naval	3,571	3,581	10	0.3%	5	90	160	255	\$36.88
17-1012	Landscape Architects	904	912	8	0.9%	4	23	40	67	\$28.28
17-1022	Surveyors	1,062	1,086	24	2.3%	12	32	44	88	\$27.62

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
17-2011	Aerospace Engineers	5,030	5,172	142	2.8%	71	116	183	370	\$53.07
17-2031	Biomedical Engineers	681	693	12	1.8%	6	15	30	51	\$38.10
17-2041	Chemical Engineers	1,445	1,460	15	1.0%	8	32	60	100	\$45.19
17-2061	Civil Engineers	8,051	8,190	139	1.7%	70	176	400	646	\$37.68
17-2061	Computer Hardware Engineers	1,067	1,092	25	2.3%	12	21	46	79	\$48.81
17-2071	Electrical Engineers	6,261	6,402	141	2.3%	70	143	254	467	\$40.28
17-2072	Electronics Engineers, Except Computer	3,789	3,848	59	1.6%	30	86	153	269	\$46.00
17-2081	Environmental Engineers	1,198	1,212	14	1.2%	7	28	50	85	\$40.76
17-2111	Health and Safety Engineers, Ex. Mining Safety Engineers and Inspectors	532	547	15	2.8%	8	12	22	42	\$42.30
17-2112	Industrial Engineers	14,926	15,344	418	2.8%	209	345	617	1,171	\$38.79
17-2131	Materials Engineers	1,582	1,601	19	1.2%	10	50	61	121	\$40.93
17-2141	Mechanical Engineers	14,689	15,198	509	3.5%	254	304	622	1,180	\$37.24
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	122	126	4	3.3%	2	2	6	10	\$40.75
17-2171	Petroleum Engineers	361	364	3	0.8%	2	6	17	25	\$39.79
17-2199	Engineers, All Other	7,403	7,542	139	1.9%	70	172	302	544	\$42.97
17-3011	Architectural and Civil Drafters	2,813	2,855	42	1.5%	21	84	153	258	\$24.71
17-3012	Electrical and Electronics Drafters	738	744	6	0.8%	3	22	40	65	\$27.51
17-3013	Mechanical Drafters	2,486	2,543	57	2.3%	28	74	136	238	\$25.82
17-3019	Drafters, All Other	1,215	1,237	22	1.8%	11	36	66	113	\$24.97
17-3021	Aerospace Engineering and Operations Technicians	434	446	12	2.8%	6	14	23	43	\$32.57
17-3022	Civil Engineering Technicians	1,979	2,004	25	1.3%	12	64	105	181	\$27.75
17-3023	Electrical and Electronic Engineering Technicians	2,428	2,444	16	0.7%	8	78	128	214	\$29.59
17-3024	Electro-Mechanical Technicians	421	429	8	1.9%	4	14	22	40	\$27.03
17-3025	Environmental Engineering Technicians	324	326	2	0.6%	1	10	17	28	\$22.02
17-3026	Industrial Engineering Technicians	3,275	3,329	54	1.6%	27	106	174	307	\$26.35
17-3027	Mechanical Engineering Technicians	2,267	2,319	52	2.3%	26	74	121	221	\$25.92
17-3029	Engineering Technicians, Except Drafters, All Other	3,294	3,340	46	1.4%	23	106	174	303	\$27.46
17-3031	Surveying and Mapping Technicians	1,501	1,518	17	1.1%	8	50	108	166	\$20.14
19-0000	<b>Life, Physical, and Social Science Occupations</b>	<b>37,412</b>	<b>38,090</b>	<b>678</b>	<b>1.8%</b>	<b>339</b>	<b>990</b>	<b>2,337</b>	<b>3,666</b>	<b>\$28.99</b>
19-1012	Food Scientists and Technologists	780	816	36	4.6%	18	22	58	98	\$32.93
19-1013	Soil and Plant Scientists	215	216	1	0.5%	0	6	16	22	\$26.59
19-1022	Microbiologists	562	569	7	1.2%	4	12	36	52	\$30.02
19-1023	Zoologists and Wildlife Biologists	167	166	-1	-0.6%	0	4	10	14	\$27.37
19-1029	Biological Scientists, All Other	821	857	36	4.4%	18	17	54	89	\$32.02
19-1031	Conservation Scientists	384	389	5	1.3%	2	8	24	34	\$25.37
19-1032	Foresters	178	177	-1	-0.6%	0	4	11	15	\$28.40
19-1041	Epidemiologists	189	191	2	1.1%	1	4	12	17	\$31.74
19-1042	Medical Scientists, Except Epidemiologists	4,304	4,400	96	2.2%	48	80	277	405	\$32.62
19-2012	Physicists	528	540	12	2.3%	6	11	30	47	\$56.67
19-2031	Chemists	4,109	4,162	53	1.3%	26	104	259	389	\$32.45
19-2032	Materials Scientists	633	647	14	2.2%	7	16	40	63	\$45.86
19-2041	Environmental Scientists and Specialists, Including Health	3,281	3,296	15	0.5%	8	71	226	305	\$36.00
19-2042	Geoscientists, Except Hydrologists and Geographers	355	357	2	0.6%	1	8	24	33	\$36.13
19-2043	Hydrologists	263	263	0	0.0%	0	6	18	24	\$38.40
19-2099	Physical Scientists, All Other	441	449	8	1.8%	4	8	26	38	\$50.10
19-3011	Economists	126	128	2	1.6%	1	2	7	10	\$52.31
19-3022	Survey Researchers	151	157	6	4.0%	3	4	10	17	\$26.55
19-3031	Clinical, Counseling, and School Psychologists	4,230	4,377	147	3.5%	74	108	164	346	\$35.06
19-3039	Psychologists, All Other	461	473	12	2.6%	6	12	18	36	\$48.93
19-3051	Urban and Regional Planners	559	568	9	1.6%	4	11	34	49	\$32.00
19-3091	Anthropologists and Archeologists	114	114	0	0.0%	0	3	7	10	\$28.45
19-3099	Social Scientists and Related Workers, All Other	1,841	1,878	37	2.0%	18	53	114	185	\$36.32
19-4011	Agricultural and Food Science Technicians	495	509	14	2.8%	7	14	36	57	\$19.02
19-4021	Biological Technicians	2,940	2,991	51	1.7%	26	76	202	304	\$21.13
19-4031	Chemical Technicians	3,845	3,879	34	0.9%	17	128	227	372	\$21.71
19-4061	Social Science Research Assistants	336	339	3	0.9%	2	14	25	41	\$20.76
19-4091	Environmental Science and Protection Technicians, Including Health	1,596	1,611	15	0.9%	8	64	120	192	\$21.27
19-4092	Forensic Science Technicians	368	374	6	1.6%	3	15	28	46	\$30.97
19-4093	Forest and Conservation Technicians	243	243	0	0.0%	0	10	18	28	\$19.51
19-4099	Life, Physical, and Social Science Technicians, All Other	1,580	1,621	41	2.6%	20	64	120	204	\$24.98
21-0000	<b>Community and Social Service Occupations</b>	<b>104,603</b>	<b>107,292</b>	<b>2,689</b>	<b>2.6%</b>	<b>1,344</b>	<b>4,302</b>	<b>6,952</b>	<b>12,598</b>	<b>\$20.70</b>
21-1011	Substance Abuse and Behavioral Disorder Counselors	3,181	3,305	124	3.9%	62	119	212	393	▲
21-1012	Educational, Guidance, School, and Vocational Counselors	10,390	10,517	127	1.2%	64	384	684	1,132	\$25.70
21-1013	Marriage and Family Therapists	512	535	23	4.5%	12	19	34	65	\$22.41
21-1014	Mental Health Counselors	5,471	5,756	285	5.2%	142	206	367	715	▲
21-1015	Rehabilitation Counselors	5,966	6,181	215	3.6%	108	224	397	729	\$16.58
21-1019	Counselors, All Other	1,541	1,594	53	3.4%	26	58	102	186	\$21.15
21-1021	Child, Family, and School Social Workers	10,006	10,394	388	3.9%	194	366	648	1,208	\$20.54
21-1022	Healthcare Social Workers	9,573	9,803	230	2.4%	115	348	616	1,079	\$25.74
21-1023	Mental Health and Substance Abuse Social Workers	5,302	5,506	204	3.8%	102	194	344	640	\$19.35
21-1029	Social Workers, All Other	3,335	3,436	101	3.0%	50	122	215	387	\$23.68
21-1091	Health Educators	1,878	1,919	41	2.2%	20	86	141	247	\$26.21
21-1092	Probation Officers and Correctional Treatment Specialists	2,889	2,893	4	0.1%	2	88	152	242	\$23.64
21-1093	Social and Human Service Assistants	16,522	17,109	587	3.6%	294	752	1,203	2,249	\$15.55
21-1094	Community Health Workers	1,579	1,626	47	3.0%	24	72	119	215	\$17.52
21-1099	Community and Social Service Specialists, All Other	3,082	3,156	74	2.4%	37	141	232	410	\$19.59
21-2011	Clergy	18,751	18,885	134	0.7%	67	863	1,154	2,084	\$21.62
21-2021	Directors, Religious Activities and Education	2,007	2,022	15	0.7%	8	90	152	250	\$21.10
21-2099	Religious Workers, All Other	2,618	2,655	37	1.4%	18	172	178	368	\$13.35
23-0000	<b>Legal Occupations</b>	<b>35,399</b>	<b>35,487</b>	<b>88</b>	<b>0.2%</b>	<b>44</b>	<b>874</b>	<b>1,234</b>	<b>2,152</b>	<b>\$32.23</b>
23-1011	Lawyers	19,790	19,799	9	0.0%	4	393	428	825	\$47.37
23-1012	Judicial Law Clerks	346	346	0	0.0%	0	5	12	17	\$25.16
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	462	462	0	0.0%	0	9	10	19	\$45.42
23-1022	Arbitrators, Mediators, and Conciliators	146	146	0	0.0%	0	3	3	6	\$28.02
23-1023	Judges, Magistrate Judges, and Magistrates	2,407	2,396	-11	-0.5%	-6	48	52	94	\$37.05
23-2011	Paralegals and Legal Assistants	7,959	8,070	111	1.4%	56	264	533	853	\$21.79

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
23-2091	Court Reporters	461	460	-1	-0.2%	0	16	21	37	\$24.23
23-2093	Title Examiners, Abstractors, and Searchers	2,720	2,690	-30	-1.1%	-15	96	124	205	\$22.34
23-2099	Legal Support Workers, All Other	1,108	1,118	10	0.9%	5	40	51	96	\$24.75
25-0000	<b>Education, Training, and Library Occupations</b>	<b>332,510</b>	<b>334,586</b>	<b>2,076</b>	<b>0.6%</b>	<b>1,038</b>	<b>13,578</b>	<b>13,546</b>	<b>28,162</b>	<b>\$25.13</b>
25-1011	Business Teachers, Postsecondary	5,013	5,098	85	1.7%	42	185	193	420	\$87,390 **
25-1021	Computer Science Teachers, Postsecondary	1,420	1,417	-3	-0.2%	-2	52	54	104	\$93,140 **
25-1022	Mathematical Science Teachers, Postsecondary	2,172	2,169	-3	-0.1%	-2	80	83	161	\$74,840 **
25-1031	Architecture Teachers, Postsecondary	508	509	1	0.2%	0	18	20	38	\$75,450 **
25-1032	Engineering Teachers, Postsecondary	1,390	1,404	14	1.0%	7	51	54	112	\$99,590 **
25-1042	Biological Science Teachers, Postsecondary	1,884	1,901	17	0.9%	8	70	72	150	\$83,770 **
25-1051	Atmospheric, Earth, Marine, and Space Sci. Teachers, Postsecondary	314	315	1	0.3%	0	12	12	24	\$87,920 **
25-1052	Chemistry Teachers, Postsecondary	847	849	2	0.2%	1	31	32	64	\$81,120 **
25-1053	Environmental Science Teachers, Postsecondary	170	171	1	0.6%	0	6	6	12	\$100,000 **
25-1054	Physics Teachers, Postsecondary	593	594	1	0.2%	0	22	22	44	\$97,720 **
25-1061	Anthropology and Archeology Teachers, Postsecondary	241	242	1	0.4%	0	9	9	18	\$85,590 **
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	491	491	0	0.0%	0	18	18	36	\$70,140 **
25-1063	Economics Teachers, Postsecondary	455	456	1	0.2%	0	16	18	34	\$99,920 **
25-1064	Geography Teachers, Postsecondary	231	231	0	0.0%	0	8	9	17	\$88,960 **
25-1065	Political Science Teachers, Postsecondary	579	581	2	0.3%	1	21	22	44	\$82,000 **
25-1066	Psychology Teachers, Postsecondary	1,327	1,342	15	1.1%	8	49	51	108	\$73,420 **
25-1067	Sociology Teachers, Postsecondary	662	662	0	0.0%	0	24	25	49	\$80,210 **
25-1069	Social Sciences Teachers, Postsecondary, All Other	399	397	-2	-0.5%	-1	14	15	28	\$70,500 **
25-1071	Health Specialties Teachers, Postsecondary	9,603	9,902	299	3.1%	150	357	372	879	\$106,750 **
25-1072	Nursing Instructors and Teachers, Postsecondary	3,618	3,721	103	2.8%	52	134	140	326	\$69,530 **
25-1081	Education Teachers, Postsecondary	3,440	3,453	13	0.4%	6	126	132	264	\$60,260 **
25-1082	Library Science Teachers, Postsecondary	368	369	1	0.3%	0	14	14	28	\$67,300 **
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	548	551	3	0.5%	2	20	21	43	\$60,450 **
25-1112	Law Teachers, Postsecondary	740	744	4	0.5%	2	27	28	57	\$111,140 **
25-1113	Social Work Teachers, Postsecondary	621	622	1	0.2%	0	23	24	47	\$69,670 **
25-1121	Art, Drama, and Music Teachers, Postsecondary	4,871	4,889	18	0.4%	9	178	186	373	\$69,290 **
25-1122	Communications Teachers, Postsecondary	1,463	1,466	3	0.2%	2	54	56	112	\$61,160 **
25-1123	English Language and Literature Teachers, Postsecondary	3,129	3,127	-2	-0.1%	-1	114	120	233	\$64,110 **
25-1124	Foreign Language and Literature Teachers, Postsecondary	1,374	1,380	6	0.4%	3	50	52	105	\$62,580 **
25-1125	History Teachers, Postsecondary	908	910	2	0.2%	1	34	34	69	\$75,590 **
25-1126	Philosophy and Religion Teachers, Postsecondary	940	948	8	0.9%	4	34	36	74	\$66,040 **
25-1191	Graduate Teaching Assistants	1,772	1,790	18	1.0%	9	65	68	142	\$44,030 **
25-1194	Vocational Education Teachers, Postsecondary	4,466	4,396	-70	-1.6%	-35	162	169	296	\$28.59
25-2011	Preschool Teachers, Except Special Education	13,070	13,253	183	1.4%	92	567	703	1,362	\$12.63
25-2012	Kindergarten Teachers, Except Special Education	6,132	6,117	-15	-0.2%	-8	264	327	583	\$58,500 **
25-2021	Elementary School Teachers, Except Special Education	46,862	46,723	-139	-0.3%	-70	1,544	1,732	3,206	\$61,950 **
25-2022	Middle School Teachers, Ex. Special and Career/Tech. Education	31,067	30,979	-88	-0.3%	-44	1,024	1,148	2,128	\$62,770 **
25-2023	Career/Technical Education Teachers, Middle School	285	284	-1	-0.4%	0	10	10	20	\$67,460 **
25-2031	Secondary School Teachers, Ex. Special and Career/Tech. Education	52,514	52,443	-71	-0.1%	-36	1,608	1,958	3,530	\$61,740 **
25-2032	Career/Technical Education Teachers, Secondary School	5,934	5,906	-28	-0.5%	-14	182	221	389	\$65,590 **
25-2051	Special Education Teachers, Preschool	972	1,006	34	3.5%	17	33	36	86	\$63,950 **
25-2052	Special Education Teachers, Kindergarten and Elementary School	7,954	7,965	11	0.1%	6	264	290	560	\$55,080 **
25-2053	Special Education Teachers, Middle School	4,607	4,612	5	0.1%	2	153	168	323	\$58,480 **
25-2054	Special Education Teachers, Secondary School	6,882	6,945	63	0.9%	32	230	252	514	\$58,990 **
25-2059	Special Education Teachers, All Other	706	724	18	2.5%	9	24	26	59	\$37,450 **
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	2,300	2,246	-54	-2.3%	-27	138	106	217	\$22.58
25-3021	Self-Enrichment Education Teachers	10,530	10,542	12	0.1%	6	642	493	1,141	\$16.74
25-3097	Teachers and Instructors, All Other Except Substitute Teachers	6,207	6,329	122	2.0%	61	382	294	737	\$39,120 **
25-3098	Substitute Teachers	19,684	20,394	710	3.6%	355	1,222	938	2,515	\$13.55
25-4011	Archivists	116	118	2	1.7%	1	5	7	13	\$21.47
25-4012	Curators	463	474	11	2.4%	6	20	27	53	\$24.03
25-4013	Museum Technicians and Conservators	340	351	11	3.2%	6	14	20	40	\$18.30
25-4021	Librarians	3,838	3,844	6	0.2%	3	210	144	357	\$25.53
25-4031	Library Technicians	3,963	3,976	13	0.3%	6	312	203	521	\$14.67
25-9031	Instructional Coordinators	3,080	3,137	57	1.9%	28	148	128	304	\$30.80
25-9041	Teacher Assistants	36,253	36,702	449	1.2%	224	2,002	1,664	3,890	\$25,950 **
25-9099	Education, Training, and Library Workers, All Other	4,129	4,379	250	6.1%	125	202	174	501	\$21.38
27-0000	<b>Arts, Design, Entertainment, Sports, and Media Occupations</b>	<b>86,189</b>	<b>86,510</b>	<b>321</b>	<b>0.4%</b>	<b>160</b>	<b>3,634</b>	<b>4,606</b>	<b>8,400</b>	<b>\$20.05</b>
27-1011	Art Directors	2,792	2,790	-2	-0.1%	-1	136	82	217	\$38.13
27-1012	Craft Artists	473	475	2	0.4%	1	23	14	38	\$14.11
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	1,862	1,917	55	3.0%	28	92	55	175	\$17.96
27-1014	Multimedia Artists and Animators	927	911	-16	-1.7%	-8	45	27	64	\$25.71
27-1021	Commercial and Industrial Designers	1,473	1,490	17	1.2%	8	52	84	144	\$28.48
27-1023	Floral Designers	2,017	1,929	-88	-4.4%	-44	70	111	137	\$11.89
27-1024	Graphic Designers	8,616	8,611	-5	-0.1%	-2	304	484	786	\$22.47
27-1025	Interior Designers	2,299	2,359	60	2.6%	30	82	131	243	\$24.54
27-1026	Merchandise Displayers and Window Trimmers	5,533	5,503	-30	-0.5%	-15	195	310	490	\$14.45
27-1027	Set and Exhibit Designers	472	486	14	3.0%	7	17	27	51	\$23.35
27-1029	Designers, All Other	198	199	1	0.5%	0	7	11	18	\$24.09
27-2011	Actors	943	987	44	4.7%	22	46	48	116	\$9.66
27-2012	Producers and Directors	2,031	2,019	-12	-0.6%	-6	51	125	170	\$25.57
27-2022	Coaches and Scouts	10,646	10,832	186	1.7%	93	599	810	1,502	\$26,360 **
27-2023	Umpires, Referees, and Other Sports Officials	337	351	14	4.2%	7	19	26	52	\$21,780 **
27-2031	Dancers	409	415	6	1.5%	3	26	29	58	\$14.31
27-2041	Music Directors and Composers	3,314	3,306	-8	-0.2%	-4	190	122	308	\$20.33
27-2042	Musicians and Singers	6,528	6,550	22	0.3%	11	376	242	629	\$23.31
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	452	469	17	3.8%	8	22	27	57	\$17.59
27-3011	Radio and Television Announcers	1,290	1,210	-80	-6.2%	-40	54	65	79	\$15.80
27-3022	Reporters and Correspondents	1,680	1,518	-162	-9.6%	-81	50	106	75	\$16.55
27-3031	Public Relations Specialists	7,149	7,272	123	1.7%	62	202	488	752	\$28.31
27-3041	Editors	2,649	2,477	-172	-6.5%	-86	85	162	161	\$25.22
27-3042	Technical Writers	1,755	1,757	2	0.1%	1	56	106	163	\$29.75

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
27-3043	Writers and Authors	4,015	3,977	-38	-0.9%	-19	170	170	321	\$21.75
27-3091	Interpreters and Translators	2,278	2,365	87	3.8%	44	105	101	250	\$25.29
27-3099	Media and Communication Workers, All Other	2,331	2,404	73	3.1%	36	107	102	245	\$21.56
27-4011	Audio and Video Equipment Technicians	1,301	1,323	22	1.7%	11	37	81	129	\$17.91
27-4012	Broadcast Technicians	889	858	-31	-3.5%	-16	24	54	62	\$14.27
27-4014	Sound Engineering Technicians	333	332	-1	-0.3%	0	10	20	30	\$21.74
27-4021	Photographers	6,452	6,657	205	3.2%	102	280	230	612	\$14.39
27-4031	Camera Operators, Television, Video, and Motion Picture	542	537	-5	-0.9%	-2	16	34	48	\$26.86
27-4032	Film and Video Editors	440	444	4	0.9%	2	13	28	43	\$24.81
27-4099	Media and Communication Equipment Workers, All Other	316	317	1	0.3%	0	9	20	29	\$25.27
<b>29-0000</b>	<b>Healthcare Practitioners and Technical Occupations</b>	<b>371,952</b>	<b>380,140</b>	<b>8,188</b>	<b>2.2%</b>	<b>4,094</b>	<b>10,034</b>	<b>9,660</b>	<b>23,788</b>	<b>\$29.34</b>
29-1011	Chiropractors	1,744	1,777	33	1.9%	16	29	14	59	\$37.09
29-1021	Dentists, General	3,991	4,050	59	1.5%	30	74	30	134	\$90.57
29-1022	Oral and Maxillofacial Surgeons	275	279	4	1.5%	2	5	2	9	▲
29-1023	Orthodontists	323	328	5	1.5%	2	6	2	10	▲
29-1029	Dentists, All Other Specialists	377	384	7	1.9%	4	7	3	14	\$57.54
29-1031	Dietitians and Nutritionists	2,507	2,562	55	2.2%	28	80	72	180	\$27.48
29-1041	Optometrists	1,276	1,310	34	2.7%	17	22	17	56	\$54.03
29-1051	Pharmacists	12,747	12,605	-142	-1.1%	-71	292	244	465	\$58.54
29-1061	Anesthesiologists	1,355	1,392	37	2.7%	18	20	15	53	▲
29-1062	Family and General Practitioners	4,601	4,729	128	2.8%	64	68	52	184	\$90.63
29-1063	Internists, General	3,113	3,177	64	2.1%	32	46	34	112	\$194,500 *
29-1064	Obstetricians and Gynecologists	1,216	1,247	31	2.5%	16	18	14	48	▲
29-1065	Pediatricians, General	1,503	1,541	38	2.5%	19	22	17	58	\$73.27
29-1066	Psychiatrists	1,483	1,512	29	2.0%	14	22	16	52	\$92.04
29-1067	Surgeons	2,550	2,614	64	2.5%	32	38	28	98	▲
29-1069	Physicians and Surgeons, All Other	15,860	16,258	398	2.5%	199	236	177	612	▲
29-1071	Physician Assistants	3,261	3,497	236	7.2%	118	58	120	296	\$50.94
29-1081	Podiatrists	748	762	14	1.9%	7	17	20	44	\$66.79
29-1122	Occupational Therapists	4,984	5,196	212	4.3%	106	105	141	352	\$40.54
29-1123	Physical Therapists	8,248	8,581	333	4.0%	166	162	175	503	\$41.81
29-1124	Radiation Therapists	617	629	12	1.9%	6	16	13	35	\$37.03
29-1125	Recreational Therapists	345	343	-2	-0.6%	-1	10	9	18	\$21.48
29-1126	Respiratory Therapists	6,310	6,609	299	4.7%	150	152	146	448	\$27.13
29-1127	Speech-Language Pathologists	5,474	5,685	211	3.9%	106	101	174	381	\$35.76
29-1128	Exercise Physiologists	492	504	12	2.4%	6	12	14	32	\$23.56
29-1129	Therapists, All Other	1,319	1,343	24	1.8%	12	32	38	82	\$32.75
29-1131	Veterinarians	3,442	3,669	227	6.6%	114	66	58	238	\$45.82
29-1141	Registered Nurses	128,875	132,121	3,246	2.5%	1,623	3,736	2,837	8,196	\$30.87
29-1151	Nurse Anesthetists	2,652	2,742	90	3.4%	45	37	89	171	\$76.39
29-1161	Nurse Midwives	250	258	8	3.2%	4	5	8	17	\$49.62
29-1171	Nurse Practitioners	6,867	7,323	456	6.6%	228	138	203	569	\$48.56
29-1181	Audiologists	651	672	21	3.2%	10	16	13	39	\$34.07
29-1199	Health Diagnosing and Treating Practitioners, All Other	1,604	1,639	35	2.2%	18	64	16	98	\$38.73
29-2011	Medical and Clinical Laboratory Technologists	6,872	6,994	122	1.8%	61	210	210	481	▲
29-2012	Medical and Clinical Laboratory Technicians	6,373	6,496	123	1.9%	62	195	194	451	▲
29-2021	Dental Hygienists	7,897	8,019	122	1.5%	61	288	178	527	\$33.24
29-2031	Cardiovascular Technologists and Technicians	2,316	2,374	58	2.5%	29	60	58	147	\$26.15
29-2032	Diagnostic Medical Sonographers	2,186	2,278	92	4.2%	46	58	56	160	\$30.97
29-2033	Nuclear Medicine Technologists	918	934	16	1.7%	8	24	23	55	\$34.62
29-2034	Radiologic Technologists	8,860	9,062	202	2.3%	101	232	224	557	\$27.15
29-2035	Magnetic Resonance Imaging Technologists	1,432	1,463	31	2.2%	16	38	36	90	\$31.52
29-2041	Emergency Medical Technicians and Paramedics	10,833	10,986	153	1.4%	76	190	448	714	\$14.52
29-2051	Dietetic Technicians	662	668	6	0.9%	3	22	30	55	\$12.69
29-2052	Pharmacy Technicians	16,442	16,365	-77	-0.5%	-38	532	727	1,221	\$14.09
29-2053	Psychiatric Technicians	1,126	1,125	-1	-0.1%	0	36	50	86	\$15.80
29-2055	Surgical Technologists	4,073	4,163	90	2.2%	45	134	182	361	\$22.07
29-2056	Veterinary Technologists and Technicians	3,486	3,723	237	6.8%	118	117	160	395	\$15.41
29-2057	Ophthalmic Medical Technicians	1,751	1,814	63	3.6%	32	58	79	169	\$17.51
29-2061	Licensed Practical and Licensed Vocational Nurses	40,134	40,382	248	0.6%	124	1,420	1,398	2,942	\$20.81
29-2071	Medical Records and Health Information Technicians	9,621	9,759	138	1.4%	69	284	288	641	\$19.14
29-2081	Opticians, Dispensing	3,075	3,093	18	0.6%	9	102	114	225	\$19.16
29-2092	Hearing Aid Specialists	410	404	-6	-1.5%	-3	12	14	23	\$26.20
29-2099	Health Technologists and Technicians, All Other	4,562	4,713	151	3.3%	76	128	153	357	\$18.92
29-9011	Occupational Health and Safety Specialists	4,064	4,115	51	1.3%	26	91	112	229	\$35.06
29-9012	Occupational Health and Safety Technicians	853	862	9	1.1%	4	19	24	47	\$24.74
29-9091	Athletic Trainers	1,307	1,358	51	3.9%	26	30	36	92	\$46,630 **
29-9092	Genetic Counselors	111	116	5	4.5%	2	2	3	7	\$36.74
29-9099	Healthcare Practitioners and Technical Workers, All Other	736	755	19	2.6%	10	16	20	46	\$30.42
<b>31-0000</b>	<b>Healthcare Support Occupations</b>	<b>205,863</b>	<b>212,183</b>	<b>6,330</b>	<b>3.1%</b>	<b>3,165</b>	<b>11,957</b>	<b>11,337</b>	<b>26,459</b>	<b>\$12.80</b>
31-1011	Home Health Aides	69,209	73,154	3,945	5.7%	1,972	4,324	3,598	9,894	\$10.67
31-1013	Psychiatric Aides	1,174	1,146	-28	-2.4%	-14	70	58	114	\$16.88
31-1014	Nursing Assistants	67,324	67,180	-144	-0.2%	-72	4,086	3,399	7,413	\$13.00
31-1015	Orderlies	2,255	2,292	37	1.6%	18	138	115	271	\$12.93
31-2011	Occupational Therapy Assistants	3,537	3,705	168	4.7%	84	182	260	526	\$28.40
31-2021	Physical Therapist Assistants	6,367	6,668	301	4.7%	150	286	480	916	\$27.98
31-2022	Physical Therapist Aides	914	953	39	4.3%	20	41	69	130	\$12.90
31-9011	Massage Therapists	3,181	3,344	163	5.1%	82	214	117	413	\$17.63
31-9091	Dental Assistants	10,567	10,734	167	1.6%	84	544	610	1,238	\$17.77
31-9092	Medical Assistants	23,723	24,940	1,217	5.1%	608	1,068	1,494	3,170	\$15.23
31-9093	Medical Equipment Preparers	2,237	2,285	48	2.1%	24	142	134	300	\$16.36
31-9094	Medical Transcriptionists	2,219	2,189	-30	-1.4%	-15	146	111	242	\$17.93
31-9095	Pharmacy Aides	830	811	-19	-2.3%	-10	54	56	100	\$12.18
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	2,823	3,007	184	6.5%	92	168	272	532	\$12.08
31-9097	Phlebotomists	5,474	5,652	178	3.3%	89	240	321	650	\$16.29
31-9099	Healthcare Support Workers, All Other	3,945	4,047	102	2.6%	51	250	238	539	\$18.22



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SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
<b>33-0000</b>	<b>Protective Service Occupations</b>	<b>115,978</b>	<b>116,477</b>	<b>499</b>	<b>0.4%</b>	<b>250</b>	<b>5,742</b>	<b>6,462</b>	<b>12,454</b>	<b>\$19.47</b>
33-1011	FL Supervisors of Correctional Officers	589	578	-11	-1.9%	-6	18	20	32	\$32.03
33-1012	FL Supervisors of Police and Detectives	2,491	2,500	9	0.4%	4	70	77	151	\$38.75
33-1021	FL Supervisors of Fire Fighting and Prevention Workers	2,362	2,374	12	0.5%	6	80	72	158	\$34.15
33-1099	FL Supervisors of Protective Service Workers, All Other	2,581	2,604	23	0.9%	12	118	130	260	\$17.09
33-2011	Firefighters	18,367	18,462	95	0.5%	48	412	780	1,240	\$22.07
33-3011	Bailiffs	1,423	1,407	-16	-1.1%	-8	50	64	106	\$21.97
33-3012	Correctional Officers and Jailers	13,117	12,745	-372	-2.8%	-186	456	581	851	\$22.49
33-3021	Detectives and Criminal Investigators	2,082	2,085	3	0.1%	2	56	73	131	\$32.68
33-3031	Fish and Game Wardens	147	145	-2	-1.4%	-1	8	5	12	\$31.16
33-3041	Parking Enforcement Workers	160	147	-13	-8.1%	-6	8	6	8	\$16.71
33-3051	Police and Sheriff's Patrol Officers	24,180	24,253	73	0.3%	36	585	944	1,565	\$29.32
33-3052	Transit and Railroad Police	242	243	1	0.4%	0	6	10	16	\$74,030 *
33-9011	Animal Control Workers	335	339	4	1.2%	2	16	20	38	\$17.16
33-9021	Private Detectives and Investigators	1,263	1,270	7	0.6%	4	64	55	123	\$18.31
33-9031	Gaming Surveillance Officers and Gaming Investigators	512	522	10	2.0%	5	30	36	71	\$26.97
33-9032	Security Guards	32,289	32,657	368	1.1%	184	1,926	2,290	4,400	\$12.60
33-9091	Crossing Guards	1,590	1,600	10	0.6%	5	223	62	290	\$11.91
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service	6,474	6,722	248	3.8%	124	914	696	1,734	\$9.42
33-9093	Transportation Security Screeners	756	772	16	2.1%	8	38	29	75	\$18.94
33-9099	Protective Service Workers, All Other	4,646	4,680	34	0.7%	17	646	492	1,155	\$14.07
<b>35-0000</b>	<b>Food Preparation and Serving Related Occupations</b>	<b>501,982</b>	<b>515,861</b>	<b>13,879</b>	<b>2.8%</b>	<b>6,940</b>	<b>38,754</b>	<b>48,184</b>	<b>93,878</b>	<b>\$9.64</b>
35-1011	Chefs and Head Cooks	4,408	4,551	143	3.2%	72	144	408	624	\$19.36
35-1012	FL Supervisors of Food Preparation and Serving Workers	34,952	35,907	955	2.7%	478	1,587	3,380	5,445	\$14.43
35-2011	Cooks, Fast Food	15,841	15,862	21	0.1%	10	928	1,268	2,206	\$9.84
35-2012	Cooks, Institution and Cafeteria	17,890	17,866	-24	-0.1%	-12	1,048	1,430	2,466	\$12.64
35-2014	Cooks, Restaurant	37,047	38,432	1,385	3.7%	692	2,211	3,019	5,922	\$11.89
35-2015	Cooks, Short Order	12,185	12,195	10	0.1%	5	714	975	1,694	\$10.11
35-2021	Food Preparation Workers	25,256	25,740	484	1.9%	242	2,038	2,210	4,490	\$10.11
35-3011	Bartenders	22,484	22,880	396	1.8%	198	1,092	2,602	3,892	\$9.27
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	161,992	168,423	6,431	4.0%	3,216	14,629	15,300	33,145	\$9.31
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	16,687	16,900	213	1.3%	106	2,018	1,586	3,710	\$9.72
35-3031	Waiters and Waitresses	96,478	99,196	2,718	2.8%	1,359	7,242	11,096	19,697	\$9.37
35-3041	Food Servers, Nonrestaurant	14,301	14,421	120	0.8%	60	1,082	1,010	2,152	\$9.97
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	11,190	11,500	310	2.8%	155	1,010	899	2,064	\$9.40
35-9021	Dishwashers	13,640	13,913	273	2.0%	136	1,020	1,098	2,254	\$9.65
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	15,961	16,375	414	2.6%	207	1,862	1,770	3,839	\$9.37
35-9099	Food Preparation and Serving Related Workers, All Other	1,016	1,057	41	4.0%	20	92	82	194	\$10.49
<b>37-0000</b>	<b>Building and Grounds Cleaning and Maintenance Occupations</b>	<b>185,656</b>	<b>188,338</b>	<b>2,682</b>	<b>1.4%</b>	<b>1,341</b>	<b>11,390</b>	<b>11,876</b>	<b>24,607</b>	<b>\$12.20</b>
37-1011	FL Supervisors of Housekeeping and Janitorial Workers	6,691	6,795	104	1.6%	52	340	408	800	\$19.58
37-1012	FL Supervisors of Lndscp, Lawn Service, and Groundskeeping Workers	5,849	5,974	125	2.1%	62	192	357	611	\$21.50
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	87,698	88,680	982	1.1%	491	5,741	5,548	11,780	\$12.03
37-2012	Maids and Housekeeping Cleaners	39,804	40,370	566	1.4%	283	2,968	2,241	5,492	\$10.47
37-2019	Building Cleaning Workers, All Other	474	478	4	0.8%	2	31	30	63	\$15.89
37-2021	Pest Control Workers	1,473	1,476	3	0.2%	2	57	140	199	\$16.91
37-3011	Landscaping and Groundskeeping Workers	41,199	42,071	872	2.1%	436	1,944	2,974	5,354	\$13.22
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	984	997	13	1.3%	6	46	71	123	\$15.39
37-3013	Tree Trimmers and Pruners	1,321	1,332	11	0.8%	6	62	95	163	\$18.58
37-3019	Grounds Maintenance Workers, All Other	163	165	2	1.2%	1	8	12	21	\$15.85
<b>39-0000</b>	<b>Personal Care and Service Occupations</b>	<b>171,494</b>	<b>176,162</b>	<b>4,668</b>	<b>2.7%</b>	<b>2,334</b>	<b>13,003</b>	<b>12,142</b>	<b>27,479</b>	<b>\$10.90</b>
39-1011	Gaming Supervisors	273	284	11	4.0%	6	14	30	50	▲
39-1012	Slot Supervisors	106	110	4	3.8%	2	5	12	19	▲
39-1021	FL Supervisors of Personal Service Workers	7,980	8,222	242	3.0%	121	388	364	873	\$16.93
39-2011	Animal Trainers	696	709	13	1.9%	6	34	44	84	\$11.40
39-2021	Nonfarm Animal Caretakers	8,178	8,621	443	5.4%	222	574	677	1,473	\$10.19
39-3012	Gaming and Sports Book Writers and Runners	165	172	7	4.2%	4	10	15	29	\$11.56
39-3031	Ushers, Lobby Attendants, and Ticket Takers	2,377	2,412	35	1.5%	18	314	267	599	\$9.30
39-3091	Amusement and Recreation Attendants	9,255	9,909	654	7.1%	327	1,012	1,139	2,478	\$9.34
39-3092	Costume Attendants	115	118	3	2.6%	2	12	14	28	\$16.95
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	511	548	37	7.2%	18	56	63	137	\$9.75
39-4021	Funeral Attendants	2,265	2,257	-8	-0.4%	-4	200	139	335	\$12.65
39-5012	Hairdressers, Hairstylists, and Cosmetologists	29,209	29,197	-12	0.0%	-6	1,948	1,458	3,400	\$10.73
39-5092	Manicurists and Pedicurists	2,470	2,473	3	0.1%	2	148	126	276	\$11.80
39-5093	Shampooers	191	191	0	0.0%	0	12	10	22	\$9.41
39-5094	Skincare Specialists	1,937	1,946	9	0.5%	4	117	98	219	\$14.61
39-6011	Baggage Porters and Bellhops	492	516	24	4.9%	12	24	44	80	\$9.50
39-6012	Concierges	299	314	15	5.0%	8	14	27	49	\$11.64
39-9011	Childcare Workers	40,831	40,981	150	0.4%	75	3,339	2,534	5,948	\$10.01
39-9021	Personal Care Aides	32,806	35,119	2,313	7.1%	1,156	2,710	2,042	5,908	\$10.94
39-9031	Fitness Trainers and Aerobics Instructors	8,321	8,722	401	4.8%	200	558	852	1,610	\$12.77
39-9032	Recreation Workers	14,203	14,323	120	0.8%	60	934	1,426	2,420	\$11.14
39-9041	Residential Advisors	3,189	3,351	162	5.1%	81	217	324	622	\$13.04
39-9099	Personal Care and Service Workers, All Other	1,542	1,549	7	0.5%	4	104	120	228	\$9.92
<b>41-0000</b>	<b>Sales and Related Occupations</b>	<b>535,957</b>	<b>536,979</b>	<b>1,022</b>	<b>0.2%</b>	<b>511</b>	<b>30,852</b>	<b>40,904</b>	<b>72,267</b>	<b>\$12.99</b>
41-1011	FL Supervisors of Retail Sales Workers	51,964	51,687	-277	-0.5%	-138	1,913	3,488	5,263	\$18.34
41-1012	FL Supervisors of Non-Retail Sales Workers	12,783	13,000	217	1.7%	108	430	718	1,256	\$33.50
41-2011	Cashiers	113,705	112,319	-1,386	-1.2%	-693	10,610	10,356	20,273	\$9.71
41-2012	Gaming Change Persons and Booth Cashiers	365	376	11	3.0%	6	35	34	75	\$11.51
41-2021	Counter and Rental Clerks	13,231	13,339	108	0.8%	54	698	975	1,727	\$11.81
41-2022	Parts Salespersons	10,530	10,705	175	1.7%	88	462	840	1,390	\$13.54
41-2031	Retail Salespersons	153,182	152,105	-1,077	-0.7%	-538	9,664	12,114	21,240	\$11.06
41-3011	Advertising Sales Agents	3,879	3,700	-179	-4.6%	-90	142	328	380	\$21.37
41-3021	Insurance Sales Agents	21,315	21,828	513	2.4%	256	876	1,160	2,292	\$22.94
41-3031	Securities, Commodities, and Financial Services Sales Agents	11,026	11,279	253	2.3%	126	292	735	1,153	\$27.71
41-3041	Travel Agents	1,892	1,876	-16	-0.8%	-8	101	114	207	\$16.00
41-3099	Sales Representatives, Services, All Other	33,413	34,114	701	2.1%	350	1,068	2,914	4,332	\$24.40

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
41-4011	Sales Reps, Wholesale and Manufacturing, Tech and Scientific Products	17,947	18,270	323	1.8%	162	598	1,213	1,973	\$36.27
41-4012	Sales Reps, Wholesale and Manufacturing, Ex. Tech and Scientific Products	48,171	48,927	756	1.6%	378	1,602	3,252	5,232	\$27.60
41-9011	Demonstrators and Product Promoters	1,204	1,219	15	1.2%	8	122	82	212	\$11.81
41-9021	Real Estate Brokers	1,619	1,714	95	5.9%	48	86	65	199	\$27.10
41-9022	Real Estate Sales Agents	15,326	15,957	631	4.1%	316	801	610	1,727	\$16.92
41-9031	Sales Engineers	3,666	3,730	64	1.7%	32	87	284	403	\$41.71
41-9041	Telemarketers	13,246	13,216	-30	-0.2%	-15	789	1,248	2,022	\$11.38
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	5,064	5,176	112	2.2%	56	345	191	592	\$12.38
41-9099	Sales and Related Workers, All Other	2,367	2,381	14	0.6%	7	126	181	314	\$13.98
<b>43-0000</b>	<b>Office and Administrative Support Occupations</b>	<b>844,793</b>	<b>847,266</b>	<b>2,473</b>	<b>0.3%</b>	<b>1,236</b>	<b>43,048</b>	<b>50,428</b>	<b>94,712</b>	<b>\$16.73</b>
43-1011	FL Supervisors of Office and Administrative Support Workers	46,478	46,785	307	0.7%	154	1,810	2,692	4,656	\$25.93
43-2011	Switchboard Operators, Including Answering Service	2,662	2,558	-104	-3.9%	-52	164	174	286	\$13.32
43-2021	Telephone Operators	341	328	-13	-3.8%	-6	20	25	39	\$16.66
43-3011	Bill and Account Collectors	13,919	13,817	-102	-0.7%	-51	521	910	1,380	\$16.51
43-3021	Billing and Posting Clerks	22,167	22,647	480	2.2%	240	958	1,234	2,432	\$17.62
43-3031	Bookkeeping, Accounting, and Auditing Clerks	66,646	66,596	-50	-0.1%	-25	4,125	3,201	7,301	\$18.50
43-3041	Gaming Cage Workers	362	372	10	2.8%	5	22	34	61	\$13.11
43-3051	Payroll and Timekeeping Clerks	6,391	6,376	-15	-0.2%	-8	270	359	621	\$21.05
43-3061	Procurement Clerks	3,953	3,950	-3	-0.1%	-2	166	256	420	\$19.87
43-3071	Tellers	19,988	20,079	91	0.5%	46	1,026	1,287	2,359	\$13.63
43-3099	Financial Clerks, All Other	2,505	2,561	56	2.2%	28	96	166	290	\$18.64
43-4011	Brokerage Clerks	2,980	3,044	64	2.1%	32	76	229	337	\$22.39
43-4021	Correspondence Clerks	478	475	-3	-0.6%	-2	22	31	51	\$15.86
43-4031	Court, Municipal, and License Clerks	7,733	7,772	39	0.5%	20	347	304	671	\$17.43
43-4041	Credit Authorizers, Checkers, and Clerks	1,424	1,418	-6	-0.4%	-3	49	92	138	\$18.36
43-4051	Customer Service Representatives	91,456	92,176	720	0.8%	360	4,694	6,888	11,942	\$16.18
43-4061	Eligibility Interviewers, Government Programs	4,270	4,301	31	0.7%	16	170	202	388	\$20.52
43-4071	File Clerks	4,522	4,401	-121	-2.7%	-60	274	270	484	\$16.25
43-4081	Hotel, Motel, and Resort Desk Clerks	6,009	6,362	353	5.9%	176	342	612	1,130	\$10.30
43-4111	Interviewers, Except Eligibility and Loan	8,905	9,050	145	1.6%	72	480	561	1,113	\$15.09
43-4121	Library Assistants, Clerical	6,072	6,091	19	0.3%	10	484	367	861	\$11.88
43-4131	Loan Interviewers and Clerks	11,907	12,309	402	3.4%	201	436	700	1,337	\$18.07
43-4141	New Accounts Clerks	2,370	2,395	25	1.1%	12	102	147	261	\$16.63
43-4151	Order Clerks	10,136	10,051	-85	-0.8%	-42	468	660	1,086	\$15.01
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	4,632	4,609	-23	-0.5%	-12	195	310	493	\$18.62
43-4171	Receptionists and Information Clerks	26,059	26,347	288	1.1%	144	1,630	1,739	3,513	\$12.80
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	2,066	2,115	49	2.4%	24	90	125	239	\$13.16
43-4199	Information and Record Clerks, All Other	3,753	3,816	63	1.7%	32	184	237	453	\$20.15
43-5011	Cargo and Freight Agents	2,761	2,823	62	2.2%	31	87	139	257	\$19.43
43-5021	Couriers and Messengers	2,054	2,085	31	1.5%	16	95	90	201	\$13.18
43-5031	Police, Fire, and Ambulance Dispatchers	4,172	4,189	17	0.4%	8	148	225	381	\$21.40
43-5032	Dispatchers, Except Police, Fire, and Ambulance	7,535	7,626	91	1.2%	46	268	408	722	\$19.71
43-5041	Meter Readers, Utilities	1,003	1,004	1	0.1%	0	32	40	72	\$21.48
43-5051	Postal Service Clerks	2,683	2,729	46	1.7%	23	137	74	234	\$22.84
43-5052	Postal Service Mail Carriers	12,802	13,021	219	1.7%	110	499	364	973	\$25.10
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	3,818	3,845	27	0.7%	14	162	110	286	\$28.25
43-5061	Production, Planning, and Expediting Clerks	14,268	14,469	201	1.4%	100	499	932	1,531	\$22.48
43-5071	Shipping, Receiving, and Traffic Clerks	35,234	35,252	18	0.1%	9	1,376	2,098	3,483	\$15.68
43-5081	Stock Clerks and Order Fillers	82,404	82,423	19	0.0%	10	4,500	5,871	10,381	\$11.96
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	2,612	2,645	33	1.3%	16	104	150	270	\$16.26
43-6011	Executive Secretaries and Executive Administrative Assistants	22,214	21,394	-820	-3.7%	-410	1,174	1,142	1,906	\$26.99
43-6012	Legal Secretaries	7,266	6,952	-414	-5.7%	-207	380	370	543	\$21.58
43-6013	Medical Secretaries	40,817	42,371	1,554	3.8%	777	2,240	2,180	5,197	\$16.30
43-6014	Secretaries and Administrative Assistants, Ex. Legal, Medical, and Executive	83,764	82,719	-1,045	-1.2%	-522	4,484	4,362	8,324	\$17.09
43-9011	Computer Operators	1,446	1,376	-70	-4.8%	-35	56	86	107	\$19.51
43-9021	Data Entry Keyers	6,195	5,922	-273	-4.4%	-136	312	391	567	\$14.81
43-9022	Word Processors and Typists	1,784	1,674	-110	-6.2%	-55	110	83	138	\$18.64
43-9041	Insurance Claims and Policy Processing Clerks	20,625	21,012	387	1.9%	194	890	1,169	2,253	\$18.43
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	3,572	3,412	-160	-4.5%	-80	190	196	306	\$14.79
43-9061	Office Clerks, General	94,366	94,339	-27	0.0%	-14	5,536	5,395	10,917	\$15.74
43-9071	Office Machine Operators, Except Computer	2,942	2,968	26	0.9%	13	128	192	283	\$14.66
43-9111	Statistical Assistants	652	658	6	0.9%	3	30	50	83	\$21.11
43-9199	Office and Administrative Support Workers, All Other	5,636	5,746	110	2.0%	55	248	362	665	\$18.71
<b>45-0000</b>	<b>Farming, Fishing, and Forestry Occupations</b>	<b>13,771</b>	<b>13,712</b>	<b>-59</b>	<b>-0.4%</b>	<b>-30</b>	<b>504</b>	<b>1,522</b>	<b>1,996</b>	<b>\$13.85</b>
45-1011	FL Supervisors of Farming, Fishing, and Forestry Workers	633	631	-2	-0.3%	-1	20	62	81	\$26.49
45-2011	Agricultural Inspectors	389	390	1	0.3%	0	16	34	50	\$22.22
45-2041	Graders and Sorters, Agricultural Products	549	551	2	0.4%	1	22	52	75	\$11.12
45-2091	Agricultural Equipment Operators	1,067	1,073	6	0.6%	3	39	122	164	\$17.50
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	8,880	8,850	-30	-0.3%	-15	324	1,010	1,319	\$11.15
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	1,368	1,347	-21	-1.5%	-10	50	154	194	\$13.74
45-4021	Fallers	132	129	-3	-2.3%	-2	4	12	14	\$11.91
45-4022	Logging Equipment Operators	337	329	-8	-2.4%	-4	12	30	38	\$15.04
<b>47-0000</b>	<b>Construction and Extraction Occupations</b>	<b>204,041</b>	<b>214,128</b>	<b>10,087</b>	<b>4.9%</b>	<b>5,044</b>	<b>7,338</b>	<b>13,766</b>	<b>26,148</b>	<b>\$23.14</b>
47-1011	Supervisors of Construction and Extraction Workers	15,482	16,275	793	5.1%	396	508	1,002	1,906	\$31.10
47-2011	Boilermakers	600	613	13	2.2%	6	19	40	65	\$35.12
47-2021	Brickmasons and Blockmasons	3,646	4,025	379	10.4%	190	111	212	513	\$26.63
47-2031	Carpenters	27,156	28,651	1,495	5.5%	748	960	1,551	3,259	\$22.23
47-2041	Carpet Installers	839	872	33	3.9%	16	27	44	87	\$16.84
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	318	341	23	7.2%	12	10	17	39	\$19.94
47-2044	Tile and Marble Setters	886	952	66	7.4%	33	29	48	110	\$20.51
47-2051	Cement Masons and Concrete Finishers	4,134	4,538	404	9.8%	202	165	294	661	\$22.25
47-2061	Construction Laborers	41,975	44,616	2,641	6.3%	1,320	1,510	2,854	5,684	\$19.22
47-2071	Paving, Surfacing, and Tamping Equipment Operators	1,015	1,086	71	7.0%	36	34	72	142	\$23.05
47-2073	Operating Engineers and Other Construction Equipment Operators	14,040	14,778	738	5.3%	369	550	1,010	1,929	\$25.51
47-2081	Drywall and Ceiling Tile Installers	1,519	1,604	85	5.6%	42	48	87	177	\$20.02
47-2082	Tapers	240	255	15	6.3%	8	8	14	30	\$30.17

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
47-2111	Electricians	24,616	24,998	382	1.6%	191	864	1,844	2,899	\$25.08
47-2121	Glaziers	1,322	1,449	127	9.6%	64	50	106	220	\$20.53
47-2131	Insulation Workers, Floor, Ceiling, and Wall	489	516	27	5.5%	14	14	38	66	\$18.66
47-2132	Insulation Workers, Mechanical	918	956	38	4.1%	19	25	72	116	\$27.63
47-2141	Painters, Construction and Maintenance	8,957	9,488	531	5.9%	266	314	460	1,040	\$19.36
47-2142	Paperhangers	398	404	6	1.5%	3	14	20	37	\$18.74
47-2151	Pipelayers	659	664	5	0.8%	2	24	44	70	\$22.75
47-2152	Plumbers, Pipefitters, and Steamfitters	16,179	16,655	476	2.9%	238	596	1,098	1,932	\$26.60
47-2161	Plasterers and Stucco Masons	332	356	24	7.2%	12	12	20	44	\$22.76
47-2171	Reinforcing Iron and Rebar Workers	417	437	20	4.8%	10	11	32	53	\$22.56
47-2181	Roofers	5,099	5,685	586	11.5%	293	155	366	814	\$18.65
47-2211	Sheet Metal Workers	4,146	4,311	165	4.0%	82	146	290	518	\$26.19
47-2221	Structural Iron and Steel Workers	2,905	3,121	216	7.4%	108	87	226	421	\$29.02
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	559	617	58	10.4%	29	25	57	111	\$17.93
47-3012	Helpers--Carpenters	809	854	45	5.6%	22	35	80	137	\$14.14
47-3013	Helpers--Electricians	951	963	12	1.3%	6	40	92	138	\$13.76
47-3015	Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	1,034	1,062	28	2.7%	14	44	101	159	\$14.66
47-3019	Helpers, Construction Trades, All Other	414	430	16	3.9%	8	18	40	66	\$14.29
47-4011	Construction and Building Inspectors	2,843	2,887	44	1.5%	22	141	162	325	\$27.89
47-4021	Elevator Installers and Repairers	529	540	11	2.1%	6	17	44	67	\$36.38
47-4031	Fence Erectors	681	731	50	7.3%	25	24	52	101	\$18.06
47-4041	Hazardous Materials Removal Workers	2,327	2,450	123	5.3%	62	95	188	345	\$22.20
47-4051	Highway Maintenance Workers	7,640	7,659	19	0.2%	10	324	438	772	\$19.80
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	1,518	1,586	68	4.5%	34	78	113	225	\$20.46
47-4099	Construction and Related Workers, All Other	998	1,045	47	4.7%	24	40	66	130	▲
47-5012	Rotary Drill Operators, Oil and Gas	274	279	5	1.8%	2	7	26	35	\$21.79
47-5013	Service Unit Operators, Oil, Gas, and Mining	861	883	22	2.6%	11	22	81	114	\$23.72
47-5021	Earth Drillers, Except Oil and Gas	491	515	24	4.9%	12	12	40	64	\$20.71
47-5041	Continuous Mining Machine Operators	517	496	-21	-4.1%	-10	15	44	49	\$54,520 *
47-5042	Mine Cutting and Channeling Machine Operators	143	140	-3	-2.1%	-2	4	12	14	\$24.11
47-5051	Rock Splitters, Quarry	111	116	5	4.5%	2	4	10	16	\$16.15
47-5071	Roustabouts, Oil and Gas	842	864	22	2.6%	11	29	74	114	\$17.13
47-5081	Helpers--Extraction Workers	205	214	9	4.4%	4	6	20	30	\$17.70
<b>49-0000</b>	<b>Installation, Maintenance, and Repair Occupations</b>	<b>222,867</b>	<b>227,134</b>	<b>4,267</b>	<b>1.9%</b>	<b>2,134</b>	<b>7,826</b>	<b>13,160</b>	<b>23,120</b>	<b>\$21.97</b>
49-1011	FL Supervisors of Mechanics, Installers, and Repairers	16,764	17,095	331	2.0%	166	548	872	1,586	\$30.38
49-2011	Computer, Automated Teller, and Office Machine Repairers	3,789	3,827	38	1.0%	19	124	242	385	\$15.98
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	663	661	-2	-0.3%	-1	22	47	68	\$25.97
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	9,063	9,102	39	0.4%	20	302	642	964	\$24.61
49-2091	Avionics Technicians	448	461	13	2.9%	6	10	26	42	\$24.07
49-2092	Electric Motor, Power Tool, and Related Repairers	814	836	22	2.7%	11	25	50	86	\$21.00
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	235	239	4	1.7%	2	6	14	22	\$28.48
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	2,302	2,324	22	1.0%	11	58	141	210	\$27.76
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	578	594	16	2.8%	8	14	36	58	\$35.65
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	223	205	-18	-8.1%	-9	7	14	12	\$17.23
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	1,357	1,383	26	1.9%	13	48	92	153	\$12.99
49-2098	Security and Fire Alarm Systems Installers	2,582	2,649	67	2.6%	34	86	196	316	\$21.51
49-3011	Aircraft Mechanics and Service Technicians	4,157	4,247	90	2.2%	45	131	186	362	\$28.69
49-3021	Automotive Body and Related Repairers	6,444	6,514	70	1.1%	35	224	396	645	\$18.55
49-3022	Automotive Glass Installers and Repairers	985	990	5	0.5%	2	37	57	96	\$17.90
49-3023	Automotive Service Technicians and Mechanics	28,373	28,591	218	0.8%	109	898	1,720	2,727	\$18.09
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	12,225	12,618	393	3.2%	196	381	708	1,285	\$22.28
49-3041	Farm Equipment Mechanics and Service Technicians	1,489	1,514	25	1.7%	12	46	94	152	\$18.90
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	3,555	3,691	136	3.8%	68	112	228	408	\$26.27
49-3043	Rail Car Repairers	607	612	5	0.8%	2	19	38	59	\$22.41
49-3051	Motorboat Mechanics and Service Technicians	403	423	20	5.0%	10	17	26	53	\$17.82
49-3052	Motorcycle Mechanics	721	754	33	4.6%	16	30	46	92	\$17.04
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	1,158	1,195	37	3.2%	18	48	73	139	\$14.65
49-3091	Bicycle Repairers	362	362	0	0.0%	0	14	31	45	\$12.71
49-3092	Recreational Vehicle Service Technicians	320	331	11	3.4%	6	12	28	46	\$16.86
49-3093	Tire Repairers and Changers	3,828	3,834	6	0.2%	3	142	328	473	\$12.66
49-9011	Mechanical Door Repairers	1,119	1,189	70	6.3%	35	28	57	120	\$20.06
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	1,355	1,374	19	1.4%	10	34	68	112	\$32.21
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	11,719	12,046	327	2.8%	164	328	796	1,288	\$22.54
49-9031	Home Appliance Repairers	2,332	2,318	-14	-0.6%	-7	114	102	209	\$17.31
49-9041	Industrial Machinery Mechanics	19,751	20,231	480	2.4%	240	675	1,034	1,949	\$24.83
49-9043	Maintenance Workers, Machinery	2,567	2,609	42	1.6%	21	110	150	281	\$22.00
49-9044	Millwrights	2,350	2,389	39	1.7%	20	75	134	229	\$28.37
49-9051	Electrical Power-Line Installers and Repairers	3,293	3,403	110	3.3%	55	84	176	315	\$33.88
49-9052	Telecommunications Line Installers and Repairers	3,469	3,593	124	3.6%	62	86	262	410	\$20.08
49-9062	Medical Equipment Repairers	2,062	2,100	38	1.8%	19	80	98	197	\$22.53
49-9063	Musical Instrument Repairers and Tuners	370	365	-5	-1.4%	-2	14	18	30	\$14.72
49-9064	Watch Repairers	144	143	-1	-0.7%	0	6	6	12	\$17.99
49-9069	Precision Instrument and Equipment Repairers, All Other	706	726	20	2.8%	10	28	34	72	\$27.41
49-9071	Maintenance and Repair Workers, General	56,235	57,463	1,228	2.2%	614	2,316	3,162	6,092	\$19.15
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	2,436	2,421	-15	-0.6%	-8	104	164	260	\$16.79
49-9094	Locksmiths and Safe Repairers	761	755	-6	-0.8%	-3	38	32	67	\$18.85
49-9095	Manufactured Building and Mobile Home Installers	154	151	-3	-1.9%	-2	6	8	12	\$16.23
49-9096	Riggers	386	392	6	1.6%	3	12	26	41	\$21.12
49-9098	Helpers--Installation, Maintenance, and Repair Workers	2,112	2,173	61	2.9%	30	103	162	295	\$13.76
49-9099	Installation, Maintenance, and Repair Workers, All Other	5,686	5,826	140	2.5%	70	212	330	612	\$18.48
<b>51-0000</b>	<b>Production Occupations</b>	<b>508,043</b>	<b>506,907</b>	<b>-1,136</b>	<b>-0.2%</b>	<b>-568</b>	<b>20,051</b>	<b>36,250</b>	<b>55,733</b>	<b>\$17.28</b>
51-1011	FL Supervisors of Production and Operating Workers	30,967	31,271	304	1.0%	152	992	1,992	3,136	\$28.70
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	525	515	-10	-1.9%	-5	22	32	49	\$20.40
51-2021	Coil Winders, Tapers, and Finishers	636	607	-29	-4.6%	-14	32	40	58	\$18.13
51-2022	Electrical and Electronic Equipment Assemblers	9,764	9,428	-336	-3.4%	-168	486	627	945	▲
51-2023	Electromechanical Equipment Assemblers	2,049	1,997	-52	-2.5%	-26	102	132	208	▲

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
51-2031	Engine and Other Machine Assemblers	6,700	6,580	-120	-1.8%	-60	167	495	602	\$22.73
51-2041	Structural Metal Fabricators and Fitters	3,482	3,466	-16	-0.5%	-8	120	254	366	\$17.28
51-2091	Fiberglass Laminators and Fabricators	475	490	15	3.2%	8	20	35	63	\$17.01
51-2092	Team Assemblers	42,090	41,236	-854	-2.0%	-427	1,780	3,018	4,371	▲
51-2099	Assemblers and Fabricators, All Other	31,346	30,563	-783	-2.5%	-392	1,322	2,242	3,172	▲
51-3011	Bakers	6,299	6,361	62	1.0%	31	406	476	913	\$12.37
51-3021	Butchers and Meat Cutters	4,889	4,917	28	0.6%	14	220	374	608	\$16.90
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	2,242	2,291	49	2.2%	24	102	172	298	\$13.58
51-3023	Slaughterers and Meat Packers	3,115	3,196	81	2.6%	40	142	240	422	\$13.00
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	856	875	19	2.2%	10	36	62	108	\$16.46
51-3092	Food Batchmakers	6,201	6,355	154	2.5%	77	345	524	946	\$15.83
51-3093	Food Cooking Machine Operators and Tenders	1,555	1,601	46	3.0%	23	86	128	237	\$16.59
51-3099	Food Processing Workers, All Other	2,285	2,337	52	2.3%	26	100	156	282	\$12.10
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	13,584	13,803	219	1.6%	110	378	960	1,448	\$19.42
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	2,037	2,121	84	4.1%	42	58	146	246	\$23.57
51-4021	Extruding and Drawing Machine S/O/T, Metal and Plastic	6,556	6,518	-38	-0.6%	-19	164	490	635	\$16.24
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	1,021	968	-53	-5.2%	-26	28	71	73	\$18.74
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	2,699	2,615	-84	-3.1%	-42	76	190	224	\$19.03
51-4031	Cutting, Punching, and Press Machine S/O/T, Metal and Plastic	17,947	17,727	-220	-1.2%	-110	646	1,350	1,886	\$16.31
51-4032	Drilling and Boring Machine Tool S/O/T, Metal and Plastic	670	644	-26	-3.9%	-13	24	46	57	\$19.85
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool S/O/T, Metal and Plastic	6,997	6,952	-45	-0.6%	-22	242	487	707	\$16.01
51-4034	Lathe and Turning Machine Tool S/O/T, Metal and Plastic	1,750	1,720	-30	-1.7%	-15	51	118	154	\$18.79
51-4035	Milling and Planing Machine S/O/T, Metal and Plastic	1,383	1,311	-72	-5.2%	-36	50	93	107	\$22.47
51-4041	Machinists	28,198	28,628	430	1.5%	215	987	1,850	3,052	\$19.90
51-4051	Metal-Refining Furnace Operators and Tenders	1,131	1,107	-24	-2.1%	-12	36	72	96	\$17.03
51-4052	Pourers and Casters, Metal	533	504	-29	-5.4%	-14	17	33	36	\$15.40
51-4061	Model Makers, Metal and Plastic	460	453	-7	-1.5%	-4	17	32	45	\$27.05
51-4062	Patternmakers, Metal and Plastic	344	336	-8	-2.3%	-4	12	24	32	\$19.62
51-4071	Foundry Mold and Coremakers	1,694	1,623	-71	-4.2%	-36	60	126	150	\$15.53
51-4072	Molding, Coremaking, and Casting Machine S/O/T, Metal and Plastic	16,053	15,963	-90	-0.6%	-45	586	1,212	1,753	\$14.35
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	14,300	14,365	65	0.5%	32	531	992	1,555	\$16.72
51-4111	Tool and Die Makers	7,954	7,893	-61	-0.8%	-30	310	430	710	\$23.96
51-4121	Welders, Cutters, Solderers, and Brazers	18,367	18,842	475	2.6%	238	496	1,453	2,187	\$18.94
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	3,194	3,113	-81	-2.5%	-40	84	246	290	\$18.38
51-4191	Heat Treating Equipment S/O/T, Metal and Plastic	1,701	1,691	-10	-0.6%	-5	63	118	176	\$17.30
51-4192	Layout Workers, Metal and Plastic	149	154	5	3.4%	2	6	10	18	\$19.12
51-4193	Plating and Coating Machine S/O/T, Metal and Plastic	2,464	2,487	23	0.9%	12	62	182	256	\$15.77
51-4194	Tool Grinders, Filers, and Sharpeners	751	755	4	0.5%	2	22	70	94	\$18.12
51-4199	Metal Workers and Plastic Workers, All Other	1,431	1,405	-26	-1.8%	-13	52	98	137	\$15.36
51-5111	Prepress Technician and Workers	1,783	1,631	-152	-8.5%	-76	71	129	124	\$19.19
51-5112	Printing Press Operators	8,983	8,557	-426	-4.7%	-213	342	570	699	\$17.18
51-5113	Print Binding and Finishing Workers	2,844	2,659	-185	-6.5%	-92	208	152	268	\$14.49
51-6011	Laundry and Dry-Cleaning Workers	6,588	6,709	121	1.8%	60	446	447	953	\$10.35
51-6021	Pressers, Textile, Garment, and Related Materials	2,151	2,211	60	2.8%	30	132	143	305	\$11.12
51-6031	Sewing Machine Operators	3,191	3,141	-50	-1.6%	-25	180	153	308	\$11.82
51-6041	Shoe and Leather Workers and Repairers	454	456	2	0.4%	1	21	22	44	\$12.07
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	242	240	-2	-0.8%	-1	16	16	31	\$14.45
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	157	155	-2	-1.3%	-1	8	10	17	\$13.40
51-6091	Extruding and Forming Machine S/O/T, Synthetic and Glass Fibers	714	725	11	1.5%	6	38	48	92	\$18.24
51-6093	Upholsterers	1,068	1,109	41	3.8%	20	48	63	131	\$15.42
51-6099	Textile, Apparel, and Furnishings Workers, All Other	304	299	-5	-1.6%	-2	16	20	34	\$15.43
51-7011	Cabinetmakers and Bench Carpenters	4,882	5,088	206	4.2%	103	232	276	611	\$16.91
51-7021	Furniture Finishers	1,410	1,482	72	5.1%	36	80	52	168	\$14.73
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	1,177	1,179	2	0.2%	1	48	87	136	\$14.87
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	4,684	4,716	32	0.7%	16	180	327	523	\$14.76
51-8012	Power Distributors and Dispatchers	824	837	13	1.6%	6	20	51	77	\$40.65
51-8013	Power Plant Operators	1,174	1,199	25	2.1%	12	29	73	114	\$35.22
51-8021	Stationary Engineers and Boiler Operators	1,066	1,075	9	0.8%	4	34	76	114	\$27.67
51-8031	Water and Wastewater Treatment Plant and System Operators	4,643	4,590	-53	-1.1%	-26	132	246	352	\$23.66
51-8091	Chemical Plant and System Operators	2,544	2,488	-56	-2.2%	-28	58	189	219	\$29.59
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	1,492	1,509	17	1.1%	8	34	112	154	\$32.10
51-8099	Plant and System Operators, All Other	437	439	2	0.5%	1	10	33	44	\$25.80
51-9011	Chemical Equipment Operators and Tenders	5,688	5,608	-80	-1.4%	-40	155	443	558	\$22.79
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine S/O/T	1,964	2,041	77	3.9%	38	55	157	250	\$19.94
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	1,176	1,199	23	2.0%	12	43	89	144	\$17.38
51-9022	Grinding and Polishing Workers, Hand	814	785	-29	-3.6%	-14	29	60	75	\$13.27
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	7,772	7,837	65	0.8%	32	281	584	897	\$17.91
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	3,880	3,851	-29	-0.7%	-14	140	294	420	\$17.10
51-9041	Extruding, Forming, Pressing, and Compacting Machine S/O/T	6,963	6,948	-15	-0.2%	-8	270	558	820	\$15.67
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	1,467	1,465	-2	-0.1%	-1	62	81	142	\$16.68
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	31,629	30,961	-668	-2.1%	-334	1,301	2,396	3,363	\$18.51
51-9071	Jewelers and Precious Stone and Metal Workers	1,148	1,141	-7	-0.6%	-4	68	50	114	\$17.39
51-9081	Dental Laboratory Technicians	997	1,010	13	1.3%	6	43	67	116	\$19.50
51-9082	Medical Appliance Technicians	701	714	13	1.9%	6	30	47	83	\$17.41
51-9083	Ophthalmic Laboratory Technicians	966	967	1	0.1%	0	42	64	106	\$14.86
51-9111	Packaging and Filling Machine Operators and Tenders	18,519	18,951	432	2.3%	216	886	1,244	2,346	\$14.94
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	6,737	6,893	156	2.3%	78	194	510	782	\$16.96
51-9122	Painters, Transportation Equipment	2,657	2,647	-10	-0.4%	-5	76	198	269	\$18.46
51-9141	Semiconductor Processors	673	660	-13	-1.9%	-6	26	48	68	\$18.27
51-9151	Photographic Process Workers and Processing Machine Operators	974	925	-49	-5.0%	-24	50	98	124	\$14.14
51-9191	Adhesive Bonding Machine Operators and Tenders	899	891	-8	-0.9%	-4	42	54	92	\$16.27
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	1,392	1,427	35	2.5%	18	66	116	200	\$16.02
51-9193	Cooling and Freezing Equipment Operators and Tenders	897	911	14	1.6%	7	36	66	109	\$14.84
51-9194	Etchers and Engravers	582	577	-5	-0.9%	-2	36	34	68	\$16.39
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	2,537	2,548	11	0.4%	6	98	157	261	\$16.46
51-9196	Paper Goods Machine Setters, Operators, and Tenders	4,127	3,971	-156	-3.8%	-78	146	264	332	\$19.31

**Ohio Short-Term Occupational\* Employment Forecast**  
**First Quarter 2018 to First Quarter 2020**

SOC Code	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Hourly Wage May 2018
		2018 Employment	2020 Forecast	2018-2020	Percent	Change [1]	Exits [2]	Transfers [3]	Total	
51-9197	Tire Builders	1,130	1,099	-31	-2.7%	-16	36	89	109	\$24.67
51-9198	Helpers--Production Workers	18,238	18,679	441	2.4%	220	990	1,758	2,968	\$14.41
51-9199	Production Workers, All Other	18,239	18,318	79	0.4%	40	718	1,336	2,094	\$15.58
<b>53-0000</b>	<b>Transportation and Material Moving Occupations</b>	<b>419,156</b>	<b>426,931</b>	<b>7,775</b>	<b>1.9%</b>	<b>3,888</b>	<b>20,898</b>	<b>30,486</b>	<b>55,272</b>	<b>\$15.13</b>
53-1021	FL Supervisors of Helpers, Laborers, and Material Movers, Hand	7,427	7,536	109	1.5%	54	240	514	808	▲
53-1031	FL Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	7,255	7,426	171	2.4%	86	236	504	826	▲
53-2011	Airline Pilots, Copilots, and Flight Engineers	1,113	1,110	-3	-0.3%	-2	31	71	100	\$102,010 **
53-2012	Commercial Pilots	2,126	2,180	54	2.5%	27	60	138	225	\$81,050 **
53-2021	Air Traffic Controllers	766	784	18	2.3%	9	25	46	80	\$67.29
53-2022	Airfield Operations Specialists	279	285	6	2.2%	3	9	16	28	\$19.47
53-2031	Flight Attendants	773	784	11	1.4%	6	38	44	88	\$58,230 **
53-3011	Ambulance Drivers and Attendants, Ex. Emergency Medical Technicians	914	931	17	1.9%	8	56	74	138	\$12.12
53-3021	Bus Drivers, Transit and Intercity	5,976	5,994	18	0.3%	9	470	244	723	\$18.45
53-3022	Bus Drivers, School or Special Client	11,203	11,380	177	1.6%	88	886	461	1,435	\$14.18
53-3031	Driver/Sales Workers	24,195	24,178	-17	-0.1%	-8	1,026	1,520	2,538	\$9.59
53-3032	Heavy and Tractor-Trailer Truck Drivers	75,279	77,680	2,401	3.2%	1,200	3,242	4,804	9,246	\$20.66
53-3033	Light Truck or Delivery Services Drivers	38,542	39,326	784	2.0%	392	1,651	2,446	4,489	\$14.32
53-3041	Taxi Drivers and Chauffeurs	12,509	13,172	663	5.3%	332	762	520	1,614	\$10.99
53-3099	Motor Vehicle Operators, All Other	5,396	5,526	130	2.4%	65	631	302	998	\$11.16
53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers	251	254	3	1.2%	2	6	14	22	\$27.62
53-4021	Railroad Brake, Signal, and Switch Operators	319	320	1	0.3%	0	8	22	30	\$26.85
53-5011	Sailors and Marine Oilers	206	217	11	5.3%	6	8	16	30	\$18.23
53-5021	Captains, Mates, and Pilots of Water Vessels	263	282	19	7.2%	10	9	18	37	\$22.30
53-6011	Bridge and Lock Tenders	176	181	5	2.8%	2	8	12	22	\$26.18
53-6021	Parking Lot Attendants	3,746	3,847	101	2.7%	50	222	334	606	\$10.12
53-6031	Automotive and Watercraft Service Attendants	4,582	4,657	75	1.6%	38	248	504	790	\$11.20
53-6041	Traffic Technicians	108	109	1	0.9%	0	4	8	12	\$24.26
53-6051	Transportation Inspectors	759	770	11	1.4%	6	27	46	79	\$23.65
53-6061	Transportation Attendants, Except Flight Attendants	340	340	0	0.0%	0	28	16	44	\$12.99
53-6099	Transportation Workers, All Other	1,044	1,070	26	2.5%	13	46	73	132	\$16.63
53-7011	Conveyor Operators and Tenders	1,209	1,219	10	0.8%	5	60	101	166	\$15.43
53-7021	Crane and Tower Operators	1,799	1,824	25	1.4%	12	60	127	199	\$21.17
53-7032	Excavating and Loading Machine and Dragline Operators	1,016	1,110	94	9.3%	47	39	76	162	\$20.47
53-7041	Hoist and Winch Operators	114	112	-2	-1.8%	-1	6	10	15	\$17.73
53-7051	Industrial Truck and Tractor Operators	23,210	23,358	148	0.6%	74	811	1,742	2,627	\$16.29
53-7061	Cleaners of Vehicles and Equipment	13,014	13,294	280	2.2%	140	678	1,141	1,959	\$11.20
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	113,866	115,728	1,862	1.6%	931	5,687	9,815	16,433	\$13.67
53-7063	Machine Feeders and Offbearers	4,004	4,020	16	0.4%	8	216	322	546	\$15.00
53-7064	Packers and Packagers, Hand	41,955	42,192	237	0.6%	118	2,850	3,434	6,402	\$11.82
53-7071	Gas Compressor and Gas Pumping Station Operators	159	162	3	1.9%	2	6	14	22	\$35.15
53-7072	Pump Operators, Except Wellhead Pumps	196	203	7	3.6%	4	7	16	27	\$18.66
53-7073	Wellhead Pumps	599	610	11	1.8%	6	22	50	78	\$18.77
53-7081	Refuse and Recyclable Material Collectors	7,277	7,557	280	3.8%	140	336	540	1,016	\$17.94
53-7121	Tank Car, Truck, and Ship Loaders	239	234	-5	-2.1%	-2	10	18	26	\$15.93
53-7199	Material Moving Workers, All Other	447	445	-2	-0.4%	-1	20	32	51	\$12.49

[1] Numeric change measures the projected annual number of job gains or losses in an occupation for the projection period.

[2] Exits are the projected number of workers leaving an occupation and exiting the labor force entirely.

[3] Transfers are the projected number of workers leaving an occupation and transferring to a different occupation.

\* Occupations with 100 or more workers.

\*\* Title Abbreviations

FL = First-Line

S/O/T = Setters, Operators and Tenders

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019

▲ Wage data unavailable - OES consolidated these occupations in 2018.

+ National Wage

++ Annual Wage

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code	Occupational Title**	Typical Education Required for Entry	Commonly Required Work Experience in Related Occupation	Typical On-the-Job Training to Obtain Competency	Median Hourly Wage May 2018
00-0000	Total, All Occupations				
11-0000	Management Occupations				\$46.45
11-1011	Chief Executives	Bachelor's degree	5 years or more	None	\$94.47
11-1021	General and Operations Managers	Bachelor's degree	5 years or more	None	\$46.21
11-1031	Legislators	Bachelor's degree	Less than 5 years	None	\$19,350 **
11-2011	Advertising and Promotions Managers	Bachelor's degree	Less than 5 years	None	\$47.38
11-2021	Marketing Managers	Bachelor's degree	5 years or more	None	\$58.77
11-2022	Sales Managers	Bachelor's degree	Less than 5 years	None	\$58.23
11-2031	Public Relations and Fundraising Managers	Bachelor's degree	5 years or more	None	\$49.19
11-3011	Administrative Services Managers	Bachelor's degree	Less than 5 years	None	\$40.84
11-3021	Computer and Information Systems Managers	Bachelor's degree	5 years or more	None	\$59.97
11-3031	Financial Managers	Bachelor's degree	5 years or more	None	\$56.78
11-3051	Industrial Production Managers	Bachelor's degree	5 years or more	None	\$47.96
11-3061	Purchasing Managers	Bachelor's degree	5 years or more	None	\$56.16
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	5 years or more	None	\$42.85
11-3111	Compensation and Benefits Managers	Bachelor's degree	5 years or more	None	\$57.10
11-3121	Human Resources Managers	Bachelor's degree	5 years or more	None	\$52.70
11-3131	Training and Development Managers	Bachelor's degree	5 years or more	None	\$49.36
11-9013	Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	5 years or more	None	\$34.65
11-9021	Construction Managers	Bachelor's degree	None	Moderate-term on-the-job training	\$43.81
11-9031	Education Administrators, Preschool and Childcare Center/Program	Bachelor's degree	Less than 5 years	None	\$21.13
11-9032	Education Administrators, Elementary and Secondary School	Master's degree	5 years or more	None	\$87,700 **
11-9033	Education Administrators, Postsecondary	Master's degree	Less than 5 years	None	\$43.80
11-9039	Education Administrators, All Other	Bachelor's degree	Less than 5 years	None	\$41.17
11-9041	Architectural and Engineering Managers	Bachelor's degree	5 years or more	None	\$61.82
11-9061	Food Service Managers	High school diploma or equivalent	Less than 5 years	None	\$24.33
11-9061	Funeral Service Managers	Associate's degree	Less than 5 years	None	\$42.82
11-9081	Lodging Managers	High school diploma or equivalent	Less than 5 years	None	\$19.78
11-9111	Medical and Health Services Managers	Bachelor's degree	Less than 5 years	None	\$43.89
11-9121	Natural Sciences Managers	Bachelor's degree	5 years or more	None	\$58.04
11-9131	Postmasters and Mail Superintendents	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$36.68
11-9141	Property, Real Estate, and Community Association Managers	High school diploma or equivalent	Less than 5 years	None	\$24.88
11-9151	Social and Community Service Managers	Bachelor's degree	Less than 5 years	None	\$32.69
11-9161	Emergency Management Directors	Bachelor's degree	5 years or more	None	\$33.14
11-9199	Managers, All Other	Bachelor's degree	Less than 5 years	None	\$46.92
13-0000	Business and Financial Operations Occupations				\$30.59
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	Bachelor's degree	Less than 5 years	None	\$16.73
13-1021	Buyers and Purchasing Agents, Farm Products	Bachelor's degree	None	Moderate-term on-the-job training	▲
13-1022	Wholesale and Retail Buyers, Except Farm Products	Bachelor's degree	None	Moderate-term on-the-job training	▲
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	Bachelor's degree	None	Moderate-term on-the-job training	▲
13-1031	Claims Adjusters, Examiners, and Investigators	High school diploma or equivalent	None	Long-term on-the-job training	\$31.25
13-1032	Insurance Appraisers, Auto Damage	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$29.59
13-1041	Compliance Officers	Bachelor's degree	None	Moderate-term on-the-job training	\$29.80
13-1051	Cost Estimators	Bachelor's degree	None	Moderate-term on-the-job training	\$29.15
13-1071	Human Resources Specialists	Bachelor's degree	None	None	\$27.80
13-1075	Labor Relations Specialists	Bachelor's degree	Less than 5 years	None	\$18.80
13-1081	Logisticians	Bachelor's degree	None	None	\$34.87
13-1111	Management Analysts	Bachelor's degree	Less than 5 years	None	\$37.37
13-1121	Meeting, Convention, and Event Planners	Bachelor's degree	None	None	\$21.58
13-1131	Fundraisers	Bachelor's degree	None	None	\$25.95
13-1141	Compensation, Benefits, and Job Analysis Specialists	Bachelor's degree	Less than 5 years	None	\$28.10
13-1151	Training and Development Specialists	Bachelor's degree	Less than 5 years	None	\$27.12
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	None	None	\$28.82
13-1199	Business Operations Specialists, All Other	Bachelor's degree	None	None	\$31.70
13-2011	Accountants and Auditors	Bachelor's degree	None	None	\$31.07
13-2021	Appraisers and Assessors of Real Estate	Bachelor's degree	None	Long-term on-the-job training	\$27.10
13-2041	Credit Analysts	Bachelor's degree	None	None	\$33.90
13-2051	Financial Analysts	Bachelor's degree	None	None	\$34.58
13-2052	Personal Financial Advisors	Bachelor's degree	None	Long-term on-the-job training	\$35.76
13-2053	Insurance Underwriters	Bachelor's degree	None	Moderate-term on-the-job training	\$32.78
13-2061	Financial Examiners	Bachelor's degree	None	Long-term on-the-job training	\$34.69
13-2072	Loan Officers	Bachelor's degree	None	Moderate-term on-the-job training	\$31.14
13-2081	Tax Examiners and Collectors, and Revenue Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$30.01
13-2082	Tax Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.98
13-2099	Financial Specialists, All Other	Bachelor's degree	None	Moderate-term on-the-job training	\$36.38
15-0000	Computer and Mathematical Occupations				\$37.47
15-1111	Computer and Information Research Scientists	Master's degree	None	None	\$53.05
15-1121	Computer Systems Analysts	Bachelor's degree	None	None	\$40.43
15-1122	Information Security Analysts	Bachelor's degree	Less than 5 years	None	\$42.97
15-1131	Computer Programmers	Bachelor's degree	None	None	\$34.99
15-1132	Software Developers, Applications	Bachelor's degree	None	None	\$43.88
15-1133	Software Developers, Systems Software	Bachelor's degree	None	None	\$47.51
15-1134	Web Developers	Associate's degree	None	None	\$29.88
15-1141	Database Administrators	Bachelor's degree	None	None	\$43.26
15-1142	Network and Computer Systems Administrators	Bachelor's degree	None	None	\$36.15
15-1143	Computer Network Architects	Bachelor's degree	5 years or more	None	\$46.41
15-1151	Computer User Support Specialists	Some college, no degree	None	None	\$22.66
15-1152	Computer Network Support Specialists	Associate's degree	None	None	\$27.60
15-1199	Computer Occupations, All Other	Bachelor's degree	None	None	\$39.73
15-2011	Actuaries	Bachelor's degree	None	Long-term on-the-job training	\$45.19
15-2031	Operations Research Analysts	Bachelor's degree	None	None	\$38.26
15-2041	Statisticians	Master's degree	None	None	\$37.82
17-0000	Architecture and Engineering Occupations				\$36.07
17-1011	Architects, Except Landscape and Naval	Bachelor's degree	None	Internship/residency	\$36.88
17-1012	Landscape Architects	Bachelor's degree	None	Internship/residency	\$28.28
17-1022	Surveyors	Bachelor's degree	None	Internship/residency	\$27.62
17-2011	Aerospace Engineers	Bachelor's degree	None	None	\$53.07
17-2031	Biomedical Engineers	Bachelor's degree	None	None	\$38.10
17-2041	Chemical Engineers	Bachelor's degree	None	None	\$45.19
17-2051	Civil Engineers	Bachelor's degree	None	None	\$37.68
17-2061	Computer Hardware Engineers	Bachelor's degree	None	None	\$48.81
17-2071	Electrical Engineers	Bachelor's degree	None	None	\$40.28
17-2072	Electronics Engineers, Except Computer	Bachelor's degree	None	None	\$46.00
17-2081	Environmental Engineers	Bachelor's degree	None	None	\$40.76
17-2111	Health and Safety Engineers, Ex. Mining Safety Engineers and Inspectors	Bachelor's degree	None	None	\$42.30
17-2112	Industrial Engineers	Bachelor's degree	None	None	\$38.79

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code	Occupational Title**	Typical Education Required for Entry	Commonly Required Work Experience in Related Occupation	Typical On-the-Job Training to Obtain Competency	Median Hourly Wage May 2018
17-2131	Materials Engineers	Bachelor's degree	None	None	\$40.93
17-2141	Mechanical Engineers	Bachelor's degree	None	None	\$37.24
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Bachelor's degree	None	None	\$40.75
17-2171	Petroleum Engineers	Bachelor's degree	None	None	\$39.79
17-2199	Engineers, All Other	Bachelor's degree	None	None	\$42.97
17-3011	Architectural and Civil Drafters	Associate's degree	None	None	\$24.71
17-3012	Electrical and Electronics Drafters	Associate's degree	None	None	\$27.51
17-3013	Mechanical Drafters	Associate's degree	None	None	\$25.82
17-3019	Drafters, All Other	Associate's degree	None	None	\$24.97
17-3021	Aerospace Engineering and Operations Technicians	Associate's degree	None	None	\$32.57
17-3022	Civil Engineering Technicians	Associate's degree	None	None	\$27.75
17-3023	Electrical and Electronic Engineering Technicians	Associate's degree	None	None	\$29.59
17-3024	Electro-Mechanical Technicians	Associate's degree	None	None	\$27.03
17-3025	Environmental Engineering Technicians	Associate's degree	None	None	\$22.02
17-3026	Industrial Engineering Technicians	Associate's degree	None	None	\$26.35
17-3027	Mechanical Engineering Technicians	Associate's degree	None	None	\$25.92
17-3029	Engineering Technicians, Except Drafters, All Other	Associate's degree	None	None	\$27.46
17-3031	Surveying and Mapping Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$20.14
19-0000	<i>Life, Physical, and Social Science Occupations</i>				\$28.99
19-1012	Food Scientists and Technologists	Bachelor's degree	None	None	\$32.93
19-1013	Soil and Plant Scientists	Bachelor's degree	None	None	\$26.59
19-1022	Microbiologists	Bachelor's degree	None	None	\$30.02
19-1023	Zoologists and Wildlife Biologists	Bachelor's degree	None	None	\$27.37
19-1029	Biological Scientists, All Other	Bachelor's degree	None	None	\$32.02
19-1031	Conservation Scientists	Bachelor's degree	None	None	\$25.37
19-1032	Foresters	Bachelor's degree	None	None	\$28.40
19-1041	Epidemiologists	Master's degree	None	None	\$31.74
19-1042	Medical Scientists, Except Epidemiologists	Doctoral or professional degree	None	None	\$32.62
19-2012	Physicists	Doctoral or professional degree	None	None	\$56.67
19-2031	Chemists	Bachelor's degree	None	None	\$32.45
19-2032	Materials Scientists	Bachelor's degree	None	None	\$45.86
19-2041	Environmental Scientists and Specialists, Including Health	Bachelor's degree	None	None	\$36.00
19-2042	Geoscientists, Except Hydrologists and Geographers	Bachelor's degree	None	None	\$36.13
19-2043	Hydrologists	Bachelor's degree	None	None	\$38.40
19-2099	Physical Scientists, All Other	Bachelor's degree	None	None	\$50.10
19-3011	Economists	Master's degree	None	None	\$52.31
19-3022	Survey Researchers	Master's degree	None	None	\$26.55
19-3031	Clinical, Counseling, and School Psychologists	Doctoral or professional degree	None	Internship/residency	\$35.06
19-3039	Psychologists, All Other	Master's degree	None	Internship/residency	\$48.93
19-3051	Urban and Regional Planners	Master's degree	None	None	\$32.00
19-3091	Anthropologists and Archeologists	Master's degree	None	None	\$28.45
19-3099	Social Scientists and Related Workers, All Other	Bachelor's degree	None	None	\$36.32
19-4011	Agricultural and Food Science Technicians	Associate's degree	None	Moderate-term on-the-job training	\$19.02
19-4021	Biological Technicians	Bachelor's degree	None	None	\$21.13
19-4031	Chemical Technicians	Associate's degree	None	Moderate-term on-the-job training	\$21.71
19-4061	Social Science Research Assistants	Bachelor's degree	None	None	\$20.76
19-4091	Environmental Science and Protection Technicians, Including Health	Associate's degree	None	None	\$21.27
19-4092	Forensic Science Technicians	Bachelor's degree	None	Moderate-term on-the-job training	\$30.97
19-4093	Forest and Conservation Technicians	Associate's degree	None	None	\$19.51
19-4099	Life, Physical, and Social Science Technicians, All Other	Associate's degree	None	None	\$24.98
21-0000	<i>Community and Social Service Occupations</i>				\$20.70
21-1011	Substance Abuse and Behavioral Disorder Counselors	Bachelor's degree	None	None	▲
21-1012	Educational, Guidance, School, and Vocational Counselors	Master's degree	None	None	\$25.70
21-1013	Marriage and Family Therapists	Master's degree	None	Internship/residency	\$22.41
21-1014	Mental Health Counselors	Master's degree	None	Internship/residency	▲
21-1015	Rehabilitation Counselors	Master's degree	None	None	\$16.58
21-1019	Counselors, All Other	Master's degree	None	None	\$21.15
21-1021	Child, Family, and School Social Workers	Bachelor's degree	None	None	\$20.54
21-1022	Healthcare Social Workers	Master's degree	None	Internship/residency	\$25.74
21-1023	Mental Health and Substance Abuse Social Workers	Master's degree	None	Internship/residency	\$19.35
21-1029	Social Workers, All Other	Bachelor's degree	None	None	\$23.68
21-1091	Health Educators	Bachelor's degree	None	None	\$26.21
21-1092	Probation Officers and Correctional Treatment Specialists	Bachelor's degree	None	Short-term on-the-job training	\$23.64
21-1093	Social and Human Service Assistants	High school diploma or equivalent	None	Short-term on-the-job training	\$15.55
21-1094	Community Health Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.52
21-1099	Community and Social Service Specialists, All Other	Bachelor's degree	None	None	\$19.59
21-2011	Clergy	Bachelor's degree	None	Moderate-term on-the-job training	\$21.62
21-2021	Directors, Religious Activities and Education	Bachelor's degree	Less than 5 years	None	\$21.10
21-2099	Religious Workers, All Other	Bachelor's degree	None	None	\$13.35
23-0000	<i>Legal Occupations</i>				\$32.23
23-1011	Lawyers	Doctoral or professional degree	None	None	\$47.37
23-1012	Judicial Law Clerks	Doctoral or professional degree	None	None	\$25.16
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	Doctoral or professional degree	5 years or more	Short-term on-the-job training	\$45.42
23-1022	Arbitrators, Mediators, and Conciliators	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$28.02
23-1023	Judges, Magistrate Judges, and Magistrates	Doctoral or professional degree	5 years or more	Short-term on-the-job training	\$37.05
23-2011	Paralegals and Legal Assistants	Associate's degree	None	None	\$21.79
23-2091	Court Reporters	Postsecondary non-degree award	None	Short-term on-the-job training	\$24.23
23-2093	Title Examiners, Abstractors, and Searchers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.34
23-2099	Legal Support Workers, All Other	Associate's degree	None	None	\$24.75
25-0000	<i>Education, Training, and Library Occupations</i>				\$25.13
25-1011	Business Teachers, Postsecondary	Doctoral or professional degree	None	None	\$87,390 **
25-1021	Computer Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$93,140 **
25-1022	Mathematical Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$74,840 **
25-1031	Architecture Teachers, Postsecondary	Doctoral or professional degree	None	None	\$75,450 **
25-1032	Engineering Teachers, Postsecondary	Doctoral or professional degree	None	None	\$99,590 **
25-1042	Biological Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$83,770 **
25-1051	Atmospheric, Earth, Marine, and Space Sci. Teachers, Postsecondary	Doctoral or professional degree	None	None	\$87,920 **
25-1052	Chemistry Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,120 **
25-1053	Environmental Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$100,000 **
25-1054	Physics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$97,720 **
25-1061	Anthropology and Archeology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$85,590 **
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	Doctoral or professional degree	None	None	\$70,140 **
25-1063	Economics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$99,920 **
25-1064	Geography Teachers, Postsecondary	Doctoral or professional degree	None	None	\$88,960 **
25-1065	Political Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$82,000 **
25-1066	Psychology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$73,420 **



# Ohio Typical Occupational\* Educational and Training Requirements

SOC Code	Occupational Title**	Typical Education Required for Entry	Commonly Required Work Experience in Related Occupation	Typical On-the-Job Training to Obtain Competency	Median Hourly Wage May 2018
25-1067	Sociology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$80,210 **
25-1069	Social Sciences Teachers, Postsecondary, All Other	Doctoral or professional degree	None	None	\$70,500 **
25-1071	Health Specialties Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$106,750 **
25-1072	Nursing Instructors and Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$69,530 **
25-1081	Education Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$60,260 **
25-1082	Library Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$67,300 **
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	Doctoral or professional degree	None	None	\$60,450 **
25-1112	Law Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$111,140 **
25-1113	Social Work Teachers, Postsecondary	Doctoral or professional degree	None	None	\$69,670 **
25-1121	Art, Drama, and Music Teachers, Postsecondary	Master's degree	None	None	\$69,290 **
25-1122	Communications Teachers, Postsecondary	Doctoral or professional degree	None	None	\$61,160 **
25-1123	English Language and Literature Teachers, Postsecondary	Doctoral or professional degree	None	None	\$64,110 **
25-1124	Foreign Language and Literature Teachers, Postsecondary	Doctoral or professional degree	None	None	\$62,580 **
25-1125	History Teachers, Postsecondary	Doctoral or professional degree	None	None	\$75,590 **
25-1126	Philosophy and Religion Teachers, Postsecondary	Doctoral or professional degree	None	None	\$66,040 **
25-1191	Graduate Teaching Assistants	Bachelor's degree	None	None	\$44,030 **
25-1194	Vocational Education Teachers, Postsecondary	Bachelor's degree	Less than 5 years	None	\$28.59
25-2011	Preschool Teachers, Except Special Education	Associate's degree	None	None	\$12.63
25-2012	Kindergarten Teachers, Except Special Education	Bachelor's degree	None	None	\$58,500 **
25-2021	Elementary School Teachers, Except Special Education	Bachelor's degree	None	None	\$61,950 **
25-2022	Middle School Teachers, Ex. Special and Career/Tech. Education	Bachelor's degree	None	None	\$62,770 **
25-2023	Career/Technical Education Teachers, Middle School	Bachelor's degree	Less than 5 years	None	\$67,460 **
25-2031	Secondary School Teachers, Ex. Special and Career/Tech. Education	Bachelor's degree	None	None	\$61,740 **
25-2032	Career/Technical Education Teachers, Secondary School	Bachelor's degree	Less than 5 years	None	\$65,590 **
25-2051	Special Education Teachers, Preschool	Bachelor's degree	None	None	\$63,950 **
25-2052	Special Education Teachers, Kindergarten and Elementary School	Bachelor's degree	None	None	\$55,080 **
25-2053	Special Education Teachers, Middle School	Bachelor's degree	None	None	\$58,480 **
25-2054	Special Education Teachers, Secondary School	Bachelor's degree	None	None	\$58,990 **
25-2059	Special Education Teachers, All Other	Bachelor's degree	None	None	\$37,450 **
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	Bachelor's degree	None	None	\$22.58
25-3021	Self-Enrichment Education Teachers	High school diploma or equivalent	Less than 5 years	None	\$16.74
25-3097	Teachers and Instructors, All Other Except Substitute Teachers	Bachelor's degree	None	None	\$39,120 **
25-3098	Substitute Teachers	Bachelor's degree	None	None	\$13.55
25-4011	Archivists	Master's degree	None	None	\$21.47
25-4012	Curators	Master's degree	None	None	\$24.03
25-4013	Museum Technicians and Conservators	Bachelor's degree	None	None	\$18.30
25-4021	Librarians	Master's degree	None	None	\$25.53
25-4031	Library Technicians	Postsecondary non-degree award	None	None	\$14.67
25-9031	Instructional Coordinators	Master's degree	5 years or more	None	\$30.80
25-9041	Teacher Assistants	Some college, no degree	None	None	\$25,950 **
25-9099	Education, Training, and Library Workers, All Other	Bachelor's degree	None	None	\$21.38
27-0000	<i>Arts, Design, Entertainment, Sports, and Media Occupations</i>				\$20.05
27-1011	Art Directors	Bachelor's degree	5 years or more	None	\$38.13
27-1012	Craft Artists	No formal educational credential	None	Long-term on-the-job training	\$14.11
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Bachelor's degree	None	Long-term on-the-job training	\$17.96
27-1014	Multimedia Artists and Animators	Bachelor's degree	None	None	\$25.71
27-1029	Designers, All Other	Bachelor's degree	None	None	\$24.09
27-1021	Commercial and Industrial Designers	Bachelor's degree	None	None	\$28.48
27-1023	Floral Designers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$11.89
27-1024	Graphic Designers	Bachelor's degree	None	None	\$22.47
27-1025	Interior Designers	Bachelor's degree	None	None	\$24.54
27-1026	Merchandise Displayers and Window Trimmers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.45
27-1027	Set and Exhibit Designers	Bachelor's degree	None	None	\$23.35
27-2011	Actors	Some college, no degree	None	Long-term on-the-job training	\$9.66
27-2012	Producers and Directors	Bachelor's degree	Less than 5 years	None	\$25.57
27-2022	Coaches and Scouts	Bachelor's degree	None	None	\$26,360 **
27-2023	Umpires, Referees, and Other Sports Officials	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21,780 **
27-2031	Dancers	No formal educational credential	None	Long-term on-the-job training	\$14.31
27-2041	Music Directors and Composers	Bachelor's degree	Less than 5 years	None	\$20.33
27-2042	Musicians and Singers	No formal educational credential	None	Long-term on-the-job training	\$23.31
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$17.59
27-3011	Radio and Television Announcers	Bachelor's degree	None	None	\$15.80
27-3022	Reporters and Correspondents	Bachelor's degree	None	None	\$16.55
27-3031	Public Relations Specialists	Bachelor's degree	None	None	\$28.31
27-3041	Editors	Bachelor's degree	Less than 5 years	None	\$25.22
27-3042	Technical Writers	Bachelor's degree	Less than 5 years	Short-term on-the-job training	\$29.75
27-3043	Writers and Authors	Bachelor's degree	None	Long-term on-the-job training	\$21.75
27-3091	Interpreters and Translators	Bachelor's degree	None	None	\$25.29
27-3099	Media and Communication Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$21.56
27-4011	Audio and Video Equipment Technicians	Postsecondary non-degree award	None	Short-term on-the-job training	\$17.91
27-4012	Broadcast Technicians	Associate's degree	None	Short-term on-the-job training	\$14.27
27-4014	Sound Engineering Technicians	Postsecondary non-degree award	None	Short-term on-the-job training	\$21.74
27-4021	Photographers	High school diploma or equivalent	None	Long-term on-the-job training	\$14.39
27-4031	Camera Operators, Television, Video, and Motion Picture	Bachelor's degree	None	None	\$26.86
27-4032	Film and Video Editors	Bachelor's degree	None	None	\$24.81
27-4099	Media and Communication Equipment Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$25.27
29-0000	<i>Healthcare Practitioners and Technical Occupations</i>				\$29.34
29-1011	Chiropractors	Doctoral or professional degree	None	None	\$37.09
29-1021	Dentists, General	Doctoral or professional degree	None	None	\$90.57
29-1022	Oral and Maxillofacial Surgeons	Doctoral or professional degree	None	Internship/residency	▲
29-1023	Orthodontists	Doctoral or professional degree	None	Internship/residency	▲
29-1029	Dentists, All Other Specialists	Doctoral or professional degree	None	Internship/residency	\$57.54
29-1031	Dietitians and Nutritionists	Bachelor's degree	None	Internship/residency	\$27.48
29-1041	Optometrists	Doctoral or professional degree	None	None	\$54.03
29-1051	Pharmacists	Doctoral or professional degree	None	None	\$58.54
29-1061	Anesthesiologists	Doctoral or professional degree	None	Internship/residency	▲
29-1062	Family and General Practitioners	Doctoral or professional degree	None	Internship/residency	\$90.63
29-1063	Internists, General	Doctoral or professional degree	None	Internship/residency	\$194,500 *
29-1064	Obstetricians and Gynecologists	Doctoral or professional degree	None	Internship/residency	▲
29-1065	Pediatricians, General	Doctoral or professional degree	None	Internship/residency	\$73.27
29-1066	Psychiatrists	Doctoral or professional degree	None	Internship/residency	\$92.04
29-1067	Surgeons	Doctoral or professional degree	None	Internship/residency	▲
29-1069	Physicians and Surgeons, All Other	Doctoral or professional degree	None	Internship/residency	▲
29-1071	Physician Assistants	Master's degree	None	None	\$50.94
29-1081	Podiatrists	Doctoral or professional degree	None	Internship/residency	\$66.79
29-1122	Occupational Therapists	Master's degree	None	None	\$40.54

## Ohio Typical Occupational\* Educational and Training Requirements

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29-1123	Physical Therapists	Doctoral or professional degree	None	None	\$41.81
29-1124	Radiation Therapists	Associate's degree	None	None	\$37.03
29-1125	Recreational Therapists	Bachelor's degree	None	None	\$21.48
29-1126	Respiratory Therapists	Associate's degree	None	None	\$27.13
29-1127	Speech-Language Pathologists	Master's degree	None	Internship/residency	\$35.76
29-1128	Exercise Physiologists	Bachelor's degree	None	None	\$23.56
29-1129	Therapists, All Other	Bachelor's degree	None	None	\$32.75
29-1131	Veterinarians	Doctoral or professional degree	None	None	\$45.82
29-1141	Registered Nurses	Bachelor's degree	None	None	\$30.87
29-1151	Nurse Anesthetists	Master's degree	None	None	\$76.39
29-1161	Nurse Midwives	Master's degree	None	None	\$49.62
29-1171	Nurse Practitioners	Master's degree	None	None	\$48.56
29-1181	Audiologists	Doctoral or professional degree	None	None	\$34.07
29-1199	Health Diagnosing and Treating Practitioners, All Other	Master's degree	None	None	\$38.73
29-2011	Medical and Clinical Laboratory Technologists	Bachelor's degree	None	None	▲
29-2012	Medical and Clinical Laboratory Technicians	Associate's degree	None	None	▲
29-2021	Dental Hygienists	Associate's degree	None	None	\$33.24
29-2031	Cardiovascular Technologists and Technicians	Associate's degree	None	None	\$26.15
29-2032	Diagnostic Medical Sonographers	Associate's degree	None	None	\$30.97
29-2033	Nuclear Medicine Technologists	Associate's degree	None	None	\$34.62
29-2034	Radiologic Technologists	Associate's degree	None	None	\$27.15
29-2035	Magnetic Resonance Imaging Technologists	Associate's degree	Less than 5 years	None	\$31.52
29-2041	Emergency Medical Technicians and Paramedics	Postsecondary non-degree award	None	None	\$14.52
29-2051	Dietetic Technicians	Associate's degree	None	None	\$12.69
29-2052	Pharmacy Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.09
29-2053	Psychiatric Technicians	Postsecondary non-degree award	Less than 5 years	Short-term on-the-job training	\$15.80
29-2055	Surgical Technologists	Postsecondary non-degree award	None	None	\$22.07
29-2056	Veterinary Technologists and Technicians	Associate's degree	None	None	\$15.41
29-2057	Ophthalmic Medical Technicians	Postsecondary non-degree award	None	None	\$17.51
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	None	None	\$20.81
29-2071	Medical Records and Health Information Technicians	Postsecondary non-degree award	None	None	\$19.14
29-2081	Opticians, Dispensing	High school diploma or equivalent	None	Long-term on-the-job training	\$19.16
29-2092	Hearing Aid Specialists	High school diploma or equivalent	None	Moderate-term on-the-job training	\$26.20
29-2099	Health Technologists and Technicians, All Other	Postsecondary non-degree award	None	None	\$18.92
29-9011	Occupational Health and Safety Specialists	Bachelor's degree	None	None	\$35.06
29-9012	Occupational Health and Safety Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.74
29-9091	Athletic Trainers	Bachelor's degree	None	None	\$46,630 **
29-9092	Genetic Counselors	Master's degree	None	None	\$36.74
29-9099	Healthcare Practitioners and Technical Workers, All Other	Postsecondary non-degree award	None	None	\$30.42
31-0000	<i>Healthcare Support Occupations</i>				\$12.80
31-1011	Home Health Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$10.67
31-1013	Psychiatric Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$16.88
31-1014	Nursing Assistants	Postsecondary non-degree award	None	None	\$13.00
31-1015	Orderlies	High school diploma or equivalent	None	Short-term on-the-job training	\$12.93
31-2011	Occupational Therapy Assistants	Associate's degree	None	None	\$28.40
31-2021	Physical Therapist Assistants	Associate's degree	None	None	\$27.98
31-2022	Physical Therapist Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$12.90
31-9011	Massage Therapists	Postsecondary non-degree award	None	None	\$17.63
31-9091	Dental Assistants	Postsecondary non-degree award	None	None	\$17.77
31-9092	Medical Assistants	Postsecondary non-degree award	None	None	\$15.23
31-9093	Medical Equipment Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.36
31-9094	Medical Transcriptionists	Postsecondary non-degree award	None	None	\$17.93
31-9095	Pharmacy Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$12.18
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	None	Short-term on-the-job training	\$12.08
31-9097	Phlebotomists	Postsecondary non-degree award	None	None	\$16.29
31-9099	Healthcare Support Workers, All Other	High school diploma or equivalent	None	None	\$18.22
33-0000	<i>Protective Service Occupations</i>				\$19.47
33-1011	FL Supervisors of Correctional Officers	High school diploma or equivalent	Less than 5 years	None	\$32.03
33-1012	FL Supervisors of Police and Detectives	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$38.75
33-1021	FL Supervisors of Fire Fighting and Prevention Workers	Postsecondary non-degree award	Less than 5 years	Moderate-term on-the-job training	\$34.15
33-1099	FL Supervisors of Protective Service Workers, All Other	High school diploma or equivalent	Less than 5 years	None	\$17.09
33-2011	Firefighters	Postsecondary non-degree award	None	Long-term on-the-job training	\$22.07
33-3011	Bailiffs	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.97
33-3012	Correctional Officers and Jailers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.49
33-3021	Detectives and Criminal Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$32.68
33-3031	Fish and Game Wardens	Bachelor's degree	None	Moderate-term on-the-job training	\$31.16
33-3041	Parking Enforcement Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$16.71
33-3051	Police and Sheriff's Patrol Officers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$29.32
33-3052	Transit and Railroad Police	High school diploma or equivalent	None	Moderate-term on-the-job training	\$74,030 *
33-9011	Animal Control Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.16
33-9021	Private Detectives and Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$18.31
33-9031	Gaming Surveillance Officers and Gaming Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$26.97
33-9032	Security Guards	High school diploma or equivalent	None	Short-term on-the-job training	\$12.60
33-9091	Crossing Guards	No formal educational credential	None	Short-term on-the-job training	\$11.91
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service	No formal educational credential	None	Short-term on-the-job training	\$9.42
33-9093	Transportation Security Screeners	High school diploma or equivalent	None	Short-term on-the-job training	\$18.94
33-9099	Protective Service Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$14.07
35-0000	<i>Food Preparation and Serving Related Occupations</i>				\$9.64
35-1011	Chefs and Head Cooks	High school diploma or equivalent	5 years or more	None	\$19.36
35-1012	FL Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None	\$14.43
35-2011	Cooks, Fast Food	No formal educational credential	None	Short-term on-the-job training	\$9.84
35-2012	Cooks, Institution and Cafeteria	No formal educational credential	None	Short-term on-the-job training	\$12.64
35-2014	Cooks, Restaurant	No formal educational credential	Less than 5 years	Moderate-term on-the-job training	\$11.89
35-2015	Cooks, Short Order	No formal educational credential	None	Short-term on-the-job training	\$10.11
35-2021	Food Preparation Workers	No formal educational credential	None	Short-term on-the-job training	\$10.11
35-3011	Bartenders	No formal educational credential	None	Short-term on-the-job training	\$9.27
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	No formal educational credential	None	Short-term on-the-job training	\$9.31
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	No formal educational credential	None	Short-term on-the-job training	\$9.72
35-3031	Waiters and Waitresses	No formal educational credential	None	Short-term on-the-job training	\$9.37
35-3041	Food Servers, Nonrestaurant	No formal educational credential	None	Short-term on-the-job training	\$9.97
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	No formal educational credential	None	Short-term on-the-job training	\$9.40
35-9021	Dishwashers	No formal educational credential	None	Short-term on-the-job training	\$9.65
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	No formal educational credential	None	Short-term on-the-job training	\$9.37
35-9099	Food Preparation and Serving Related Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$10.49
37-0000	<i>Building and Grounds Cleaning and Maintenance Occupations</i>				\$12.20
37-1011	FL Supervisors of Housekeeping and Janitorial Workers	High school diploma or equivalent	Less than 5 years	None	\$19.58

## Ohio Typical Occupational\* Educational and Training Requirements

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37-1012	FL Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	High school diploma or equivalent	Less than 5 years	None	\$21.50
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	No formal educational credential	None	Short-term on-the-job training	\$12.03
37-2012	Maids and Housekeeping Cleaners	No formal educational credential	None	Short-term on-the-job training	\$10.47
37-2019	Building Cleaning Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$15.89
37-2021	Pest Control Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.91
37-3011	Landscaping and Groundskeeping Workers	No formal educational credential	None	Short-term on-the-job training	\$13.22
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.39
37-3013	Tree Trimmers and Pruners	High school diploma or equivalent	None	Short-term on-the-job training	\$18.58
37-3019	Grounds Maintenance Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$15.85
39-0000	<i>Personal Care and Service Occupations</i>				\$10.90
39-1011	Gaming Supervisors	High school diploma or equivalent	Less than 5 years	None	▲
39-1012	Slot Supervisors	High school diploma or equivalent	Less than 5 years	None	▲
39-1021	FL Supervisors of Personal Service Workers	High school diploma or equivalent	Less than 5 years	None	\$16.93
39-2011	Animal Trainers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$11.40
39-2021	Nonfarm Animal Caretakers	High school diploma or equivalent	None	Short-term on-the-job training	\$10.19
39-3012	Gaming and Sports Book Writers and Runners	High school diploma or equivalent	None	Short-term on-the-job training	\$11.56
39-3031	Ushers, Lobby Attendants, and Ticket Takers	No formal educational credential	None	Short-term on-the-job training	\$9.30
39-3091	Amusement and Recreation Attendants	No formal educational credential	None	Short-term on-the-job training	\$9.34
39-3092	Costume Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$16.95
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$9.75
39-4021	Funeral Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$12.65
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Postsecondary non-degree award	None	None	\$10.73
39-5092	Manicurists and Pedicurists	Postsecondary non-degree award	None	None	\$11.80
39-5093	Shampooers	No formal educational credential	None	Short-term on-the-job training	\$9.41
39-5094	Skincare Specialists	Postsecondary non-degree award	None	None	\$14.61
39-6011	Baggage Porters and Bellhops	High school diploma or equivalent	None	Short-term on-the-job training	\$9.50
39-6012	Concierges	High school diploma or equivalent	None	Moderate-term on-the-job training	\$11.64
39-9011	Childcare Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$10.01
39-9021	Personal Care Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$10.94
39-9031	Fitness Trainers and Aerobics Instructors	High school diploma or equivalent	None	Short-term on-the-job training	\$12.77
39-9032	Recreation Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.14
39-9041	Residential Advisors	High school diploma or equivalent	None	Short-term on-the-job training	\$13.04
39-9099	Personal Care and Service Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$9.92
41-0000	<i>Sales and Related Occupations</i>				\$12.99
41-1011	FL Supervisors of Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	\$18.34
41-1012	FL Supervisors of Non-Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	\$33.50
41-2011	Cashiers	No formal educational credential	None	Short-term on-the-job training	\$9.71
41-2012	Gaming Change Persons and Booth Cashiers	No formal educational credential	None	Short-term on-the-job training	\$11.51
41-2021	Counter and Rental Clerks	No formal educational credential	None	Short-term on-the-job training	\$11.81
41-2022	Parts Salespersons	No formal educational credential	None	Moderate-term on-the-job training	\$13.54
41-2031	Retail Salespersons	No formal educational credential	None	Short-term on-the-job training	\$11.06
41-3011	Advertising Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.37
41-3021	Insurance Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.94
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$27.71
41-3041	Travel Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.00
41-3099	Sales Representatives, Services, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.40
41-4011	Sales Reps, Wholesale and Manufacturing, Tech and Scientific Products	Bachelor's degree	None	Moderate-term on-the-job training	\$36.27
41-4012	Sales Reps, Wholesale and Manufacturing, Ex. Tech and Scientific Products	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.60
41-9011	Demonstrators and Product Promoters	No formal educational credential	None	Short-term on-the-job training	\$11.81
41-9021	Real Estate Brokers	High school diploma or equivalent	Less than 5 years	None	\$27.10
41-9022	Real Estate Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.92
41-9031	Sales Engineers	Bachelor's degree	None	Moderate-term on-the-job training	\$41.71
41-9041	Telemarketers	No formal educational credential	None	Short-term on-the-job training	\$11.38
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	No formal educational credential	None	Short-term on-the-job training	\$12.38
41-9099	Sales and Related Workers, All Other	High school diploma or equivalent	None	None	\$13.98
43-0000	<i>Office and Administrative Support Occupations</i>				\$16.73
43-1011	FL Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	Less than 5 years	None	\$25.93
43-2011	Switchboard Operators, Including Answering Service	High school diploma or equivalent	None	Short-term on-the-job training	\$13.32
43-2021	Telephone Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$16.66
43-3011	Bill and Account Collectors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.51
43-3021	Billing and Posting Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.62
43-3031	Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	None	Moderate-term on-the-job training	\$18.50
43-3041	Gaming Cage Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$13.11
43-3051	Payroll and Timekeeping Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.05
43-3061	Procurement Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.87
43-3071	Tellers	High school diploma or equivalent	None	Short-term on-the-job training	\$13.63
43-3099	Financial Clerks, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$18.64
43-4011	Brokerage Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.39
43-4021	Correspondence Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$15.86
43-4031	Court, Municipal, and License Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.43
43-4041	Credit Authorizers, Checkers, and Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.36
43-4051	Customer Service Representatives	High school diploma or equivalent	None	Short-term on-the-job training	\$16.18
43-4061	Eligibility Interviewers, Government Programs	High school diploma or equivalent	None	Moderate-term on-the-job training	\$20.52
43-4071	File Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$16.25
43-4081	Hotel, Motel, and Resort Desk Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$10.30
43-4111	Interviewers, Except Eligibility and Loan	High school diploma or equivalent	None	Short-term on-the-job training	\$15.09
43-4121	Library Assistants, Clerical	High school diploma or equivalent	None	Short-term on-the-job training	\$11.88
43-4131	Loan Interviewers and Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$18.07
43-4141	New Accounts Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.63
43-4151	Order Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$15.01
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	Associate's degree	None	None	\$18.62
43-4171	Receptionists and Information Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$12.80
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$13.16
43-4199	Information and Record Clerks, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$20.15
43-5011	Cargo and Freight Agents	High school diploma or equivalent	None	Short-term on-the-job training	\$19.43
43-5021	Couriers and Messengers	High school diploma or equivalent	None	Short-term on-the-job training	\$13.18
43-5031	Police, Fire, and Ambulance Dispatchers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.40
43-5032	Dispatchers, Except Police, Fire, and Ambulance	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.71
43-5041	Meter Readers, Utilities	High school diploma or equivalent	None	Short-term on-the-job training	\$21.48
43-5051	Postal Service Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$22.84
43-5052	Postal Service Mail Carriers	High school diploma or equivalent	None	Short-term on-the-job training	\$25.10
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$28.25
43-5061	Production, Planning, and Expediting Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.48
43-5071	Shipping, Receiving, and Traffic Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$15.68
43-5081	Stock Clerks and Order Fillers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.96
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	High school diploma or equivalent	None	Short-term on-the-job training	\$16.26

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code	Occupational Title**	Typical Education Required for Entry	Commonly Required Work Experience in Related Occupation	Typical On-the-Job Training to Obtain Competency	Median Hourly Wage May 2018
43-6011	Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	Less than 5 years	None	\$26.99
43-6012	Legal Secretaries	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.58
43-6013	Medical Secretaries	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.30
43-6014	Secretaries and Administrative Assistants, Ex. Legal, Medical, and Executive	High school diploma or equivalent	None	Short-term on-the-job training	\$17.09
43-9011	Computer Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.51
43-9021	Data Entry Keyers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.81
43-9022	Word Processors and Typists	High school diploma or equivalent	None	Short-term on-the-job training	\$18.64
43-9041	Insurance Claims and Policy Processing Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.43
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	High school diploma or equivalent	None	Short-term on-the-job training	\$14.79
43-9061	Office Clerks, General	High school diploma or equivalent	None	Short-term on-the-job training	\$15.74
43-9071	Office Machine Operators, Except Computer	High school diploma or equivalent	None	Short-term on-the-job training	\$14.66
43-9111	Statistical Assistants	Bachelor's degree	None	None	\$21.11
43-9199	Office and Administrative Support Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$18.71
45-0000	<i>Farming, Fishing, and Forestry Occupations</i>				\$13.85
45-1011	FL Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	Less than 5 years	None	\$26.49
45-2011	Agricultural Inspectors	Bachelor's degree	None	Moderate-term on-the-job training	\$22.22
45-2041	Graders and Sorters, Agricultural Products	No formal educational credential	None	Short-term on-the-job training	\$11.12
45-2091	Agricultural Equipment Operators	No formal educational credential	None	Moderate-term on-the-job training	\$17.50
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	No formal educational credential	None	Short-term on-the-job training	\$11.15
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	No formal educational credential	None	Short-term on-the-job training	\$13.74
45-4021	Fallers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$11.91
45-4022	Logging Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.04
47-0000	<i>Construction and Extraction Occupations</i>				\$23.14
47-1011	Supervisors of Construction and Extraction Workers	High school diploma or equivalent	5 years or more	None	\$31.10
47-2011	Boilermakers	High school diploma or equivalent	None	Apprenticeship	\$35.12
47-2021	Brickmasons and Blockmasons	High school diploma or equivalent	None	Apprenticeship	\$26.63
47-2031	Carpenters	High school diploma or equivalent	None	Apprenticeship	\$22.23
47-2041	Carpet Installers	No formal educational credential	None	Short-term on-the-job training	\$16.84
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	No formal educational credential	None	Moderate-term on-the-job training	\$19.94
47-2044	Tile and Marble Setters	No formal educational credential	None	Long-term on-the-job training	\$20.51
47-2051	Cement Masons and Concrete Finishers	No formal educational credential	None	Moderate-term on-the-job training	\$22.25
47-2061	Construction Laborers	No formal educational credential	None	Short-term on-the-job training	\$19.22
47-2071	Paving, Surfacing, and Tamping Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.05
47-2073	Operating Engineers and Other Construction Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$25.51
47-2081	Drywall and Ceiling Tile Installers	No formal educational credential	None	Moderate-term on-the-job training	\$20.02
47-2082	Tapers	No formal educational credential	None	Moderate-term on-the-job training	\$30.17
47-2111	Electricians	High school diploma or equivalent	None	Apprenticeship	\$25.08
47-2121	Glaziers	High school diploma or equivalent	None	Apprenticeship	\$20.53
47-2131	Insulation Workers, Floor, Ceiling, and Wall	No formal educational credential	None	Short-term on-the-job training	\$18.66
47-2132	Insulation Workers, Mechanical	High school diploma or equivalent	None	Apprenticeship	\$27.63
47-2141	Painters, Construction and Maintenance	No formal educational credential	None	Moderate-term on-the-job training	\$19.36
47-2142	Paperhangers	No formal educational credential	None	Long-term on-the-job training	\$18.74
47-2151	Pipelayers	No formal educational credential	None	Short-term on-the-job training	\$22.75
47-2152	Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Apprenticeship	\$26.60
47-2161	Plasterers and Stucco Masons	No formal educational credential	None	Long-term on-the-job training	\$22.76
47-2171	Reinforcing Iron and Rebar Workers	High school diploma or equivalent	None	Apprenticeship	\$22.56
47-2181	Roofers	No formal educational credential	None	Moderate-term on-the-job training	\$18.65
47-2211	Sheet Metal Workers	High school diploma or equivalent	None	Apprenticeship	\$26.19
47-2221	Structural Iron and Steel Workers	High school diploma or equivalent	None	Apprenticeship	\$29.02
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	No formal educational credential	None	Short-term on-the-job training	\$17.93
47-3012	Helpers--Carpenters	No formal educational credential	None	Short-term on-the-job training	\$14.14
47-3013	Helpers--Electricians	High school diploma or equivalent	None	Short-term on-the-job training	\$13.76
47-3015	Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Short-term on-the-job training	\$14.66
47-3019	Helpers, Construction Trades, All Other	No formal educational credential	None	Short-term on-the-job training	\$14.29
47-4011	Construction and Building Inspectors	High school diploma or equivalent	5 years or more	Moderate-term on-the-job training	\$27.89
47-4021	Elevator Installers and Repairers	High school diploma or equivalent	None	Apprenticeship	\$36.38
47-4031	Fence Erectors	No formal educational credential	None	Moderate-term on-the-job training	\$18.06
47-4041	Hazardous Materials Removal Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.20
47-4051	Highway Maintenance Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.80
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	High school diploma or equivalent	None	Moderate-term on-the-job training	\$20.46
47-4099	Construction and Related Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	▲
47-5012	Rotary Drill Operators, Oil and Gas	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.79
47-5013	Service Unit Operators, Oil, Gas, and Mining	No formal educational credential	None	Moderate-term on-the-job training	\$23.72
47-5021	Earth Drillers, Except Oil and Gas	High school diploma or equivalent	None	Moderate-term on-the-job training	\$20.71
47-5041	Continuous Mining Machine Operators	No formal educational credential	None	Moderate-term on-the-job training	\$54,520 *
47-5042	Mine Cutting and Channeling Machine Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.11
47-5051	Rock Splitters, Quarry	No formal educational credential	None	Short-term on-the-job training	\$16.15
47-5071	Roustabouts, Oil and Gas	No formal educational credential	None	Moderate-term on-the-job training	\$17.13
47-5081	Helpers--Extraction Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.70
49-0000	<i>Installation, Maintenance, and Repair Occupations</i>				\$21.37
49-1011	FL Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	Less than 5 years	None	\$30.38
49-2011	Computer, Automated Teller, and Office Machine Repairers	Some college, no degree	None	Short-term on-the-job training	\$15.98
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	Associate's degree	None	Moderate-term on-the-job training	\$25.97
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$24.61
49-2091	Avionics Technicians	Associate's degree	None	None	\$24.07
49-2092	Electric Motor, Power Tool, and Related Repairers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$21.00
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	Postsecondary non-degree award	None	Long-term on-the-job training	\$28.48
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Postsecondary non-degree award	None	Long-term on-the-job training	\$27.76
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Postsecondary non-degree award	Less than 5 years	Moderate-term on-the-job training	\$35.65
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.23
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	Postsecondary non-degree award	None	Short-term on-the-job training	\$12.99
49-2098	Security and Fire Alarm Systems Installers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.51
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary non-degree award	None	None	\$28.69
49-3021	Automotive Body and Related Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$18.55
49-3022	Automotive Glass Installers and Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.90
49-3023	Automotive Service Technicians and Mechanics	Postsecondary non-degree award	None	Short-term on-the-job training	\$18.09
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	None	Long-term on-the-job training	\$22.28
49-3041	Farm Equipment Mechanics and Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$18.90
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	High school diploma or equivalent	None	Long-term on-the-job training	\$26.27
49-3043	Rail Car Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.41
49-3051	Motorboat Mechanics and Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$17.82
49-3052	Motorcycle Mechanics	Postsecondary non-degree award	None	Short-term on-the-job training	\$17.04
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.65
49-3091	Bicycle Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$12.71
49-3092	Recreational Vehicle Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$16.86
49-3093	Tire Repairers and Changers	High school diploma or equivalent	None	Short-term on-the-job training	\$12.66

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code	Occupational Title**	Typical Education Required for Entry	Commonly Required Work Experience in Related Occupation	Typical On-the-Job Training to Obtain Competency	Median Hourly Wage May 2018
49-9011	Mechanical Door Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$20.06
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	High school diploma or equivalent	None	Moderate-term on-the-job training	\$32.21
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary non-degree award	None	Long-term on-the-job training	\$22.54
49-9031	Home Appliance Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.31
49-9041	Industrial Machinery Mechanics	High school diploma or equivalent	None	Long-term on-the-job training	\$24.83
49-9043	Maintenance Workers, Machinery	High school diploma or equivalent	None	Long-term on-the-job training	\$22.00
49-9044	Millwrights	High school diploma or equivalent	None	Apprenticeship	\$28.37
49-9051	Electrical Power-Line Installers and Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$33.88
49-9052	Telecommunications Line Installers and Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$20.08
49-9062	Medical Equipment Repairers	Associate's degree	None	Moderate-term on-the-job training	\$22.53
49-9063	Musical Instrument Repairers and Tuners	High school diploma or equivalent	None	Apprenticeship	\$14.72
49-9064	Watch Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$17.99
49-9069	Precision Instrument and Equipment Repairers, All Other	High school diploma or equivalent	None	Long-term on-the-job training	\$27.41
49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.15
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	High school diploma or equivalent	None	Short-term on-the-job training	\$16.79
49-9094	Locksmiths and Safe Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$18.85
49-9095	Manufactured Building and Mobile Home Installers	High school diploma or equivalent	None	Short-term on-the-job training	\$16.23
49-9096	Riggers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.12
49-9098	Helpers--Installation, Maintenance, and Repair Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$13.76
49-9099	Installation, Maintenance, and Repair Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.48
51-0000	<i>Production Occupations</i>				\$17.28
51-1011	FL Supervisors of Production and Operating Workers	High school diploma or equivalent	Less than 5 years	None	\$28.70
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$20.40
51-2021	Coil Winders, Tapers, and Finishers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.13
51-2022	Electrical and Electronic Equipment Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	▲
51-2023	Electromechanical Equipment Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	▲
51-2031	Engine and Other Machine Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.73
51-2041	Structural Metal Fabricators and Fitters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.28
51-2091	Fiberglass Laminators and Fabricators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.01
51-2092	Team Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	▲
51-2099	Assemblers and Fabricators, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	▲
51-3011	Bakers	No formal educational credential	None	Long-term on-the-job training	\$12.37
51-3021	Butchers and Meat Cutters	No formal educational credential	None	Long-term on-the-job training	\$16.90
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	No formal educational credential	None	Short-term on-the-job training	\$13.58
51-3023	Slaughterers and Meat Packers	No formal educational credential	None	Short-term on-the-job training	\$13.00
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	No formal educational credential	None	Moderate-term on-the-job training	\$16.46
51-3092	Food Batchmakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.83
51-3093	Food Cooking Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.59
51-3099	Food Processing Workers, All Other	No formal educational credential	None	Moderate-term on-the-job training	\$12.10
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.42
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$23.57
51-4021	Extruding and Drawing Machine S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.24
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.74
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.03
51-4031	Cutting, Punching, and Press Machine S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.31
51-4032	Drilling and Boring Machine Tool S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.85
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.01
51-4034	Lathe and Turning Machine Tool S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.79
51-4035	Milling and Planing Machine S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.47
51-4041	Machinists	High school diploma or equivalent	None	Long-term on-the-job training	\$19.90
51-4051	Metal-Refining Furnace Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.03
51-4052	Pourers and Casters, Metal	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.40
51-4061	Model Makers, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.05
51-4062	Patternmakers, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.62
51-4071	Foundry Mold and Coremakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.53
51-4072	Molding, Coremaking, and Casting Machine S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.35
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.72
51-4111	Tool and Die Makers	Postsecondary non-degree award	None	Long-term on-the-job training	\$23.96
51-4121	Welders, Cutters, Solderers, and Brazers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.94
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.38
51-4191	Heat Treating Equipment S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.30
51-4192	Layout Workers, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.12
51-4193	Plating and Coating Machine S/O/T, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.77
51-4194	Tool Grinders, Filers, and Sharpeners	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.12
51-4199	Metal Workers and Plastic Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.36
51-5111	Prepress Technician and Workers	Postsecondary non-degree award	None	None	\$19.19
51-5112	Printing Press Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.18
51-5113	Print Binding and Finishing Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.49
51-6011	Laundry and Dry-Cleaning Workers	No formal educational credential	None	Short-term on-the-job training	\$10.35
51-6021	Pressers, Textile, Garment, and Related Materials	No formal educational credential	None	Short-term on-the-job training	\$11.12
51-6031	Sewing Machine Operators	No formal educational credential	None	Short-term on-the-job training	\$11.82
51-6041	Shoe and Leather Workers and Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$12.07
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.45
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Short-term on-the-job training	\$13.40
51-6091	Extruding and Forming Machine S/O/T, Synthetic and Glass Fibers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.24
51-6093	Upholsterers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.42
51-6099	Textile, Apparel, and Furnishings Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$15.43
51-7011	Cabinetmakers and Bench Carpenters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.91
51-7021	Furniture Finishers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.73
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.87
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.76
51-8012	Power Distributors and Dispatchers	High school diploma or equivalent	None	Long-term on-the-job training	\$40.65
51-8013	Power Plant Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$35.22
51-8021	Stationary Engineers and Boiler Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$27.67
51-8031	Water and Wastewater Treatment Plant and System Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$23.66
51-8091	Chemical Plant and System Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$29.59
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$32.10
51-8099	Plant and System Operators, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$25.80
51-9011	Chemical Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.79
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.94
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.38
51-9022	Grinding and Polishing Workers, Hand	No formal educational credential	None	Moderate-term on-the-job training	\$13.27
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.91
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.10
51-9041	Extruding, Forming, Pressing, and Compacting Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.67

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code	Occupational Title**	Typical Education Required for Entry	Commonly Required Work Experience in Related Occupation	Typical On-the-Job Training to Obtain Competency	Median Hourly Wage May 2018
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.68
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.51
51-9071	Jewelers and Precious Stone and Metal Workers	High school diploma or equivalent	None	Long-term on-the-job training	\$17.39
51-9081	Dental Laboratory Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.50
51-9082	Medical Appliance Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.41
51-9083	Ophthalmic Laboratory Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.86
51-9111	Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.94
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.96
51-9122	Painters, Transportation Equipment	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.46
51-9141	Semiconductor Processors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.27
51-9151	Photographic Process Workers and Processing Machine Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$14.14
51-9191	Adhesive Bonding Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.27
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.02
51-9193	Cooling and Freezing Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.84
51-9194	Etchers and Engravers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.39
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	High school diploma or equivalent	None	Long-term on-the-job training	\$16.46
51-9196	Paper Goods Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.31
51-9197	Tire Builders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.67
51-9198	Helpers--Production Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.41
51-9199	Production Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$15.58
53-0000	Transportation and Material Moving Occupations				\$15.13
53-1021	FL Supervisors of Helpers, Laborers, and Material Movers, Hand	High school diploma or equivalent	Less than 5 years	None	▲
53-1031	FL Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	High school diploma or equivalent	Less than 5 years	None	▲
53-2011	Airline Pilots, Copilots, and Flight Engineers	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$102,010 **
53-2012	Commercial Pilots	High school diploma or equivalent	None	Moderate-term on-the-job training	\$81,050 **
53-2021	Air Traffic Controllers	Associate's degree	None	Long-term on-the-job training	\$67.29
53-2022	Airfield Operations Specialists	High school diploma or equivalent	None	Long-term on-the-job training	\$19.47
53-2031	Flight Attendants	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$58,230 **
53-3011	Ambulance Drivers and Attendants, Ex. Emergency Medical Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$12.12
53-3021	Bus Drivers, Transit and Intercity	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.45
53-3022	Bus Drivers, School or Special Client	High school diploma or equivalent	None	Short-term on-the-job training	\$14.18
53-3031	Driver/Sales Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$9.59
53-3032	Heavy and Tractor-Trailer Truck Drivers	Postsecondary non-degree award	None	Short-term on-the-job training	\$20.66
53-3033	Light Truck or Delivery Services Drivers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.32
53-3041	Taxi Drivers and Chauffeurs	No formal educational credential	None	Short-term on-the-job training	\$10.99
53-3099	Motor Vehicle Operators, All Other	No formal educational credential	None	Short-term on-the-job training	\$11.16
53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.62
53-4021	Railroad Brake, Signal, and Switch Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$26.85
53-5011	Sailors and Marine Oilers	No formal educational credential	None	Moderate-term on-the-job training	\$18.23
53-5021	Captains, Mates, and Pilots of Water Vessels	Postsecondary non-degree award	Less than 5 years	None	\$22.30
53-6011	Bridge and Lock Tenders	High school diploma or equivalent	None	Short-term on-the-job training	\$26.18
53-6021	Parking Lot Attendants	No formal educational credential	None	Short-term on-the-job training	\$10.12
53-6031	Automotive and Watercraft Service Attendants	No formal educational credential	None	Short-term on-the-job training	\$11.20
53-6041	Traffic Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.26
53-6051	Transportation Inspectors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.65
53-6061	Transportation Attendants, Except Flight Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$12.99
53-6099	Transportation Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$16.63
53-7011	Conveyor Operators and Tenders	No formal educational credential	None	Short-term on-the-job training	\$15.43
53-7021	Crane and Tower Operators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$21.17
53-7032	Excavating and Loading Machine and Dragline Operators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$20.47
53-7041	Hoist and Winch Operators	No formal educational credential	None	Short-term on-the-job training	\$17.73
53-7051	Industrial Truck and Tractor Operators	No formal educational credential	None	Short-term on-the-job training	\$16.29
53-7061	Cleaners of Vehicles and Equipment	No formal educational credential	None	Short-term on-the-job training	\$11.20
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	No formal educational credential	None	Short-term on-the-job training	\$13.67
53-7063	Machine Feeders and Offbearers	No formal educational credential	None	Short-term on-the-job training	\$15.00
53-7064	Packers and Packagers, Hand	No formal educational credential	None	Short-term on-the-job training	\$11.82
53-7071	Gas Compressor and Gas Pumping Station Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$35.15
53-7072	Pump Operators, Except Wellhead Pumps	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.66
53-7073	Wellhead Pumps	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$18.77
53-7081	Refuse and Recyclable Material Collectors	No formal educational credential	None	Short-term on-the-job training	\$17.94
53-7121	Tank Car, Truck, and Ship Loaders	No formal educational credential	None	Short-term on-the-job training	\$15.93
53-7199	Material Moving Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$12.49

\* Occupations with 100 or more workers.

\*\* Title Abbreviations

FL = FirstLine

S/O/T = Setters, Operators and Tenders

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, May 2019.

▲ Wage data unavailable OES consolidated these occupations in 2018.

+ National Wage

++ Annual Wage

Ohio Department of Job and Family Services  
Office of Workforce Development  
P.O. Box 1618  
Columbus, OH 43216-1618



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**Mike DeWine, Governor**

State of Ohio

[Ohio.gov](http://Ohio.gov)

**Kimberly Hall, Director**

Ohio Department of Job and Family Services

[jfs.ohio.gov](http://jfs.ohio.gov)

Office of Workforce Development

[jfs.ohio.gov/owd/](http://jfs.ohio.gov/owd/)

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