

# Ohio Short-Term Employment Forecast

**1st Quarter 2021 to 1st Quarter 2023**



## Summary

Ohio is expected to have an estimated 613,869 annual job openings from the first quarter 2021 to the first quarter of 2023. This includes 237,248 openings due to workers leaving the labor force and 364,038 openings because of workers changing occupations. An additional 25,166 jobs are expected to be created over the period, a statewide employment increase of 0.5%.

## Data Limitations

While the Ohio Bureau of Labor Market Information tries to ensure the accuracy of the projections, data and forecasts are subject to error. The information in this report is best used as an indicator of employment trends at the time they were produced. Employment forecasts cannot predict unforeseen events or actions. The projections should be used in combination with other data and information. This report provides estimates of the number of jobs, not the number of employees. It makes no distinctions for full-time, part-time, or secondary jobs.

## Occupational Openings

The method of estimating occupational openings considers three sources of change: occupational transfers, labor force exits, and industry growth. Occupational transfers occur when a worker moves from one occupation to another. This leaves an opening in the first occupation. Occupational transfers do not include workers who change jobs but stay in the same occupation because there is no impact on the overall employment within the occupation. Openings from labor force exits occur when workers leave the labor force entirely for retirement or other reasons and the worker will be replaced. The last source of job openings is industry growth. As demand for products and services changes for an industry, the number of workers in that industry can increase or decrease. Occupational job growth is the difference between the base employment and projected employment values for a period. The number of openings created by growth is often lower than openings due to labor force exits and occupational transfers.

To estimate annual occupational openings, Ohio uses national separation rates calculated by the Bureau of Labor Statistics (BLS) which includes separations caused by labor force exits and separations caused by occupational transfers. Projections of separations are combined with projections of employment change to determine annual occupational openings.

## Key Points for End Users

Employment projections provide an idea of what is expected for workers in the future. Educators, workforce professionals, employers, job seekers, students, and others can use projections to learn about:

- Areas of the economy that are projected to have the most employment opportunities.
- Occupations projected to have more job openings than others, informing stakeholders who prepare and train the workforce.
- Possible career pathways, as occupations with a high number of transfers may lose workers to related occupations that require a higher level of education or experience and increased pay.

## **Technical Notes**

The Ohio short-term industry and occupational forecasts were derived primarily from data produced by the Occupational Employment and Wage Statistics (OEWS) 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 ten-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 2021. 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 unemployment claims, housing valuations, average manufacturing hours, and more.

### **Occupational Employment Forecasts**

Occupational estimates were derived from an industry-occupation matrix. From a three-year OEWS 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 OEWS 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 OEWS 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.

### **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 [www.bls.gov/emp/documentation/education-training-system.htm](http://www.bls.gov/emp/documentation/education-training-system.htm).

For additional information or questions, please visit [OhioLMI.com](http://OhioLMI.com), or email [ContactLMI@jfs.ohio.gov](mailto:ContactLMI@jfs.ohio.gov).

## Employment Projections Report by Major Industry

### First Quarter 2021 to First Quarter 2023

Industry Title	2021 Employment	2023 Projected	Change 2021 - 2023	
			Employment	Percent
<b>Total - All Industries</b>	<b>5,555,532</b>	<b>5,580,698</b>	<b>25,166</b>	<b>0.5%</b>
<b>Goods-Producing</b>	<b>970,451</b>	<b>987,685</b>	<b>17,234</b>	<b>1.8%</b>
Agriculture, Forestry, Fishing and Hunting	98,260	99,218	958	1.0%
Mining	8,061	8,045	-16	-0.2%
Construction	203,476	212,929	9,453	4.6%
Manufacturing	660,654	667,493	6,839	1.0%
<b>Service-Providing</b>	<b>4,301,166</b>	<b>4,312,287</b>	<b>11,121</b>	<b>0.3%</b>
Wholesale Trade	224,228	224,177	-51	0.0%
Retail Trade	535,391	536,055	664	0.1%
Transportation and Warehousing	239,220	253,108	13,888	5.8%
Utilities	18,282	17,718	-564	-3.1%
Information	62,790	60,570	-2,220	-3.5%
Finance and Insurance	228,158	229,776	1,618	0.7%
Real Estate and Rental and Leasing	60,957	61,394	437	0.7%
Professional, Scientific, and Technical Services	266,015	268,921	2,906	1.1%
Management of Companies and Enterprises	136,062	136,380	318	0.2%
Administrative and Waste Services	297,347	305,502	8,155	2.7%
Educational Services	414,455	401,703	-12,752	-3.1%
Health Care and Social Assistance	816,908	812,240	-4,668	-0.6%
Arts, Entertainment, and Recreation	52,017	51,756	-261	-0.5%
Accommodation and Food Services	401,089	410,078	8,989	2.2%
Other Services (except Government)	210,965	212,436	1,471	0.7%
Government	337,282	330,473	-6,809	-2.0%
<b>Self-Employed and Unpaid Family Workers</b>	<b>268,317</b>	<b>265,584</b>	<b>-2,733</b>	<b>-1.0%</b>

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, June 2022.

# Ohio Short-Term Industry Employment\* Projections

## First Quarter 2021 to First Quarter 2023

NAICS Code	Industry Title	2021 Employment	2023 Projected	Change 2021 - 2023	
				Employment	Percent
	<b>Total - All Industries</b>	<b>5,555,532</b>	<b>5,580,698</b>	<b>25,166</b>	<b>0.5%</b>
	<b>Goods-Producing</b>	<b>970,451</b>	<b>987,685</b>	<b>17,234</b>	<b>1.8%</b>
	<b>Natural Resources and Mining</b>	<b>106,321</b>	<b>107,263</b>	<b>942</b>	<b>0.9%</b>
	Agriculture, Forestry, Fishing and Hunting	98,260	99,218	958	1.0%
	Mining	8,061	8,045	-16	-0.2%
	<b>Construction</b>	<b>203,476</b>	<b>212,929</b>	<b>9,453</b>	<b>4.6%</b>
236	Construction of Buildings	47,033	48,920	1,887	4.0%
237	Heavy and Civil Engineering Construction	23,135	23,820	685	3.0%
238	Specialty Trade Contractors	133,308	140,189	6,881	5.2%
	<b>Manufacturing</b>	<b>660,654</b>	<b>667,493</b>	<b>6,839</b>	<b>1.0%</b>
311	Food Manufacturing	59,631	60,222	591	1.0%
312	Beverage and Tobacco Product Manufacturing	9,744	10,152	408	4.2%
321	Wood Product Manufacturing	12,851	13,121	270	2.1%
322	Paper Manufacturing	20,523	20,611	88	0.4%
323	Printing and Related Support Activities	18,382	17,121	-1,261	-6.9%
324	Petroleum and Coal Products Manufacturing	4,532	4,532	0	0.0%
325	Chemical Manufacturing	46,710	47,331	621	1.3%
326	Plastics and Rubber Products Manufacturing	56,759	56,636	-123	-0.2%
327	Nonmetallic Mineral Product Manufacturing	25,590	25,976	386	1.5%
331	Primary Metal Manufacturing	33,662	33,441	-221	-0.7%
332	Fabricated Metal Product Manufacturing	92,263	92,796	533	0.6%
333	Machinery Manufacturing	73,518	74,131	613	0.8%
334	Computer and Electronic Product Manufacturing	20,167	19,845	-322	-1.6%
335	Electrical Equipment and Appliance Mfg.	26,906	27,040	134	0.5%
336	Transportation Equipment Manufacturing	116,071	121,148	5,077	4.4%
337	Furniture and Related Product Manufacturing	15,072	15,072	0	0.0%
339	Miscellaneous Manufacturing	21,426	21,519	93	0.4%
	<b>Service-Providing</b>	<b>4,301,166</b>	<b>4,312,287</b>	<b>11,121</b>	<b>0.3%</b>
	<b>Trade, Transportation and Utilities</b>	<b>1,017,121</b>	<b>1,031,058</b>	<b>13,937</b>	<b>1.4%</b>
	Wholesale Trade	224,228	224,177	-51	0.0%
423	Merchant Wholesalers, Durable Goods	134,854	135,788	934	0.7%
424	Merchant Wholesalers, Nondurable Goods	72,931	71,950	-981	-1.3%
425	Wholesale Electronic Markets and Agents and Brokers	16,443	16,439	-4	0.0%
	Retail Trade	535,391	536,055	664	0.1%
441	Motor Vehicle and Parts Dealers	74,543	74,855	312	0.4%
442	Furniture and Home Furnishings Stores	13,130	12,885	-245	-1.9%
443	Electronics and Appliance Stores	12,927	12,966	39	0.3%
444	Building Mat./Garden Equip. and Supplies Dealers	54,327	55,397	1,070	2.0%
445	Food and Beverage Stores	102,192	102,729	537	0.5%
446	Health and Personal Care Stores	34,674	34,480	-194	-0.6%
447	Gasoline Stations	34,231	34,409	178	0.5%
448	Clothing and Clothing Accessories Stores	28,543	28,774	231	0.8%
451	Sporting Goods, Hobby, Book, and Music Stores	16,894	16,965	71	0.4%
452	General Merchandise Stores	108,339	106,545	-1,794	-1.7%
453	Miscellaneous Store Retailers	27,222	27,038	-184	-0.7%
454	Nonstore Retailers	28,369	29,012	643	2.3%
	Transportation and Warehousing	239,220	253,108	13,888	5.8%
481	Air Transportation	9,491	9,280	-211	-2.2%
484	Truck Transportation	69,305	71,737	2,432	3.5%
485	Transit and Ground Passenger Transport	7,957	8,133	176	2.2%
488	Support Activities for Transportation	20,591	20,906	315	1.5%
492	Couriers and Messengers	37,431	40,377	2,946	7.9%
493	Warehousing and Storage	85,575	93,746	8,171	9.5%

# Ohio Short-Term Industry Employment\* Projections

## First Quarter 2021 to First Quarter 2023

NAICS Code	Industry Title	2021 Employment	2023 Projected	Change 2021 - 2023	
				Employment	Percent
	Utilities	18,282	17,718	-564	-3.1%
	<b>Information</b>	<b>62,790</b>	<b>60,570</b>	<b>-2,220</b>	<b>-3.5%</b>
511	Publishing Industries (except Internet)	19,003	18,202	-801	-4.2%
515	Broadcasting (except Internet)	5,331	4,971	-360	-6.8%
518	Data Processing, Hosting, and Related Services	8,783	8,896	113	1.3%
519	Other Information Services	6,329	6,538	209	3.3%
	<b>Financial Activities</b>	<b>289,115</b>	<b>291,170</b>	<b>2,055</b>	<b>0.7%</b>
	Finance and Insurance	228,158	229,776	1,618	0.7%
522	Credit Intermediation and Related Activities	97,480	99,860	2,380	2.4%
523	Securities, Commodity Contracts, and Investments	19,760	20,185	425	2.2%
524	Insurance Carriers and Related Activities	109,585	108,272	-1,313	-1.2%
	Real Estate and Rental and Leasing	60,957	61,394	437	0.7%
531	Real Estate	45,333	46,002	669	1.5%
532	Rental and Leasing Services	15,013	14,780	-233	-1.6%
	<b>Professional and Business Services</b>	<b>699,424</b>	<b>710,803</b>	<b>11,379</b>	<b>1.6%</b>
	Professional, Scientific, and Technical Services	266,015	268,921	2,906	1.1%
5411	Legal Services	30,258	29,844	-414	-1.4%
5412	Accounting and Bookkeeping Services	32,717	32,651	-66	-0.2%
5413	Architectural, Engineering, and Related Services	41,233	42,141	908	2.2%
5414	Specialized Design Services	6,407	6,447	40	0.6%
5415	Computer Systems Design and Related Services	65,629	66,470	841	1.3%
5417	Scientific Research and Development Services	19,432	20,500	1,068	5.5%
5419	Other Professional, Scientific, and Technical Services	24,519	25,108	589	2.4%
	Management of Companies and Enterprises	136,062	136,380	318	0.2%
	Administrative and Waste Services	297,347	305,502	8,155	2.7%
561	Administrative and Support Services	279,632	286,996	7,364	2.6%
562	Waste Management and Remediation Service	17,715	18,506	791	4.5%
	<b>Education and Health Services</b>	<b>1,231,363</b>	<b>1,213,943</b>	<b>-17,420</b>	<b>-1.4%</b>
	Educational Services	414,455	401,703	-12,752	-3.1%
6111	Elementary and Secondary Schools	271,022	261,213	-9,809	-3.6%
6112	Junior Colleges	16,936	15,902	-1,034	-6.1%
6113	Colleges, Universities, and Professional Schools	88,925	86,739	-2,186	-2.5%
6116	Other Schools and Instruction	10,655	11,000	345	3.2%
	Health Care and Social Assistance	816,908	812,240	-4,668	-0.6%
621	Ambulatory Health Care Services	273,588	276,924	3,336	1.2%
622	Hospitals	284,026	287,874	3,848	1.4%
623	Nursing and Residential Care Facilities	148,300	134,457	-13,843	-9.3%
624	Social Assistance	110,994	112,985	1,991	1.8%
	<b>Leisure and Hospitality</b>	<b>453,106</b>	<b>461,834</b>	<b>8,728</b>	<b>1.9%</b>
	Arts, Entertainment, and Recreation	52,017	51,756	-261	-0.5%
711	Performing Arts, Spectator Sports, and Related Industries	7,606	7,861	255	3.4%
713	Amusement, Gambling, and Recreation Industries	39,526	39,260	-266	-0.7%
	Accommodation and Food Services	401,089	410,078	8,989	2.2%
721	Accommodation, including Hotels and Motels	22,944	23,773	829	3.6%
722	Food Services and Drinking Places	378,145	386,305	8,160	2.2%

# Ohio Short-Term Industry Employment\* Projections

## First Quarter 2021 to First Quarter 2023

NAICS Code	Industry Title	2021 Employment	2023 Projected	Change 2021 - 2023	
				Employment	Percent
	<b>Other Services (except Government)</b>	<b>210,965</b>	<b>212,436</b>	<b>1,471</b>	<b>0.7%</b>
811	Repair and Maintenance	48,996	49,903	907	1.9%
812	Personal and Laundry Services	48,217	48,300	83	0.2%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	98,316	98,300	-16	0.0%
814	Private Household	15,436	15,933	497	3.2%
	<b>Government</b>	<b>337,282</b>	<b>330,473</b>	<b>-6,809</b>	<b>-2.0%</b>
4911	Postal Service	22,419	22,323	-96	-0.4%
9991	Federal Government, excluding Post Office	57,138	55,891	-1,247	-2.2%
9992	State Government, excluding Education and Hospitals	51,728	50,299	-1,429	-2.8%
9993	Local Government, excluding Education and Hospitals	205,997	201,960	-4,037	-2.0%
	<b>Self-Employed and Unpaid Family Workers</b>	<b>268,317</b>	<b>265,584</b>	<b>-2,733</b>	<b>-1.0%</b>

\* Industries with at least 5,000 employment.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, June 2022.

**Ohio Occupational Employment Projections by Major Occupational Group**  
**First Quarter 2021 to First Quarter 2023**  
**Breakdown of Annual Openings**

SOC Code	Occupational Title	Employment		Change in Employment 2021- 2023	Annual Openings			
		2021 Employment	2023 Projected		Change [1]	Exits [2]	Transfers [3]	Total
	<b>Total, All Occupations</b>	<b>5,555,532</b>	<b>5,580,698</b>	<b>25,166</b>	<b>12,583</b>	<b>237,248</b>	<b>364,038</b>	<b>613,869</b>
11-0000	Management Occupations	337,858	341,023	3,165	1,582	10,968	16,976	29,526
13-0000	Business and Financial Operations Occupations	329,947	331,944	1,997	998	8,690	19,358	29,046
15-0000	Computer and Mathematical Occupations	168,995	171,014	2,019	1,010	3,516	8,391	12,917
17-0000	Architecture and Engineering Occupations	91,430	93,059	1,629	814	2,164	4,322	7,300
19-0000	Life, Physical, and Social Science Occupations	41,364	41,596	232	116	874	2,856	3,846
21-0000	Community and Social Service Occupations	105,186	105,435	249	124	3,648	6,722	10,494
23-0000	Legal Occupations	38,248	38,167	-81	-40	1,054	1,505	2,519
25-0000	Education, Training, and Library Occupations	301,647	293,544	-8,103	-4,052	11,556	13,336	20,840
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	81,163	80,097	-1,066	-533	3,168	5,118	7,753
29-0000	Healthcare Practitioners and Technical Occupations	377,117	377,605	488	244	9,669	11,354	21,267
31-0000	Healthcare Support Occupations	229,056	226,527	-2,529	-1,264	13,261	14,148	26,145
33-0000	Protective Service Occupations	105,784	104,780	-1,004	-502	4,855	6,624	10,977
35-0000	Food Preparation and Serving Related Occupations	426,120	431,577	5,457	2,728	32,944	43,791	79,463
37-0000	Building and Grounds Cleaning and Maintenance Occupations	162,124	163,440	1,316	658	9,214	11,928	21,800
39-0000	Personal Care and Service Occupations	122,289	121,849	-440	-220	7,530	9,241	16,551
41-0000	Sales and Related Occupations	502,650	501,150	-1,500	-750	25,334	39,280	63,864
43-0000	Office and Administrative Support Occupations	704,699	697,572	-7,127	-3,564	33,242	43,480	73,158
45-0000	Farming, Fishing, and Forestry Occupations	15,603	15,703	100	50	654	1,776	2,480
47-0000	Construction and Extraction Occupations	191,852	199,137	7,285	3,642	5,814	13,330	22,786
49-0000	Installation, Maintenance, and Repair Occupations	217,280	220,138	2,858	1,429	6,896	13,778	22,103
51-0000	Production Occupations	486,268	489,547	3,279	1,640	17,994	34,637	54,271
53-0000	Transportation and Material Moving Occupations	518,852	535,794	16,942	8,471	24,205	42,090	74,766

[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, June 2022.



## Ohio's Fastest Growing Occupations\*

### First Quarter 2021 to First Quarter 2023

SOC Code <sup>1</sup>	Occupational Title	Percent Change	Total Annual Openings	Median Wage** May 2021
29-1171	Nurse Practitioners	9.1%	982	\$49.67
47-2181	Roofers	7.4%	686	\$22.53
49-3052	Motorcycle Mechanics	7.0%	100	\$17.95
15-2041	Statisticians	6.9%	107	\$36.17
35-2014	Cooks, Restaurant	6.9%	6,133	\$13.87
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	6.7%	105	\$23.11
53-7081	Refuse and Recyclable Material Collectors	6.6%	936	\$18.62
47-2121	Glaziers	6.3%	197	\$23.92
41-3041	Travel Agents	6.1%	157	\$18.03
51-9162	Computer Numerically Controlled Tool Programmers	6.1%	295	\$27.68
39-3031	Ushers, Lobby Attendants, and Ticket Takers	6.0%	587	\$10.99
47-2221	Structural Iron and Steel Workers	6.0%	342	\$29.44
29-1071	Physician Assistants	5.8%	394	\$49.29
49-9011	Mechanical Door Repairers	5.6%	105	\$19.36
35-3011	Bartenders	5.6%	3,844	\$10.21
53-7051	Industrial Truck and Tractor Operators	5.5%	4,874	\$18.51
13-1081	Logisticians	5.4%	834	\$37.03
47-2044	Tile and Marble Setters	5.3%	99	\$23.19
47-2081	Drywall and Ceiling Tile Installers	5.1%	115	\$23.11
15-1212	Information Security Analysts	5.1%	421	\$47.62
49-9041	Industrial Machinery Mechanics	5.1%	2,194	\$28.74
47-2061	Construction Laborers	5.1%	4,874	\$22.22
47-2021	Brickmasons and Blockmasons	5.0%	379	\$29.39
47-2051	Cement Masons and Concrete Finishers	4.9%	589	\$23.33
13-2061	Financial Examiners	4.8%	370	\$36.65
11-9021	Construction Managers	4.8%	956	\$47.08
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	4.7%	78	\$18.33
39-2021	Nonfarm Animal Caretakers	4.6%	1,589	\$11.01
47-2141	Painters, Construction and Maintenance	4.5%	904	\$22.21
47-2132	Insulation Workers, Mechanical	4.4%	76	\$28.76

<sup>1</sup> Occupational codes based on SOC 2010 coding structure. Detailed information - <http://www.bls.gov/soc/>

\* Based on occupations with at least 500 workers.

\*\* Wage estimates are based on Ohio's OEWS surveys.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, June 2022.

## Occupations in Ohio with the Most Annual Openings

### First Quarter 2021 to First Quarter 2023

SOC Code <sup>1</sup>	Occupational Title	Total Annual Openings	Median Wage* May 2021
35-3023	Fast Food and Counter Workers	31,664	\$10.70
41-2031	Retail Salespersons	19,026	\$12.99
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	18,927	\$16.37
41-2011	Cashiers	18,254	\$10.96
53-7065	Stockers and Order Fillers	16,764	\$14.39
43-4051	Customer Service Representatives	14,502	\$17.89
35-3031	Waiters and Waitresses	13,513	\$9.87
31-1120	Home Health and Personal Care Aides	11,641	\$11.54
43-9061	Office Clerks, General	11,329	\$17.85
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	10,628	\$14.06
51-2090	Miscellaneous Assemblers and Fabricators	10,299	\$17.78
53-3032	Heavy and Tractor-Trailer Truck Drivers	9,920	\$23.17
29-1141	Registered Nurses	6,887	\$35.62
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	6,241	\$15.65
35-2014	Cooks, Restaurant	6,133	\$13.87
43-3031	Bookkeeping, Accounting, and Auditing Clerks	5,958	\$18.76
41-4012	Sales Rep., Wholesale/Mfg, ex. Tech./Sci. Prod.	5,803	\$29.71
49-9071	Maintenance and Repair Workers, General	5,743	\$22.36
11-1021	General and Operations Managers	5,736	\$45.60
37-3011	Landscaping and Groundskeeping Workers	5,550	\$14.58
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	5,095	\$17.94
31-1131	Nursing Assistants	5,086	\$14.34
47-2061	Construction Laborers	4,874	\$22.22
53-7051	Industrial Truck and Tractor Operators	4,874	\$18.51
15-1256	Software Developers	4,793	\$48.02
53-3033	Light Truck or Delivery Services Drivers	4,776	\$18.00
13-2011	Accountants and Auditors	4,557	\$33.46
41-1011	First-Line Supervisors of Retail Sales Workers	4,502	\$18.23
35-2021	Food Preparation Workers	4,429	\$11.69
43-1011	First-Line Supervisors of Office and Administrative Support Workers	4,401	\$28.91

<sup>1</sup> Occupational codes based on SOC 2010 coding structure. Detailed information - <http://www.bls.gov/soc/>

\* Wage estimates are based on Ohio's OEWS surveys.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, June 2022.

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
00-0000	Total, All Occupations	5,555,532	5,580,698	25,166	0.5%	12,583	237,248	364,038	613,869	\$19.08
11-0000	Management Occupations	337,858	341,023	3,165	0.9%	1,582	10,968	16,976	29,526	\$47.53
11-1011	Chief Executives	6,554	6,392	-162	-2.5%	-81	176	261	356	\$86.39
11-1021	General and Operations Managers	65,541	66,212	671	1.0%	336	1,316	4,084	5,736	\$45.60
11-1031	Legislators	2,352	2,316	-36	-1.5%	-18	54	114	150	\$36,940 ***
11-2011	Advertising and Promotions Managers	270	260	-10	-3.7%	-5	5	20	20	\$48.02
11-2021	Marketing Managers	6,617	6,653	36	0.5%	18	132	418	568	\$61.47
11-2022	Sales Managers	10,844	10,918	74	0.7%	37	218	686	941	\$61.17
11-2030	Public Relations and Fundraising Manager	1,774	1,771	-3	-0.2%	-2	46	100	144	\$57.62
11-3010	Administrative Services and Facilities Managers	10,869	10,890	21	0.2%	10	309	544	863	\$47.73 **
11-3021	Computer and Information Systems Managers	12,209	12,258	49	0.4%	24	198	695	917	\$62.43
11-3031	Financial Managers	22,166	22,745	579	2.6%	290	460	1,128	1,878	\$60.79
11-3051	Industrial Production Managers	11,547	11,740	193	1.7%	96	226	550	872	\$48.40
11-3061	Purchasing Managers	2,210	2,231	21	1.0%	10	48	120	178	\$58.50
11-3071	Transportation, Storage, and Distribution Managers	6,095	6,297	202	3.3%	101	118	342	561	\$44.54
11-3111	Compensation and Benefits Managers	446	444	-2	-0.4%	-1	10	23	32	\$61.38
11-3121	Human Resources Managers	3,989	4,017	28	0.7%	14	93	224	331	\$59.27
11-3131	Training and Development Managers	894	899	5	0.6%	2	20	59	81	\$55.57
11-9013	Farmers, Ranchers, and Other Agricultural Managers	82,770	83,519	749	0.9%	374	5,129	2,890	8,393	\$35.12 *
11-9021	Construction Managers	9,889	10,361	472	4.8%	236	208	512	956	\$47.08
11-9031	Education Administrators, Preschool and Childcare Center/Program	1,958	1,921	-37	-1.9%	-18	48	90	120	\$22.31
11-9032	Education Administrators, Elementary and Secondary School	9,402	9,087	-315	-3.4%	-158	228	429	499	\$97,320 ***
11-9033	Education Administrators, Postsecondary	3,525	3,417	-108	-3.1%	-54	86	161	193	\$45.68
11-9039	Education Administrators, All Other	1,020	1,011	-9	-0.9%	-4	25	47	68	\$36.22
11-9041	Architectural and Engineering Managers	5,584	5,656	72	1.3%	36	101	286	423	\$63.11
11-9051	Food Service Managers	10,520	10,610	90	0.9%	45	323	844	1,212	\$27.30
11-9081	Lodging Managers	1,151	1,166	15	1.3%	8	44	80	132	\$28.90
11-9111	Medical and Health Services Managers	14,715	15,135	420	2.9%	210	373	758	1,341	\$47.38
11-9121	Natural Sciences Managers	922	931	9	1.0%	4	18	46	68	\$50.66
11-9131	Postmasters and Mail Superintendents	476	475	-1	-0.2%	0	11	24	35	\$38.87
11-9141	Property, Real Estate, and Community Association Managers	11,617	11,698	81	0.7%	40	443	440	923	\$22.97
11-9151	Social and Community Service Managers	5,060	5,050	-10	-0.2%	-5	152	271	418	\$30.13
11-9171	Funeral Home Managers	370	364	-6	-1.6%	-3	8	18	23	\$35.58
11-9198	Managers, All Other	14,167	14,247	80	0.6%	40	330	696	1,066	\$49.41
13-0000	Business and Financial Operations Occupations	329,947	331,944	1,997	0.6%	998	8,690	19,358	29,046	\$30.79
13-1020	Buyers and Purchasing Agents	17,430	17,192	-238	-1.4%	-119	588	1,110	1,579	\$30.37
13-1031	Claims Adjusters, Examiners, and Investigators	12,518	12,114	-404	-3.2%	-202	290	640	728	\$29.96
13-1041	Compliance Officers	8,490	8,482	-8	-0.1%	-4	204	452	652	\$30.51
13-1051	Cost Estimators	7,671	7,851	180	2.3%	90	219	468	777	\$30.42
13-1071	Human Resources Specialists	30,432	30,907	475	1.6%	238	830	2,038	3,106	\$28.91
13-1075	Labor Relations Specialists	4,112	3,897	-215	-5.2%	-108	108	266	266	\$37.16
13-1081	Logisticians	7,252	7,641	389	5.4%	194	156	484	834	\$37.03
13-1111	Management Analysts	27,816	27,968	152	0.5%	76	897	1,605	2,578	\$38.17
13-1121	Meeting, Convention, and Event Planners	3,265	3,267	2	0.1%	1	98	240	339	\$23.34
13-1131	Fundraisers	5,102	5,100	-2	0.0%	-1	158	324	481	\$28.91
13-1141	Compensation, Benefits, and Job Analysis Specialists	2,788	2,840	52	1.9%	26	84	165	275	\$29.49

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
13-1151	Training and Development Specialists	13,048	13,214	166	1.3%	83	396	804	1,283	\$23.76
13-1161	Market Research Analysts and Marketing Specialists	26,130	26,780	650	2.5%	325	627	1,934	2,886	\$29.55
13-1198	Business Operations Specialists, All Other	56,220	56,234	14	0.0%	7	1,304	2,758	4,069	\$31.77
13-2011	Accountants and Auditors	51,015	51,225	210	0.4%	105	1,424	3,028	4,557	\$33.46
13-2020	Property Appraisers and Assessors	1,856	1,866	10	0.5%	5	70	68	143	\$30.43
13-2031	Budget Analysts	989	985	-4	-0.4%	-2	24	52	74	\$37.18
13-2041	Credit Analysts	2,765	2,774	9	0.3%	4	47	186	237	\$34.74
13-2052	Personal Financial Advisors	9,091	9,268	177	1.9%	88	208	451	747	\$39.22
13-2053	Insurance Underwriters	4,901	4,717	-184	-3.8%	-92	98	250	256	\$37.04
13-2061	Financial Examiners	3,750	3,931	181	4.8%	90	102	178	370	\$36.65
13-2071	Credit Counselors	946	957	11	1.2%	6	20	52	78	\$23.56
13-2072	Loan Officers	12,344	12,659	315	2.6%	158	268	680	1,106	\$29.96
13-2081	Tax Examiners and Collectors, and Revenue Agents	1,110	1,079	-31	-2.8%	-16	42	48	74	\$30.51
13-2082	Tax Preparers	2,397	2,385	-12	-0.5%	-6	130	132	256	\$14.98
13-2098	Financial Specialists AO	15,968	16,069	101	0.6%	50	281	914	1,245	\$38.60
<b>15-0000</b>	<b>Computer and Mathematical Occupations</b>	<b>168,995</b>	<b>171,014</b>	<b>2,019</b>	<b>1.2%</b>	<b>1,010</b>	<b>3,516</b>	<b>8,391</b>	<b>12,917</b>	<b>\$38.19</b>
15-1211	Computer Systems Analysts	23,580	23,510	-70	-0.3%	-35	460	1,158	1,583	\$45.83
15-1212	Information Security Analysts	4,289	4,508	219	5.1%	110	68	243	421	\$47.62
15-1221	Computer and Information Research Scientists	611	637	26	4.3%	13	11	32	56	\$57.28
15-1231	Computer Network Support Specialists	8,139	8,151	12	0.1%	6	153	431	590	\$29.00
15-1232	Computer User Support Specialists	21,947	22,080	133	0.6%	66	414	1,165	1,645	\$22.96
15-1241	Computer Network Architects	4,676	4,643	-33	-0.7%	-16	64	212	260	\$49.41
15-1244	Network and Computer Systems Administrators	12,199	12,155	-44	-0.4%	-22	204	575	757	\$38.20
15-1245	Database Administrators	4,744	4,756	12	0.3%	6	110	233	349	\$41.15
15-1251	Computer Programmers	5,669	5,502	-167	-2.9%	-84	112	255	283	\$36.57
15-1256	Software Developers	55,399	56,875	1,476	2.7%	738	1,302	2,753	4,793	\$48.02
15-1257	Web Developers	5,649	5,665	16	0.3%	8	131	278	417	\$37.24
15-1299	Computer Occupations, All Other	12,290	12,318	28	0.2%	14	286	604	904	\$46.05
15-2011	Actuaries	1,416	1,457	41	2.9%	20	22	56	98	\$47.88
15-2031	Operations Research Analysts	4,892	5,088	196	4.0%	98	108	218	424	\$40.91
15-2041	Statisticians	997	1,066	69	6.9%	34	21	52	107	\$36.17
<b>17-0000</b>	<b>Architecture and Engineering Occupations</b>	<b>91,430</b>	<b>93,059</b>	<b>1,629</b>	<b>1.8%</b>	<b>814</b>	<b>2,164</b>	<b>4,322</b>	<b>7,300</b>	<b>\$37.39</b>
17-1011	Architects, except Landscape and Naval	2,986	3,051	65	2.2%	32	82	128	242	\$37.45
17-1012	Landscape Architects	596	610	14	2.3%	7	16	26	49	\$23.21
17-1021	Cartographers and Photogrammetrists	144	143	-1	-0.7%	0	5	7	12	\$36.83
17-1022	Surveyors	1,209	1,230	21	1.7%	10	42	60	112	\$29.34
17-2011	Aerospace Engineers	3,458	3,478	20	0.6%	10	71	120	201	\$58.46
17-2031	Biomedical Engineers	589	592	3	0.5%	2	12	24	38	\$45.33
17-2041	Chemical Engineers	1,101	1,125	24	2.2%	12	22	41	75	\$46.88
17-2051	Civil Engineers	6,888	7,044	156	2.3%	78	138	347	563	\$38.03
17-2061	Computer Hardware Engineers	827	830	3	0.4%	2	16	39	57	\$46.51
17-2071	Electrical Engineers	6,510	6,613	103	1.6%	52	156	263	471	\$45.89
17-2072	Electronics Engineers, except Computer	3,902	3,891	-11	-0.3%	-6	92	156	242	\$47.62
17-2081	Environmental Engineers	1,145	1,148	3	0.3%	2	27	56	85	\$47.52
17-2111	Health and Safety Engineers, except Mining Safety Engineers and Inspectors	499	506	7	1.4%	4	11	20	35	\$39.87
17-2112	Industrial Engineers	14,433	15,003	570	3.9%	285	321	589	1,195	\$38.24

# Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
17-2131	Materials Engineers	2,136	2,175	39	1.8%	20	44	84	148	\$42.11
17-2141	Mechanical Engineers	14,085	14,446	361	2.6%	180	245	587	1,012	\$37.96
17-2171	Petroleum Engineers	838	842	4	0.5%	2	16	38	56	\$48.15
17-2199	Engineers, All Other	7,416	7,460	44	0.6%	22	158	307	487	\$46.88
17-3011	Architectural and Civil Drafters	2,873	2,910	37	1.3%	18	88	184	290	\$29.64
17-3012	Electrical and Electronics Drafters	746	761	15	2.0%	8	23	48	79	\$29.15
17-3013	Mechanical Drafters	2,033	2,032	-1	0.0%	0	62	129	191	\$28.74
17-3021	Aerospace Engineering and Operations Technicians	715	730	15	2.1%	8	22	44	74	\$29.76
17-3022	Civil Engineering Technicians	1,512	1,514	2	0.1%	1	46	93	140	\$29.02
17-3023	Electrical and Electronics Engineering Technicians	3,109	3,122	13	0.4%	6	94	192	292	\$29.96
17-3025	Environmental Engineering Technicians	664	671	7	1.1%	4	20	41	65	\$22.83
17-3026	Industrial Engineering Technicians	3,182	3,242	60	1.9%	30	96	198	324	\$27.65
17-3027	Mechanical Engineering Technicians	2,291	2,338	47	2.1%	24	70	142	236	\$28.52
17-3031	Surveying and Mapping Technicians	1,222	1,238	16	1.3%	8	44	106	158	\$22.55
17-3098	Engineering Technicians, except Drafters, All Other	2,326	2,354	28	1.2%	14	70	144	228	\$23.21
<b>19-0000</b>	<b>Life, Physical, and Social Science Occupations</b>	<b>41,364</b>	<b>41,596</b>	<b>232</b>	<b>0.6%</b>	<b>116</b>	<b>874</b>	<b>2,856</b>	<b>3,846</b>	<b>\$31.13</b>
19-1012	Food Scientists and Technologists	834	839	5	0.6%	2	18	70	90	\$40.47
19-1013	Soil and Plant Scientists	368	363	-5	-1.4%	-2	8	30	36	\$29.63
19-1022	Microbiologists	494	500	6	1.2%	3	8	35	46	\$23.41
19-1023	Zoologists and Wildlife Biologists	216	212	-4	-1.9%	-2	4	15	17	\$30.65
19-1029	Biological Scientists, All Other	339	336	-3	-0.9%	-2	6	24	28	\$39.61
19-1031	Conservation Scientists	833	820	-13	-1.6%	-6	16	59	69	\$27.66
19-1032	Foresters	200	198	-2	-1.0%	-1	4	14	17	\$31.20
19-1041	Epidemiologists	290	298	8	2.8%	4	4	17	25	\$36.60
19-1042	Medical Scientists, except Epidemiologists	4,236	4,382	146	3.4%	73	57	248	378	\$39.75
19-1099	Life Scientists, All Other	133	130	-3	-2.3%	-2	2	8	8	\$42.10
19-2012	Physicists	376	384	8	2.1%	4	6	18	28	\$62.86
19-2031	Chemists	3,364	3,429	65	1.9%	32	50	252	334	\$36.46
19-2032	Materials Scientists	330	333	3	0.9%	2	5	24	31	\$45.64
19-2041	Environmental Scientists and Specialists, Including Health	2,064	2,049	-15	-0.7%	-8	34	164	190	\$37.30
19-2042	Geoscientists, except Hydrologists and Geographers	308	309	1	0.3%	0	5	24	29	\$37.38
19-2043	Hydrologists	326	323	-3	-0.9%	-2	6	26	30	\$39.53
19-2099	Physical Scientists, All Other	510	505	-5	-1.0%	-2	7	32	37	\$48.15
19-3011	Economists	196	195	-1	-0.5%	0	4	10	14	\$50.35
19-3022	Survey Researchers	209	211	2	1.0%	1	4	14	19	\$28.05
19-3031	Clinical, Counseling, and School Psychologists	4,062	4,003	-59	-1.5%	-30	105	158	233	▲
19-3032	Industrial Organizational Psychologists	205	206	1	0.5%	0	6	8	14	\$57.85
19-3039	Psychologists, All Other	1,431	1,404	-27	-1.9%	-14	37	56	79	\$50.72
19-3051	Urban and Regional Planners	761	753	-8	-1.1%	-4	12	52	60	\$30.72
19-3099	Social Scientists and Related Workers, All Other	1,702	1,668	-34	-2.0%	-17	36	110	129	\$39.56
19-4010	Agricultural & Food Scientist Technicians	524	530	6	1.1%	3	11	55	69	\$21.49 **
19-4021	Biological Technicians	4,215	4,311	96	2.3%	48	101	426	575	\$23.99
19-4031	Chemical Technicians	2,541	2,575	34	1.3%	17	45	230	292	\$23.42
19-4042	Environmental Science and Protection Technicians, Including Health	1,382	1,380	-2	-0.1%	-1	37	130	166	\$21.85
19-4045	Geological and Hydrolic Technicians	191	192	1	0.5%	0	5	18	23	▲
19-4051	Nuclear Technicians	468	449	-19	-4.1%	-10	12	43	45	\$37.89

# Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
19-4061	Social Science Research Assistants	560	570	10	1.8%	5	15	53	73	\$23.59
19-4071	Forest and Conservation Technicians	283	278	-5	-1.8%	-2	8	26	32	\$22.40
19-4092	Forensic Science Technicians	430	431	1	0.2%	0	12	40	52	\$30.89
19-4099	Life, Physical, and Social Science Technicians, All Other	1,027	1,034	7	0.7%	4	28	96	128	\$23.66
19-5011	Occupational Health and Safety Specialists	4,667	4,702	35	0.7%	18	128	202	348	\$37.43
19-5012	Occupational Health and Safety Technicians	772	780	8	1.0%	4	21	34	59	\$23.46
<b>21-0000</b>	<b>Community and Social Service Occupations</b>	<b>105,186</b>	<b>105,435</b>	<b>249</b>	<b>0.2%</b>	<b>124</b>	<b>3,648</b>	<b>6,722</b>	<b>10,494</b>	<b>\$22.91</b>
21-1012	Educational, Guidance, School, and Vocational Counselors	10,729	10,481	-248	-2.3%	-124	345	628	849	\$29.39
21-1013	Marriage and Family Therapists	241	242	1	0.4%	0	8	14	22	\$24.29
21-1015	Rehabilitation Counselors	4,977	5,116	139	2.8%	70	164	299	533	\$18.42
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	9,414	9,608	194	2.1%	97	310	564	971	\$22.84
21-1019	Counselors, All Other	1,050	1,048	-2	-0.2%	-1	34	62	95	\$22.42
21-1021	Child, Family, and School Social Workers	10,731	10,681	-50	-0.5%	-25	300	676	951	\$22.95
21-1022	Healthcare Social Workers	7,035	6,979	-56	-0.8%	-28	196	443	611	\$29.07
21-1023	Mental Health and Substance Abuse Social Workers	7,397	7,475	78	1.1%	39	208	470	717	\$22.55
21-1029	Social Workers, All Other	3,205	3,175	-30	-0.9%	-15	90	202	277	\$27.59
21-1091	Health Educators	2,396	2,375	-21	-0.9%	-10	81	164	235	\$29.15
21-1092	Probation Officers and Correctional Treatment Specialists	3,068	3,018	-50	-1.6%	-25	66	183	224	\$27.02
21-1093	Social and Human Service Assistants	17,110	17,099	-11	-0.1%	-6	682	1,290	1,966	\$17.67
21-1094	Community Health Workers	2,121	2,151	30	1.4%	15	72	147	234	\$18.48
21-1099	Community and Social Service Specialists, All Other	2,096	2,086	-10	-0.5%	-5	71	144	210	\$22.82
21-2011	Clergy	19,076	19,309	233	1.2%	116	788	1,108	2,012	\$23.58
<b>23-0000</b>	<b>Legal Occupations</b>	<b>38,248</b>	<b>38,167</b>	<b>-81</b>	<b>-0.2%</b>	<b>-40</b>	<b>1,054</b>	<b>1,505</b>	<b>2,519</b>	<b>\$36.21</b>
23-1011	Lawyers	20,889	20,884	-5	0.0%	-2	452	514	964	\$49.18
23-1012	Judicial Law Clerks	189	187	-2	-1.1%	-1	6	7	12	\$23.60
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	718	704	-14	-1.9%	-7	16	18	27	\$37.16
23-1022	Arbitrators, Mediators, and Conciliators	366	360	-6	-1.6%	-3	8	9	14	\$24.59
23-1023	Judges, Magistrate Judges, and Magistrates	2,437	2,394	-43	-1.8%	-22	52	60	90	\$47.76
23-2011	Paralegals and Legal Assistants	11,014	11,065	51	0.5%	26	427	745	1,198	\$22.57
23-2093	Title Examiners, Abstractors, and Searchers	1,888	1,841	-47	-2.5%	-24	68	110	154	\$23.39
23-2099	Legal Support Workers, All Other	747	732	-15	-2.0%	-8	27	44	63	\$27.91
<b>25-0000</b>	<b>Education, Training, and Library Occupations</b>	<b>301,647</b>	<b>293,544</b>	<b>-8,103</b>	<b>-2.7%</b>	<b>-4,052</b>	<b>11,556</b>	<b>13,336</b>	<b>20,840</b>	<b>\$29.13</b>
25-1011	Business Teachers, Postsecondary	2,867	2,775	-92	-3.2%	-46	126	132	212	\$77,890 ***
25-1021	Computer Science Teachers, Postsecondary	844	815	-29	-3.4%	-14	37	39	62	\$81,680 ***
25-1022	Mathematical Science Teachers, Postsecondary	1,671	1,615	-56	-3.4%	-28	74	77	123	\$77,740 ***
25-1031	Architecture Teachers, Postsecondary	159	155	-4	-2.5%	-2	7	8	13	\$98,070 ***
25-1032	Engineering Teachers, Postsecondary	1,513	1,477	-36	-2.4%	-18	67	70	119	\$103,340 ***
25-1042	Biological Science Teachers, Postsecondary	1,854	1,815	-39	-2.1%	-20	82	86	148	\$79,410 ***
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	249	240	-9	-3.6%	-4	11	12	19	\$83,480 ***
25-1052	Chemistry Teachers, Postsecondary	749	728	-21	-2.8%	-10	33	34	57	\$78,100 ***
25-1053	Environmental Science Teachers, Postsecondary	128	125	-3	-2.3%	-2	6	6	10	\$99,040 ***
25-1054	Physics Teachers, Postsecondary	503	489	-14	-2.8%	-7	22	23	38	\$77,630 ***
25-1061	Anthropology and Archeology Teachers, Postsecondary	165	161	-4	-2.4%	-2	8	8	14	\$81,440 ***
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	211	206	-5	-2.4%	-2	10	10	18	\$80,360 ***
25-1063	Economics Teachers, Postsecondary	431	420	-11	-2.6%	-6	19	20	33	\$98,830 ***
25-1064	Geography Teachers, Postsecondary	175	170	-5	-2.9%	-2	8	8	14	\$83,860 ***

# Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
25-1065	Political Science Teachers, Postsecondary	412	402	-10	-2.4%	-5	18	19	32	\$79,270 ***
25-1066	Psychology Teachers, Postsecondary	1,305	1,270	-35	-2.7%	-18	58	60	100	\$81,120 ***
25-1067	Sociology Teachers, Postsecondary	401	390	-11	-2.7%	-6	18	18	30	\$77,980 ***
25-1069	Social Sciences Teachers, Postsecondary, All Other	291	278	-13	-4.5%	-6	12	14	20	\$64,440 ***
25-1071	Health Specialties Teachers, Postsecondary	9,241	9,287	46	0.5%	23	414	433	870	\$107,630 ***
25-1072	Nursing Instructors and Teachers, Postsecondary	2,806	2,800	-6	-0.2%	-3	126	131	254	\$77,100 ***
25-1081	Education Teachers, Postsecondary	1,964	1,911	-53	-2.7%	-26	86	90	150	\$62,850 ***
25-1082	Library Science Teachers, Postsecondary	137	132	-5	-3.6%	-2	6	6	10	\$63,950 ***
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	670	648	-22	-3.3%	-11	30	31	50	\$60,920 ***
25-1112	Law Teachers, Postsecondary	396	386	-10	-2.5%	-5	18	18	31	\$117,010 ***
25-1113	Social Work Teachers, Postsecondary	528	514	-14	-2.7%	-7	24	24	41	\$77,630 ***
25-1121	Art, Drama, and Music Teachers, Postsecondary	3,397	3,320	-77	-2.3%	-38	150	157	269	\$64,100 ***
25-1122	Communications Teachers, Postsecondary	960	932	-28	-2.9%	-14	42	44	72	\$77,630 ***
25-1123	English Language and Literature Teachers, Postsecondary	2,038	1,971	-67	-3.3%	-34	90	94	150	\$63,900 ***
25-1124	Foreign Language and Literature Teachers, Postsecondary	993	966	-27	-2.7%	-14	44	46	76	\$64,520 ***
25-1125	History Teachers, Postsecondary	788	766	-22	-2.8%	-11	35	36	60	\$79,410 ***
25-1126	Philosophy and Religion Teachers, Postsecondary	890	870	-20	-2.2%	-10	40	41	71	\$78,370 ***
25-1192	Home Economics Teachers, Postsecondary	137	133	-4	-2.9%	-2	6	6	10	\$69,550 ***
25-1193	Recreation and Fitness Studies Teachers, Postsecondary	557	540	-17	-3.1%	-8	24	26	42	\$63,740 ***
25-1194	Vocational Education Teachers, Postsecondary	2,180	2,152	-28	-1.3%	-14	97	101	184	\$24.54
25-1199	Postsecondary Teachers, All Other	3,359	3,215	-144	-4.3%	-72	147	154	229	\$61,590 ***
25-2011	Preschool Teachers, except Special Education	14,022	13,926	-96	-0.7%	-48	573	815	1,340	\$13.89
25-2012	Kindergarten Teachers, except Special Education	2,830	2,735	-95	-3.4%	-48	114	162	228	\$60,670 ***
25-2021	Elementary School Teachers, except Special Education	51,216	49,400	-1,816	-3.5%	-908	1,544	2,016	2,652	\$64,410 ***
25-2022	Middle School Teachers, except Special and Career/Technical Education	27,698	26,721	-977	-3.5%	-488	835	1,090	1,437	\$63,670 ***
25-2031	Secondary School Teachers, except Special and Career/Technical Education	48,209	46,566	-1,643	-3.4%	-822	1,257	1,922	2,357	\$75,330 ***
25-2032	Career/Technical Education Teachers, Secondary School	5,072	4,894	-178	-3.5%	-89	132	202	245	\$76,880 ***
25-2052	Special Education Teachers, Kindergarten and Elementary School	6,360	6,146	-214	-3.4%	-107	204	248	345	\$70,900 ***
25-2057	Special Education Teachers, Middle School	3,472	3,349	-123	-3.5%	-62	111	136	185	\$58,220 ***
25-2058	Special Education Teachers, Secondary School	7,987	7,753	-234	-2.9%	-117	256	313	452	\$62,010 ***
25-2059	Special Education Teachers, All Other	918	917	-1	-0.1%	0	30	36	66	\$47,140 ***
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	927	885	-42	-4.5%	-21	54	48	81	\$24.10
25-3021	Self-Enrichment Education Teachers	10,431	10,612	181	1.7%	90	628	564	1,282	\$14.64
25-3031	Substitute Teachers	7,295	7,137	-158	-2.2%	-79	430	386	737	\$13.92
25-3097	Teachers and Instructors, All Other, except Substitute Teachers	8,296	8,187	-109	-1.3%	-54	492	442	880	\$60,040 ***
25-4011	Archivists	127	124	-3	-2.4%	-2	6	8	12	\$23.62
25-4012	Curators	276	265	-11	-4.0%	-6	14	16	24	\$23.80
25-4013	Museum Technicians and Conservators	235	223	-12	-5.1%	-6	12	14	20	\$22.61
25-4022	Librarians and Media Collections Specialists	4,994	4,880	-114	-2.3%	-57	243	216	402	\$23.62
25-4031	Library Technicians	3,404	3,276	-128	-3.8%	-64	275	206	417	\$16.71
25-9031	Instructional Coordinators	4,660	4,525	-135	-2.9%	-68	226	200	358	\$29.83
25-9044	Teaching Assistants, Postsecondary	3,824	3,704	-120	-3.1%	-60	168	176	284	\$30,070 ***
25-9045	Teaching Assistants, except Postsecondary	41,163	40,058	-1,105	-2.7%	-552	1,816	1,898	3,162	\$28,820 ***
27-0000	<b>Arts, Design, Entertainment, Sports, and Media Occupations</b>	<b>81,163</b>	<b>80,097</b>	<b>-1,066</b>	<b>-1.3%</b>	<b>-533</b>	<b>3,168</b>	<b>5,118</b>	<b>7,753</b>	<b>\$23.05</b>
27-1011	Art Directors	1,919	1,876	-43	-2.2%	-22	92	99	169	\$39.68
27-1012	Craft Artists	454	435	-19	-4.2%	-10	22	23	35	\$18.21



## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	958	955	-3	-0.3%	-2	46	50	94	\$22.28
27-1014	Multimedia Artists and Animators	474	455	-19	-4.0%	-10	22	24	36	\$41.45 +
27-1019	Artists and Related Workers, AO	203	199	-4	-2.0%	-2	10	10	18	\$32.38
27-1021	Commercial and Industrial Designers	1,145	1,154	9	0.8%	4	35	68	107	\$30.43
27-1022	Fashion Designers	338	334	-4	-1.2%	-2	10	20	28	\$23.71
27-1023	Floral Designers	1,726	1,735	9	0.5%	4	53	103	160	\$13.70
27-1024	Graphic Designers	9,067	8,930	-137	-1.5%	-68	274	535	741	\$23.53
27-1025	Interior Designers	3,065	3,081	16	0.5%	8	94	183	285	\$23.89
27-1026	Merchandise Displayers and Window Trimmers	5,103	5,146	43	0.8%	22	156	305	483	\$14.52
27-1027	Set and Exhibit Designers	498	481	-17	-3.4%	-8	15	29	36	\$28.36
27-1029	Designers, AO	261	260	-1	-0.4%	0	8	16	24	\$22.66
27-2011	Actors	648	656	8	1.2%	4	28	44	76	\$9.44
27-2012	Producers and Directors	1,890	1,809	-81	-4.3%	-40	40	117	117	\$28.81
27-2021	Athletes and Sports Competitors	198	200	2	1.0%	1	12	16	29	▲
27-2022	Coaches and Scouts	13,488	13,226	-262	-1.9%	-131	759	1,074	1,702	\$36,870 ***
27-2041	Music Directors and Composers	2,175	2,193	18	0.8%	9	128	122	259	\$27.65
27-2042	Musicians and Singers	5,749	5,817	68	1.2%	34	340	324	698	\$47.38
27-2090	Miscellaneous Entertainers and Performers, sports and related workers	382	339	-43	-11.3%	-22	14	20	12	\$23.60 **
27-3011	Radio and Television Announcers	1,011	944	-67	-6.6%	-34	38	54	58	\$14.04
27-3023	News Analysts, Reporters, and Journalists	1,689	1,488	-201	-11.9%	-100	47	122	69	\$18.45
27-3031	Public Relations Specialists	7,922	7,889	-33	-0.4%	-16	198	519	701	\$29.79
27-3041	Editors	2,334	2,093	-241	-10.3%	-120	72	139	91	\$29.24
27-3042	Technical Writers	1,400	1,410	10	0.7%	5	37	88	130	\$30.43
27-3043	Writers and Authors	3,429	3,252	-177	-5.2%	-88	134	184	230	\$24.06
27-3091	Interpreters and Translators	4,184	4,365	181	4.3%	90	166	234	490	\$23.29
27-3092	Court Reporters and Simultaneous Captioners	456	447	-9	-2.0%	-4	16	26	38	\$29.65
27-3099	Media and Communication Workers, All Other	1,064	1,083	19	1.8%	10	42	58	110	\$17.80
27-4011	Audio and Video Equipment Technicians	1,665	1,651	-14	-0.8%	-7	43	122	158	\$22.08
27-4012	Broadcast Technicians	707	671	-36	-5.1%	-18	18	50	50	\$18.72
27-4014	Sound Engineering Technicians	182	167	-15	-8.2%	-8	4	13	9	\$22.13
27-4021	Photographers	3,882	3,878	-4	-0.1%	-2	131	218	347	\$17.44
27-4031	Camera Operators, Television, Video, and Motion Picture	287	280	-7	-2.4%	-4	9	18	23	\$18.22
27-4032	Film and Video Editors	337	328	-9	-2.7%	-4	10	20	26	\$23.15
27-4098	Lighting Technicians and Media and Communication Equipment Workers, All Other	246	241	-5	-2.0%	-2	6	18	22	\$30.96
<b>29-0000</b>	<b>Healthcare Practitioners and Technical Occupations</b>	<b>377,117</b>	<b>377,605</b>	<b>488</b>	<b>0.1%</b>	<b>244</b>	<b>9,669</b>	<b>11,354</b>	<b>21,267</b>	<b>\$30.04</b>
29-1011	Chiropractors	1,945	1,894	-51	-2.6%	-26	28	16	18	\$29.26
29-1021	Dentists, General	3,897	3,881	-16	-0.4%	-8	72	32	96	\$79.89
29-1029	Dentists, All Other Specialists	221	219	-2	-0.9%	-1	4	2	5	#
29-1031	Dietitians and Nutritionists	2,483	2,461	-22	-0.9%	-11	80	86	155	\$29.26
29-1041	Optometrists	1,692	1,657	-35	-2.1%	-18	30	20	32	\$49.04
29-1051	Pharmacists	13,200	13,138	-62	-0.5%	-31	242	253	464	\$61.63
29-1071	Physician Assistants	4,608	4,874	266	5.8%	133	74	187	394	\$49.29
29-1081	Podiatrists	442	425	-17	-3.8%	-8	12	18	22	\$61.91
29-1122	Occupational Therapists	6,159	6,115	-44	-0.7%	-22	132	200	310	\$38.47
29-1123	Physical Therapists	9,069	9,079	10	0.1%	5	180	188	373	\$45.97
29-1124	Radiation Therapists	531	535	4	0.8%	2	10	17	29	\$38.13



# Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
29-1125	Recreational Therapists	668	630	-38	-5.7%	-19	20	28	29	\$22.77
29-1126	Respiratory Therapists	6,552	6,777	225	3.4%	112	142	168	422	\$29.41
29-1127	Speech-Language Pathologists	6,545	6,599	54	0.8%	27	153	236	416	\$37.71
29-1128	Exercise Physiologists	562	572	10	1.8%	5	18	20	43	\$22.60
29-1129	Therapists, All Other	1,251	1,261	10	0.8%	5	38	44	87	\$36.16
29-1131	Veterinarians	2,917	2,991	74	2.5%	37	47	46	130	\$47.62
29-1141	Registered Nurses	131,334	131,484	150	0.1%	75	3,506	3,306	6,887	\$35.62
29-1151	Nurse Anesthetists	3,072	3,129	57	1.9%	28	61	93	182	\$80.98
29-1161	Nurse Midwives	345	349	4	1.2%	2	7	11	20	\$58.18
29-1171	Nurse Practitioners	9,833	10,724	891	9.1%	446	214	322	982	\$49.67
29-1181	Audiologists	989	998	9	0.9%	4	22	20	46	\$31.52
29-1211	Anesthesiologists	1,320	1,315	-5	-0.4%	-2	21	15	34	#
29-1215	Family Medicine Physicians	2,007	2,018	11	0.5%	6	32	22	60	\$79.84
29-1216	General Internal Medicine Physicians	1,948	1,931	-17	-0.9%	-8	31	22	45	#
29-1218	Obstetricians and Gynecologists	955	947	-8	-0.8%	-4	16	10	22	\$94.24
29-1221	Pediatricians, General	1,241	1,236	-5	-0.4%	-2	20	14	32	\$90.76
29-1223	Psychiatrists	897	911	14	1.6%	7	14	10	31	#
29-1228	Physicians, All Other; and Ophthalmologists, except Pediatric	17,775	17,867	92	0.5%	46	286	201	533	▲
29-1248	Surgeons, except Ophthalmologists	1,326	1,317	-9	-0.7%	-4	21	15	32	▲
29-1292	Dental Hygienists	9,361	9,384	23	0.2%	12	336	235	583	\$36.94
29-1298	Acupuncturists and Healthcare Diagnosing or Treating Practitioners, All Other	859	846	-13	-1.5%	-6	37	13	44	\$38.23
29-2010	Clinical Laboratory Technologists and Technicians	12,142	12,332	190	1.6%	95	316	454	865	\$25.90
29-2031	Cardiovascular Technologists and Technicians	2,021	2,050	29	1.4%	14	56	88	158	\$29.47
29-2032	Diagnostic Medical Sonographers	3,109	3,210	101	3.2%	50	86	136	272	\$36.06
29-2033	Nuclear Medicine Technologists	963	980	17	1.8%	8	26	42	76	\$37.16
29-2034	Radiologic Technologists	9,169	9,294	125	1.4%	62	252	397	711	\$28.90
29-2035	Magnetic Resonance Imaging Technologists	1,543	1,567	24	1.6%	12	42	67	121	\$36.06
29-2040	Emergency Medical Technicians and Paramedics	8,650	8,567	-83	-1.0%	-42	160	398	516	\$17.76 **
29-2051	Dietetic Technicians	934	910	-24	-2.6%	-12	25	40	53	\$14.46
29-2052	Pharmacy Technicians	17,262	17,428	166	1.0%	83	474	746	1,303	\$16.89
29-2053	Psychiatric Technicians	1,443	1,451	8	0.6%	4	40	62	106	\$14.89
29-2055	Surgical Technologists	3,889	3,947	58	1.5%	29	107	168	304	\$23.01
29-2056	Veterinary Technologists and Technicians	3,924	4,014	90	2.3%	45	108	170	323	\$17.48
29-2057	Ophthalmic Medical Technicians	2,571	2,601	30	1.2%	15	70	111	196	\$17.62
29-2061	Licensed Practical and Licensed Vocational Nurses	39,735	37,819	-1,916	-4.8%	-958	1,308	1,618	1,968	\$22.73
29-2081	Opticians, Dispensing	3,247	3,239	-8	0.2%	-4	134	110	240	\$22.04
29-2091	Orthotists and Prosthetists	822	847	25	3.0%	12	23	36	71	\$28.80
29-2092	Hearing Aid Specialists	291	296	5	1.7%	2	8	12	22	\$23.11
29-2098	Healthcare Practitioners and Technical Workers, All Other	15,767	15,824	57	0.4%	28	431	679	1,138	\$18.15
29-9091	Athletic Trainers	1,135	1,146	11	1.0%	6	31	49	86	\$47,440 ***
29-9092	Genetic Counselors	115	123	8	7.0%	4	3	5	12	\$38.50
29-9098	Healthcare Practitioners and Technical Workers, All Other	2,061	2,076	15	0.7%	8	56	89	153	\$17.97
<b>31-0000</b>	<b>Healthcare Support Occupations</b>	<b>229,056</b>	<b>226,527</b>	<b>-2,529</b>	<b>-1.1%</b>	<b>-1,264</b>	<b>13,261</b>	<b>14,148</b>	<b>26,145</b>	<b>\$14.14</b>
31-1120	Home Health and Personal Care Aides	93,812	94,390	578	0.6%	289	6,024	5,328	11,641	\$11.54
31-1131	Nursing Assistants	61,925	57,669	-4,256	-6.9%	-2,128	3,828	3,386	5,086	\$14.34
31-1132	Orderlies	2,462	2,494	32	1.3%	16	158	140	314	\$14.25

# Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
31-1133	Psychiatric Aides	833	822	-11	-1.3%	-6	53	47	94	\$17.98
31-2011	Occupational Therapy Assistants	4,443	4,517	74	1.7%	37	223	328	588	\$29.51
31-2012	Occupational Therapy Aides	146	147	1	0.7%	0	8	10	18	\$19.43
31-2021	Physical Therapist Assistants	6,496	6,603	107	1.6%	54	280	494	828	\$29.60
31-2022	Physical Therapist Aides	844	840	-4	-0.5%	-2	36	64	98	\$14.01
31-9011	Massage Therapists	3,800	3,834	34	0.9%	17	224	200	441	\$22.35
31-9091	Dental Assistants	10,515	10,529	14	0.1%	7	479	739	1,225	\$18.77
31-9092	Medical Assistants	27,135	27,782	647	2.4%	324	1,126	2,052	3,502	\$17.69
31-9093	Medical Equipment Preparers	2,432	2,462	30	1.2%	15	136	162	313	\$18.00
31-9094	Medical Transcriptionists	800	771	-29	-3.6%	-14	41	68	95	\$11.59
31-9095	Pharmacy Aides	790	761	-29	-3.7%	-14	40	60	86	\$14.07
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	4,170	4,269	99	2.4%	50	207	466	723	\$14.22
31-9097	Phlebotomists	6,069	6,237	168	2.8%	84	264	448	796	\$17.59
31-9099	Healthcare Support Workers, All Other	2,384	2,400	16	0.7%	8	132	158	298	\$18.11
<b>33-0000</b>	<b>Protective Service Occupations</b>	<b>105,784</b>	<b>104,780</b>	<b>-1,004</b>	<b>-0.9%</b>	<b>-502</b>	<b>4,855</b>	<b>6,624</b>	<b>10,977</b>	<b>\$22.81</b>
33-1011	First-Line Supervisors of Correctional Officers	546	532	-14	-2.6%	-7	18	25	36	\$36.89
33-1012	First-Line Supervisors of Police and Detectives	2,456	2,416	-40	-1.6%	-20	54	100	134	\$45.15
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	2,052	2,022	-30	-1.5%	-15	48	82	115	\$37.42
33-1090	Miscellaneous First-Line Supervisors, Protective Service Workers	2,187	2,185	-2	-0.1%	-1	80	128	207	\$25.23 **
33-2011	Firefighters	17,148	16,907	-241	-1.4%	-120	376	879	1,135	\$24.37
33-2021	Fire Inspectors and Investigators	320	319	-1	-0.3%	0	16	16	32	\$46.78
33-3011	Bailiffs	1,332	1,298	-34	-2.6%	-17	50	71	104	\$22.58
33-3012	Correctional Officers and Jailers	13,822	13,287	-535	-3.9%	-268	510	733	975	\$23.04
33-3021	Detectives and Criminal Investigators	1,966	1,927	-39	-2.0%	-20	50	90	120	\$37.30
33-3031	Fish and Game Wardens	138	135	-3	-2.2%	-2	7	6	11	\$37.30
33-3041	Parking Enforcement Workers	120	108	-12	-10.0%	-6	6	6	6	\$22.58
33-3051	Police and Sheriff's Patrol Officers	23,079	22,713	-366	-1.6%	-183	572	1,163	1,552	\$31.06
33-9011	Animal Control Workers	421	420	-1	-0.2%	0	12	22	34	\$17.60
33-9021	Private Detectives and Investigators	1,332	1,348	16	1.2%	8	37	78	123	\$23.45
33-9031	Gaming Surveillance Officers and Gaming Investigators	201	192	-9	-4.5%	-4	10	15	21	\$21.91
33-9032	Security Guards	26,403	26,781	378	1.4%	189	1,408	2,060	3,657	\$13.98
33-9091	Crossing Guards	2,461	2,464	3	0.1%	2	358	127	487	\$13.92
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	4,768	4,788	20	0.4%	10	658	530	1,198	\$10.72
33-9093	Transportation Security Screeners	805	789	-16	-2.0%	-8	28	40	60	\$21.65
33-9098	School Bus Monitors and Protective Service Workers, All Other	4,020	3,943	-77	-1.9%	-38	548	442	952	▲
<b>35-0000</b>	<b>Food Preparation and Serving Related Occupations</b>	<b>426,120</b>	<b>431,577</b>	<b>5,457</b>	<b>1.3%</b>	<b>2,728</b>	<b>32,944</b>	<b>43,791</b>	<b>79,463</b>	<b>\$10.96</b>
35-1011	Chefs and Head Cooks	2,510	2,530	20	0.8%	10	76	247	333	\$24.28
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	39,373	40,197	824	2.1%	412	1,775	4,054	6,241	\$15.65
35-2011	Cooks, Fast Food	18,510	18,151	-359	-1.9%	-180	1,078	1,569	2,467	\$10.76
35-2012	Cooks, Institution and Cafeteria	21,377	20,345	-1,032	-4.8%	-516	1,228	1,786	2,498	\$14.23
35-2014	Cooks, Restaurant	33,390	35,680	2,290	6.9%	1,145	2,032	2,956	6,133	\$13.87
35-2015	Cooks, Short Order	4,291	4,348	57	1.3%	28	254	370	652	\$12.14
35-2021	Food Preparation Workers	25,547	25,671	124	0.5%	62	2,012	2,355	4,429	\$11.69
35-3011	Bartenders	19,319	20,394	1,075	5.6%	538	900	2,406	3,844	\$10.21
35-3023	Fast Food and Counter Workers	152,267	153,604	1,337	0.9%	668	14,828	16,168	31,664	\$10.70
35-3031	Waiters and Waitresses	66,495	67,653	1,158	1.7%	579	4,924	8,010	13,513	\$9.87

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
35-3041	Food Servers, Nonrestaurant	11,948	11,287	-661	-5.5%	-330	920	906	1,496	\$12.07
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	6,990	7,171	181	2.6%	90	611	613	1,314	\$11.18
35-9021	Dishwashers	11,147	11,298	151	1.4%	76	844	938	1,858	\$10.86
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	10,589	10,857	268	2.5%	134	1,270	1,208	2,612	\$10.59
35-9099	Food Preparation and Serving Related Workers, All Other	1,863	1,883	20	1.1%	10	162	162	334	\$10.72
<b>37-0000</b>	<b>Building and Grounds Cleaning and Maintenance Occupations</b>	<b>162,124</b>	<b>163,440</b>	<b>1,316</b>	<b>0.8%</b>	<b>658</b>	<b>9,214</b>	<b>11,928</b>	<b>21,800</b>	<b>\$14.26</b>
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	5,913	5,905	-8	-0.1%	-4	254	408	658	\$19.46
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	4,788	4,854	66	1.4%	33	150	346	529	\$23.05
37-2011	Janitors and Cleaners, except Maids and Housekeeping Cleaners	77,533	78,161	628	0.8%	314	4,858	5,456	10,628	\$14.06
37-2012	Maids and Housekeeping Cleaners	31,341	31,092	-249	-0.8%	-124	2,120	2,008	4,004	\$11.80
37-3011	Landscaping and Groundskeeping Workers	39,574	40,377	803	2.0%	402	1,720	3,428	5,550	\$14.58
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	579	578	-1	-0.2%	0	25	50	75	\$19.60
37-3013	Tree Trimmers and Pruners	596	610	14	2.3%	7	26	52	85	\$18.79
37-3019	Grounds Maintenance Workers, All Other	137	134	-3	-2.2%	-2	6	12	16	\$14.72
<b>39-0000</b>	<b>Personal Care and Service Occupations</b>	<b>122,289</b>	<b>121,849</b>	<b>-440</b>	<b>-0.4%</b>	<b>-220</b>	<b>7,530</b>	<b>9,241</b>	<b>16,551</b>	<b>\$11.88</b>
39-1013	First-Line Supervisors of Gambling Services Workers	341	313	-28	-8.2%	-14	12	22	20	\$24.27
39-1098	FL Sup of Personal Service and Entertainment Workers, except Gambling Services	5,473	5,487	14	0.3%	7	200	380	587	▲
39-2011	Animal Trainers	784	814	30	3.8%	15	37	58	110	\$14.24
39-2021	Nonfarm Animal Caretakers	9,156	9,577	421	4.6%	210	601	778	1,589	\$11.01
39-3011	Gaming Dealers	1,003	911	-92	-9.2%	-46	52	86	92	\$9.31
39-3031	Ushers, Lobby Attendants, and Ticket Takers	2,212	2,345	133	6.0%	66	289	232	587	\$10.99
39-3091	Amusement and Recreation Attendants	7,795	7,838	43	0.6%	22	763	876	1,661	\$10.38
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	261	264	3	1.1%	2	26	30	58	\$13.71
39-3099	Entertainment Attendants and Related Workers, All Other	271	281	10	3.7%	5	27	31	63	\$11.62 +
39-4011	Embalmers	167	164	-3	-1.8%	-2	10	12	20	\$22.26
39-4021	Funeral Attendants	2,413	2,373	-40	-1.7%	-20	135	180	295	\$14.08
39-4031	Morticians, Undertakers, and Funeral Directors	1,632	1,609	-23	-1.4%	-12	78	110	176	\$29.44
39-5012	Hairdressers, Hairstylists, and Cosmetologists	27,731	27,513	-218	-0.8%	-109	1,463	1,534	2,888	\$13.69
39-5092	Manicurists and Pedicurists	3,915	3,945	30	0.8%	15	200	208	423	\$11.04
39-5094	Skincare Specialists	1,441	1,460	19	1.3%	10	74	76	160	\$18.05
39-6011	Baggage Porters and Bellhops	416	428	12	2.9%	6	22	32	60	\$13.73
39-6012	Concierges	833	820	-13	-1.6%	-6	43	63	100	\$14.08
39-7010	Tour and Travel Guides	681	673	-8	-1.2%	-4	44	63	103	\$13.81
39-9011	Childcare Workers	28,707	28,333	-374	-1.3%	-187	1,919	1,992	3,724	\$11.17
39-9031	Fitness Trainers and Aerobics Instructors	9,195	9,319	124	1.3%	62	542	879	1,483	\$14.39
39-9032	Recreation Workers	12,531	12,084	-447	-3.6%	-224	721	1,168	1,665	\$11.91
39-9041	Residential Advisors	2,750	2,716	-34	-1.2%	-17	138	246	367	\$14.64
39-9098	Crematory Operators and Personal Care and Service Workers, All Other	1,512	1,524	12	0.8%	6	86	114	206	\$13.63
<b>41-0000</b>	<b>Sales and Related Occupations</b>	<b>502,650</b>	<b>501,150</b>	<b>-1,500</b>	<b>-0.3%</b>	<b>-750</b>	<b>25,334</b>	<b>39,280</b>	<b>63,864</b>	<b>\$14.20</b>
41-1011	First-Line Supervisors of Retail Sales Workers	44,794	44,460	-334	-0.7%	-167	1,577	3,092	4,502	\$18.23
41-1012	First-Line Supervisors of Non-Retail Sales Workers	11,598	11,451	-147	-1.3%	-74	334	685	945	\$37.96
41-2011	Cashiers	105,996	104,452	-1,544	-1.5%	-772	8,952	10,074	18,254	\$10.96
41-2012	Gambling Change Persons and Booth Cashiers	311	282	-29	-9.3%	-14	25	28	39	\$10.02
41-2021	Counter and Rental Clerks	9,842	9,776	-66	-0.7%	-33	440	674	1,081	\$14.23
41-2022	Parts Salespersons	9,307	9,457	150	1.6%	75	396	718	1,189	\$14.41
41-2031	Retail Salespersons	135,159	135,695	536	0.4%	268	7,572	11,186	19,026	\$12.99

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
41-3011	Advertising Sales Agents	2,991	2,818	-173	-5.8%	-86	88	270	272	\$23.04
41-3021	Insurance Sales Agents	35,176	34,709	-467	-1.3%	-234	1,164	1,955	2,885	\$28.43
41-3031	Securities, Commodities, and Financial Services Sales Agents	15,657	16,017	360	2.3%	180	350	998	1,528	\$29.51
41-3041	Travel Agents	1,049	1,113	64	6.1%	32	53	72	157	\$18.03
41-3091	Sales Representatives, Services, Ex. Advertising, Insurance, Financial, and Travel	29,251	29,581	330	1.1%	165	738	2,586	3,489	\$25.14
41-4011	Sales Rep., Wholesale & Mfg, Tech./Sci. Prod.	8,463	8,583	120	1.4%	60	252	576	888	\$49.71
41-4012	Sales Rep., Wholesale/Mfg, ex. Tech./Sci. Prod.	57,706	58,065	359	0.6%	180	1,711	3,912	5,803	\$29.71
41-9011	Demonstrators and Product Promoters	1,981	1,982	1	0.1%	0	220	131	351	\$14.58
41-9021	Real Estate Brokers	1,682	1,705	23	1.4%	12	70	74	156	\$23.25
41-9022	Real Estate Sales Agents	12,460	12,657	197	1.6%	98	522	552	1,172	\$17.76
41-9031	Sales Engineers	1,993	2,010	17	0.9%	8	40	164	212	\$47.91
41-9041	Telemarketers	10,982	10,340	-642	-5.8%	-321	492	1,088	1,259	\$13.53
41-9099	Sales and Related Workers, All Other	4,003	3,976	-27	-0.7%	-14	182	327	495	\$13.73
<b>43-0000</b>	<b>Office and Administrative Support Occupations</b>	<b>704,699</b>	<b>697,572</b>	<b>-7,127</b>	<b>-1.0%</b>	<b>-3,564</b>	<b>33,242</b>	<b>43,480</b>	<b>73,158</b>	<b>\$18.13</b>
43-1011	First-Line Supervisors of Office and Administrative Support Workers	46,436	46,143	-293	-0.6%	-146	1,718	2,829	4,401	\$28.91
43-2011	Switchboard Operators, Including Answering Service	1,993	1,888	-105	-5.3%	-52	101	113	162	\$15.02
43-2021	Telephone Operators	363	344	-19	-5.2%	-10	18	24	32	\$14.24
43-2099	Communications Equipment Operators, All Other	124	121	-3	-2.4%	-2	3	9	10	\$22.66
43-3011	Bill and Account Collectors	8,197	7,986	-211	-2.6%	-106	296	574	764	\$17.87
43-3021	Billing and Posting Clerks	19,392	19,290	-102	-0.5%	-51	794	1,187	1,930	\$18.12
43-3031	Bookkeeping, Accounting, and Auditing Clerks	57,769	57,088	-681	-1.2%	-340	3,366	2,932	5,958	\$18.76
43-3041	Gaming Cage Workers	170	155	-15	-8.8%	-8	6	12	10	\$13.86
43-3051	Payroll and Timekeeping Clerks	4,644	4,469	-175	-3.8%	-88	216	250	378	\$22.45
43-3061	Procurement Clerks	2,687	2,659	-28	-1.0%	-14	74	169	229	\$18.45
43-3071	Tellers	17,141	17,079	-62	-0.4%	-31	694	1,076	1,739	\$14.53
43-3099	Financial Clerks, All Other	1,662	1,708	46	2.8%	23	58	119	200	\$22.78
43-4011	Brokerage Clerks	1,703	1,693	-10	-0.6%	-5	70	112	177	\$22.97
43-4021	Correspondence Clerks	329	326	-3	-0.9%	-2	14	20	32	\$18.13
43-4031	Court, Municipal, and License Clerks	10,101	9,956	-145	-1.4%	-72	489	504	921	\$18.29
43-4041	Credit Authorizers, Checkers, and Clerks	763	756	-7	-0.9%	-4	27	46	69	\$22.55
43-4051	Customer Service Representatives	118,623	117,907	-716	-0.6%	-358	5,560	9,300	14,502	\$17.89
43-4061	Eligibility Interviewers, Government Programs	4,040	3,975	-65	-1.6%	-32	148	208	324	\$22.40
43-4071	File Clerks	2,939	2,845	-94	-3.2%	-47	156	178	287	\$17.74
43-4081	Hotel, Motel, and Resort Desk Clerks	3,763	3,858	95	2.5%	48	221	404	673	\$11.30
43-4111	Interviewers, except Eligibility and Loan	5,661	5,513	-148	-2.6%	-74	322	361	609	\$17.74
43-4121	Library Assistants, Clerical	4,897	4,721	-176	-3.6%	-88	428	308	648	\$11.52
43-4131	Loan Interviewers and Clerks	7,747	7,883	136	1.8%	68	225	459	752	\$20.05
43-4141	New Accounts Clerks	749	744	-5	-0.7%	-2	24	47	69	\$22.04
43-4151	Order Clerks	4,916	4,765	-151	-3.1%	-76	206	304	434	\$18.01
43-4161	Human Resources Assistants, except Payroll and Timekeeping	4,342	4,290	-52	-1.2%	-26	166	262	402	\$18.57
43-4171	Receptionists and Information Clerks	34,899	34,564	-335	-1.0%	-168	1,938	2,400	4,170	\$14.08
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	2,282	2,243	-39	-1.7%	-20	86	161	227	\$18.29
43-4199	Information and Record Clerks, All Other	2,675	2,662	-13	-0.5%	-6	109	176	279	\$21.61
43-5011	Cargo and Freight Agents	2,429	2,482	53	2.2%	26	94	146	266	\$18.01
43-5021	Couriers and Messengers	3,137	3,096	-41	-1.3%	-20	128	170	278	\$14.33
43-5031	Police, Fire, and Ambulance Dispatchers	4,278	4,215	-63	-1.5%	-32	150	238	356	\$22.80

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
43-5032	Dispatchers, except Police, Fire, and Ambulance	6,894	6,962	68	1.0%	34	244	388	666	\$18.78
43-5041	Meter Readers, Utilities	1,788	1,698	-90	-5.0%	-45	51	76	82	\$23.53
43-5051	Postal Service Clerks	2,751	2,745	-6	-0.2%	-3	126	98	221	\$25.14
43-5052	Postal Service Mail Carriers	12,349	12,314	-35	-0.3%	-18	429	442	853	\$25.21
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	3,585	3,538	-47	-1.3%	-24	194	116	286	\$22.56
43-5061	Production, Planning, and Expediting Clerks	18,706	19,013	307	1.6%	154	674	1,225	2,053	\$23.10
43-5071	Shipping, Receiving, and Traffic Clerks	38,930	39,115	185	0.5%	92	1,425	2,294	3,811	\$17.74
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	1,646	1,700	54	3.3%	27	63	94	184	\$18.08
43-6011	Executive Secretaries and Executive Administrative Assistants	12,957	12,303	-654	-5.0%	-327	642	706	1,021	\$29.34
43-6012	Legal Secretaries	4,846	4,557	-289	-6.0%	-144	239	262	357	\$21.21
43-6013	Medical Secretaries	32,668	32,947	279	0.9%	140	1,669	1,832	3,641	\$17.68
43-6014	Secretaries and Administrative Assistants, except Legal, Medical, and Executive	55,838	54,276	-1,562	-2.8%	-781	2,802	3,074	5,095	\$17.94
43-9021	Data Entry Keyers	5,266	5,015	-251	-4.8%	-126	229	326	429	\$17.47
43-9022	Word Processors and Typists	1,080	977	-103	-9.5%	-52	62	56	66	\$20.91
43-9031	Desktop Publishers	266	254	-12	-4.5%	-6	10	18	22	\$23.71
43-9041	Insurance Claims and Policy Processing Clerks	9,645	9,449	-196	-2.0%	-98	336	560	798	\$21.81
43-9051	Mail Clerks and Mail Machine Operators, except Postal Service	3,261	3,163	-98	-3.0%	-49	162	201	314	\$14.22
43-9061	Office Clerks, General	105,201	104,033	-1,168	-1.1%	-584	5,709	6,204	11,329	\$17.85
43-9071	Office Machine Operators, except Computer	2,397	2,321	-76	-3.2%	-38	123	142	227	\$17.94
43-9081	Proofreaders and Copy Markers	109	106	-3	-2.8%	-2	6	7	11	\$18.36
43-9111	Statistical Assistants	396	403	7	1.8%	4	10	36	50	\$28.89
43-9199	Office and Administrative Support Workers, All Other	3,269	3,259	-10	-0.3%	-5	135	226	356	\$21.55
<b>45-0000</b>	<b>Farming, Fishing, and Forestry Occupations</b>	<b>15,603</b>	<b>15,703</b>	<b>100</b>	<b>0.6%</b>	<b>50</b>	<b>654</b>	<b>1,776</b>	<b>2,480</b>	<b>\$15.06</b>
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	881	889	8	0.9%	4	32	92	128	\$28.56
45-2011	Agricultural Inspectors	259	256	-3	-1.2%	-2	12	30	40	\$29.34
45-2021	Animal Breeders	211	209	-2	-0.9%	-1	9	24	32	\$19.28 +
45-2041	Graders and Sorters, Agricultural Products	683	686	3	0.4%	2	27	74	103	\$14.25
45-2091	Agricultural Equipment Operators	1,400	1,427	27	1.9%	14	60	162	236	\$21.85
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	10,112	10,193	81	0.8%	40	430	1,160	1,630	\$14.52
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	1,384	1,366	-18	-1.3%	-9	58	157	206	\$14.07
45-4022	Logging Equipment Operators	282	286	4	1.4%	2	10	32	44	\$19.46
<b>47-0000</b>	<b>Construction and Extraction Occupations</b>	<b>191,852</b>	<b>199,137</b>	<b>7,285</b>	<b>3.8%</b>	<b>3,642</b>	<b>5,814</b>	<b>13,330</b>	<b>22,786</b>	<b>\$23.53</b>
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	15,866	16,400	534	3.4%	267	456	1,044	1,767	\$30.40
47-2011	Boilermakers	744	753	9	1.2%	4	12	54	70	\$38.80
47-2021	Brickmasons and Blockmasons	3,139	3,297	158	5.0%	79	102	198	379	\$29.39
47-2022	Stonemasons	287	304	17	5.9%	8	10	18	36	\$18.52
47-2031	Carpenters	24,846	25,798	952	3.8%	476	739	1,580	2,795	\$23.17
47-2041	Carpet Installers	1,008	1,007	-1	-0.1%	0	26	58	84	\$18.74
47-2042	Floor Layers, except Carpet, Wood, and Hard Tiles	861	919	58	6.7%	29	24	52	105	\$23.11
47-2044	Tile and Marble Setters	868	914	46	5.3%	23	24	52	99	\$23.19
47-2051	Cement Masons and Concrete Finishers	5,053	5,301	248	4.9%	124	125	340	589	\$23.33
47-2061	Construction Laborers	38,925	40,920	1,995	5.1%	998	1,180	2,696	4,874	\$22.22
47-2071	Paving, Surfacing, and Tamping Equipment Operators	965	1,000	35	3.6%	18	32	70	120	\$23.06
47-2073	Operating Engineers and Other Construction Equipment Operators	13,070	13,365	295	2.3%	148	432	948	1,528	\$28.50
47-2081	Drywall and Ceiling Tile Installers	1,051	1,105	54	5.1%	27	27	61	115	\$23.11
47-2082	Tapers	194	202	8	4.1%	4	5	11	20	\$29.09



## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
47-2111	Electricians	25,497	26,617	1,120	4.4%	560	756	1,914	3,230	\$28.55
47-2121	Glaziers	1,422	1,511	89	6.3%	44	40	113	197	\$23.92
47-2131	Insulation Workers, Floor, Ceiling, and Wall	731	760	29	4.0%	14	18	51	83	\$22.04
47-2132	Insulation Workers, Mechanical	652	681	29	4.4%	14	16	46	76	\$28.76
47-2141	Painters, Construction and Maintenance	8,225	8,592	367	4.5%	184	254	466	904	\$22.21
47-2142	Paperhangers	279	279	0	0.0%	0	8	16	24	\$22.70
47-2151	Pipelayers	715	713	-2	-0.3%	-1	21	52	72	\$22.86
47-2152	Plumbers, Pipefitters, and Steamfitters	12,613	13,054	441	3.5%	220	374	923	1,517	\$29.65
47-2161	Plasterers and Stucco Masons	187	199	12	6.4%	6	6	10	22	\$20.55
47-2171	Reinforcing Iron and Rebar Workers	180	190	10	5.6%	5	6	12	23	\$30.08
47-2181	Roofers	5,082	5,458	376	7.4%	188	130	368	686	\$22.53
47-2211	Sheet Metal Workers	3,753	3,884	131	3.5%	66	104	248	418	\$28.24
47-2221	Structural Iron and Steel Workers	2,524	2,676	152	6.0%	76	67	199	342	\$29.44
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	548	574	26	4.7%	13	16	49	78	\$18.33
47-3012	Helpers--Carpenters	334	346	12	3.6%	6	10	30	46	\$14.38
47-3013	Helpers--Electricians	1,165	1,200	35	3.0%	18	35	104	157	\$14.77
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	715	744	29	4.1%	14	22	64	100	\$16.28
47-3016	Helpers--Roofers	323	349	26	8.0%	13	10	30	53	\$17.97
47-3019	Helpers, Construction Trades, All Other	443	460	17	3.8%	8	14	40	62	\$17.01
47-4011	Construction and Building Inspectors	2,816	2,758	-58	-2.1%	-29	152	168	291	\$29.41
47-4021	Elevator and Escalator Installers and Repairers	566	590	24	4.2%	12	13	40	65	\$47.24
47-4031	Fence Erectors	776	801	25	3.2%	12	19	60	91	\$19.33
47-4041	Hazardous Materials Removal Workers	2,462	2,474	12	0.5%	6	93	201	300	\$23.09
47-4051	Highway Maintenance Workers	6,868	6,778	-90	-1.6%	-45	268	428	651	\$22.47
47-4061	Rail-Track laying Maintenance Equipment Operators	578	580	2	0.3%	1	10	40	51	\$27.16
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	1,645	1,639	-6	-0.4%	-3	52	136	185	\$22.62
47-4090	Miscellaneous Construction and Related Workers	634	657	23	3.6%	12	20	54	86	\$17.75
47-5012	Rotary Drill Operators, Oil and Gas	144	144	0	0.0%	0	3	14	17	\$23.35
47-5013	Service Unit Operators, Oil, Gas, and Mining	538	541	3	0.6%	2	11	52	65	\$22.47
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	527	534	7	1.3%	4	16	46	66	\$22.80
47-5041	Continuous Mining Machine Operators	218	217	-1	-0.5%	0	6	18	24	\$29.09
47-5071	Roustabouts, Oil and Gas	554	561	7	1.3%	4	12	54	70	\$17.96
47-5081	Helpers--Extraction Workers	335	342	7	2.1%	4	10	29	43	\$18.15 +
47-5097	Earth Drillers, except Oil and Gas	327	337	10	3.1%	5	10	28	43	\$23.11
<b>49-0000</b>	<b>Installation, Maintenance, and Repair Occupations</b>	<b>217,280</b>	<b>220,138</b>	<b>2,858</b>	<b>1.3%</b>	<b>1,429</b>	<b>6,896</b>	<b>13,778</b>	<b>22,103</b>	<b>\$22.98</b>
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	16,021	16,176	155	1.0%	78	467	958	1,503	\$31.22
49-2011	Computer, Automated Teller, and Office Machine Repairers	3,251	3,237	-14	-0.4%	-7	98	246	337	\$18.37
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	276	274	-2	-0.7%	-1	10	21	30	\$28.88
49-2022	Telecommunications Equipment Installers and Repairers, except Line Installers	5,803	5,652	-151	-2.6%	-76	199	439	562	\$29.20
49-2091	Avionics Technicians	167	167	0	0.0%	0	4	8	12	\$28.56
49-2092	Electric Motor, Power Tool, and Related Repairers	735	739	4	0.5%	2	28	42	72	\$23.38
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	394	392	-2	-0.5%	-1	11	20	30	\$30.03
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,543	1,567	24	1.6%	12	43	77	132	\$29.07
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	599	578	-21	-3.5%	-10	16	29	35	\$38.58
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	613	597	-16	-2.6%	-8	16	30	38	\$18.20
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	920	939	19	2.1%	10	30	67	107	\$21.68

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
49-2098	Security and Fire Alarm Systems Installers	2,487	2,583	96	3.9%	48	60	194	302	\$22.96
49-3011	Aircraft Mechanics and Service Technicians	3,522	3,517	-5	-0.1%	-2	100	184	282	\$30.27
49-3021	Automotive Body and Related Repairers	5,749	5,809	60	1.0%	30	183	344	557	\$22.42
49-3022	Automotive Glass Installers and Repairers	955	976	21	2.2%	10	31	69	110	\$22.45
49-3023	Automotive Service Technicians and Mechanics	28,718	28,652	-66	-0.2%	-33	852	1,946	2,765	\$19.42
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	9,844	10,106	262	2.7%	131	282	622	1,035	\$23.00
49-3041	Farm Equipment Mechanics and Service Technicians	1,397	1,420	23	1.6%	12	42	95	149	\$21.72
49-3042	Mobile Heavy Equipment Mechanics, except Engines	3,700	3,762	62	1.7%	31	112	252	395	\$24.97
49-3043	Rail Car Repairers	838	841	3	0.4%	2	25	56	83	\$22.86
49-3052	Motorcycle Mechanics	668	715	47	7.0%	24	30	46	100	\$17.95
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	1,158	1,189	31	2.7%	16	51	78	145	\$17.32
49-3092	Recreational Vehicle Service Technicians	388	420	32	8.2%	16	12	34	62	\$17.81
49-3093	Tire Repairers and Changers	2,893	2,947	54	1.9%	27	90	242	359	\$14.51
49-9011	Mechanical Door Repairers	967	1,021	54	5.6%	27	22	56	105	\$19.36
49-9012	Control and Valve Installers and Repairers, except Mechanical Door	1,103	1,099	-4	-0.4%	-2	25	62	85	\$34.71
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	13,905	14,399	494	3.6%	247	363	966	1,576	\$23.47
49-9031	Home Appliance Repairers	1,390	1,397	7	0.5%	4	52	81	137	\$21.98
49-9041	Industrial Machinery Mechanics	19,536	20,527	991	5.1%	496	616	1,082	2,194	\$28.74
49-9043	Maintenance Workers, Machinery	2,758	2,855	97	3.5%	48	93	154	295	\$26.28
49-9044	Millwrights	2,415	2,503	88	3.6%	44	71	140	255	\$30.12
49-9051	Electrical Power-Line Installers and Repairers	3,579	3,526	-53	-1.5%	-26	66	239	279	\$38.13
49-9052	Telecommunications Line Installers and Repairers	4,732	4,654	-78	-1.6%	-39	104	396	461	\$22.85
49-9061	Camera and Photographic Equipment Repairers	188	190	2	1.1%	1	8	12	21	\$15.42
49-9062	Medical Equipment Repairers	2,587	2,609	22	0.9%	11	114	156	281	\$28.82
49-9063	Musical Instrument Repairers and Tuners	418	418	0	0.0%	0	18	25	43	\$14.31
49-9069	Precision Instrument and Equipment Repairers, All Other	409	417	8	2.0%	4	18	24	46	\$28.92
49-9071	Maintenance and Repair Workers, General	58,441	58,943	502	0.9%	251	2,068	3,424	5,743	\$22.36
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	1,046	1,040	-6	-0.6%	-3	46	76	119	\$17.73
49-9094	Locksmiths and Safe Repairers	402	396	-6	-1.5%	-3	15	24	36	\$22.66
49-9096	Riggers	174	180	6	3.4%	3	4	14	21	\$27.62
49-9098	Helpers--Installation, Maintenance, and Repair Workers	2,202	2,225	23	1.0%	12	95	186	293	\$17.47
49-9099	Installation, Maintenance, and Repair Workers, All Other	7,126	7,226	100	1.4%	50	253	479	782	\$18.40
<b>51-0000</b>	<b>Production Occupations</b>	<b>486,268</b>	<b>489,547</b>	<b>3,279</b>	<b>0.7%</b>	<b>1,640</b>	<b>17,994</b>	<b>34,637</b>	<b>54,271</b>	<b>\$18.13</b>
51-1011	First-Line Supervisors of Production and Operating Workers	31,076	31,528	452	1.5%	226	942	2,106	3,274	\$29.48
51-2021	Coil Winders, Tapers, and Finishers	492	474	-18	-3.7%	-9	20	31	42	\$18.35
51-2028	Electrical, electronic, electromechanical assemblers, ex winders	10,556	10,806	250	2.4%	125	430	684	1,239	\$17.51
51-2031	Engine and Other Machine Assemblers	6,225	6,363	138	2.2%	69	219	466	754	\$23.69
51-2041	Structural Metal Fabricators and Fitters	2,795	2,749	-46	-1.6%	-23	62	221	260	\$21.18
51-2051	Fiberglass Laminators and Fabricators	619	630	11	1.8%	6	24	44	74	\$16.79
51-2090	Miscellaneous Assemblers and Fabricators	90,484	91,183	699	0.8%	350	3,466	6,483	10,299	\$17.78
51-3011	Bakers	7,435	7,624	189	2.5%	94	420	563	1,077	\$13.95
51-3021	Butchers and Meat Cutters	4,076	4,091	15	0.4%	8	166	303	477	\$14.31
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	2,972	2,948	-24	-0.8%	-12	120	220	328	\$14.21
51-3023	Slaughterers and Meat Packers	4,072	4,045	-27	-0.7%	-14	165	301	452	\$14.14
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	492	493	1	0.2%	0	20	36	56	\$14.43
51-3092	Food Batchmakers	8,456	8,613	157	1.9%	78	396	636	1,110	\$17.21

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
51-3093	Food Cooking Machine Operators and Tenders	1,500	1,502	2	0.1%	1	106	150	257	\$17.58
51-3099	Food Processing Workers, All Other	1,081	1,077	-4	-0.4%	-2	38	70	106	\$14.13
51-4021	Extruding and Drawing Machine S/O/T, M/P	5,297	5,264	-33	-0.6%	-16	184	326	494	\$18.05
51-4022	Forging Machine S/O/T, M/P	1,131	1,107	-24	-2.1%	-12	39	69	96	\$18.61
51-4023	Rolling Machine S/O/T, M/P	4,246	4,192	-54	-1.3%	-27	147	260	380	\$23.00
51-4031	Cutting, Punching, and Press Machine S/O/T, M/P	15,728	15,977	249	1.6%	124	503	1,090	1,717	\$18.09
51-4032	Drilling and Boring Machine Tool S/O/T, M/P	466	455	-11	-2.4%	-6	15	31	40	\$19.05
51-4033	Grind/Lapping/Polish/Buff Mach. Tool S/O/T, M/P	5,800	5,767	-33	-0.6%	-16	260	398	642	\$17.49
51-4034	Lathe and Turning Machine Tool S/O/T, M/P	1,891	1,885	-6	-0.3%	-3	62	128	187	\$22.42
51-4035	Milling and Planing Machine Setters, operators, and Tenders, metal and plastic	1,263	1,228	-35	-2.8%	-18	40	84	106	\$23.03
51-4041	Machinists	23,655	24,104	449	1.9%	224	798	1,624	2,646	\$20.87
51-4051	Metal-Refining Furnace Operators and Tenders	913	923	10	1.1%	5	20	63	88	\$22.00
51-4052	Pourers and Casters, Metal	966	955	-11	-1.1%	-6	21	66	81	\$23.21
51-4062	Patternmakers, Metal and Plastic	229	229	0	0.0%	0	8	16	24	\$23.91
51-4071	Foundry Mold and Coremakers	3,421	3,381	-40	-1.2%	-20	110	230	320	\$18.35
51-4072	Molding, Coremaking, and Casting Machine S/O/T, M/P	15,770	15,770	0	0.0%	0	513	1,068	1,581	\$17.40
51-4081	Multiple Machine Tool S/O/T, M/P	14,118	14,613	495	3.5%	248	467	972	1,687	\$18.31
51-4111	Tool and Die Makers	5,777	5,890	113	2.0%	56	215	368	639	\$23.86
51-4121	Welders, Cutters, Solderers, and Brazers	17,847	18,316	469	2.6%	234	476	1,426	2,136	\$21.64
51-4122	Welding, Soldering, and Brazing Machine S/O/T	1,700	1,715	15	0.9%	8	45	134	187	\$18.18
51-4191	Heat Treating Equipment S/O/T, M/P	1,784	1,778	-6	-0.3%	-3	58	120	175	\$19.15
51-4193	Plating and Coating Machine S/O/T, M/P	3,032	3,020	-12	-0.4%	-6	98	205	297	\$17.62
51-4194	Tool Grinders, Filers, and Sharpeners	309	306	-3	-1.0%	-2	10	21	29	\$24.19
51-4199	Metal Workers and Plastic Workers, All Other	807	809	2	0.2%	1	26	54	81	\$18.09
51-5111	Prepress Technicians and Workers	1,523	1,428	-95	-6.2%	-48	56	142	150	\$21.19
51-5112	Printing Press Operators	8,506	8,207	-299	-3.5%	-150	304	588	742	\$18.13
51-5113	Print Binding and Finishing Workers	2,212	2,061	-151	-6.8%	-76	105	134	163	\$17.11
51-6011	Laundry and Dry-Cleaning Workers	6,501	6,236	-265	-4.1%	-132	412	428	708	\$11.46
51-6021	Pressers, Textile, Garment, and Related Materials	792	741	-51	-6.4%	-26	34	46	54	\$11.47
51-6031	Sewing Machine Operators	4,863	4,834	-29	-0.6%	-14	293	256	535	\$14.27
51-6041	Shoe and Leather Workers and Repairers	219	227	8	3.7%	4	12	14	30	\$13.91
51-6051	Sewers, Hand	362	370	8	2.2%	4	29	18	51	\$14.21
51-6052	Tailors, Dressmakers, and Custom Sewers	1,440	1,407	-33	-2.3%	-16	114	72	170	\$14.53
51-6062	Textile Cutting Machine S/O/T	230	229	-1	-0.4%	0	12	15	27	\$14.62
51-6063	Textile knitting and Weaving Machine S/O/T	129	131	2	1.6%	1	7	8	16	\$11.60
51-6064	Textile Winding, Twisting, and Drawing out S/O/T	564	584	20	3.5%	10	30	37	77	\$18.09
51-6091	Extruding and Forming Machine S/O/T, Synthetic and Glass Fibers	890	902	12	1.3%	6	48	58	112	\$18.05
51-6092	Fabric and Apparel Pattern Makers	133	135	2	1.5%	1	7	8	16	\$28.20 *
51-6099	Textile, Apparel, and Furnishings Workers, All Other	229	231	2	0.9%	1	12	15	28	\$14.45
51-7011	Cabinetmakers and Bench Carpenters	4,998	5,078	80	1.6%	40	190	279	509	\$18.05
51-7021	Furniture Finishers	982	995	13	1.3%	6	58	74	138	\$17.74
51-7041	Sawing Machine S/O/T, Wood	1,078	1,078	0	0.0%	0	38	82	120	\$17.83
51-7042	Woodworking Machine S/O/T, except Sawing	3,502	3,598	96	2.7%	48	105	256	409	\$17.48
51-7099	Woodworkers, All Other	460	489	29	6.3%	14	19	27	60	\$17.92
51-8012	Power Distributors and Dispatchers	715	691	-24	-3.4%	-12	18	47	53	\$40.60
51-8013	Power Plant Operators	791	748	-43	-5.4%	-22	20	52	50	\$38.87



## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
51-8021	Stationary Engineers and Boiler Operators	880	880	0	0.0%	0	42	62	104	\$30.08
51-8031	Water and Wastewater Treatment Plant and System Operators	4,188	4,072	-116	-2.8%	-58	116	256	314	\$23.24
51-8091	Chemical Plant and System Operators	1,032	1,033	1	0.1%	0	24	80	104	\$36.97
51-8092	Gas Plant Operators	216	217	1	0.5%	0	5	17	22	\$22.83
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	835	836	1	0.1%	0	20	64	84	\$46.65
51-9011	Chemical Equipment Operators and Tenders	5,386	5,347	-39	-0.7%	-20	118	416	514	\$23.01
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine S/O/T	1,641	1,679	38	2.3%	19	36	128	183	\$18.52
51-9021	Crushing, Grinding, and Polishing Machine S/O/T	1,892	1,889	-3	-0.2%	-2	64	141	203	\$18.50
51-9022	Grinding and Polishing Workers, Hand	1,006	985	-21	-2.1%	-10	34	74	98	\$18.13
51-9023	Mixing and Blending Machine S/O/T	7,539	7,636	97	1.3%	48	256	566	870	\$18.13
51-9032	Cutting and Slicing Machine S/O/T	2,403	2,406	3	0.1%	2	108	182	292	\$18.09
51-9041	Extruding, Forming, Pressing, and Compacting Machine S/O/T	5,899	5,912	13	0.2%	6	162	435	603	\$17.92
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	1,431	1,470	39	2.7%	20	50	88	158	\$22.95
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	29,992	29,568	-424	-1.4%	-212	1,144	2,364	3,296	\$18.30
51-9071	Jewelers and Precious Stone and Metal Workers	575	565	-10	-1.7%	-5	30	38	63	\$22.42
51-9081	Dental Laboratory Technicians	1,041	1,059	18	1.7%	9	47	86	142	\$22.42
51-9082	Medical Appliance Technicians	744	761	17	2.3%	8	34	62	104	\$17.87
51-9083	Ophthalmic Laboratory Technicians	1,706	1,732	26	1.5%	13	77	140	230	\$16.65
51-9111	Packaging and Filling Machine Operators and Tenders	20,576	20,916	340	1.7%	170	856	1,377	2,403	\$17.65
51-9123	Painting, Coating, and Decorating Workers	442	449	7	1.6%	4	12	32	48	\$18.09
51-9124	Coating, Painting, and Spraying Machine S/O/T	7,529	7,670	141	1.9%	70	210	545	825	\$18.18
51-9151	Photographic Process Workers and Processing Machine Operators	316	313	-3	-0.9%	-2	14	33	45	\$18.24
51-9161	Computer Numerically Controlled Tool Operators	12,575	12,632	57	0.5%	28	432	931	1,391	\$19.19
51-9162	Computer Numerically Controlled Tool Programmers	2,081	2,207	126	6.1%	63	74	158	295	\$27.68
51-9191	Adhesive Bonding Machine Operators and Tenders	884	896	12	1.4%	6	50	60	116	\$18.15
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	1,001	1,014	13	1.3%	6	34	74	114	\$17.48
51-9193	Cooling and Freezing Equipment Operators and Tenders	1,026	1,039	13	1.3%	6	36	76	118	\$22.81
51-9194	Etchers and Engravers	562	567	5	0.9%	2	34	36	72	\$17.95
51-9195	Molders, Shapers, and Casters, except M/P	3,805	3,940	135	3.5%	68	139	254	461	\$18.06
51-9196	Paper Goods Machine S/O/T	6,048	6,103	55	0.9%	28	274	403	705	\$18.35
51-9197	Tire Builders	723	710	-13	-1.8%	-6	14	56	64	\$18.23
51-9198	Helpers--Production Workers	8,754	8,678	-76	-9.0%	-38	409	821	1,192	\$17.23
51-9199	Production Workers, All Other	8,307	8,450	143	1.7%	72	287	619	978	\$17.74
<b>53-0000</b>	<b>Transportation and Material Moving Occupations</b>	<b>518,852</b>	<b>535,794</b>	<b>16,942</b>	<b>3.3%</b>	<b>8,471</b>	<b>24,205</b>	<b>42,090</b>	<b>74,766</b>	<b>\$17.70</b>
53-1041	Aircraft Cargo Handling Supervisors	208	210	2	1.0%	1	8	14	23	\$37.26
53-1047	FL Sup of Trans/Mat.-Mov. Workers, Ex. Aircraft Cargo Handling	22,723	23,397	674	3.0%	337	842	1,598	2,777	\$23.73
53-2011	Airline Pilots, Copilots, and Flight Engineers	870	837	-33	-3.8%	-16	32	60	76	\$201,720 ***
53-2012	Commercial Pilots	1,154	1,158	4	0.3%	2	42	82	126	\$119,560 ***
53-2021	Air Traffic Controllers	746	737	-9	-1.2%	-4	20	51	67	\$67.83
53-2022	Airfield Operations Specialists	140	140	0	0.0%	0	4	10	14	\$28.02
53-2031	Flight Attendants	495	482	-13	-2.6%	-6	28	32	54	\$60,360 ***
53-3011	Ambulance Drivers and Attendants, except Emergency Medical Technicians	471	466	-5	-1.1%	-2	18	33	49	\$13.43
53-3031	Driver/Sales Workers	33,525	34,180	655	2.0%	328	1,386	2,296	4,010	\$11.62
53-3032	Heavy and Tractor-Trailer Truck Drivers	78,345	80,869	2,524	3.2%	1,262	3,260	5,398	9,920	\$23.17
53-3033	Light Truck or Delivery Services Drivers	37,028	38,380	1,352	3.7%	676	1,544	2,556	4,776	\$18.00
53-3052	Bus Drivers, Transit and Intercity	4,140	4,123	-17	-0.4%	-8	272	206	470	\$23.37

## Ohio Occupational Employment\* Projections Report, 2021-2023

SOC Code <sup>1</sup>	Occupational Title**	Employment		Change in Employment		Annual Openings				Median Wage*** May 2021
		2021 Annual	2023 Projected	2021-2023	Percent	Growth	Exits	Transfers	Total	
53-3058	Passenger Vehicle Drivers, except Bus Drivers, Transit and Intercity	18,416	18,648	232	1.3%	116	1,220	922	2,258	▲
53-3099	Motor Vehicle Operators, All Other	1,915	1,945	30	1.6%	15	195	113	323	\$13.66
53-4011	Locomotive Engineers	933	934	1	0.1%	0	21	60	81	\$39.27
53-4031	Railroad Conductors and Yardmasters	1,182	1,183	1	0.1%	0	26	77	103	\$30.22
53-5011	Sailors and Marine Oilers	292	299	7	2.4%	4	9	26	39	\$18.45
53-5021	Captains, Mates, and Pilots of Water Vessels	255	267	12	4.7%	6	7	18	31	\$36.35
53-6011	Bridge and Lock Tenders	107	106	-1	-0.9%	0	5	10	15	\$23.14
53-6021	Parking Lot Attendants	3,443	3,476	33	1.0%	16	168	358	542	\$11.54
53-6031	Automotive and Watercraft Service Attendants	4,144	4,194	50	1.2%	25	192	370	587	\$13.70
53-6041	Traffic Technicians	133	132	-1	-0.8%	0	6	12	18	\$28.78
53-6051	Transportation Inspectors	778	774	-4	-0.5%	-2	26	56	80	\$30.53
53-6061	Transportation Attendants, except Flight Attendants	154	159	5	3.2%	2	14	8	24	\$11.76
53-6098	Aircraft Service Attendants and Transportation Workers, All Other	570	560	-10	-1.8%	-5	26	50	71	\$21.88
53-7011	Conveyor Operators and Tenders	1,156	1,180	24	2.1%	12	36	100	148	\$22.28
53-7021	Crane and Tower Operators	1,396	1,425	29	2.1%	14	38	108	160	\$23.74
53-7051	Industrial Truck and Tractor Operators	35,497	37,448	1,951	5.5%	976	1,098	2,800	4,874	\$18.51
53-7061	Cleaners of Vehicles and Equipment	12,833	13,001	168	1.3%	84	632	1,150	1,866	\$14.06
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	121,744	127,062	5,318	4.4%	2,659	5,444	10,824	18,927	\$16.37
53-7063	Machine Feeders and Offbearers	1,640	1,690	50	3.0%	25	95	122	242	\$20.86
53-7064	Packers and Packagers, Hand	26,844	27,436	592	2.2%	296	1,546	2,198	4,040	\$14.40
53-7065	Stockers and Order Fillers	97,590	100,518	2,928	3.0%	1,464	5,638	9,662	16,764	\$14.39
53-7071	Gas Compressor and Gas Pumping Station Operators	175	173	-2	-1.1%	-1	4	15	18	\$38.95
53-7073	Wellhead Pumpers	145	147	2	1.4%	1	4	12	17	\$17.55
53-7081	Refuse and Recyclable Material Collectors	5,508	5,872	364	6.6%	182	241	513	936	\$18.62
53-7121	Tank Car, Truck, and Ship Loaders	646	658	12	1.9%	6	20	56	82	\$21.75
53-7199	Material Moving Workers, All Other	329	335	6	1.8%	3	10	28	41	\$17.33

<sup>1</sup> Occupational codes based on SOC 2010 coding structure. Detailed information - <http://www.bls.gov/soc/>

\* Occupations with 100 or more workers.

\*\* Title Abbreviations

FL Sup = First-Line Supervisors

M/P = Metal and Plastic

S/O/T = Setters, Operators, and Tenders

# Wages above max.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, June 2022.

\*\*\* Wage estimates are based on Ohio's OEWS surveys.

\*\*\*\* Education, experience and training levels associated with occupations were based on national data provided by the BLS.

▲ Wage data unavailable.

+ National hourly median wages.

++ National aggregate hourly median wages.

+++ Certain occupations report wages at the annual level - for elementary and secondary teachers this typically reflects the 9 1/2 month school year.

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
00-0000	Total, All Occupations				\$19.08
11-0000	Management Occupations				\$47.53
11-1011	Chief Executives	Bachelor's degree	5 years or more	None	\$86.39
11-1021	General and Operations Managers	Bachelor's degree	5 years or more	None	\$45.60
11-1031	Legislators	Bachelor's degree	Less than 5 years	None	\$36,940 ***
11-2011	Advertising and Promotions Managers	Bachelor's degree	Less than 5 years	None	\$48.02
11-2021	Marketing Managers	Bachelor's degree	5 years or more	None	\$61.47
11-2022	Sales Managers	Bachelor's degree	Less than 5 years	None	\$61.17
11-2030	Public Relations and Fundraising Manager	Bachelor's degree	5 years or more	None	\$57.62
11-3010	Administrative Services and Facilities Managers	Bachelor's degree	Less than 5 years	None	\$47.73 **
11-3021	Computer and Information Systems Managers	Bachelor's degree	5 years or more	None	\$62.43
11-3031	Financial Managers	Bachelor's degree	5 years or more	None	\$60.79
11-3051	Industrial Production Managers	Bachelor's degree	5 years or more	None	\$48.40
11-3061	Purchasing Managers	Bachelor's degree	5 years or more	None	\$58.50
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	5 years or more	None	\$44.54
11-3111	Compensation and Benefits Managers	Bachelor's degree	5 years or more	None	\$61.38
11-3121	Human Resources Managers	Bachelor's degree	5 years or more	None	\$59.27
11-3131	Training and Development Managers	Bachelor's degree	5 years or more	None	\$55.57
11-9013	Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	5 years or more	None	\$35.12 *
11-9021	Construction Managers	Bachelor's degree	None	Moderate-term on-the-job training	\$47.08
11-9031	Education Administrators, Preschool and Childcare Center/Program	Bachelor's degree	Less than 5 years	None	\$22.31
11-9032	Education Administrators, Elementary and Secondary School	Master's degree	5 years or more	None	\$97,320 ***
11-9033	Education Administrators, Postsecondary	Master's degree	Less than 5 years	None	\$45.68
11-9039	Education Administrators, All Other	Bachelor's degree	Less than 5 years	None	\$36.22
11-9041	Architectural and Engineering Managers	Bachelor's degree	5 years or more	None	\$63.11
11-9051	Food Service Managers	High school diploma or equivalent	Less than 5 years	None	\$27.30
11-9081	Lodging Managers	High school diploma or equivalent	Less than 5 years	None	\$28.90
11-9111	Medical and Health Services Managers	Bachelor's degree	Less than 5 years	None	\$47.38
11-9121	Natural Sciences Managers	Bachelor's degree	5 years or more	None	\$50.66
11-9131	Postmasters and Mail Superintendents	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$38.87
11-9141	Property, Real Estate, and Community Association Managers	High school diploma or equivalent	Less than 5 years	None	\$22.97
11-9151	Social and Community Service Managers	Bachelor's degree	Less than 5 years	None	\$30.13
11-9171	Funeral Home Managers	Associate's degree	Less than 5 years	None	\$35.58
11-9198	Managers, All Other	Bachelor's degree	Less than 5 years	None	\$49.41
13-0000	Business and Financial Operations Occupations				\$30.79
13-1020	Buyers and Purchasing Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$30.37
13-1031	Claims Adjusters, Examiners, and Investigators	High school diploma or equivalent	None	Long-term on-the-job training	\$29.96
13-1041	Compliance Officers	Bachelor's degree	None	Moderate-term on-the-job training	\$30.51
13-1051	Cost Estimators	Bachelor's degree	None	Moderate-term on-the-job training	\$30.42
13-1071	Human Resources Specialists	Bachelor's degree	None	None	\$28.91
13-1075	Labor Relations Specialists	Bachelor's degree	Less than 5 years	None	\$37.16
13-1081	Logisticians	Bachelor's degree	None	None	\$37.03
13-1111	Management Analysts	Bachelor's degree	Less than 5 years	None	\$38.17
13-1121	Meeting, Convention, and Event Planners	Bachelor's degree	None	None	\$23.34
13-1131	Fundraisers	Bachelor's degree	None	None	\$28.91
13-1141	Compensation, Benefits, and Job Analysis Specialists	Bachelor's degree	Less than 5 years	None	\$29.49
13-1151	Training and Development Specialists	Bachelor's degree	Less than 5 years	None	\$23.76
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	None	None	\$29.55
13-1198	Business Operations Specialists, All Other	Bachelor's degree	None	None	\$31.77
13-2011	Accountants and Auditors	Bachelor's degree	None	None	\$33.46

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
13-2020	Property Appraisers and Assessors	Bachelor's degree	None	Long-term on-the-job training	\$30.43
13-2031	Budget Analysts	Bachelor's degree	None	None	\$37.18
13-2041	Credit Analysts	Bachelor's degree	None	None	\$34.74
13-2052	Personal Financial Advisors	Bachelor's degree	None	Long-term on-the-job training	\$39.22
13-2053	Insurance Underwriters	Bachelor's degree	None	Moderate-term on-the-job training	\$37.04
13-2061	Financial Examiners	Bachelor's degree	None	Long-term on-the-job training	\$36.65
13-2071	Credit Counselors	Bachelor's degree	None	Moderate-term on-the-job training	\$23.56
13-2072	Loan Officers	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$29.96
13-2081	Tax Examiners and Collectors, and Revenue Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$30.51
13-2082	Tax Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.98
13-2098	Financial Specialists AO	Bachelor's degree	None	None	\$38.60
<b>15-0000</b>	<b>Computer and Mathematical Occupations</b>				<b>\$38.19</b>
15-1211	Computer Systems Analysts	Bachelor's degree	None	None	\$45.83
15-1212	Information Security Analysts	Bachelor's degree	Less than 5 years	None	\$47.62
15-1221	Computer and Information Research Scientists	Master's degree	None	None	\$57.28
15-1231	Computer Network Support Specialists	Associate's degree	None	None	\$29.00
15-1232	Computer User Support Specialists	Some college, no degree	None	None	\$22.96
15-1241	Computer Network Architects	Bachelor's degree	5 years or more	None	\$49.41
15-1244	Network and Computer Systems Administrators	Bachelor's degree	None	None	\$38.20
15-1245	Database Administrators	Bachelor's degree	None	None	\$41.15
15-1251	Computer Programmers	Bachelor's degree	None	None	\$36.57
15-1256	Software Developers	Bachelor's degree	None	None	\$48.02
15-1257	Web Developers	Bachelor's degree	None	None	\$37.24
15-1299	Computer Occupations, All Other	Bachelor's degree	None	None	\$46.05
15-2011	Actuaries	Bachelor's degree	None	Long-term on-the-job training	\$47.88
15-2031	Operations Research Analysts	Bachelor's degree	None	None	\$40.91
15-2041	Statisticians	Master's degree	None	None	\$36.17
<b>17-0000</b>	<b>Architecture and Engineering Occupations</b>				<b>\$37.39</b>
17-1011	Architects, except Landscape and Naval	Bachelor's degree	None	Internship/residency	\$37.45
17-1012	Landscape Architects	Bachelor's degree	None	Internship/residency	\$23.21
17-1021	Cartographers and Photogrammetrists	Bachelor's degree	None	None	\$36.83
17-1022	Surveyors	Bachelor's degree	None	Internship/residency	\$29.34
17-2011	Aerospace Engineers	Bachelor's degree	None	None	\$58.46
17-2031	Biomedical Engineers	Bachelor's degree	None	None	\$45.33
17-2041	Chemical Engineers	Bachelor's degree	None	None	\$46.88
17-2051	Civil Engineers	Bachelor's degree	None	None	\$38.03
17-2061	Computer Hardware Engineers	Bachelor's degree	None	None	\$46.51
17-2071	Electrical Engineers	Bachelor's degree	None	None	\$45.89
17-2072	Electronics Engineers, except Computer	Bachelor's degree	None	None	\$47.62
17-2081	Environmental Engineers	Bachelor's degree	None	None	\$47.52
17-2111	Health and Safety Engineers, except Mining Safety Engineers and Inspectors	Bachelor's degree	None	None	\$39.87
17-2112	Industrial Engineers	Bachelor's degree	None	None	\$38.24
17-2131	Materials Engineers	Bachelor's degree	None	None	\$42.11
17-2141	Mechanical Engineers	Bachelor's degree	None	None	\$37.96
17-2171	Petroleum Engineers	Bachelor's degree	None	None	\$48.15
17-2199	Engineers, All Other	Bachelor's degree	None	None	\$46.88
17-3011	Architectural and Civil Drafters	Associate's degree	None	None	\$29.64
17-3012	Electrical and Electronics Drafters	Associate's degree	None	None	\$29.15
17-3013	Mechanical Drafters	Associate's degree	None	None	\$28.74
17-3021	Aerospace Engineering and Operations Technicians	Associate's degree	None	None	\$29.76

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
17-3022	Civil Engineering Technicians	Associate's degree	None	None	\$29.02
17-3023	Electrical and Electronics Engineering Technicians	Associate's degree	None	None	\$29.96
17-3025	Environmental Engineering Technicians	Associate's degree	None	None	\$22.83
17-3026	Industrial Engineering Technicians	Associate's degree	None	None	\$27.65
17-3027	Mechanical Engineering Technicians	Associate's degree	None	None	\$28.52
17-3031	Surveying and Mapping Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.55
17-3098	Engineering Technicians, except Drafters, All Other	Associate's degree	None	None	\$23.21
<b>19-0000</b>	<b>Life, Physical, and Social Science Occupations</b>				<b>\$31.13</b>
19-1012	Food Scientists and Technologists	Bachelor's degree	None	None	\$40.47
19-1013	Soil and Plant Scientists	Bachelor's degree	None	None	\$29.63
19-1022	Microbiologists	Bachelor's degree	None	None	\$23.41
19-1023	Zoologists and Wildlife Biologists	Bachelor's degree	None	None	\$30.65
19-1029	Biological Scientists, All Other	Bachelor's degree	None	None	\$39.61
19-1031	Conservation Scientists	Bachelor's degree	None	None	\$27.66
19-1032	Foresters	Bachelor's degree	None	None	\$31.20
19-1041	Epidemiologists	Master's degree	None	None	\$36.60
19-1042	Medical Scientists, except Epidemiologists	Doctoral or professional degree	None	None	\$39.75
19-1099	Life Scientists, All Other	Bachelor's degree	None	None	\$42.10
19-2012	Physicists	Doctoral or professional degree	None	None	\$62.86
19-2031	Chemists	Bachelor's degree	None	None	\$36.46
19-2032	Materials Scientists	Bachelor's degree	None	None	\$45.64
19-2041	Environmental Scientists and Specialists, Including Health	Bachelor's degree	None	None	\$37.30
19-2042	Geoscientists, except Hydrologists and Geographers	Bachelor's degree	None	None	\$37.38
19-2043	Hydrologists	Bachelor's degree	None	None	\$39.53
19-2099	Physical Scientists, All Other	Bachelor's degree	None	None	\$48.15
19-3011	Economists	Master's degree	None	None	\$50.35
19-3022	Survey Researchers	Master's degree	None	None	\$28.05
19-3031	Clinical, Counseling, and School Psychologists	Doctoral or professional degree	None	Internship/residency	▲
19-3032	Industrial Organizational Psychologists	Master's degree	None	Internship/residency	\$57.85
19-3039	Psychologists, All Other	Master's degree	None	Internship/residency	\$50.72
19-3051	Urban and Regional Planners	Master's degree	None	None	\$30.72
19-3099	Social Scientists and Related Workers, All Other	Bachelor's degree	None	None	\$39.56
19-4010	Agricultural & Food Scientist Technicians	Associate's degree	None	Moderate-term on-the-job training	\$21.49 **
19-4021	Biological Technicians	Bachelor's degree	None	None	\$23.99
19-4031	Chemical Technicians	Associate's degree	None	Moderate-term on-the-job training	\$23.42
19-4042	Environmental Science and Protection Technicians, Including Health	Associate's degree	None	None	\$21.85
19-4045	Geological and Hydrolic Technicians	Associate's degree	None	Moderate-term on-the-job training	▲
19-4051	Nuclear Technicians	Associate's degree	None	Moderate-term on-the-job training	\$37.89
19-4061	Social Science Research Assistants	Bachelor's degree	None	None	\$23.59
19-4071	Forest and Conservation Technicians	Associate's degree	None	None	\$22.40
19-4092	Forensic Science Technicians	Bachelor's degree	None	Moderate-term on-the-job training	\$30.89
19-4099	Life, Physical, and Social Science Technicians, All Other	Associate's degree	None	None	\$23.66
19-5011	Occupational Health and Safety Specialists	Bachelor's degree	None	None	\$37.43
19-5012	Occupational Health and Safety Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.46
<b>21-0000</b>	<b>Community and Social Service Occupations</b>				<b>\$22.91</b>
21-1012	Educational, Guidance, School, and Vocational Counselors	Master's degree	None	None	\$29.39
21-1013	Marriage and Family Therapists	Master's degree	None	Internship/residency	\$24.29
21-1015	Rehabilitation Counselors	Master's degree	None	None	\$18.42
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Bachelor's degree	None	None	\$22.84
21-1019	Counselors, All Other	Master's degree	None	None	\$22.42

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
21-1021	Child, Family, and School Social Workers	Bachelor's degree	None	None	\$22.95
21-1022	Healthcare Social Workers	Master's degree	None	Internship/residency	\$29.07
21-1023	Mental Health and Substance Abuse Social Workers	Master's degree	None	Internship/residency	\$22.55
21-1029	Social Workers, All Other	Bachelor's degree	None	None	\$27.59
21-1091	Health Educators	Bachelor's degree	None	None	\$29.15
21-1092	Probation Officers and Correctional Treatment Specialists	Bachelor's degree	None	Short-term on-the-job training	\$27.02
21-1093	Social and Human Service Assistants	High school diploma or equivalent	None	Short-term on-the-job training	\$17.67
21-1094	Community Health Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$18.48
21-1099	Community and Social Service Specialists, All Other	Bachelor's degree	None	None	\$22.82
21-2011	Clergy	Bachelor's degree	None	Moderate-term on-the-job training	\$23.58
<b>23-0000</b>	<b>Legal Occupations</b>				<b>\$36.21</b>
23-1011	Lawyers	Doctoral or professional degree	None	None	\$49.18
23-1012	Judicial Law Clerks	Doctoral or professional degree	None	None	\$23.60
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	Doctoral or professional degree	5 years or more	Short-term on-the-job training	\$37.16
23-1022	Arbitrators, Mediators, and Conciliators	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$24.59
23-1023	Judges, Magistrate Judges, and Magistrates	Doctoral or professional degree	5 years or more	Short-term on-the-job training	\$47.76
23-2011	Paralegals and Legal Assistants	Associate's degree	None	None	\$22.57
23-2093	Title Examiners, Abstractors, and Searchers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.39
23-2099	Legal Support Workers, All Other	Associate's degree	None	None	\$27.91
<b>25-0000</b>	<b>Education, Training, and Library Occupations</b>				<b>\$29.13</b>
25-1011	Business Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,890 ***
25-1021	Computer Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,680 ***
25-1022	Mathematical Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,740 ***
25-1031	Architecture Teachers, Postsecondary	Doctoral or professional degree	None	None	\$98,070 ***
25-1032	Engineering Teachers, Postsecondary	Doctoral or professional degree	None	None	\$103,340 ***
25-1042	Biological Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$79,410 ***
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	Doctoral or professional degree	None	None	\$83,480 ***
25-1052	Chemistry Teachers, Postsecondary	Doctoral or professional degree	None	None	\$78,100 ***
25-1053	Environmental Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$99,040 ***
25-1054	Physics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,630 ***
25-1061	Anthropology and Archeology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,440 ***
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	Doctoral or professional degree	None	None	\$80,360 ***
25-1063	Economics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$98,830 ***
25-1064	Geography Teachers, Postsecondary	Doctoral or professional degree	None	None	\$83,860 ***
25-1065	Political Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$79,270 ***
25-1066	Psychology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$81,120 ***
25-1067	Sociology Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,980 ***
25-1069	Social Sciences Teachers, Postsecondary, All Other	Doctoral or professional degree	None	None	\$64,440 ***
25-1071	Health Specialties Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$107,630 ***
25-1072	Nursing Instructors and Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$77,100 ***
25-1081	Education Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$62,850 ***
25-1082	Library Science Teachers, Postsecondary	Doctoral or professional degree	None	None	\$63,950 ***
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	Doctoral or professional degree	None	None	\$60,920 ***
25-1112	Law Teachers, Postsecondary	Doctoral or professional degree	Less than 5 years	None	\$117,010 ***
25-1113	Social Work Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,630 ***
25-1121	Art, Drama, and Music Teachers, Postsecondary	Master's degree	None	None	\$64,100 ***
25-1122	Communications Teachers, Postsecondary	Doctoral or professional degree	None	None	\$77,630 ***
25-1123	English Language and Literature Teachers, Postsecondary	Doctoral or professional degree	None	None	\$63,900 ***
25-1124	Foreign Language and Literature Teachers, Postsecondary	Doctoral or professional degree	None	None	\$64,520 ***
25-1125	History Teachers, Postsecondary	Doctoral or professional degree	None	None	\$79,410 ***



## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
25-1126	Philosophy and Religion Teachers, Postsecondary	Doctoral or professional degree	None	None	\$78,370 ***
25-1192	Home Economics Teachers, Postsecondary	Doctoral or professional degree	None	None	\$69,550 ***
25-1193	Recreation and Fitness Studies Teachers, Postsecondary	Doctoral or professional degree	None	None	\$63,740 ***
25-1194	Vocational Education Teachers, Postsecondary	Bachelor's degree	Less than 5 years	None	\$24.54
25-1199	Postsecondary Teachers, All Other	Doctoral or professional degree	None	None	\$61,590 ***
25-2011	Preschool Teachers, except Special Education	Associate's degree	None	None	\$13.89
25-2012	Kindergarten Teachers, except Special Education	Bachelor's degree	None	None	\$60,670 ***
25-2021	Elementary School Teachers, except Special Education	Bachelor's degree	None	None	\$64,410 ***
25-2022	Middle School Teachers, except Special and Career/Technical Education	Bachelor's degree	None	None	\$63,670 ***
25-2031	Secondary School Teachers, except Special and Career/Technical Education	Bachelor's degree	None	None	\$75,330 ***
25-2032	Career/Technical Education Teachers, Secondary School	Bachelor's degree	Less than 5 years	None	\$76,880 ***
25-2052	Special Education Teachers, Kindergarten and Elementary School	Bachelor's degree	None	None	\$70,900 ***
25-2057	Special Education Teachers, Middle School	Bachelor's degree	None	None	\$58,220 ***
25-2058	Special Education Teachers, Secondary School	Bachelor's degree	None	None	\$62,010 ***
25-2059	Special Education Teachers, All Other	Bachelor's degree	None	None	\$47,140 ***
25-3011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	Bachelor's degree	None	None	\$24.10
25-3021	Self-Enrichment Education Teachers	High school diploma or equivalent	Less than 5 years	None	\$14.64
25-3031	Substitute Teachers	Bachelor's degree	None	None	\$13.92
25-3097	Teachers and Instructors, All Other, except Substitute Teachers	Bachelor's degree	None	None	\$60,040 ***
25-4011	Archivists	Master's degree	None	None	\$23.62
25-4012	Curators	Master's degree	None	None	\$23.80
25-4013	Museum Technicians and Conservators	Bachelor's degree	None	None	\$22.61
25-4022	Librarians and Media Collections Specialists	Master's degree	None	None	\$23.62
25-4031	Library Technicians	Postsecondary non-degree award	None	None	\$16.71
25-9031	Instructional Coordinators	Master's degree	5 years or more	None	\$29.83
25-9044	Teaching Assistants, Postsecondary	Bachelor's degree	None	None	\$30,070 ***
25-9045	Teaching Assistants, except Postsecondary	Some college, no degree	None	None	\$28,820 ***
<b>27-0000</b>	<b>Arts, Design, Entertainment, Sports, and Media Occupations</b>				<b>\$23.05</b>
27-1011	Art Directors	Bachelor's degree	5 years or more	None	\$39.68
27-1012	Craft Artists	No formal educational credential	None	Long-term on-the-job training	\$18.21
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Bachelor's degree	None	Long-term on-the-job training	\$22.28
27-1014	Multimedia Artists and Animators	Bachelor's degree	None	None	\$41.45 +
27-1019	Artists and Related Workers, AO	No formal educational credential	None	Long-term on-the-job training	\$32.38
27-1021	Commercial and Industrial Designers	Bachelor's degree	None	None	\$30.43
27-1022	Fashion Designers	Bachelor's degree	None	None	\$23.71
27-1023	Floral Designers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.70
27-1024	Graphic Designers	Bachelor's degree	None	None	\$23.53
27-1025	Interior Designers	Bachelor's degree	None	None	\$23.89
27-1026	Merchandise Displayers and Window Trimmers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.52
27-1027	Set and Exhibit Designers	Bachelor's degree	None	None	\$28.36
27-1029	Designers, AO	Bachelor's degree	None	None	\$22.66
27-2011	Actors	Some college, no degree	None	Long-term on-the-job training	\$9.44
27-2012	Producers and Directors	Bachelor's degree	Less than 5 years	None	\$28.81
27-2021	Athletes and Sports Competitors	No formal educational credential	None	Long-term on-the-job training	▲
27-2022	Coaches and Scouts	Bachelor's degree	None	None	\$36,870 ***
27-2041	Music Directors and Composers	Bachelor's degree	Less than 5 years	None	\$27.65
27-2042	Musicians and Singers	No formal educational credential	None	Long-term on-the-job training	\$47.38
27-2090	Miscellaneous Entertainers and Performers, sports and related workers	No formal educational credential	None	Short-term on-the-job training	\$23.60 **
27-3011	Radio and Television Announcers	Bachelor's degree	None	None	\$14.04
27-3023	News Analysts, Reporters, and Journalists	Bachelor's degree	None	None	\$18.45

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
27-3031	Public Relations Specialists	Bachelor's degree	None	None	\$29.79
27-3041	Editors	Bachelor's degree	Less than 5 years	None	\$29.24
27-3042	Technical Writers	Bachelor's degree	Less than 5 years	Short-term on-the-job training	\$30.43
27-3043	Writers and Authors	Bachelor's degree	None	Long-term on-the-job training	\$24.06
27-3091	Interpreters and Translators	Bachelor's degree	None	None	\$23.29
27-3092	Court Reporters and Simultaneous Captioners	Postsecondary non-degree award	None	Short-term on-the-job training	\$29.65
27-3099	Media and Communication Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$17.80
27-4011	Audio and Video Equipment Technicians	Postsecondary non-degree award	None	Short-term on-the-job training	\$22.08
27-4012	Broadcast Technicians	Associate's degree	None	Short-term on-the-job training	\$18.72
27-4014	Sound Engineering Technicians	Postsecondary non-degree award	None	Short-term on-the-job training	\$22.13
27-4021	Photographers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.44
27-4031	Camera Operators, Television, Video, and Motion Picture	Bachelor's degree	None	None	\$18.22
27-4032	Film and Video Editors	Bachelor's degree	None	None	\$23.15
27-4098	Lighting Technicians and Media and Communication Equipment Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$30.96
<b>29-0000</b>	<b>Healthcare Practitioners and Technical Occupations</b>				<b>\$30.04</b>
29-1011	Chiropractors	Doctoral or professional degree	None	None	\$29.26
29-1021	Dentists, General	Doctoral or professional degree	None	None	\$79.89
29-1029	Dentists, All Other Specialists	Doctoral or professional degree	None	Internship/residency	#
29-1031	Dietitians and Nutritionists	Bachelor's degree	None	Internship/residency	\$29.26
29-1041	Optometrists	Doctoral or professional degree	None	None	\$49.04
29-1051	Pharmacists	Doctoral or professional degree	None	None	\$61.63
29-1071	Physician Assistants	Master's degree	None	None	\$49.29
29-1081	Podiatrists	Doctoral or professional degree	None	Internship/residency	\$61.91
29-1122	Occupational Therapists	Master's degree	None	None	\$38.47
29-1123	Physical Therapists	Doctoral or professional degree	None	None	\$45.97
29-1124	Radiation Therapists	Associate's degree	None	None	\$38.13
29-1125	Recreational Therapists	Bachelor's degree	None	None	\$22.77
29-1126	Respiratory Therapists	Associate's degree	None	None	\$29.41
29-1127	Speech-Language Pathologists	Master's degree	None	Internship/residency	\$37.71
29-1128	Exercise Physiologists	Bachelor's degree	None	None	\$22.60
29-1129	Therapists, All Other	Bachelor's degree	None	None	\$36.16
29-1131	Veterinarians	Doctoral or professional degree	None	None	\$47.62
29-1141	Registered Nurses	Bachelor's degree	None	None	\$35.62
29-1151	Nurse Anesthetists	Master's degree	None	None	\$80.98
29-1161	Nurse Midwives	Master's degree	None	None	\$58.18
29-1171	Nurse Practitioners	Master's degree	None	None	\$49.67
29-1181	Audiologists	Doctoral or professional degree	None	None	\$31.52
29-1211	Anesthesiologists	Doctoral or professional degree	None	Internship/residency	#
29-1215	Family Medicine Physicians	Doctoral or professional degree	None	Internship/residency	\$79.84
29-1216	General Internal Medicine Physicians	Doctoral or professional degree	None	Internship/residency	#
29-1218	Obstetricians and Gynecologists	Doctoral or professional degree	None	Internship/residency	\$94.24
29-1221	Pediatricians, General	Doctoral or professional degree	None	Internship/residency	\$90.76
29-1223	Psychiatrists	Doctoral or professional degree	None	Internship/residency	#
29-1228	Physicians, All Other; and Ophthalmologists, except Pediatric	Doctoral or professional degree	None	Internship/residency	▲
29-1248	Surgeons, except Ophthalmologists	Doctoral or professional degree	None	Internship/residency	▲
29-1292	Dental Hygienists	Associate's degree	None	None	\$36.94
29-1298	Acupuncturists and Healthcare Diagnosing or Treating Practitioners, All Other	Master's degree	None	None	\$38.23
29-2010	Clinical Laboratory Technologists and Technicians	Bachelor's degree	None	None	\$25.90
29-2031	Cardiovascular Technologists and Technicians	Associate's degree	None	None	\$29.47
29-2032	Diagnostic Medical Sonographers	Associate's degree	None	None	\$36.06



## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
29-2033	Nuclear Medicine Technologists	Associate's degree	None	None	\$37.16
29-2034	Radiologic Technologists	Associate's degree	None	None	\$28.90
29-2035	Magnetic Resonance Imaging Technologists	Associate's degree	Less than 5 years	None	\$36.06
29-2040	Emergency Medical Technicians and Paramedics	Postsecondary non-degree award	None	None	\$17.76 **
29-2051	Dietetic Technicians	Associate's degree	None	None	\$14.46
29-2052	Pharmacy Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.89
29-2053	Psychiatric Technicians	Postsecondary non-degree award	Less than 5 years	Short-term on-the-job training	\$14.89
29-2055	Surgical Technologists	Postsecondary non-degree award	None	None	\$23.01
29-2056	Veterinary Technologists and Technicians	Associate's degree	None	None	\$17.48
29-2057	Ophthalmic Medical Technicians	Postsecondary non-degree award	None	None	\$17.62
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	None	None	\$22.73
29-2081	Opticians, Dispensing	High school diploma or equivalent	None	Long-term on-the-job training	\$22.04
29-2091	Orthotists and Prosthetists	Master's degree	None	Internship/residency	\$28.80
29-2092	Hearing Aid Specialists	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.11
29-2098	Healthcare Practitioners and Technical Workers, All Other	Postsecondary non-degree award	None	None	\$18.15
29-9091	Athletic Trainers	Bachelor's degree	None	None	\$47,440 ***
29-9092	Genetic Counselors	Master's degree	None	None	\$38.50
29-9098	Healthcare Practitioners and Technical Workers, All Other	Postsecondary non-degree award	None	None	\$17.97
<b>31-0000</b>	<b>Healthcare Support Occupations</b>				<b>\$14.14</b>
31-1120	Home Health and Personal Care Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$11.54
31-1131	Nursing Assistants	Postsecondary non-degree award	None	None	\$14.34
31-1132	Orderlies	High school diploma or equivalent	None	Short-term on-the-job training	\$14.25
31-1133	Psychiatric Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$17.98
31-2011	Occupational Therapy Assistants	Associate's degree	None	None	\$29.51
31-2012	Occupational Therapy Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$19.43
31-2021	Physical Therapist Assistants	Associate's degree	None	None	\$29.60
31-2022	Physical Therapist Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$14.01
31-9011	Massage Therapists	Postsecondary non-degree award	None	None	\$22.35
31-9091	Dental Assistants	Postsecondary non-degree award	None	None	\$18.77
31-9092	Medical Assistants	Postsecondary non-degree award	None	None	\$17.69
31-9093	Medical Equipment Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.00
31-9094	Medical Transcriptionists	Postsecondary non-degree award	None	None	\$11.59
31-9095	Pharmacy Aides	High school diploma or equivalent	None	Short-term on-the-job training	\$14.07
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.22
31-9097	Phlebotomists	Postsecondary non-degree award	None	None	\$17.59
31-9099	Healthcare Support Workers, All Other	High school diploma or equivalent	None	None	\$18.11
<b>33-0000</b>	<b>Protective Service Occupations</b>				<b>\$22.81</b>
33-1011	First-Line Supervisors of Correctional Officers	High school diploma or equivalent	Less than 5 years	None	\$36.89
33-1012	First-Line Supervisors of Police and Detectives	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$45.15
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	Postsecondary non-degree award	Less than 5 years	Moderate-term on-the-job training	\$37.42
33-1090	Miscellaneous First-Line Supervisors, Protective Service Workers	High school diploma or equivalent	Less than 5 years	None	\$25.23 **
33-2011	Firefighters	Postsecondary non-degree award	None	Long-term on-the-job training	\$24.37
33-2021	Fire Inspectors and Investigators	Postsecondary non-degree award	5 years or more	Moderate-term on-the-job training	\$46.78
33-3011	Bailiffs	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.58
33-3012	Correctional Officers and Jailers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.04
33-3021	Detectives and Criminal Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$37.30
33-3031	Fish and Game Wardens	Bachelor's degree	None	Moderate-term on-the-job training	\$37.30
33-3041	Parking Enforcement Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$22.58
33-3051	Police and Sheriff's Patrol Officers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$31.06
33-9011	Animal Control Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.60

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
33-9021	Private Detectives and Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$23.45
33-9031	Gaming Surveillance Officers and Gaming Investigators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$21.91
33-9032	Security Guards	High school diploma or equivalent	None	Short-term on-the-job training	\$13.98
33-9091	Crossing Guards	No formal educational credential	None	Short-term on-the-job training	\$13.92
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	No formal educational credential	None	Short-term on-the-job training	\$10.72
33-9093	Transportation Security Screeners	High school diploma or equivalent	None	Short-term on-the-job training	\$21.65
33-9098	School Bus Monitors and Protective Service Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	▲
<b>35-0000</b>	<b>Food Preparation and Serving Related Occupations</b>				<b>\$10.96</b>
35-1011	Chefs and Head Cooks	High school diploma or equivalent	5 years or more	None	\$24.28
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None	\$15.65
35-2011	Cooks, Fast Food	No formal educational credential	None	Short-term on-the-job training	\$10.76
35-2012	Cooks, Institution and Cafeteria	No formal educational credential	None	Short-term on-the-job training	\$14.23
35-2014	Cooks, Restaurant	No formal educational credential	Less than 5 years	Moderate-term on-the-job training	\$13.87
35-2015	Cooks, Short Order	No formal educational credential	None	Short-term on-the-job training	\$12.14
35-2021	Food Preparation Workers	No formal educational credential	None	Short-term on-the-job training	\$11.69
35-3011	Bartenders	No formal educational credential	None	Short-term on-the-job training	\$10.21
35-3023	Fast Food and Counter Workers	No formal educational credential	None	Short-term on-the-job training	\$10.70
35-3031	Waiters and Waitresses	No formal educational credential	None	Short-term on-the-job training	\$9.87
35-3041	Food Servers, Nonrestaurant	No formal educational credential	None	Short-term on-the-job training	\$12.07
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	No formal educational credential	None	Short-term on-the-job training	\$11.18
35-9021	Dishwashers	No formal educational credential	None	Short-term on-the-job training	\$10.86
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	No formal educational credential	None	Short-term on-the-job training	\$10.59
35-9099	Food Preparation and Serving Related Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$10.72
<b>37-0000</b>	<b>Building and Grounds Cleaning and Maintenance Occupations</b>				<b>\$14.26</b>
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	High school diploma or equivalent	Less than 5 years	None	\$19.46
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	High school diploma or equivalent	Less than 5 years	None	\$23.05
37-2011	Janitors and Cleaners, except Maids and Housekeeping Cleaners	No formal educational credential	None	Short-term on-the-job training	\$14.06
37-2012	Maids and Housekeeping Cleaners	No formal educational credential	None	Short-term on-the-job training	\$11.80
37-3011	Landscaping and Groundskeeping Workers	No formal educational credential	None	Short-term on-the-job training	\$14.58
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.60
37-3013	Tree Trimmers and Pruners	High school diploma or equivalent	None	Short-term on-the-job training	\$18.79
37-3019	Grounds Maintenance Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$14.72
<b>39-0000</b>	<b>Personal Care and Service Occupations</b>				<b>\$11.88</b>
39-1013	First-Line Supervisors of Gambling Services Workers	High school diploma or equivalent	Less than 5 years	None	\$24.27
39-1098	FL Sup of Personal Service and Entertainment Workers, except Gambling Services	High school diploma or equivalent	Less than 5 years	None	▲
39-2011	Animal Trainers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.24
39-2021	Nonfarm Animal Caretakers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.01
39-3011	Gaming Dealers	High school diploma or equivalent	None	Short-term on-the-job training	\$9.31
39-3031	Ushers, Lobby Attendants, and Ticket Takers	No formal educational credential	None	Short-term on-the-job training	\$10.99
39-3091	Amusement and Recreation Attendants	No formal educational credential	None	Short-term on-the-job training	\$10.38
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$13.71
39-3099	Entertainment Attendants and Related Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$11.62 *
39-4011	Embalmers	Associate's degree	None	Long-term on-the-job training	\$22.26
39-4021	Funeral Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$14.08
39-4031	Morticians, Undertakers, and Funeral Directors	Associate's degree	None	Long-term on-the-job training	\$29.44
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Postsecondary non-degree award	None	None	\$13.69
39-5092	Manicurists and Pedicurists	Postsecondary non-degree award	None	None	\$11.04
39-5094	Skincare Specialists	Postsecondary non-degree award	None	None	\$18.05
39-6011	Baggage Porters and Bellhops	High school diploma or equivalent	None	Short-term on-the-job training	\$13.73
39-6012	Concierges	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.08

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
39-7010	Tour and Travel Guides	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.81
39-9011	Childcare Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.17
39-9031	Fitness Trainers and Aerobics Instructors	High school diploma or equivalent	None	Short-term on-the-job training	\$14.39
39-9032	Recreation Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.91
39-9041	Residential Advisors	High school diploma or equivalent	None	Short-term on-the-job training	\$14.64
39-9098	Crematory Operators and Personal Care and Service Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$13.63
<b>41-0000</b>	<b>Sales and Related Occupations</b>				<b>\$14.20</b>
41-1011	First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	\$18.23
41-1012	First-Line Supervisors of Non-Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	\$37.96
41-2011	Cashiers	No formal educational credential	None	Short-term on-the-job training	\$10.96
41-2012	Gambling Change Persons and Booth Cashiers	No formal educational credential	None	Short-term on-the-job training	\$10.02
41-2021	Counter and Rental Clerks	No formal educational credential	None	Short-term on-the-job training	\$14.23
41-2022	Parts Salespersons	No formal educational credential	None	Moderate-term on-the-job training	\$14.41
41-2031	Retail Salespersons	No formal educational credential	None	Short-term on-the-job training	\$12.99
41-3011	Advertising Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.04
41-3021	Insurance Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.43
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	None	Moderate-term on-the-job training	\$29.51
41-3041	Travel Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.03
41-3091	Sales Representatives, Services, Ex. Advertising, Insurance, Financial, and Travel	High school diploma or equivalent	None	Moderate-term on-the-job training	\$25.14
41-4011	Sales Rep., Wholesale & Mfg, Tech./Sci. Prod.	Bachelor's degree	None	Moderate-term on-the-job training	\$49.71
41-4012	Sales Rep., Wholesale/Mfg, ex. Tech./Sci. Prod.	High school diploma or equivalent	None	Moderate-term on-the-job training	\$29.71
41-9011	Demonstrators and Product Promoters	No formal educational credential	None	Short-term on-the-job training	\$14.58
41-9021	Real Estate Brokers	High school diploma or equivalent	Less than 5 years	None	\$23.25
41-9022	Real Estate Sales Agents	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.76
41-9031	Sales Engineers	Bachelor's degree	None	Moderate-term on-the-job training	\$47.91
41-9041	Telemarketers	No formal educational credential	None	Short-term on-the-job training	\$13.53
41-9099	Sales and Related Workers, All Other	High school diploma or equivalent	None	None	\$13.73
<b>43-0000</b>	<b>Office and Administrative Support Occupations</b>				<b>\$18.13</b>
43-1011	First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	Less than 5 years	None	\$28.91
43-2011	Switchboard Operators, Including Answering Service	High school diploma or equivalent	None	Short-term on-the-job training	\$15.02
43-2021	Telephone Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$14.24
43-2099	Communications Equipment Operators, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$22.66
43-3011	Bill and Account Collectors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.87
43-3021	Billing and Posting Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.12
43-3031	Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	None	Moderate-term on-the-job training	\$18.76
43-3041	Gaming Cage Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$13.86
43-3051	Payroll and Timekeeping Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.45
43-3061	Procurement Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.45
43-3071	Tellers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.53
43-3099	Financial Clerks, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$22.78
43-4011	Brokerage Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.97
43-4021	Correspondence Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$18.13
43-4031	Court, Municipal, and License Clerks	High school diploma or equivalent	None	Long-term on-the-job training	\$18.29
43-4041	Credit Authorizers, Checkers, and Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.55
43-4051	Customer Service Representatives	High school diploma or equivalent	None	Short-term on-the-job training	\$17.89
43-4061	Eligibility Interviewers, Government Programs	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.40
43-4071	File Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
43-4081	Hotel, Motel, and Resort Desk Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$11.30
43-4111	Interviewers, except Eligibility and Loan	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
43-4121	Library Assistants, Clerical	High school diploma or equivalent	None	Short-term on-the-job training	\$11.52

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
43-4131	Loan Interviewers and Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$20.05
43-4141	New Accounts Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.04
43-4151	Order Clerks	Some college, no degree	None	Short-term on-the-job training	\$18.01
43-4161	Human Resources Assistants, except Payroll and Timekeeping	Associate's degree	None	None	\$18.57
43-4171	Receptionists and Information Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$14.08
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$18.29
43-4199	Information and Record Clerks, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$21.61
43-5011	Cargo and Freight Agents	High school diploma or equivalent	None	Short-term on-the-job training	\$18.01
43-5021	Couriers and Messengers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.33
43-5031	Police, Fire, and Ambulance Dispatchers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.80
43-5032	Dispatchers, except Police, Fire, and Ambulance	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.78
43-5041	Meter Readers, Utilities	High school diploma or equivalent	None	Short-term on-the-job training	\$23.53
43-5051	Postal Service Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$25.14
43-5052	Postal Service Mail Carriers	High school diploma or equivalent	None	Short-term on-the-job training	\$25.21
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$22.56
43-5061	Production, Planning, and Expediting Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.10
43-5071	Shipping, Receiving, and Traffic Clerks	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	High school diploma or equivalent	None	Short-term on-the-job training	\$18.08
43-6011	Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	Less than 5 years	None	\$29.34
43-6012	Legal Secretaries	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.21
43-6013	Medical Secretaries	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.68
43-6014	Secretaries and Administrative Assistants, except Legal, Medical, and Executive	High school diploma or equivalent	None	Short-term on-the-job training	\$17.94
43-9021	Data Entry Keyers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.47
43-9022	Word Processors and Typists	High school diploma or equivalent	None	Short-term on-the-job training	\$20.91
43-9031	Desktop Publishers	Associate's degree	None	Short-term on-the-job training	\$23.71
43-9041	Insurance Claims and Policy Processing Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.81
43-9051	Mail Clerks and Mail Machine Operators, except Postal Service	High school diploma or equivalent	None	Short-term on-the-job training	\$14.22
43-9061	Office Clerks, General	High school diploma or equivalent	None	Short-term on-the-job training	\$17.85
43-9071	Office Machine Operators, except Computer	High school diploma or equivalent	None	Short-term on-the-job training	\$17.94
43-9081	Proofreaders and Copy Markers	Bachelor's degree	None	None	\$18.36
43-9111	Statistical Assistants	Bachelor's degree	None	None	\$28.89
43-9199	Office and Administrative Support Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$21.55
<b>45-0000</b>	<b>Farming, Fishing, and Forestry Occupations</b>				<b>\$15.06</b>
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	Less than 5 years	None	\$28.56
45-2011	Agricultural Inspectors	Bachelor's degree	None	Moderate-term on-the-job training	\$29.34
45-2021	Animal Breeders	High school diploma or equivalent	None	Short-term on-the-job training	\$19.28 *
45-2041	Graders and Sorters, Agricultural Products	No formal educational credential	None	Short-term on-the-job training	\$14.25
45-2091	Agricultural Equipment Operators	No formal educational credential	None	Moderate-term on-the-job training	\$21.85
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	No formal educational credential	None	Short-term on-the-job training	\$14.52
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	No formal educational credential	None	Short-term on-the-job training	\$14.07
45-4022	Logging Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.46
<b>47-0000</b>	<b>Construction and Extraction Occupations</b>				<b>\$23.53</b>
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent	5 years or more	None	\$30.40
47-2011	Boilermakers	High school diploma or equivalent	None	Apprenticeship	\$38.80
47-2021	Brickmasons and Blockmasons	High school diploma or equivalent	None	Apprenticeship	\$29.39
47-2022	Stonemasons	High school diploma or equivalent	None	Apprenticeship	\$18.52
47-2031	Carpenters	High school diploma or equivalent	None	Apprenticeship	\$23.17
47-2041	Carpet Installers	No formal educational credential	None	Short-term on-the-job training	\$18.74
47-2042	Floor Layers, except Carpet, Wood, and Hard Tiles	No formal educational credential	None	Moderate-term on-the-job training	\$23.11
47-2044	Tile and Marble Setters	No formal educational credential	None	Long-term on-the-job training	\$23.19

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
47-2051	Cement Masons and Concrete Finishers	No formal educational credential	None	Moderate-term on-the-job training	\$23.33
47-2061	Construction Laborers	No formal educational credential	None	Short-term on-the-job training	\$22.22
47-2071	Paving, Surfacing, and Tamping Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.06
47-2073	Operating Engineers and Other Construction Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.50
47-2081	Drywall and Ceiling Tile Installers	No formal educational credential	None	Moderate-term on-the-job training	\$23.11
47-2082	Tapers	No formal educational credential	None	Moderate-term on-the-job training	\$29.09
47-2111	Electricians	High school diploma or equivalent	None	Apprenticeship	\$28.55
47-2121	Glaziers	High school diploma or equivalent	None	Apprenticeship	\$23.92
47-2131	Insulation Workers, Floor, Ceiling, and Wall	No formal educational credential	None	Short-term on-the-job training	\$22.04
47-2132	Insulation Workers, Mechanical	High school diploma or equivalent	None	Apprenticeship	\$28.76
47-2141	Painters, Construction and Maintenance	No formal educational credential	None	Moderate-term on-the-job training	\$22.21
47-2142	Paperhangers	No formal educational credential	None	Long-term on-the-job training	\$22.70
47-2151	Pipelayers	No formal educational credential	None	Short-term on-the-job training	\$22.86
47-2152	Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Apprenticeship	\$29.65
47-2161	Plasterers and Stucco Masons	No formal educational credential	None	Long-term on-the-job training	\$20.55
47-2171	Reinforcing Iron and Rebar Workers	High school diploma or equivalent	None	Apprenticeship	\$30.08
47-2181	Roofers	No formal educational credential	None	Moderate-term on-the-job training	\$22.53
47-2211	Sheet Metal Workers	High school diploma or equivalent	None	Apprenticeship	\$28.24
47-2221	Structural Iron and Steel Workers	High school diploma or equivalent	None	Apprenticeship	\$29.44
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	No formal educational credential	None	Short-term on-the-job training	\$18.33
47-3012	Helpers--Carpenters	No formal educational credential	None	Short-term on-the-job training	\$14.38
47-3013	Helpers--Electricians	High school diploma or equivalent	None	Short-term on-the-job training	\$14.77
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Short-term on-the-job training	\$16.28
47-3016	Helpers--Roofers	No formal educational credential	None	Short-term on-the-job training	\$17.97
47-3019	Helpers, Construction Trades, All Other	No formal educational credential	None	Short-term on-the-job training	\$17.01
47-4011	Construction and Building Inspectors	High school diploma or equivalent	5 years or more	Moderate-term on-the-job training	\$29.41
47-4021	Elevator and Escalator Installers and Repairers	High school diploma or equivalent	None	Apprenticeship	\$47.24
47-4031	Fence Erectors	No formal educational credential	None	Moderate-term on-the-job training	\$19.33
47-4041	Hazardous Materials Removal Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.09
47-4051	Highway Maintenance Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.47
47-4061	Rail-Track laying Maintenance Equipment Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.16
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.62
47-4090	Miscellaneous Construction and Related Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.75
47-5012	Rotary Drill Operators, Oil and Gas	No formal educational credential	None	Moderate-term on-the-job training	\$23.35
47-5013	Service Unit Operators, Oil, Gas, and Mining	No formal educational credential	None	Moderate-term on-the-job training	\$22.47
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$22.80
47-5041	Continuous Mining Machine Operators	No formal educational credential	None	Moderate-term on-the-job training	\$29.09
47-5071	Roustabouts, Oil and Gas	No formal educational credential	None	Moderate-term on-the-job training	\$17.96
47-5081	Helpers--Extraction Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.15 *
47-5097	Earth Drillers, except Oil and Gas	High school diploma or equivalent	Less than 5 years	Long-term on-the-job training	\$23.11
<b>49-0000</b>	<b>Installation, Maintenance, and Repair Occupations</b>				<b>\$22.98</b>
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	Less than 5 years	None	\$31.22
49-2011	Computer, Automated Teller, and Office Machine Repairers	Some college, no degree	None	Short-term on-the-job training	\$18.37
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	Associate's degree	None	Moderate-term on-the-job training	\$28.88
49-2022	Telecommunications Equipment Installers and Repairers, except Line Installers	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$29.20
49-2091	Avionics Technicians	Associate's degree	None	None	\$28.56
49-2092	Electric Motor, Power Tool, and Related Repairers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$23.38
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	Postsecondary non-degree award	None	Long-term on-the-job training	\$30.03
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Postsecondary non-degree award	None	Long-term on-the-job training	\$29.07
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Postsecondary non-degree award	Less than 5 years	Moderate-term on-the-job training	\$38.58



## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.20
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	Postsecondary non-degree award	None	Short-term on-the-job training	\$21.68
49-2098	Security and Fire Alarm Systems Installers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.96
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary non-degree award	None	None	\$30.27
49-3021	Automotive Body and Related Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.42
49-3022	Automotive Glass Installers and Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.45
49-3023	Automotive Service Technicians and Mechanics	Postsecondary non-degree award	None	Short-term on-the-job training	\$19.42
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	None	Long-term on-the-job training	\$23.00
49-3041	Farm Equipment Mechanics and Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$21.72
49-3042	Mobile Heavy Equipment Mechanics, except Engines	High school diploma or equivalent	None	Long-term on-the-job training	\$24.97
49-3043	Rail Car Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.86
49-3052	Motorcycle Mechanics	Postsecondary non-degree award	None	Short-term on-the-job training	\$17.95
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.32
49-3092	Recreational Vehicle Service Technicians	High school diploma or equivalent	None	Long-term on-the-job training	\$17.81
49-3093	Tire Repairers and Changers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.51
49-9011	Mechanical Door Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.36
49-9012	Control and Valve Installers and Repairers, except Mechanical Door	High school diploma or equivalent	None	Moderate-term on-the-job training	\$34.71
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary non-degree award	None	Long-term on-the-job training	\$23.47
49-9031	Home Appliance Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.98
49-9041	Industrial Machinery Mechanics	High school diploma or equivalent	None	Long-term on-the-job training	\$28.74
49-9043	Maintenance Workers, Machinery	High school diploma or equivalent	None	Long-term on-the-job training	\$26.28
49-9044	Millwrights	High school diploma or equivalent	None	Apprenticeship	\$30.12
49-9051	Electrical Power-Line Installers and Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$38.13
49-9052	Telecommunications Line Installers and Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.85
49-9061	Camera and Photographic Equipment Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$15.42
49-9062	Medical Equipment Repairers	Associate's degree	None	Moderate-term on-the-job training	\$28.82
49-9063	Musical Instrument Repairers and Tuners	High school diploma or equivalent	None	Apprenticeship	\$14.31
49-9069	Precision Instrument and Equipment Repairers, All Other	High school diploma or equivalent	None	Long-term on-the-job training	\$28.92
49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.36
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.73
49-9094	Locksmiths and Safe Repairers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.66
49-9096	Riggers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$27.62
49-9098	Helpers--Installation, Maintenance, and Repair Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.47
49-9099	Installation, Maintenance, and Repair Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.40
<b>51-0000</b>	<b>Production Occupations</b>				<b>\$18.13</b>
51-1011	First-Line Supervisors of Production and Operating Workers	High school diploma or equivalent	Less than 5 years	None	\$29.48
51-2021	Coil Winders, Tapers, and Finishers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.35
51-2028	Electrical, electronic, electromechanical assemblers, ex winders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.51
51-2031	Engine and Other Machine Assemblers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.69
51-2041	Structural Metal Fabricators and Fitters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.18
51-2051	Fiberglass Laminators and Fabricators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.79
51-2090	Miscellaneous Assemblers and Fabricators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.78
51-3011	Bakers	No formal educational credential	None	Long-term on-the-job training	\$13.95
51-3021	Butchers and Meat Cutters	No formal educational credential	None	Long-term on-the-job training	\$14.31
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	No formal educational credential	None	Short-term on-the-job training	\$14.21
51-3023	Slaughterers and Meat Packers	No formal educational credential	None	Short-term on-the-job training	\$14.14
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	No formal educational credential	None	Moderate-term on-the-job training	\$14.43
51-3092	Food Batchmakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.21
51-3093	Food Cooking Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.58
51-3099	Food Processing Workers, All Other	No formal educational credential	None	Moderate-term on-the-job training	\$14.13

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
51-4021	Extruding and Drawing Machine S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.05
51-4022	Forging Machine S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.61
51-4023	Rolling Machine S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.00
51-4031	Cutting, Punching, and Press Machine S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
51-4032	Drilling and Boring Machine Tool S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.05
51-4033	Grind/Lapping/Polish/Buf Mach. Tool S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.49
51-4034	Lathe and Turning Machine Tool S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.42
51-4035	Milling and Planing Machine Setters, operators, and Tenders, metal and plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.03
51-4041	Machinists	High school diploma or equivalent	None	Long-term on-the-job training	\$20.87
51-4051	Metal-Refining Furnace Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.00
51-4052	Pourers and Casters, Metal	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.21
51-4062	Patternmakers, Metal and Plastic	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.91
51-4071	Foundry Mold and Coremakers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.35
51-4072	Molding, Coremaking, and Casting Machine S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.40
51-4081	Multiple Machine Tool S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.31
51-4111	Tool and Die Makers	Postsecondary non-degree award	None	Long-term on-the-job training	\$23.86
51-4121	Welders, Cutters, Solderers, and Brazers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$21.64
51-4122	Welding, Soldering, and Brazing Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.18
51-4191	Heat Treating Equipment S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.15
51-4193	Plating and Coating Machine S/O/T, M/P	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.62
51-4194	Tool Grinders, Filers, and Sharpeners	High school diploma or equivalent	None	Moderate-term on-the-job training	\$24.19
51-4199	Metal Workers and Plastic Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
51-5111	Prepress Technicians and Workers	Postsecondary non-degree award	None	None	\$21.19
51-5112	Printing Press Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.13
51-5113	Print Binding and Finishing Workers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.11
51-6011	Laundry and Dry-Cleaning Workers	No formal educational credential	None	Short-term on-the-job training	\$11.46
51-6021	Pressers, Textile, Garment, and Related Materials	No formal educational credential	None	Short-term on-the-job training	\$11.47
51-6031	Sewing Machine Operators	No formal educational credential	None	Short-term on-the-job training	\$14.27
51-6041	Shoe and Leather Workers and Repairers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.91
51-6051	Sewers, Hand	No formal educational credential	None	Moderate-term on-the-job training	\$14.21
51-6052	Tailors, Dressmakers, and Custom Sewers	No formal educational credential	None	Moderate-term on-the-job training	\$14.53
51-6062	Textile Cutting Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$14.62
51-6063	Textile knitting and Weaving Machine S/O/T	High school diploma or equivalent	None	Short-term on-the-job training	\$11.60
51-6064	Textile Winding, Twisting, and Drawing out S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
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	\$18.05
51-6092	Fabric and Apparel Pattern Makers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.20 *
51-6099	Textile, Apparel, and Furnishings Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$14.45
51-7011	Cabinetmakers and Bench Carpenters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.05
51-7021	Furniture Finishers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.74
51-7041	Sawing Machine S/O/T, Wood	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.83
51-7042	Woodworking Machine S/O/T, except Sawing	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.48
51-7099	Woodworkers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.92
51-8012	Power Distributors and Dispatchers	High school diploma or equivalent	None	Long-term on-the-job training	\$40.60
51-8013	Power Plant Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$38.87
51-8021	Stationary Engineers and Boiler Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$30.08
51-8031	Water and Wastewater Treatment Plant and System Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$23.24
51-8091	Chemical Plant and System Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$36.97
51-8092	Gas Plant Operators	High school diploma or equivalent	None	Long-term on-the-job training	\$22.83
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$46.65
51-9011	Chemical Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.01



## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.52
51-9021	Crushing, Grinding, and Polishing Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.50
51-9022	Grinding and Polishing Workers, Hand	No formal educational credential	None	Moderate-term on-the-job training	\$18.13
51-9023	Mixing and Blending Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.13
51-9032	Cutting and Slicing Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.09
51-9041	Extruding, Forming, Pressing, and Compacting Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.92
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.95
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.30
51-9071	Jewelers and Precious Stone and Metal Workers	High school diploma or equivalent	None	Long-term on-the-job training	\$22.42
51-9081	Dental Laboratory Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.42
51-9082	Medical Appliance Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.87
51-9083	Ophthalmic Laboratory Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$16.65
51-9111	Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.65
51-9123	Painting, Coating, and Decorating Workers	No formal educational credential	None	Moderate-term on-the-job training	\$18.09
51-9124	Coating, Painting, and Spraying Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.18
51-9151	Photographic Process Workers and Processing Machine Operators	High school diploma or equivalent	None	Short-term on-the-job training	\$18.24
51-9161	Computer Numerically Controlled Tool Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$19.19
51-9162	Computer Numerically Controlled Tool Programmers	Postsecondary non-degree award	None	Moderate-term on-the-job training	\$27.68
51-9191	Adhesive Bonding Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.15
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.48
51-9193	Cooling and Freezing Equipment Operators and Tenders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$22.81
51-9194	Etchers and Engravers	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.95
51-9195	Molders, Shapers, and Casters, except M/P	High school diploma or equivalent	None	Long-term on-the-job training	\$18.06
51-9196	Paper Goods Machine S/O/T	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.35
51-9197	Tire Builders	High school diploma or equivalent	None	Moderate-term on-the-job training	\$18.23
51-9198	Helpers--Production Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$17.23
51-9199	Production Workers, All Other	High school diploma or equivalent	None	Moderate-term on-the-job training	\$17.74
<b>53-0000</b>	<b>Transportation and Material Moving Occupations</b>				<b>\$17.70</b>
53-1041	Aircraft Cargo Handling Supervisors	High school diploma or equivalent	Less than 5 years	None	\$37.26
53-1047	FL Sup of Trans/Mat.-Mov. Workers, Ex. Aircraft Cargo Handling	High school diploma or equivalent	Less than 5 years	None	\$23.73
53-2011	Airline Pilots, Copilots, and Flight Engineers	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	\$201,720 ***
53-2012	Commercial Pilots	High school diploma or equivalent	None	Moderate-term on-the-job training	\$119,560 ***
53-2021	Air Traffic Controllers	Associate's degree	None	Long-term on-the-job training	\$67.83
53-2022	Airfield Operations Specialists	High school diploma or equivalent	None	Long-term on-the-job training	\$28.02
53-2031	Flight Attendants	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$60,360 ***
53-3011	Ambulance Drivers and Attendants, except Emergency Medical Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$13.43
53-3031	Driver/Sales Workers	High school diploma or equivalent	None	Short-term on-the-job training	\$11.62
53-3032	Heavy and Tractor-Trailer Truck Drivers	Postsecondary non-degree award	None	Short-term on-the-job training	\$23.17
53-3033	Light Truck or Delivery Services Drivers	High school diploma or equivalent	None	Short-term on-the-job training	\$18.00
53-3052	Bus Drivers, Transit and Intercity	High school diploma or equivalent	None	Moderate-term on-the-job training	\$23.37
53-3058	Passenger Vehicle Drivers, except Bus Drivers, Transit and Intercity	No formal educational credential	None	Short-term on-the-job training	▲
53-3099	Motor Vehicle Operators, All Other	No formal educational credential	None	Short-term on-the-job training	\$13.66
53-4011	Locomotive Engineers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$39.27
53-4031	Railroad Conductors and Yardmasters	High school diploma or equivalent	None	Moderate-term on-the-job training	\$30.22
53-5011	Sailors and Marine Oilers	No formal educational credential	None	Moderate-term on-the-job training	\$18.45
53-5021	Captains, Mates, and Pilots of Water Vessels	Postsecondary non-degree award	Less than 5 years	None	\$36.35
53-6011	Bridge and Lock Tenders	High school diploma or equivalent	None	Short-term on-the-job training	\$23.14
53-6021	Parking Lot Attendants	No formal educational credential	None	Short-term on-the-job training	\$11.54
53-6031	Automotive and Watercraft Service Attendants	No formal educational credential	None	Short-term on-the-job training	\$13.70
53-6041	Traffic Technicians	High school diploma or equivalent	None	Moderate-term on-the-job training	\$28.78

## Ohio Typical Occupational\* Educational and Training Requirements

SOC Code <sup>1</sup>	Occupational Title**	Typical Education**** Required for Entry	Commonly Required Work Experience in Related Occupations	Typical On-The-Job Training to Obtain Competency	Median Wage*** May 2021
53-6051	Transportation Inspectors	High school diploma or equivalent	None	Moderate-term on-the-job training	\$30.53
53-6061	Transportation Attendants, except Flight Attendants	High school diploma or equivalent	None	Short-term on-the-job training	\$11.76
53-6098	Aircraft Service Attendants and Transportation Workers, All Other	High school diploma or equivalent	None	Short-term on-the-job training	\$21.88
53-7011	Conveyor Operators and Tenders	No formal educational credential	None	Short-term on-the-job training	\$22.28
53-7021	Crane and Tower Operators	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$23.74
53-7051	Industrial Truck and Tractor Operators	No formal educational credential	None	Short-term on-the-job training	\$18.51
53-7061	Cleaners of Vehicles and Equipment	No formal educational credential	None	Short-term on-the-job training	\$14.06
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	No formal educational credential	None	Short-term on-the-job training	\$16.37
53-7063	Machine Feeders and Offbearers	No formal educational credential	None	Short-term on-the-job training	\$20.86
53-7064	Packers and Packagers, Hand	No formal educational credential	None	Short-term on-the-job training	\$14.40
53-7065	Stockers and Order Fillers	High school diploma or equivalent	None	Short-term on-the-job training	\$14.39
53-7071	Gas Compressor and Gas Pumping Station Operators	High school diploma or equivalent	None	Moderate-term on-the-job training	\$38.95
53-7073	Wellhead Pumpers	High school diploma or equivalent	Less than 5 years	Moderate-term on-the-job training	\$17.55
53-7081	Refuse and Recyclable Material Collectors	No formal educational credential	None	Short-term on-the-job training	\$18.62
53-7121	Tank Car, Truck, and Ship Loaders	No formal educational credential	None	Short-term on-the-job training	\$21.75
53-7199	Material Moving Workers, All Other	No formal educational credential	None	Short-term on-the-job training	\$17.33

<sup>1</sup> Occupational codes based on SOC 2010 coding structure. Detailed information - <http://www.bls.gov/soc/>

\* Occupations with 100 or more workers.

\*\* Title Abbreviations

FL Sup = First-Line Supervisors

M/P = Metal and Plastic

S/O/T = Setters, Operators, and Tenders

# Wages above max.

Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, June 2022.

\*\*\* Wage estimates are based on Ohio's OEWS surveys.

\*\*\*\* Education, experience and training levels associated with occupations were based on national data provided by the BLS.

▲ Wage data unavailable.

+ National hourly median wages.

++ National aggregate hourly median wages.

+++ Certain occupations report wages at the annual level - for elementary and secondary teachers

this typically reflects the 9 1/2 month school year.

## **Bureau of Labor Market Information Business Principles for Workforce Development**

- Partner with the workforce and economic development community.
- Develop and deploy new information solution tools and systems for the workforce and economic development community.
- Provide products and services that are customer- and demand-driven.
- Be known as an important and reliable source for information solutions that support workforce development goals and outcomes.

Acknowledgments: The Workforce Research Section produced this report under the direction of Bureau Chief Byron Archer. For further information, visit [OhioLMI.com](http://OhioLMI.com) or call the Ohio Bureau of Labor Market Information at **(614) 752-9494**.

**Mike DeWine, Governor**  
**Jon Husted, Lt. Governor**  
State of Ohio  
[Ohio.gov](http://Ohio.gov)

**Matt Damschroder, 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/)

Bureau of Labor Market Information  
[OhioLMI.com](http://OhioLMI.com)

**An equal opportunity employer and service provider.**  
**A proud partner of the American Job Center network.**