

**Long-Term Occupational Employment Projections (STEM occupations)
2014 to 2024**

West Michigan Prosperity Alliance

Michigan Department of Technology, Management and Budget, Bureau of Labor Market Information and Strategic Initiatives

SOC Code	Occupation or Group Title	Employment		Employment Change			Average Annual Openings			Wage Range***	Real Time Demand**	Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-The-Job Training Needed to Attain Competency in the Occupation	
		2014	2024	10-year Numeric	10-year Percent	Annual Growth Rate	Growth	Replace ment	Total						
11-3021	Computer and Information Systems Managers	920	1,045	125	13.6%	1.3%	12	11	23	\$40.84 - \$62.12	33	Bachelor's degree	5 years or more	None	
11-9041	Architectural and Engineering Managers	1,320	1,445	125	9.5%	0.9%	12	40	52	\$48.09 - \$66.85	28	Bachelor's degree	5 years or more	None	
11-9121	Natural Sciences Managers	70	70	0	0.0%	0.0%	0	1	1	\$35.29 - \$46.26	16	Bachelor's degree	5 years or more	None	
15-1121	Computer Systems Analysts	1,335	1,640	305	22.8%	2.1%	30	17	47	\$29.03 - \$44.75	172	Bachelor's degree	None	None	
15-1122	Information Security Analysts	90	110	20	22.2%	2.0%	2	1	3	\$28.96 - \$50.23	34	Bachelor's degree	Less than 5 years	None	
15-1131	Computer Programmers	760	745	-15	-2.0%	-0.2%	0	19	19	\$26.66 - \$43.20	63	Bachelor's degree	None	None	
15-1132	Software Developers, Applications	1,680	2,090	410	24.4%	2.2%	41	24	65	\$26.48 - \$44.40	168	Bachelor's degree	None	None	
15-1133	Software Developers, Systems Software	1,185	1,315	130	11.0%	1.0%	13	17	30	\$29.73 - \$50.43	39	Bachelor's degree	None	None	
15-1134	Web Developers	405	515	110	27.2%	2.4%	11	5	16	\$20.22 - \$31.64	97	Associate's degree	None	None	
15-1141	Database Administrators	320	355	35	10.9%	1.0%	3	7	10	\$27.10 - \$43.15	14	Bachelor's degree	Less than 5 years	None	
15-1142	Network and Computer Systems Administrators	1,345	1,490	145	10.8%	1.0%	14	17	31	\$26.56 - \$37.99	77	Bachelor's degree	None	None	
15-1143	Computer Network Architects	275	325	50	18.2%	1.7%	5	4	9	\$18.71 - \$49.36	4	Bachelor's degree	5 years or more	None	
15-1151	Computer User Support Specialists	2,760	3,200	440	15.9%	1.5%	44	36	80	\$16.58 - \$27.86	210	Some college, no degree	None	None	
15-1152	Computer Network Support Specialists	5,540	6,170	630	11.40%	1.1%	63	71	134	\$18.05 - \$32.43	3	Associate's degree	None	None	
15-1199	Computer Occupations, All Other	725	800	75	10.3%	1.0%	7	9	16	\$19.41 - \$37.92	96	Bachelor's degree	None	None	
15-2011	Actuaries	410	510	100	24.40%	2.4%	10	12	22	\$29.87 - \$52.83	1	Bachelor's degree	None	Long-term on-the-job training	
15-2031	Operations Research Analysts	85	115	30	35.3%	3.1%	3	2	5	\$27.97 - \$44.51	24	Bachelor's degree	None	None	
15-2041	Statisticians	560	790	230	41.10%	4.1%	23	10	33	\$22.77 - \$37.05	2	Master's degree	None	None	
17-1011	Architects, Except Landscape and Naval	350	390	40	11.4%	1.1%	4	6	10	\$27.79 - \$46.34	9	Bachelor's degree	None	Internship/residency	
17-1012	Landscape Architects	75	85	10	13.3%	1.3%	1	1	2	\$16.55 - \$29.41	0	Bachelor's degree	None	Internship/residency	
17-1022	Surveyors	130	130	-	0.0%	0.0%	0	4	4	\$18.63 - \$27.18	1	Bachelor's degree	Less than 5 years	None	
17-2011	Aerospace Engineers	*	*	*	*	*	*	*	*	*	*	*	*	None	None
17-2041	Chemical Engineers	660	700	40	6.10%	0.6%	4	18	22	\$33.75 - \$49.91	4	Bachelor's degree	None	None	
17-2051	Civil Engineers	880	1,010	130	14.8%	1.4%	13	26	39	\$29.15 - \$40.38	27	Bachelor's degree	None	None	
17-2061	Computer Hardware Engineers	1,060	1,170	110	10.40%	1.0%	11	22	33	\$25.41 - \$55.07	9	Bachelor's degree	None	None	
17-2071	Electrical Engineers	1,090	1,210	120	11.0%	1.0%	12	24	36	\$28.87 - \$43.49	95	Bachelor's degree	None	None	
17-2072	Electronics Engineers, Except Computer	370	405	35	9.5%	0.9%	4	8	12	\$31.26 - \$47.68	36	Bachelor's degree	None	None	
17-2081	Environmental Engineers	190	230	40	21.1%	1.9%	4	5	9	\$34.97 - \$54.10	14	Bachelor's degree	None	None	
17-2112	Industrial Engineers	4,190	4,720	530	12.6%	1.2%	53	123	176	\$28.82 - \$43.06	310	Bachelor's degree	None	None	
17-2131	Materials Engineers	430	445	15	3.5%	0.3%	1	15	16	\$28.50 - \$43.77	1	Bachelor's degree	None	None	
17-2141	Mechanical Engineers	2,610	2,950	340	13.0%	1.2%	34	83	117	\$27.10 - \$42.22	186	Bachelor's degree	None	None	
17-2199	Engineers, All Other	775	865	90	11.6%	1.1%	9	16	25	\$26.80 - \$39.44	14	Bachelor's degree	None	None	
17-3011	Architectural and Civil Drafters	325	340	15	4.6%	0.5%	1	4	5	\$19.83 - \$30.55	6	Associate's degree	None	None	
17-3012	Electrical and Electronics Drafters	70	80	10	14.3%	1.3%	1	1	2	\$21.01 - \$32.89	0	Associate's degree	None	None	
17-3013	Mechanical Drafters	845	870	25	3.0%	0.3%	3	10	13	\$21.54 - \$31.38	16	Associate's degree	None	None	
17-3019	Drafters, All Other	60	65	5	8.3%	0.8%	0	1	1	\$13.58 - \$19.06	0	Associate's degree	None	None	
17-3022	Civil Engineering Technicians	170	180	10	5.9%	0.6%	1	4	5	\$21.49 - \$28.48	6	Associate's degree	None	None	
17-3023	Electrical and Electronics Engineering Technicians	940	1,010	70	7.4%	0.7%	7	23	30	\$21.28 - \$29.47	32	Associate's degree	None	None	
17-3025	Environmental Engineering Technicians	60	70	10	16.7%	1.6%	1	2	3	\$17.96 - \$28.31	0	Associate's degree	None	None	
17-3026	Industrial Engineering Technicians	1,575	1,705	130	8.3%	0.8%	13	39	52	\$18.35 - \$25.00	61	Associate's degree	None	None	
17-3027	Mechanical Engineering Technicians	415	460	45	10.8%	1.0%	4	10	14	\$18.07 - \$26.46	5	Associate's degree	None	None	
17-3029	Engineering Technicians, Except Drafters, All Other	260	295	35	13.5%	1.3%	4	6	10	\$16.55 - \$23.92	5	Associate's degree	None	None	
17-3031	Surveying and Mapping Technicians	85	80	-5	-5.9%	-0.6%	0	1	1	\$11.69 - \$20.82	1	High school diploma or equivalent	None	Moderate-term on-the-job training	
19-1012	Food Scientists and Technologists	90	100	10	11.1%	1.1%	1	3	4	\$23.02 - \$49.74	3	Bachelor's degree	None	None	
19-2031	Chemists	325	345	20	6.2%	0.6%	2	7	9	\$25.58 - \$38.32	11	Bachelor's degree	None	None	
19-2041	Environmental Scientists and Specialists, Including Health	190	220	30	15.8%	1.5%	3	6	9	\$24.07 - \$35.38	2	Bachelor's degree	None	None	
19-2099	Physical Scientists, All Other	90	100	10	11.1%	1.1%	1	1	2	\$29.52 - \$57.48	0	Bachelor's degree	None	None	
19-3031	Clinical, Counseling, and School Psychologists	600	700	100	16.7%	1.6%	10	13	23	\$26.12 - \$41.18	7	Doctoral or professional deg	None	Internship/residency	
19-3051	Urban and Regional Planners	145	150	5	3.4%	0.3%	0	3	3	\$24.58 - \$36.46	0	Master's degree	None	None	
19-4011	Agricultural and Food Science Technicians	200	230	30	15.0%	1.4%	3	6	9	\$13.12 - \$17.87	0	Associate's degree	None	Moderate-term on-the-job training	
19-4021	Biological Technicians	85	85	0	0.0%	0.0%	0	2	2	\$15.78 - \$18.52	7	Bachelor's degree	None	None	
19-4031	Chemical Technicians	335	360	25	7.5%	0.7%	2	10	12	\$15.73 - \$21.08	11	Associate's degree	None	Moderate-term on-the-job training	
19-4091	Environmental Science and Protection Technicians, Including Health	110	120	10	9.1%	0.9%	1	4	5	\$18.59 - \$27.40	26	Associate's degree	None	None	
19-4099	Life, Physical, and Social Science Technicians, All Other	265	290	25	9.4%	0.9%	2	11	13	\$17.69 - \$27.83	0	Associate's degree	None	None	
25-1021	Computer Science Teachers, Postsecondary	105	115	10	9.5%	0.9%	1	2	3	\$29.04 - \$47.96	0	Doctoral or professional deg	None	None	
25-1022	Mathematical Science Teachers, Postsecondary	240	280	40	16.7%	1.6%	4	4	8	\$25.51 - \$48.81	0	Doctoral or professional deg	None	None	
25-1032	Engineering Teachers, Postsecondary	85	95	10	11.8%	1.1%	1	2	3	\$37.76 - \$49.97	1	Doctoral or professional deg	None	None	
25-1042	Biological Science Teachers, Postsecondary	230	270	40	17.4%	1.6%	4	4	8	\$27.89 - \$50.44	1	Doctoral or professional deg	None	None	
25-1052	Chemistry Teachers, Postsecondary	85	100	15	17.6%	1.6%	1	2	3	\$28.42 - \$50.90	1	Doctoral or professional deg	None	None	
25-1054	Physics Teachers, Postsecondary	65	75	10	15.4%	1.4%	1	1	2	\$34.07 - \$56.77	1	Doctoral or professional deg	None	None	
25-1066	Psychology Teachers, Postsecondary	100	115	15	15.0%	1.4%	2	2	4	\$26.72 - \$51.49	0	Doctoral or professional deg	None	None	
25-1067	Sociology Teachers, Postsecondary	95	110	15	15.8%	1.5%	2	2	4	\$23.84 - \$47.97	0	Doctoral or professional deg	None	None	
25-1069	Social Sciences Teachers, Postsecondary, All Other	75	90	15	20.0%	1.8%	1	1	2	\$32.72 - \$45.56	0	Doctoral or professional deg	None	None	
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,075	1,175	100	9.3%	0.9%	10	22	32	\$26.14 - \$46.37	80	Bachelor's degree	None	Moderate-term on-the-job training	
41-9031	Sales Engineers	400	435	35	8.8%	0.8%	3	10	13	\$33.62 - \$52.13	22	Bachelor's degree	None	Moderate-term on-the-job training	

Source: Michigan Department of Technology, Management and Budget, Bureau of Labor Market Information and Strategic Initiatives

Notes: * Indicates non-disclosure of data due to data quality or confidentiality.
 Employment is rounded to the nearest five. Employment change values and percents are based on rounded data.
 Growth openings of zero indicate declining occupations or those in which the base level is expecting no change.
 Replacement openings reflect permanent separations (such as death, retirement, disability, other), but do not reflect total job turnover.

**Real time demand: job advertisements for period 7/14/2018 - 8/13/2018, for counties: Kent, Ottawa, Muskegon, Allegan, Montcalm, Newaygo

***Wage range: 2017 OES data for Grand Rapids-Wyoming Metropolitan Statistical Area (Kent, Montcalm, Ottawa, Barry counties)

Figures based on Michigan data