

All Occupational Projections Data

Occupational Projections for Baltimore City and Baltimore County combined

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
11-0000 Management						
11-2011	Advertising and Promotions Managers	Bachelor's or higher degree, plus work experience	275	300	85	30.9%
11-2021	Marketing Managers	Bachelor's or higher degree, plus work experience	765	845	260	34.0%
11-2022	Sales Managers	Bachelor's or higher degree, plus work experience	1740	1630	465	26.7%
11-2031	Public Relations Managers	Bachelor's or higher degree, plus work experience	265	275	80	30.2%
11-3011	Administrative Services Managers	Bachelor's or higher degree, plus work experience	3340	3400	960	28.7%
11-3021	Computer and Information Systems Managers	Bachelor's or higher degree, plus work experience	1305	1440	345	26.4%
11-3031	Financial Managers	Bachelor's or higher degree, plus work experience	3575	3250	620	17.3%
11-3041	Compensation and Benefits Managers	Bachelor's or higher degree, plus work experience	200	210	45	22.5%
11-3042	Training and Development Managers	Bachelor's or higher degree, plus work experience	210	245	75	35.7%
11-3049	Human Resources Managers, All Other	Bachelor's or higher degree, plus work experience	420	465	130	31.0%
11-3051	Industrial Production Managers	Work experience in a related occupation	645	700	315	48.8%
11-3061	Purchasing Managers	Bachelor's or higher degree, plus work experience	370	370	110	29.7%
11-3071	Transportation, Storage, and Distribution Managers	Work experience in a related occupation	405	425	140	34.6%
11-9021	Construction Managers	Bachelor's degree	3535	4385	1400	39.6%
11-9031	Education Administrators, Preschool and Child Care Center/Program	Bachelor's or higher degree, plus work experience	150	165	55	36.7%
11-9032	Education Administrators, Elementary and Secondary School	Bachelor's or higher degree, plus work experience	1600	1700	540	33.8%
11-9033	Education Administrators, Postsecondary	Bachelor's or higher degree, plus work experience	1150	1320	490	42.6%
11-9039	Education Administrators, All Other	Bachelor's or higher degree, plus work experience	150	170	65	43.3%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
11-9041	Engineering Managers	Bachelor's or higher degree, plus work experience	750	875	275	36.7%
11-9051	Food Service Managers	Work experience in a related occupation	1500	1590	460	30.7%
11-9061	Funeral Directors	Associate degree	100	115	40	40.0%
11-9081	Lodging Managers	Work experience in a related occupation	240	240	105	43.8%
11-9111	Medical and Health Services Managers	Bachelor's or higher degree, plus work experience	2825	3220	920	32.6%
11-9121	Natural Sciences Managers	Bachelor's or higher degree, plus work experience	160	165	40	25.0%
11-9131	Postmasters and Mail Superintendents	Work experience in a related occupation	30	30	5	16.7%
11-9141	Property, Real Estate, and Community Association Managers	Bachelor's degree	1685	1485	270	16.0%
11-9151	Social and Community Service Managers	Bachelor's degree	690	770	215	31.2%
11-9199	Managers, All Other	Work experience in a related occupation	4265	4480	1125	26.4%
11-1011	Chief Executives	Bachelor's or higher degree, plus work experience	1115	1095	310	27.8%
11-1021	General and Operations Managers	Bachelor's or higher degree, plus work experience	14065	13515	3625	25.8%
13-0000 Business and Financial Operations						
13-1021	Purchasing Agents and Buyers, Farm Products	Long-term on-the-job training	45	50	15	33.3%
13-1022	Wholesale and Retail Buyers, Except Farm Products	Long-term on-the-job training	835	700	185	22.2%
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	Long-term on-the-job training	1235	1180	260	21.1%
13-1031	Claims Adjusters, Examiners, and Investigators	Long-term on-the-job training	4680	4400	1190	25.4%
13-1032	Insurance Appraisers, Auto Damage	Postsecondary vocational award	120	125	35	29.2%
13-1041	Compliance Officers, Except Agriculture, Construction, Health and	Long-term on-the-job training	2050	2065	315	15.4%
13-1051	Cost Estimators	Bachelor's degree	965	1175	405	42.0%
13-1061	Emergency Management Specialists	Work experience in a related occupation	125	120	15	12.0%
13-1071	Employment, Recruitment, and Placement Specialists	Bachelor's degree	1130	1190	350	31.0%
13-1072	Compensation, Benefits, and Job Analysis Specialists	Bachelor's degree	785	905	295	37.6%
13-1073	Training and Development Specialists	Bachelor's or higher degree, plus work experience	1695	1915	580	34.2%
13-1079	Human Resources, Training, and Labor Relations Specialists, All	Bachelor's degree	1300	1385	405	31.2%
13-1081	Logisticians	Bachelor's degree	275	295	65	23.6%
13-1111	Management Analysts	Bachelor's or higher degree, plus work experience	6650	6835	1325	19.9%
13-1121	Meeting and Convention Planners	Bachelor's degree	215	225	80	37.2%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
13-1199	Business Operations Specialists, All Other	Bachelor's degree	4245	4860	1075	25.3%
13-2011	Accountants and Auditors	Bachelor's degree	7565	8525	2295	30.3%
13-2021	Appraisers and Assessors of Real Estate	Bachelor's degree	695	660	145	20.9%
13-2031	Budget Analysts	Bachelor's degree	450	470	130	28.9%
13-2041	Credit Analysts	Bachelor's degree	380	290	145	38.2%
13-2051	Financial Analysts	Bachelor's degree	1770	1865	250	14.1%
13-2052	Personal Financial Advisors	Bachelor's degree	1375	1235	220	16.0%
13-2053	Insurance Underwriters	Bachelor's degree	815	785	250	30.7%
13-2061	Financial Examiners	Bachelor's degree	210	180	40	19.0%
13-2071	Loan Counselors	Bachelor's degree	235	195	25	10.6%
13-2072	Loan Officers	Bachelor's degree	2095	1540	225	10.7%
13-2082	Tax Preparers	Moderate-term on-the-job training	170	150	30	17.6%
13-2099	Financial Specialists, All Other	Bachelor's degree	2635	2640	800	30.4%
15-000 Computer and Mathematical						
15-1011	Computer and Information Scientists, Research	Doctoral degree	65	70	25	38.5%
15-1021	Computer Programmers	Bachelor's degree	2150	1950	445	20.7%
15-1031	Computer Software Engineers, Applications	Bachelor's degree	1665	2295	870	52.3%
15-1032	Computer Software Engineers, Systems Software	Bachelor's degree	1310	1600	480	36.6%
15-1041	Computer Support Specialists	Associate degree	3185	3310	1205	37.8%
15-1051	Computer Systems Analysts	Bachelor's degree	2755	3455	1430	51.9%
15-1061	Database Administrators	Bachelor's degree	940	1180	340	36.2%
15-1071	Network and Computer Systems Administrators	Bachelor's degree	1920	2360	875	45.6%
15-1081	Network Systems and Data Communications Analysts	Bachelor's degree	2465	3290	1325	53.8%
15-1099	Computer Specialists, All Other	Associate degree	4855	4690	1285	26.5%
15-2011	Actuaries	Bachelor's or higher degree, plus work experience	145	140	55	37.9%
15-2021	Mathematicians	Doctoral degree	30	35	15	50.0%
15-2031	Operations Research Analysts	Master's degree	430	545	200	46.5%
15-2041	Statisticians	Master's degree	160	155	50	31.3%
17-000 Architecture and Engineering						
17-1011	Architects, Except Landscape and Naval	Bachelor's degree	1045	1220	370	35.4%
17-1012	Landscape Architects	Bachelor's degree	160	175	45	28.1%
17-1021	Cartographers and Photogrammetrists	Bachelor's degree	55	65	25	45.5%
17-1022	Surveyors	Bachelor's degree	365	450	195	53.4%
17-2011	Aerospace Engineers	Bachelor's degree	170	130	35	20.6%
17-2031	Biomedical Engineers	Bachelor's degree	25	30	10	40.0%
17-2041	Chemical Engineers	Bachelor's degree	155	165	50	32.3%
17-2051	Civil Engineers	Bachelor's degree	2425	2820	1040	42.9%
17-2061	Computer Hardware Engineers	Bachelor's degree	120	135	55	45.8%
17-2071	Electrical Engineers	Bachelor's degree	615	720	245	39.8%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
17-2072	Electronics Engineers, Except Computer	Bachelor's degree	525	610	200	38.1%
17-2081	Environmental Engineers	Bachelor's degree	225	300	140	62.2%
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and	Bachelor's degree	315	335	90	28.6%
17-2112	Industrial Engineers	Bachelor's degree	390	445	145	37.2%
17-2141	Mechanical Engineers	Bachelor's degree	705	715	175	24.8%
17-2199	Engineers, All Other	Bachelor's degree	770	875	195	25.3%
17-3011	Architectural and Civil Drafters	Postsecondary vocational award	580	605	190	32.8%
17-3012	Electrical and Electronics Drafters	Postsecondary vocational award	365	420	160	43.8%
17-3013	Mechanical Drafters	Postsecondary vocational award	250	245	80	32.0%
17-3019	Drafters, All Other	Postsecondary vocational award	35	35	10	28.6%
17-3022	Civil Engineering Technicians	Associate degree	1045	1120	285	27.3%
17-3023	Electrical and Electronic Engineering Technicians	Associate degree	565	655	205	36.3%
17-3024	Electro-Mechanical Technicians	Associate degree	35	40	10	28.6%
17-3025	Environmental Engineering Technicians	Associate degree	50	65	25	50.0%
17-3026	Industrial Engineering Technicians	Associate degree	175	175	40	22.9%
17-3027	Mechanical Engineering Technicians	Associate degree	145	160	45	31.0%
17-3029	Engineering Technicians, Except Drafters, All Other	Associate degree	265	285	75	28.3%
17-3031	Surveying and Mapping Technicians	Moderate-term on-the-job training	430	500	155	36.0%
19-000 Life, Physical, and Social Science						
19-1012	Food Scientists and Technologists	Bachelor's degree	160	185	75	46.9%
19-1021	Biochemists and Biophysicists	Doctoral degree	35	40	10	28.6%
19-1022	Microbiologists	Doctoral degree	110	115	35	31.8%
19-1029	Biological Scientists, All Other	Doctoral degree	130	95	25	19.2%
19-1031	Conservation Scientists	Bachelor's degree	25	25	10	40.0%
19-1041	Epidemiologists	Master's degree	130	150	60	46.2%
19-1042	Medical Scientists, Except Epidemiologists	Doctoral degree	585	635	230	39.3%
19-1099	Life Scientists, All Other	Bachelor's degree	280	245	85	30.4%
19-2012	Physicists	Doctoral degree	30	35	10	33.3%
19-2031	Chemists	Bachelor's degree	680	600	180	26.5%
19-2041	Environmental Scientists and Specialists, Including Health	Master's degree	545	695	290	53.2%
19-2042	Geoscientists, Except Hydrologists and Geographers	Master's degree	60	60	15	25.0%
19-2043	Hydrologists	Master's degree	45	45	10	22.2%
19-2099	Physical Scientists, All Other	Bachelor's degree	70	75	15	21.4%
19-3011	Economists	Master's degree	55	55	15	27.3%
19-3021	Market Research Analysts	Bachelor's degree	1455	1645	290	19.9%
19-3022	Survey Researchers	Bachelor's degree	215	235	40	18.6%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
19-3031	Clinical, Counseling, and School Psychologists	Doctoral degree	1055	1215	320	30.3%
19-3039	Psychologists, All Other	Master's degree	60	45	10	16.7%
19-3051	Urban and Regional Planners	Master's degree	265	275	85	32.1%
19-3093	Historians	Master's degree	40	40	15	37.5%
19-3099	Social Scientists and Related Workers, All Other	Master's degree	185	190	65	35.1%
19-4021	Biological Technicians	Bachelor's degree	950	1100	490	51.6%
19-4031	Chemical Technicians	Associate degree	435	435	150	34.5%
19-4061	Social Science Research Assistants	Associate degree	75	80	35	46.7%
19-4091	Environmental Science and Protection Technicians, Including	Associate degree	135	140	55	40.7%
19-4093	Forest and Conservation Technicians	Associate degree	10	10	5	50.0%
19-4099	Life, Physical, and Social Science Technicians, All Other	Associate degree	390	405	160	41.0%
21-000 Community and Social Services						
21-1011	Substance Abuse and Behavioral Disorder Counselors	Bachelor's degree	970	1075	300	30.9%
21-1012	Educational, Vocational, and School Counselors	Master's degree	1735	1940	550	31.7%
21-1013	Marriage and Family Therapists	Master's degree	1320	1330	270	20.5%
21-1014	Mental Health Counselors	Master's degree	750	870	270	36.0%
21-1015	Rehabilitation Counselors	Master's degree	935	1180	430	46.0%
21-1019	Counselors, All Other	Master's degree	110	115	30	27.3%
21-1021	Child, Family, and School Social Workers	Bachelor's degree	2140	2395	705	32.9%
21-1022	Medical and Public Health Social Workers	Bachelor's degree	1440	1635	495	34.4%
21-1023	Mental Health and Substance Abuse Social Workers	Master's degree	870	1015	345	39.7%
21-1029	Social Workers, All Other	Bachelor's degree	325	345	90	27.7%
21-1091	Health Educators	Bachelor's degree	390	430	85	21.8%
21-1092	Probation Officers and Correctional Treatment Specialists	Bachelor's degree	560	630	135	24.1%
21-1093	Social and Human Service Assistants	Moderate-term on-the-job training	2380	2730	625	26.3%
21-1099	Community and Social Service Specialists, All Other	Bachelor's degree	625	695	140	22.4%
21-2011	Clergy	Master's degree	150	165	35	23.3%
21-2021	Directors, Religious Activities and Education	Bachelor's degree	75	65	15	20.0%
21-2099	Religious Workers, All Other	Bachelor's degree	80	80	15	18.8%
23-000 Legal						
23-1011	Lawyers	First professional degree	6345	6860	1725	27.2%
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	Bachelor's or higher degree, plus work experience	55	45	10	18.2%
23-2011	Paralegals and Legal Assistants	Associate degree	3065	3380	715	23.3%
23-2092	Law Clerks	Bachelor's degree	350	340	60	17.1%
23-2093	Title Examiners, Abstractors, and Searchers	Moderate-term on-the-job training	595	565	100	16.8%
23-2099	Legal Support Workers, All Other	Moderate-term on-the-job training	355	350	70	19.7%
25-000 Education, Training, and Library						

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
25-1011	Business Teachers, Postsecondary		200	245	75	37.5%
25-1021	Computer Science Teachers, Postsecondary		415	510	165	39.8%
25-1022	Mathematical Science Teachers, Postsecondary		250	300	90	36.0%
25-1032	Engineering Teachers, Postsecondary		60	70	20	33.3%
25-1042	Biological Science Teachers, Postsecondary		420	500	155	36.9%
25-1052	Chemistry Teachers, Postsecondary		120	145	50	41.7%
25-1054	Physics Teachers, Postsecondary		95	120	40	42.1%
25-1061	Anthropology and Archeology Teachers, Postsecondary		20	25	5	25.0%
25-1063	Economics Teachers, Postsecondary		145	175	55	37.9%
25-1064	Geography Teachers, Postsecondary		30	35	10	33.3%
25-1065	Political Science Teachers, Postsecondary		110	135	40	36.4%
25-1066	Psychology Teachers, Postsecondary		235	285	90	38.3%
25-1067	Sociology Teachers, Postsecondary		245	300	90	36.7%
25-1069	Social Sciences Teachers, Postsecondary, All Other		25	30	10	40.0%
25-1071	Health Specialties Teachers, Postsecondary		2985	3550	1060	35.5%
25-1072	Nursing Instructors and Teachers, Postsecondary		435	535	170	39.1%
25-1081	Education Teachers, Postsecondary		375	465	150	40.0%
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary		70	85	30	42.9%
25-1113	Social Work Teachers, Postsecondary		70	85	25	35.7%
25-1121	Art, Drama, and Music Teachers, Postsecondary		245	305	105	42.9%
25-1122	Communications Teachers, Postsecondary		120	145	45	37.5%
25-1123	English Language and Literature Teachers, Postsecondary		345	425	135	39.1%
25-1124	Foreign Language and Literature Teachers, Postsecondary		180	225	70	38.9%
25-1125	History Teachers, Postsecondary		150	175	55	36.7%
25-1126	Philosophy and Religion Teachers, Postsecondary		100	120	40	40.0%
25-1191	Graduate Teaching Assistants		1455	1755	540	37.1%
25-1193	Recreation and Fitness Studies Teachers, Postsecondary		130	160	50	38.5%
25-1194	Vocational Education Teachers, Postsecondary		180	215	70	38.9%
25-1199	Postsecondary Teachers, All Other		550	670	210	38.2%
25-2011	Preschool Teachers, Except Special Education	Postsecondary vocational award	1600	1810	470	29.4%
25-2012	Kindergarten Teachers, Except Special Education	Bachelor's degree	630	720	195	31.0%
25-2021	Elementary School Teachers, Except Special Education	Bachelor's degree	8285	9275	2800	33.8%
25-2022	Middle School Teachers, Except Special and Vocational Education	Bachelor's degree	5320	5845	1685	31.7%
25-2031	Secondary School Teachers, Except Special and Vocational	Bachelor's degree	5865	6120	2005	34.2%
25-2041	Special Education Teachers, Preschool, Kindergarten, and	Bachelor's degree	1170	1360	450	38.5%
25-2042	Special Education Teachers, Middle School	Bachelor's degree	480	535	160	33.3%
25-2043	Special Education Teachers, Secondary School	Bachelor's degree	340	355	90	26.5%
25-3011	Adult Literacy, Remedial Education, and GED Teachers and	Bachelor's degree	350	400	85	24.3%
25-3021	Self-Enrichment Education Teachers	Work experience in a related occupation	1600	1850	415	25.9%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
25-3099	Teachers and Instructors, All Other	Bachelor's degree	3195	3425	565	17.7%
25-4011	Archivists	Master's degree	20	20	10	50.0%
25-4012	Curators	Master's degree	40	40	20	50.0%
25-4013	Museum Technicians and Conservators	Bachelor's degree	45	40	20	44.4%
25-4021	Librarians	Master's degree	1245	1290	400	32.1%
25-4031	Library Technicians	Postsecondary vocational award	675	725	385	57.0%
25-9031	Instructional Coordinators	Master's degree	1565	1875	520	33.2%
25-9041	Teacher Assistants	Short-term on-the-job training	6400	6915	1560	24.4%
25-9099	Education, Training, and Library Workers, All Other	Bachelor's degree	415	460	100	24.1%
27-0000 Arts, Design, Entertainment, Sports, and Media						
27-1011	Art Directors	Bachelor's or higher degree, plus work experience	270	300	90	33.3%
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Long-term on-the-job training	20	15	5	25.0%
27-1014	Multi-Media Artists and Animators	Bachelor's degree	440	595	255	58.0%
27-1021	Commercial and Industrial Designers	Bachelor's degree	180	100	45	25.0%
27-1023	Floral Designers	Moderate-term on-the-job training	245	220	65	26.5%
27-1024	Graphic Designers	Bachelor's degree	1895	1915	525	27.7%
27-1025	Interior Designers	Associate degree	595	710	275	46.2%
27-1026	Merchandise Displayers and Window Trimmers	Moderate-term on-the-job training	135	130	35	25.9%
27-1027	Set and Exhibit Designers	Bachelor's degree	30	25	10	33.3%
27-1029	Designers, All Other	Bachelor's degree	40	50	20	50.0%
27-2012	Producers and Directors	Bachelor's or higher degree, plus work experience	175	190	70	40.0%
27-2022	Coaches and Scouts	Long-term on-the-job training	1075	1220	420	39.1%
27-2042	Musicians and Singers	Long-term on-the-job training	650	600	140	21.5%
27-2099	Entertainers and Performers, Sports and Related Workers, All	Long-term on-the-job training	130	145	55	42.3%
27-3011	Radio and Television Announcers	Long-term on-the-job training	240	175	80	33.3%
27-3022	Reporters and Correspondents	Bachelor's degree	405	335	140	34.6%
27-3031	Public Relations Specialists	Bachelor's degree	865	890	110	12.7%
27-3041	Editors	Bachelor's degree	745	595	240	32.2%
27-3042	Technical Writers	Bachelor's degree	480	595	265	55.2%
27-3043	Writers and Authors	Bachelor's degree	555	515	115	20.7%
27-3091	Interpreters and Translators	Long-term on-the-job training	165	190	60	36.4%
27-3099	Media and Communication Workers, All Other	Long-term on-the-job training	375	405	125	33.3%
27-4011	Audio and Video Equipment Technicians	Long-term on-the-job training	460	500	195	42.4%
27-4012	Broadcast Technicians	Associate degree	115	110	40	34.8%
27-4014	Sound Engineering Technicians	Postsecondary vocational award	40	40	15	37.5%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
27-4021	Photographers	Long-term on-the-job training	1705	1830	500	29.3%
27-4031	Camera Operators, Television, Video, and Motion Picture	Postsecondary vocational award	170	170	40	23.5%
27-4099	Media and Communication Equipment Workers, All Other	Moderate-term on-the-job training	40	40	15	37.5%
29-0000 Healthcare Practitioner and Technical						
29-1011	Chiropractors	First professional degree	30	30	5	16.7%
29-1021	Dentists, General	First professional degree	885	865	180	20.3%
29-1029	Dentists, All Other Specialists	First professional degree	70	70	15	21.4%
29-1031	Dietitians and Nutritionists	Bachelor's degree	575	645	220	38.3%
29-1041	Optometrists	First professional degree	20	15	5	25.0%
29-1051	Pharmacists	First professional degree	1445	1780	585	40.5%
29-1061	Anesthesiologists		565	570	140	24.8%
29-1062	Family and General Practitioners		625	595	125	20.0%
29-1063	Internists, General		995	890	200	20.1%
29-1064	Obstetricians and Gynecologists		20	20	5	25.0%
29-1065	Pediatricians, General		170	175	35	20.6%
29-1066	Psychiatrists		330	350	85	25.8%
29-1067	Surgeons		220	220	50	22.7%
29-1069	Physicians and Surgeons, All Other		3150	3535	955	30.3%
29-1071	Physician Assistants	Master's degree	660	770	200	30.3%
29-1081	Podiatrists	First professional degree	90	65	30	33.3%
29-1111	Registered Nurses	Associate degree	21275	26650	8890	41.8%
29-1121	Audiologists	First professional degree	45	45	10	22.2%
29-1122	Occupational Therapists	Master's degree	875	1070	325	37.1%
29-1123	Physical Therapists	Master's degree	1565	1875	495	31.6%
29-1124	Radiation Therapists	Associate degree	115	150	55	47.8%
29-1125	Recreational Therapists	Bachelor's degree	225	240	50	22.2%
29-1126	Respiratory Therapists	Associate degree	780	1005	340	43.6%
29-1127	Speech-Language Pathologists	Master's degree	945	1040	275	29.1%
29-1129	Therapists, All Other	Bachelor's degree	70	70	10	14.3%
29-1131	Veterinarians	First professional degree	215	285	110	51.2%
29-1199	Health Diagnosing and Treating Practitioners, All Other	Bachelor's degree	335	375	95	28.4%
29-2011	Medical and Clinical Laboratory Technologists	Bachelor's degree	1625	1835	455	28.0%
29-2012	Medical and Clinical Laboratory Technicians	Associate degree	960	1090	275	28.6%
29-2021	Dental Hygienists	Associate degree	775	925	295	38.1%
29-2031	Cardiovascular Technologists and Technicians	Associate degree	425	555	185	43.5%
29-2032	Diagnostic Medical Sonographers	Associate degree	385	455	120	31.2%
29-2033	Nuclear Medicine Technologists	Associate degree	160	190	50	31.3%
29-2034	Radiologic Technologists and Technicians	Associate degree	1335	1540	380	28.5%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
29-2041	Emergency Medical Technicians and Paramedics	Postsecondary vocational award	940	995	195	20.7%
29-2051	Dietetic Technicians	Postsecondary vocational award	395	480	205	51.9%
29-2052	Pharmacy Technicians	Moderate-term on-the-job training	1505	2015	970	64.5%
29-2053	Psychiatric Technicians	Postsecondary vocational award	30	30	10	33.3%
29-2054	Respiratory Therapy Technicians	Associate degree	225	245	85	37.8%
29-2055	Surgical Technologists	Postsecondary vocational award	650	850	400	61.5%
29-2056	Veterinary Technologists and Technicians	Associate degree	360	505	255	70.8%
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary vocational award	3715	4235	1530	41.2%
29-2071	Medical Records and Health Information Technicians	Associate degree	1005	1175	450	44.8%
29-2081	Opticians, Dispensing	Long-term on-the-job training	175	165	60	34.3%
29-2099	Health Technologists and Technicians, All Other	Postsecondary vocational award	515	600	130	25.2%
29-9011	Occupational Health and Safety Specialists	Bachelor's degree	350	365	85	24.3%
29-9012	Occupational Health and Safety Technicians	Bachelor's degree	10	10	0	0.0%
29-9091	Athletic Trainers	Bachelor's degree	60	75	25	41.7%
29-9099	Healthcare Practitioners and Technical Workers, All Other	Bachelor's degree	565	650	195	34.5%
31-0000 Healthcare Support						
31-1011	Home Health Aides	Short-term on-the-job training	3415	4700	1590	46.6%
31-1012	Nursing Aides, Orderlies, and Attendants	Postsecondary vocational award	12450	15230	3895	31.3%
31-1013	Psychiatric Aides	Short-term on-the-job training	110	105	10	9.1%
31-2011	Occupational Therapist Assistants	Associate degree	85	100	35	41.2%
31-2021	Physical Therapist Assistants	Associate degree	415	515	155	37.3%
31-2022	Physical Therapist Aides	Short-term on-the-job training	475	535	115	24.2%
31-9011	Massage Therapists	Postsecondary vocational award	825	935	200	24.2%
31-9091	Dental Assistants	Moderate-term on-the-job training	1280	1510	450	35.2%
31-9092	Medical Assistants	Moderate-term on-the-job training	2955	3365	775	26.2%
31-9093	Medical Equipment Preparers	Short-term on-the-job training	345	410	105	30.4%
31-9094	Medical Transcriptionists	Postsecondary vocational award	270	295	55	20.4%
31-9095	Pharmacy Aides	Short-term on-the-job training	160	145	20	12.5%
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Short-term on-the-job training	355	400	90	25.4%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
31-9099	Healthcare Support Workers, All Other	Short-term on-the-job training	1155	1285	275	23.8%
33-0000 Protective Service						
33-1012	First-Line Supervisors/Managers of Police and Detectives	Work experience in a related occupation	765	770	265	34.6%
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	Work experience in a related occupation	710	765	290	40.8%
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	Work experience in a related occupation	435	460	110	25.3%
33-2011	Fire Fighters	Long-term on-the-job training	1125	1090	410	36.4%
33-3021	Detectives and Criminal Investigators	Work experience in a related occupation	335	320	75	22.4%
33-3051	Police and Sheriff's Patrol Officers	Long-term on-the-job training	6635	6805	2050	30.9%
33-9021	Private Detectives and Investigators	Work experience in a related occupation	1050	985	225	21.4%
33-9032	Security Guards	Short-term on-the-job training	8230	8760	2485	30.2%
33-9091	Crossing Guards	Short-term on-the-job training	525	470	160	30.5%
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service	Short-term on-the-job training	250	275	210	84.0%
33-9099	Protective Service Workers, All Other	Short-term on-the-job training	220	235	175	79.5%
35-0000 Food Preparation and Serving						
35-1011	Chefs and Head Cooks	Work experience in a related occupation	860	925	190	22.1%
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	Work experience in a related occupation	4010	4490	780	19.5%
35-2011	Cooks, Fast Food	Short-term on-the-job training	1830	2015	680	37.2%
35-2012	Cooks, Institution and Cafeteria	Moderate-term on-the-job training	1415	1630	600	42.4%
35-2014	Cooks, Restaurant	Long-term on-the-job training	2445	2755	975	39.9%
35-2015	Cooks, Short Order	Short-term on-the-job training	1100	1150	355	32.3%
35-2019	Cooks, All Other	Moderate-term on-the-job training	30	35	10	33.3%
35-2021	Food Preparation Workers	Short-term on-the-job training	4370	5065	2210	50.6%
35-3011	Bartenders	Short-term on-the-job training	2610	2845	1185	45.4%
35-3021	Combined Food Preparation and Serving Workers, Including Fast	Short-term on-the-job training	10775	12945	4210	39.1%
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	Short-term on-the-job training	4605	4970	3560	77.3%
35-3031	Waiters and Waitresses	Short-term on-the-job training	9955	11300	6755	67.9%
35-3041	Food Servers, Nonrestaurant	Short-term on-the-job training	1390	1605	430	30.9%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	Short-term on-the-job training	2440	2890	1470	60.2%
35-9021	Dishwashers	Short-term on-the-job training	2090	2380	1140	54.5%
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	Short-term on-the-job training	1485	1715	1245	83.8%
35-9099	Food Preparation and Serving Related Workers, All Other	Short-term on-the-job training	245	270	145	59.2%
37-0000 Building and Grounds Cleaning and Maintenance						

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	Work experience in a related occupation	1625	1700	390	24.0%
37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	Work experience in a related occupation	845	950	170	20.1%
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Short-term on-the-job training	13640	14190	3830	28.1%
37-2012	Maids and Housekeeping Cleaners	Short-term on-the-job training	4745	5225	1545	32.6%
37-2019	Building Cleaning Workers, All Other	Short-term on-the-job training	20	20	5	25.0%
37-3011	Landscaping and Groundskeeping Workers	Short-term on-the-job training	4855	5335	1235	25.4%
37-3013	Tree Trimmers and Pruners	Short-term on-the-job training	130	115	15	11.5%
37-3019	Grounds Maintenance Workers, All Other	Short-term on-the-job training	85	95	20	23.5%
39-0000 Personal Care and Service						
39-1021	First-Line Supervisors/Managers of Personal Service Workers	Work experience in a related occupation	1030	1050	260	25.2%
39-2021	Nonfarm Animal Caretakers	Short-term on-the-job training	910	995	230	25.3%
39-3021	Motion Picture Projectionists	Short-term on-the-job training	20	20	10	50.0%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	Short-term on-the-job training	775	745	550	71.0%
39-3091	Amusement and Recreation Attendants	Short-term on-the-job training	750	805	425	56.7%
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	Short-term on-the-job training	25	25	10	40.0%
39-4021	Funeral Attendants	Short-term on-the-job training	120	135	45	37.5%
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Postsecondary vocational award	3635	3870	670	18.4%
39-5092	Manicurists and Pedicurists	Postsecondary vocational award	600	725	190	31.7%
39-5093	Shampooers	Short-term on-the-job training	790	855	145	18.4%
39-5094	Skin Care Specialists	Postsecondary vocational award	305	400	125	41.0%
39-6011	Baggage Porters and Bellhops	Short-term on-the-job training	90	60	10	11.1%
39-6012	Concierges	Moderate-term on-the-job training	155	135	20	12.9%
39-6021	Tour Guides and Escorts	Moderate-term on-the-job training	130	160	80	61.5%
39-9011	Child Care Workers	Short-term on-the-job training	5585	6285	2410	43.2%
39-9021	Personal and Home Care Aides	Short-term on-the-job training	1980	2475	825	41.7%
39-9031	Fitness Trainers and Aerobics Instructors	Postsecondary vocational award	1575	1615	345	21.9%
39-9032	Recreation Workers	Short-term on-the-job training	1005	1035	245	24.4%
39-9041	Residential Advisors	Short-term on-the-job training	760	880	330	43.4%
39-9099	Personal Care and Service Workers, All Other	Short-term on-the-job training	615	480	135	22.0%
41-0000 Sales						
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	Work experience in a related occupation	8590	8785	1995	23.2%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	Work experience in a related occupation	2285	2110	330	14.4%
41-2011	Cashiers	Short-term on-the-job training	18920	18005	8995	47.5%
41-2021	Counter and Rental Clerks	Short-term on-the-job training	2180	2315	965	44.3%
41-2022	Parts Salespersons	Moderate-term on-the-job training	880	765	100	11.4%
41-2031	Retail Salespersons	Short-term on-the-job training	20600	23165	8910	43.3%
41-3011	Advertising Sales Agents	Moderate-term on-the-job training	645	680	175	27.1%
41-3021	Insurance Sales Agents	Bachelor's degree	2650	2725	770	29.1%
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	2035	1640	520	25.6%
41-3041	Travel Agents	Postsecondary vocational award	235	250	30	12.8%
41-3099	Sales Representatives, Services, All Other	Work experience in a related occupation	2145	2635	995	46.4%
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Work experience in a related occupation	1510	1600	430	28.5%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Work experience in a related occupation	5095	5000	1235	24.2%
41-9011	Demonstrators and Product Promoters	Moderate-term on-the-job training	505	560	200	39.6%
41-9021	Real Estate Brokers	Work experience in a related occupation	895	765	145	16.2%
41-9022	Real Estate Sales Agents	Postsecondary vocational award	3350	2975	535	16.0%
41-9031	Sales Engineers	Bachelor's degree	110	85	30	27.3%
41-9041	Telemarketers	Short-term on-the-job training	1345	1025	475	35.3%
41-9099	Sales and Related Workers, All Other	Moderate-term on-the-job training	640	670	85	13.3%
43-000 Office and Administrative Support						
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	Work experience in a related occupation	8015	7685	1855	23.1%
43-2011	Switchboard Operators, Including Answering Service	Short-term on-the-job training	1515	1295	315	20.8%
43-2021	Telephone Operators	Short-term on-the-job training	160	110	20	12.5%
43-3011	Bill and Account Collectors	Short-term on-the-job training	2980	3445	985	33.1%
43-3021	Billing and Posting Clerks and Machine Operators	Moderate-term on-the-job training	2900	2870	455	15.7%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	Moderate-term on-the-job training	9030	9515	1990	22.0%
43-3051	Payroll and Timekeeping Clerks	Moderate-term on-the-job training	1090	1160	345	31.7%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
43-3061	Procurement Clerks	Moderate-term on-the-job training	450	415	90	20.0%
43-3071	Tellers	Short-term on-the-job training	2935	2225	1285	43.8%
43-4011	Brokerage Clerks	Moderate-term on-the-job training	985	745	320	32.5%
43-4021	Correspondence Clerks	Short-term on-the-job training	40	35	10	25.0%
43-4041	Credit Authorizers, Checkers, and Clerks	Short-term on-the-job training	395	285	125	31.6%
43-4051	Customer Service Representatives	Moderate-term on-the-job training	11435	12820	4565	39.9%
43-4061	Eligibility Interviewers, Government Programs	Moderate-term on-the-job training	870	720	150	17.2%
43-4071	File Clerks	Short-term on-the-job training	1410	760	375	26.6%
43-4081	Hotel, Motel, and Resort Desk Clerks	Short-term on-the-job training	390	415	255	65.4%
43-4111	Interviewers, Except Eligibility and Loan	Short-term on-the-job training	1235	1420	505	40.9%
43-4121	Library Assistants, Clerical	Short-term on-the-job training	680	755	295	43.4%
43-4131	Loan Interviewers and Clerks	Short-term on-the-job training	1155	815	200	17.3%
43-4141	New Accounts Clerks	Work experience in a related occupation	510	350	150	29.4%
43-4151	Order Clerks	Short-term on-the-job training	805	520	170	21.1%
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	Short-term on-the-job training	855	915	130	15.2%
43-4171	Receptionists and Information Clerks	Short-term on-the-job training	7085	7590	2275	32.1%
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	Short-term on-the-job training	365	355	110	30.1%
43-4199	Information and Record Clerks, All Other	Short-term on-the-job training	1580	1265	250	15.8%
43-5011	Cargo and Freight Agents	Moderate-term on-the-job training	120	150	65	54.2%
43-5021	Couriers and Messengers	Short-term on-the-job training	435	400	120	27.6%
43-5031	Police, Fire, and Ambulance Dispatchers	Moderate-term on-the-job training	530	535	150	28.3%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	Moderate-term on-the-job training	945	930	255	27.0%
43-5041	Meter Readers, Utilities	Short-term on-the-job training	215	205	70	32.6%
43-5051	Postal Service Clerks	Short-term on-the-job training	330	280	75	22.7%
43-5052	Postal Service Mail Carriers	Short-term on-the-job training	1560	1285	465	29.8%
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine	Short-term on-the-job training	1325	930	140	10.6%
43-5061	Production, Planning, and Expediting Clerks	Moderate-term on-the-job training	1305	1240	355	27.2%
43-5071	Shipping, Receiving, and Traffic Clerks	Short-term on-the-job training	2365	2230	590	24.9%
43-5081	Stock Clerks and Order Fillers	Short-term on-the-job training	7740	6930	1840	23.8%
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	Short-term on-the-job training	205	175	50	24.4%
43-6011	Executive Secretaries and Administrative Assistants	Work experience in a related occupation	8205	8710	1825	22.2%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
43-6012	Legal Secretaries	Associate degree	1765	1905	425	24.1%
43-6013	Medical Secretaries	Moderate-term on-the-job training	2845	3105	715	25.1%
43-6014	Secretaries, Except Legal, Medical, and Executive	Moderate-term on-the-job training	11470	10960	1990	17.3%
43-9011	Computer Operators	Moderate-term on-the-job training	1075	790	170	15.8%
43-9021	Data Entry Keyers	Moderate-term on-the-job training	1805	1590	440	24.4%
43-9022	Word Processors and Typists	Moderate-term on-the-job training	475	410	90	18.9%
43-9031	Desktop Publishers	Postsecondary vocational award	180	160	35	19.4%
43-9041	Insurance Claims and Policy Processing Clerks	Moderate-term on-the-job training	1530	1380	185	12.1%
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	Short-term on-the-job training	1340	1045	355	26.5%
43-9061	Office Clerks, General	Short-term on-the-job training	19910	20305	4750	23.9%
43-9071	Office Machine Operators, Except Computer	Short-term on-the-job training	410	360	135	32.9%
43-9081	Proofreaders and Copy Markers	Short-term on-the-job training	75	65	15	20.0%
43-9111	Statistical Assistants	Moderate-term on-the-job training	150	160	75	50.0%
43-9199	Office and Administrative Support Workers, All Other	Short-term on-the-job training	2425	2095	540	22.3%
45-0000 Farming, Fishing, and Forestry						
45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry		40	40	10	25.0%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	Short-term on-the-job training	530	590	190	35.8%
47-0000 Construction and Extraction						
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	Work experience in a related occupation	4270	4890	1230	28.8%
47-2011	Boilermakers	Long-term on-the-job training	115	185	110	95.7%
47-2021	Brickmasons and Blockmasons	Long-term on-the-job training	640	740	230	35.9%
47-2022	Stonemasons	Long-term on-the-job training	130	155	55	42.3%
47-2031	Carpenters	Long-term on-the-job training	6470	7845	2250	34.8%
47-2044	Tile and Marble Setters	Long-term on-the-job training	240	285	85	35.4%
47-2051	Cement Masons and Concrete Finishers	Moderate-term on-the-job training	810	955	390	48.1%
47-2061	Construction Laborers	Moderate-term on-the-job training	6580	7710	1700	25.8%
47-2071	Paving, Surfacing, and Tamping Equipment Operators	Moderate-term on-the-job training	150	160	50	33.3%
47-2073	Operating Engineers and Other Construction Equipment Operators	Moderate-term on-the-job training	1385	1625	535	38.6%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
47-2081	Drywall and Ceiling Tile Installers	Moderate-term on-the-job training	470	515	120	25.5%
47-2082	Tapers	Moderate-term on-the-job training	40	45	10	25.0%
47-2111	Electricians	Long-term on-the-job training	3585	3840	1225	34.2%
47-2121	Glaziers	Long-term on-the-job training	155	190	60	38.7%
47-2132	Insulation Workers, Mechanical	Moderate-term on-the-job training	405	480	165	40.7%
47-2141	Painters, Construction and Maintenance	Moderate-term on-the-job training	2085	2260	585	28.1%
47-2151	Pipelayers	Moderate-term on-the-job training	230	250	85	37.0%
47-2152	Plumbers, Pipefitters, and Steamfitters	Long-term on-the-job training	3065	3515	1080	35.2%
47-2161	Plasterers and Stucco Masons	Long-term on-the-job training	15	20	5	33.3%
47-2171	Reinforcing Iron and Rebar Workers	Long-term on-the-job training	120	145	55	45.8%
47-2181	Roofers	Moderate-term on-the-job training	595	705	245	41.2%
47-2211	Sheet Metal Workers	Long-term on-the-job training	1460	1645	545	37.3%
47-2221	Structural Iron and Steel Workers	Long-term on-the-job training	325	350	140	43.1%
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and	Short-term on-the-job training	75	85	30	40.0%
47-3012	Helpers--Carpenters	Short-term on-the-job training	710	835	310	43.7%
47-3013	Helpers--Electricians	Short-term on-the-job training	790	855	270	34.2%
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	Short-term on-the-job training	675	745	250	37.0%
47-3016	Helpers--Roofers	Short-term on-the-job training	350	385	130	37.1%
47-3019	Helpers, Construction Trades, All Other	Short-term on-the-job training	430	485	165	38.4%
47-4011	Construction and Building Inspectors	Work experience in a related occupation	1225	1480	480	39.2%
47-4041	Hazardous Materials Removal Workers	Moderate-term on-the-job training	500	370	110	22.0%
47-4099	Construction and Related Workers, All Other	Moderate-term on-the-job training	115	140	55	47.8%
47-5021	Earth Drillers, Except Oil and Gas	Moderate-term on-the-job training	75	85	35	46.7%
49-0000 Installation, Maintenance, and Repair						
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	Work experience in a related occupation	2345	2430	670	28.6%
49-2011	Computer, Automated Teller, and Office Machine Repairers	Postsecondary vocational award	650	625	105	16.2%
49-2021	Radio Mechanics	Long-term on-the-job training	50	35	15	30.0%
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Postsecondary vocational award	640	690	250	39.1%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
49-2091	Avionics Technicians	Postsecondary vocational award	65	70	10	15.4%
49-2092	Electric Motor, Power Tool, and Related Repairers	Postsecondary vocational award	115	105	45	39.1%
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	Postsecondary vocational award	80	95	30	37.5%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Postsecondary vocational award	170	160	55	32.4%
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Postsecondary vocational award	145	165	70	48.3%
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	Postsecondary vocational award	235	245	35	14.9%
49-2098	Security and Fire Alarm Systems Installers	Postsecondary vocational award	365	500	185	50.7%
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary vocational award	165	155	15	9.1%
49-3021	Automotive Body and Related Repairers	Long-term on-the-job training	985	815	250	25.4%
49-3023	Automotive Service Technicians and Mechanics	Postsecondary vocational award	4145	4325	1150	27.7%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	Postsecondary vocational award	835	860	210	25.1%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	Long-term on-the-job training	705	700	145	20.6%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	Moderate-term on-the-job training	55	55	10	18.2%
49-3093	Tire Repairers and Changers	Short-term on-the-job training	395	380	105	26.6%
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	Moderate-term on-the-job training	260	285	65	25.0%
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and	Long-term on-the-job training	2135	2370	630	29.5%
49-9031	Home Appliance Repairers	Long-term on-the-job training	360	385	105	29.2%
49-9041	Industrial Machinery Mechanics	Long-term on-the-job training	1160	1150	240	20.7%
49-9042	Maintenance and Repair Workers, General	Moderate-term on-the-job training	6555	6490	450	6.9%
49-9043	Maintenance Workers, Machinery	Moderate-term on-the-job training	460	440	75	16.3%
49-9044	Millwrights	Long-term on-the-job training	45	55	15	33.3%
49-9051	Electrical Power-Line Installers and Repairers	Long-term on-the-job training	350	415	175	50.0%
49-9052	Telecommunications Line Installers and Repairers	Long-term on-the-job training	715	715	230	32.2%
49-9062	Medical Equipment Repairers	Associate degree	340	405	160	47.1%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	Moderate-term on-the-job training	125	130	40	32.0%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
49-9094	Locksmiths and Safe Repairers	Moderate-term on-the-job training	175	165	35	20.0%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	Short-term on-the-job training	800	845	260	32.5%
49-9099	Installation, Maintenance, and Repair Workers, All Other	Moderate-term on-the-job training	875	940	120	13.7%
51-0000 Production						
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	Work experience in a related occupation	2570	2215	430	16.7%
51-2022	Electrical and Electronic Equipment Assemblers	Short-term on-the-job training	455	420	75	16.5%
51-2031	Engine and Other Machine Assemblers	Short-term on-the-job training	100	60	25	25.0%
51-2041	Structural Metal Fabricators and Fitters	Moderate-term on-the-job training	325	270	55	16.9%
51-2092	Team Assemblers	Moderate-term on-the-job training	2180	2005	450	20.6%
51-2099	Assemblers and Fabricators, All Other	Moderate-term on-the-job training	250	205	50	20.0%
51-3011	Bakers	Long-term on-the-job training	830	840	230	27.7%
51-3021	Butchers and Meat Cutters	Long-term on-the-job training	455	430	140	30.8%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	Short-term on-the-job training	220	215	75	34.1%
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine	Short-term on-the-job training	60	55	25	41.7%
51-3092	Food Batchmakers	Short-term on-the-job training	350	355	120	34.3%
51-3093	Food Cooking Machine Operators and Tenders	Short-term on-the-job training	155	150	65	41.9%
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	Moderate-term on-the-job training	100	90	15	15.0%
51-4012	Numerical Tool and Process Control Programmers	Work experience in a related occupation	20	15	0	0.0%
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	450	350	95	21.1%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	515	365	120	23.3%
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	35	20	5	14.3%
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	195	100	20	10.3%
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	210	110	40	19.0%
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	115	40	10	8.7%
51-4041	Machinists	Long-term on-the-job training	1640	1370	250	15.2%
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	210	155	50	23.8%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	Moderate-term on-the-job training	145	130	30	20.7%
51-4111	Tool and Die Makers	Long-term on-the-job training	125	85	15	12.0%
51-4121	Welders, Cutters, Solderers, and Brazers	Postsecondary vocational award	605	605	155	25.6%
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	Postsecondary vocational award	25	15	5	20.0%
51-4194	Tool Grinders, Filers, and Sharpeners	Moderate-term on-the-job training	30	15	5	16.7%
51-4199	Metal Workers and Plastic Workers, All Other	Moderate-term on-the-job training	170	115	25	14.7%
51-5011	Bindery Workers	Short-term on-the-job training	285	185	40	14.0%
51-5012	Bookbinders	Moderate-term on-the-job training	85	60	10	11.8%
51-5021	Job Printers	Long-term on-the-job training	260	200	25	9.6%
51-5022	Prepress Technicians and Workers	Postsecondary vocational award	190	125	30	15.8%
51-5023	Printing Machine Operators	Moderate-term on-the-job training	1200	955	265	22.1%
51-6011	Laundry and Dry-Cleaning Workers	Moderate-term on-the-job training	1215	1300	360	29.6%
51-6021	Pressers, Textile, Garment, and Related Materials	Short-term on-the-job training	265	235	20	7.5%
51-6031	Sewing Machine Operators	Moderate-term on-the-job training	300	235	30	10.0%
51-6052	Tailors, Dressmakers, and Custom Sewers	Long-term on-the-job training	545	505	100	18.3%
51-7011	Cabinetmakers and Bench Carpenters	Long-term on-the-job training	275	225	80	29.1%
51-7021	Furniture Finishers	Long-term on-the-job training	75	55	10	13.3%
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	Moderate-term on-the-job training	30	20	5	16.7%
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	Moderate-term on-the-job training	140	125	35	25.0%
51-8021	Stationary Engineers and Boiler Operators	Long-term on-the-job training	550	420	95	17.3%
51-8031	Water and Liquid Waste Treatment Plant and System Operators	Long-term on-the-job training	30	35	10	33.3%
51-8091	Chemical Plant and System Operators	Long-term on-the-job training	95	70	25	26.3%
51-8099	Plant and System Operators, All Other	Long-term on-the-job training	110	95	30	27.3%
51-9011	Chemical Equipment Operators and Tenders	Moderate-term on-the-job training	455	355	105	23.1%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	125	120	30	24.0%
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	45	40	5	11.1%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
51-9022	Grinding and Polishing Workers, Hand	Moderate-term on-the-job training	55	50	10	18.2%
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	635	530	105	16.5%
51-9031	Cutters and Trimmers, Hand	Short-term on-the-job training	90	70	15	16.7%
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	260	195	40	15.4%
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	115	85	20	17.4%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	Moderate-term on-the-job training	1550	1300	230	14.8%
51-9071	Jewelers and Precious Stone and Metal Workers	Postsecondary vocational award	300	335	85	28.3%
51-9081	Dental Laboratory Technicians	Long-term on-the-job training	45	20	10	22.2%
51-9082	Medical Appliance Technicians	Long-term on-the-job training	60	40	10	16.7%
51-9083	Ophthalmic Laboratory Technicians	Moderate-term on-the-job training	70	70	15	21.4%
51-9111	Packaging and Filling Machine Operators and Tenders	Short-term on-the-job training	2630	2380	490	18.6%
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	250	185	50	20.0%
51-9122	Painters, Transportation Equipment	Moderate-term on-the-job training	130	135	35	26.9%
51-9123	Painting, Coating, and Decorating Workers	Short-term on-the-job training	280	290	75	26.8%
51-9131	Photographic Process Workers	Moderate-term on-the-job training	70	45	25	35.7%
51-9132	Photographic Processing Machine Operators	Short-term on-the-job training	245	105	85	34.7%
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	Moderate-term on-the-job training	225	150	65	28.9%
51-9194	Etchers and Engravers	Long-term on-the-job training	10	10	0	0.0%
51-9196	Paper Goods Machine Setters, Operators, and Tenders	Moderate-term on-the-job training	185	130	45	24.3%
51-9198	Helpers--Production Workers	Short-term on-the-job training	1515	1300	370	24.4%
51-9199	Production Workers, All Other	Moderate-term on-the-job training	750	705	150	20.0%
53-0000 Transportation and Material Moving						
53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	Work experience in a related occupation	955	960	225	23.6%
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	Work experience in a related occupation	1185	1170	280	23.6%
53-2012	Commercial Pilots	Postsecondary vocational award	70	75	25	35.7%

Code	Occupation	Educational requirements	2006	2016	Total Openings	Percent change
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	Moderate-term on-the-job training	80	95	25	31.3%
53-3022	Bus Drivers, School	Moderate-term on-the-job training	715	750	160	22.4%
53-3031	Driver/Sales Workers	Short-term on-the-job training	1485	1280	265	17.8%
53-3032	Truck Drivers, Heavy and Tractor-Trailer	Moderate-term on-the-job training	6700	6645	1410	21.0%
53-3033	Truck Drivers, Light or Delivery Services	Short-term on-the-job training	5860	6075	1300	22.2%
53-3041	Taxi Drivers and Chauffeurs	Short-term on-the-job training	2700	2565	480	17.8%
53-3099	Motor Vehicle Operators, All Other	Short-term on-the-job training	350	360	60	17.1%
53-5011	Sailors and Marine Oilers	Short-term on-the-job training	220	235	95	43.2%
53-5021	Captains, Mates, and Pilots of Water Vessels	Work experience in a related occupation	230	255	80	34.8%
53-6021	Parking Lot Attendants	Short-term on-the-job training	435	465	150	34.5%
53-6031	Service Station Attendants	Short-term on-the-job training	140	130	65	46.4%
53-6041	Traffic Technicians	Short-term on-the-job training	80	90	25	31.3%
53-6051	Transportation Inspectors	Work experience in a related occupation	85	90	30	35.3%
53-6099	Transportation Workers, All Other	Short-term on-the-job training	105	130	40	38.1%
53-7011	Conveyor Operators and Tenders	Short-term on-the-job training	185	165	35	18.9%
53-7021	Crane and Tower Operators	Long-term on-the-job training	110	105	20	18.2%
53-7032	Excavating and Loading Machine and Dragline Operators	Moderate-term on-the-job training	225	230	60	26.7%
53-7051	Industrial Truck and Tractor Operators	Short-term on-the-job training	2520	2270	635	25.2%
53-7061	Cleaners of Vehicles and Equipment	Short-term on-the-job training	940	1070	490	52.1%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	Short-term on-the-job training	10210	9750	3345	32.8%
53-7063	Machine Feeders and Offbearers	Short-term on-the-job training	485	365	85	17.5%
53-7064	Packers and Packagers, Hand	Short-term on-the-job training	2610	1940	320	12.3%
53-7081	Refuse and Recyclable Material Collectors	Short-term on-the-job training	500	435	135	27.0%
53-7199	Material Moving Workers, All Other	Moderate-term on-the-job training	730	850	255	34.9%