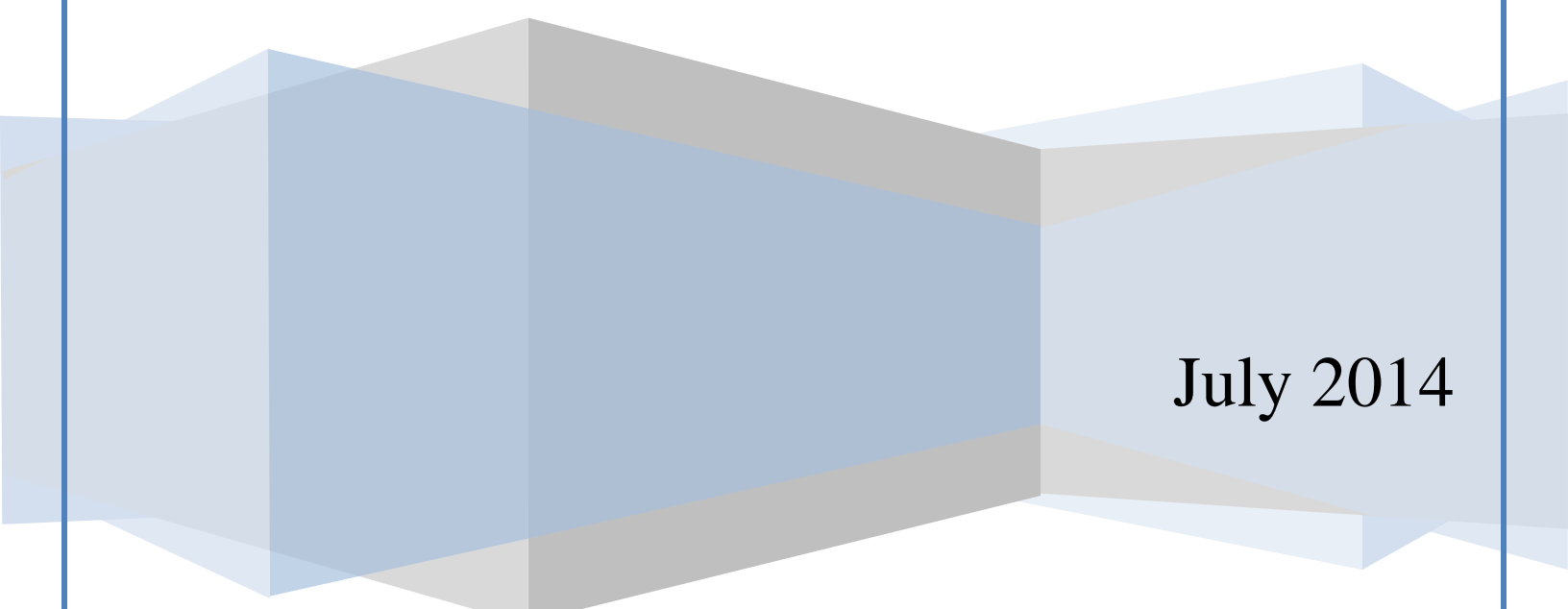


Department of Employment Services (DOES)

District of Columbia High Demand, High Wage Occupations

Office of Labor Market Research and Information (OLMRI)



July 2014

Highlights

Top 31 High Demand, High Wage Occupations in D.C.

- ❖ **Computer and Mathematics** and **Management** are the most common *High Demand, High Wage* occupational groups, with nearly half (**49%**) of the Top 31 occupations.
- ❖ Two-thirds (**61%**) of the Top 31 *High Demand, High Wage* occupations in the District require a **bachelor's degree**.
- ❖ Seventy percent (**70%**) of *High Demand, High Wage* occupations in the District typically require **no work experience** to enter that occupation.
- ❖ More than eighty percent (**81%**) of the District's Top 31 *High Demand, High Wage* occupations typically require **no additional occupation-specific training or preparation**.

Top 31 High Demand, High Wage Occupations Requiring Less Than a Bachelor's Degree

- ❖ **Healthcare Practitioners and Technical** (**23%**) and **Management**(**13%**) are the most common *High Wage, High Demand* occupational groups requiring less than a Bachelor's degree for entry, with 36% of the top occupations.
- ❖ More than thirty **30%**of *High Demand, High Wage* occupations typically requiring less than a bachelor's degree require one (1) year and over of **work experience**, with **6%** requiring more than five (5) years.
- ❖ More than half (**52%**) of *High Demand, High Wage* occupations typically requiring less than a bachelor's degree require **no on-the-job training** to gain competency in that occupation,
- ❖ Forty-two percent (**42%**)_of *High Demand, High Wage* occupations typically requiring less than a bachelor's degree require **moderate- to long-term on-the-job training**.

Introduction

Navigating the District’s dynamic job market can be an overwhelming undertaking. With a multitude of job advertisements and their corresponding requirements, it can be difficult for job seekers to identify their most suitable opportunities. This analysis aims to identify those occupations that are both in demand and offer reasonable wages in the District. For this analysis, the District of Columbia Department of Employment Services (DOES) Office of Labor Market Research and Information (OLMRI) utilized data made available by the U.S. Bureau of Labor Statistics. First, we will look at the Top 31 occupations according to the three-variable index employed by OLMRI. Then we will look at the Top 31 occupations according to the three-variable index that typically require less than a bachelor’s degree for entry.

Explanation of High Demand, High Wage Methodology

This three-variable index has been constructed using occupational data to identify *High Demand, High Wage* occupations in D.C. To arrive at this single three-variable index, the following steps were completed:

1. For each 6-digit Standard Occupational Classification (SOC) Code, the following three variables were included: projected percent change in D.C. employment for the period 2010-2020; projected annual total openings in D.C. for 2010-2020; and median annual wage in D.C. in 2011. The first two variables capture the projected occupational demand, while the third focuses on wages.
2. Each of the three variables was converted to new categorical variables with values ranging from 10 to 1. These categories roughly represent the deciles of ranking by each corresponding variable.
3. A single three-variable index was generated of *High Demand, High Wage* occupations in D.C. by using the three categorical variables and the following formula:

$$\text{Index} = 0.5 * \text{Percent Change Category} + 0.5 * \text{Annual Total Openings Category} + (\text{Median Annual Wage Category})$$

Note that the formula puts equal weights on occupational demand (the first two categories together) and occupational wages (the third category). For the occupational demand component of the index, the formula puts equal weights on the “percent change” and the “annual total openings” categories. Theoretically, the value of the index can range from 20 to 2, although in practice the top occupation scores 19.5. An occupation has a high total score if it has high projected percent change in employment, high projected number of annual total openings, and a high median wage.

The “Education” column displays the level of education typically needed for entry into an occupation (according to national data provided by the U.S. Bureau of Labor Statistics). The

“Work Experience” column displays the amount of work experience that is commonly considered necessary by employers—or is a commonly accepted substitute for other, more formal types of training or education—for entry into an occupation. The “Job Training” category displays the level of on-the-job training that is typically needed, once employed in an occupation, to attain competency in that occupation. Training is occupation-specific rather than job-specific; skills learned can be transferred to another job in the same occupation.

*Occupational Highlight: Registered Nurse**

What Registered Nurses Do: Registered nurses (RNs) provide and coordinate patient care, educate patients and the public about various health conditions, and provide advice and emotional support to patients and their family members.

How to Become a Registered Nurse: Registered nurses usually take one of three education paths: a bachelor's of science degree in nursing (BSN), an associate's degree in nursing (ADN), or a diploma from an approved nursing program. RNs also must be licensed.

Relevant Eligible Training Programs in the District:

- HealthWrite Training Academy
- Innovative Institute, Inc.
- Toni Thomas Associates, Inc., CETA
- Quality First Career Center
- VMT Education Center

❖ Please note that all of these trainings lead to certification as either a Certified Nursing Assistant (CNA) or Home Health Aide (HHA), which can serve as points of entry to a nursing career.

* Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Registered Nurses, on the Internet at <http://www.bls.gov/ooh/healthcare/registered-nurses.htm>.

Table 1. High Demand, High Wage Occupations in the District of Columbia

Rank	SOC Code	SOC Title	Index	% Change Employment 2010-2020	Average Annual Openings 2010-2020	Annual Median Wage 2011	Typical Level of Education Required	Required Work Experience	Required Job Training
1	172061	Computer Hardware Engineers	19.5	35.09	79	\$111,550	Bachelor's degree	None	None
2 - 3	151121	Computer Systems Analysts	19	34.39	176	\$85,230	Bachelor's degree	None	None
2 - 3	151179	Information Security Analysts, Web Developers, and Computer Network Architects	19	36.21	158	\$87,050	Bachelor's degree	1 to 5 years	None
4 - 8	112031	Public Relations Managers	18.5	16.03	157	\$118,910	Bachelor's degree	1 to 5 years	None
4 - 8	151132	Software Developers, Applications	18.5	45.71	134	\$94,180	Bachelor's degree	None	None
4 - 8	151133	Software Developers, Systems Software	18.5	53.30	95	\$97,150	Bachelor's degree	None	None
4 - 8	152041	Statisticians	18.5	19.05	87	\$105,220	Master's degree	None	None
4 - 8	231011	Lawyers	18.5	15.29	1429	\$152,640	Doctoral or professional degree	None	None
9 - 12	112021	Marketing Managers	18	16.70	66	\$124,630	Bachelor's degree	1 to 5 years	None
9 - 12	113021	Computer and Information Systems Managers	18	17.83	139	\$136,880	Bachelor's degree	More than 5 years	None
9 - 12	151142	Network and computer systems architects and administrators	18	38.85	219	\$82,600	Bachelor's degree	None	None
9 - 12	291062	Family and General Practitioners	18	31.24	23	\$120,010	Doctoral or professional degree	None	Internship/residency
13 - 18	132061	Financial Examiners	17.5	23.31	23	\$135,480	Bachelor's degree	None	Moderate-term on-the-job training
13 - 18	151141	Database Administrators	17.5	43.92	90	\$80,450	Bachelor's degree	1 to 5 years	None
13 - 18	152031	Operations Research Analysts	17.5	19.65	89	\$93,000	Bachelor's degree	None	None
13 - 18	171011	Architects, Except Landscape and Naval	17.5	21.45	88	\$86,080	Bachelor's degree	None	Internship/residency
13 - 18	291067	Surgeons	17.5	29.68	15	\$187,200	Doctoral or professional degree	None	Internship/residency
13 - 18	292021	Dental Hygienists	17.5	35.50	28	\$89,930	Associate's degree	None	None
19 - 31	119032	Education Administrators, Elementary and Secondary School	17	19.87	43	\$86,010	Master's degree	1 to 5 years	None
19 - 31	119033	Education Administrators, Postsecondary	17	25.31	89	\$75,520	Master's degree	1 to 5 years	None
19 - 31	119151	Social and Community Service Managers	17	22.71	69	\$83,980	Bachelor's degree	1 to 5 years	None
19 - 31	131081	Logisticians	17	20.28	39	\$94,960	Bachelor's degree	1 to 5 years	None
19 - 31	132051	Financial Analysts	17	24.06	118	\$80,950	Bachelor's degree	None	None
19 - 31	151131	Computer Programmers	17	22.83	125	\$83,460	Bachelor's degree	None	None
19 - 31	193094	Political Scientists	17	8.45	188	\$115,740	Master's degree	None	None
19 - 31	211091	Health Educators	17	42.68	47	\$74,860	Bachelor's degree	None	None
19 - 31	251011	Business Teachers, Postsecondary	17	21.16	46	\$101,870	Doctoral or professional degree	None	None
19 - 31	273031	Public Relations Specialists	17	21.43	448	\$72,860	Bachelor's degree	None	Moderate-term on-the-job training
19 - 31	291051	Pharmacists	17	16.32	30	\$113,820	Doctoral or professional degree	None	None
19 - 31	291111	Registered Nurses	17	20.53	389	\$73,330	Associate's degree	None	None
19 - 31	474011	Construction and Building Inspectors	17	35.53	48	\$81,530	High school diploma or equivalent	More than 5 years	Moderate-term on-the-job training

Tables 2 through 5 summarize the various requirements depicted in Table 1. Occupational groups are clusters of similar occupations. As Table 2 shows, Computer and Mathematics is the most common *High Demand, High Wage* occupational group, with nearly one-third(29%) of the Top 31 occupations falling into this group. Nearly twenty (20) percent of the Top 31 occupations fall under the Management group. Also, Table 2 shows a high demand for occupational group such as Healthcare Practitioners and Technical and for Business and Financial (16% and 10%, respectively).

Occupations	Count	Percentage
Computer and Mathematics	9	29%
Management	6	19%
Healthcare Practitioners and Technical	5	16%
Business and Financial	3	10%
Architecture and Engineering	2	6%
Life, Physical and, Social Science	1	3%
Community and Social Service	1	3%
Legal	1	3%
Education, Training and, Library	1	3%
Arts, Design, Entertainment, Sports and Media	1	3%
Construction and Extraction	1	3%
Grand Total	31	100%

Table 3 tells us that nearly two-thirds (61%) of the Top 31 *High Demand, High Wage* occupations in the District require a bachelor’s degree. An additional 29 percent of *High Demand, High Wage* occupations require a graduate degree (Doctoral or Professional and/or Master’s).

Level of Education requirement	Count	Percentage
Bachelor's Degree	19	61%
Doctoral or Professional Degree	5	16%
Master's Degree	4	13%
Associate's Degree	2	6%
High School Diploma or Equivalent	1	3%
Grand Total	31	100%

Table 4 reveals that almost seventy (70) percent of *High Demand, High Wage* occupations in the District typically require no work experience in a related occupation to enter that occupation. This can be attributed to the fact that the education requirements are quite high, as discussed above, and the associated wages are also relatively high.

Work experience requirement	Count	Percentage
None	21	68%
1 to 5 years	8	26%
More than 5 years	2	6%
Grand Total	31	100%

Similarly, Table 5 shows that more than eighty (80) percent of the District's Top 31 *High Demand, High Wage* occupations typically require no additional occupation-specific training or preparation to attain competency in that occupation. However, twenty (20) percent of *High Demand, High Wage* occupations require some level of on-the-job training.

Training requirement	Count	Percentage
None	25	81%
Internship/residency	3	10%
Moderate-term on-the-job training	3	10%
Grand Total	31	100%

*Occupational Highlight: Computer Support Specialist**

What Computer Support Specialists Do: Computer support specialists provide help and advice to people and organizations using computer software or equipment. Some, called computer network support specialists, support information technology (IT) employees within their organization. Others, called computer user support specialists, assist non-IT users who are having computer problems.

How to Become a Computer Support Specialist: Because of the wide range of skills used in different computer support jobs, there are many paths into the occupation. A bachelor's degree is required for some computer support specialist positions, but an associate's degree or postsecondary classes may be enough for others.

Relevant Eligible Training Programs in the District:

- Academy of Computer Education (ACE)
- ASM Educational Learning Center
- Byte Back
- George Mason University, TechAdvance
- Toni Thomas Associates, Inc., CETA
- Career Technical Institute
- RizeUp Technology Training Center
- Year Up

* Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Computer Support Specialists, on the Internet at <http://www.bls.gov/ooh/computer-and-information-technology/computer-support-specialists.htm>.

Table 6. High Demand, High Wage Occupations Requiring Less Than a Bachelor's Degree in the District of Columbia

Rank	SOC Code	SOC Title	Index	% Change Employment 2010-2020	Average Annual Openings 2010-2020	Annual Median Wage 2011	Typical Level of Education Required	Required Work Experience	Required Job Training
18	292021	Dental Hygienists	17.5	35.50	28	\$89,930	Associate's degree	None	None
30 - 31	291111	Registered Nurses	17	20.53	389	\$73,330	Associate's degree	None	None
30 - 31	474011	Construction and Building Inspectors	17	35.53	48	\$81,530	High school diploma or equivalent	More than 5 years	Moderate-term on-the-job training
42 - 44	111021	General and Operations Managers	16	0.09	594	\$127,790	Associate's degree	1 to 5 years	None
42 - 44	113011	Administrative Services Managers	16	13.27	143	\$79,700	High school diploma or equivalent	1 to 5 years	None
58 - 74	119199	Managers, All Other	15.5	-3.50	856	\$126,250	High school diploma or equivalent	1 to 5 years	None
59	131199	Business Operations Specialists, All Other	15.5	9.58	1146	\$82,840	High school diploma or equivalent	Less than 1 year	Long-term on-the-job training
61	151150	Computer Support Specialists	15.5	22.36	230	\$60,080	Some college, no degree	None	Moderate-term on-the-job training
70	232011	Paralegals and Legal Assistants	15.5	16.32	232	\$64,550	Associate's degree	None	None
74	333021	Detectives and Criminal Investigators	15.5	2.38	84	\$122,410	High school diploma or equivalent	1 to 5 years	Moderate-term on-the-job training
91	253021	Self-Enrichment Education Teachers	15	30.91	45	\$55,430	High school diploma or equivalent	1 to 5 years	None
97	292037	Radiologic Technologists and Technicians	15	26.71	34	\$64,220	Associate's degree	None	None
98 - 114	119021	Construction Managers	14.5	6.56	24	\$103,340	Associate's degree	More than 5 years	None
98 - 114	331012	First-Line Supervisors/Managers of Police and Detectives	14.5	-4.67	54	\$131,510	High school diploma or equivalent	1 to 5 years	Moderate-term on-the-job training
98 - 114	431011	First-Line Supervisors/Managers of Office and Administrative Support Workers	14.5	15.71	221	\$58,850	High school diploma or equivalent	1 to 5 years	None
144 - 150	292061	Licensed Practical and Licensed Vocational Nurses	13.5	21.99	89	\$50,360	Postsecondary non-degree award	None	None
144 - 150	419022	Real Estate Sales Agents	13.5	6.95	55	\$76,500	High school diploma or equivalent	None	Long-term on-the-job training
144 - 150	436011	Executive Secretaries and Administrative Assistants	13.5	15.63	394	\$49,540	High school diploma or equivalent	1 to 5 years	None
144 - 150	472152	Plumbers, Pipefitters, and Steamfitters	13.5	9.25	46	\$63,100	High school diploma or equivalent	None	Apprenticeship
144 - 150	518021	Stationary Engineers and Boiler Operators	13.5	18.09	16	\$65,750	High school diploma or equivalent	None	Long-term on-the-job training
144 - 150	532021	Air Traffic Controllers	13.5	0.90	13	\$140,330	Associate's degree	None	Long-term on-the-job training
144 - 150	536051	Transportation Inspectors	13.5	5.16	11	\$107,750	Some college, no degree	None	Short-term on-the-job training
152 - 173	131023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	13	-4.83	87	\$77,370	High school diploma or equivalent	None	Long-term on-the-job training
152 - 173	173023	Electrical and Electronic Engineering Technicians	13	17.66	17	\$68,930	Associate's degree	None	None
152 - 173	271019	Artists and Related Workers, All Other	13	-6.63	88	\$84,860	High school diploma or equivalent	None	Long-term on-the-job training
152 - 173	292031	Cardiovascular Technologists and Technicians	13	34.09	4	\$64,190	Associate's degree	None	None
152 - 173	292032	Diagnostic Medical Sonographers	13	40.96	4	\$65,000	Associate's degree	None	None
152 - 173	292041	Emergency Medical Technicians and Paramedics	13	18.54	42	\$49,200	Postsecondary non-degree award	None	None
152 - 173	333051	Police and Sheriff's Patrol Officers	13	0.06	154	\$65,380	High school diploma or equivalent	None	Moderate-term on-the-job training
152 - 173	436012	Legal Secretaries	13	6.08	125	\$66,360	High school diploma or equivalent	None	Moderate-term on-the-job training
152 - 173	518031	Water and Liquid Waste Treatment Plant and System Operators	13	26.05	14	\$56,100	High school diploma or equivalent	None	Long-term on-the-job training

*Occupational Highlight: Paralegals and Legal Assistants**

What Paralegals and Legal Assistants Do: Paralegals and legal assistants do a variety of tasks to support lawyers, including maintaining and organizing files, conducting legal research, and drafting documents.

How to Become a Paralegals or Legal Assistant: There are several paths to become a paralegal. Candidates can enroll in a community college paralegal program to earn an associate's degree. A small number of schools also offer bachelor's and master's degrees in paralegal studies. Those who already have a bachelor's degree in another subject can earn a certificate in paralegal studies. Finally, some employers hire entry-level paralegals without any experience or education in paralegal studies and train them on the job, though these jobs typically require a bachelor's degree.

Relevant Eligible Training Programs in the District:

- Paralegal Institute of Washington

* Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Paralegals and Legal Assistants, on the Internet at <http://www.bls.gov/ooh/legal/paralegals-and-legal-assistants.htm>.

As previously mentioned, Table 6 displays the District's Top 31 *High Demand, High Wage* occupations according to the outlined methodology (see page 1). However, in Table 6 we are only viewing those occupations that typically require less than a bachelor's degree for entry into the occupation. Table 7, along with Charts 1 and 2, summarizes the various occupational requirements depicted in Table 6. The top two occupational groups represented in occupations requiring less than a bachelor's degree are Healthcare Practitioners and Technical (23%) and Management (13%).

Occupations	Count	Percentage
Healthcare Practitioners and Technical	7	23%
Management	4	13%
Protective Service	3	10%
Office and Administrative Support	3	10%
Business and Financial	2	6%
Construction and Extraction	2	6%
Production	2	6%
Transportation and Material Moving	2	6%
Computer and Mathematical	1	3%
Architecture and Engineering	1	3%
Legal	1	3%
Education, Training and Library	1	3%
Arts, Design, Entertainment, Sports and Media	1	3%
Sales and Related	1	3%
Grand Total	31	100%

Similar to Table 7 above, Chart 1 reveals that sixty-five (65) percent of *High Demand, High Wage* occupations requiring less than a bachelor’s degree in the District typically require no work experience in a related occupation to enter that occupation. Also, more than thirty (30) percent require more than one (1) year work experience, with six (6) percent requiring more than five (5) years. Chart 2, diverging from Table 5, tells us that for *High Demand, High Wage* occupations requiring less than a bachelor’s degree, roughly half require no training to gain competency in that occupation, while more than forty (40) percent require moderate- to long-term on-the-job training.

Chart 1. Required Work Experience for D.C. High Demand, High Wage Occupations (< Bachelor's Degree)

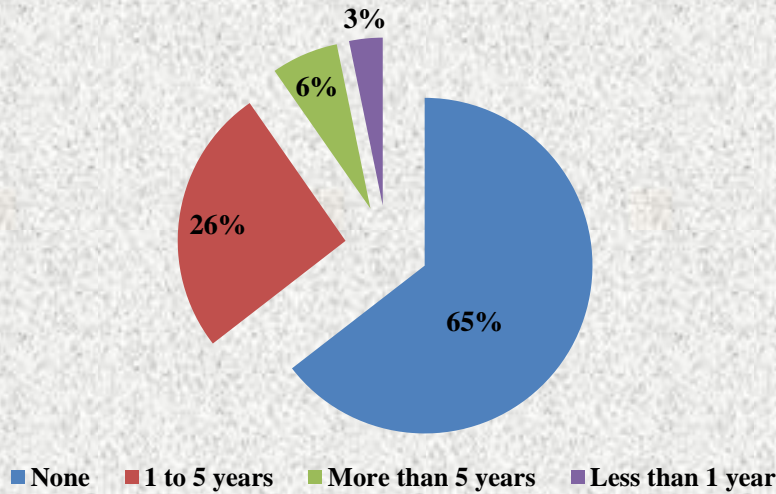
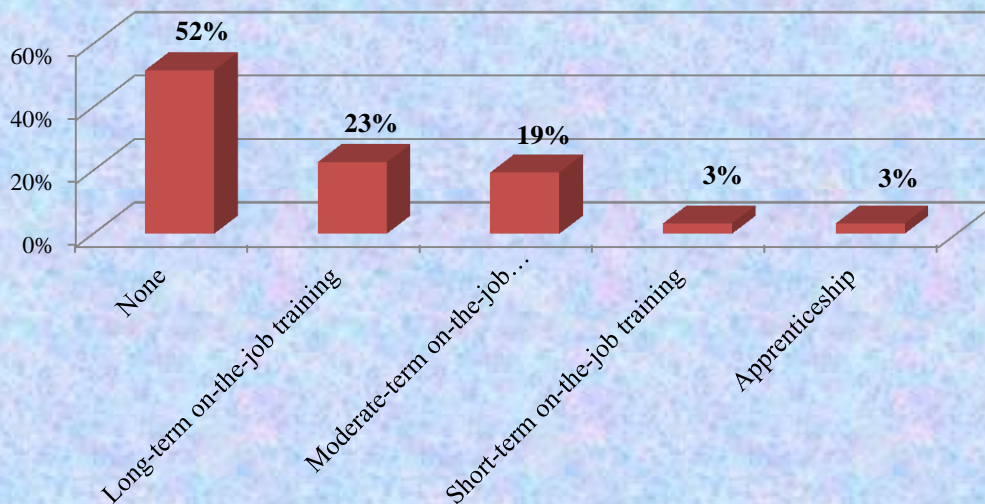


Chart 2. Required Level of Training for D.C. High Demand, High Wage Occupations (< Bachelor's Degree)



Job seekers in need of additional information related to occupational outlooks and requirements are encouraged to visit the Occupational Outlook Handbook web page, a product of the U.S. Bureau of Labor Statistics, at <http://www.bls.gov/ooh/home.htm>. The Occupational Outlook Handbook provides information on what workers do; the work environment; education, training, and other qualifications; pay; the job outlook; similar occupations; and sources of additional information for 334 occupational profiles covering about 84 percent of the jobs in the economy.