

# SECTION THREE

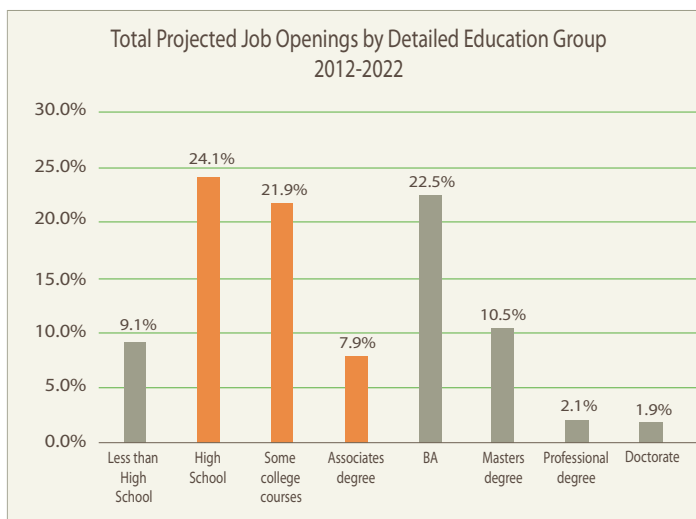
## Education Requirements For Job Openings in the Commonwealth

Using American Community Survey data for all Massachusetts workers, we estimated the education completed for the current workforce for each occupation in the state. **Figure 1** provides details on this distribution.

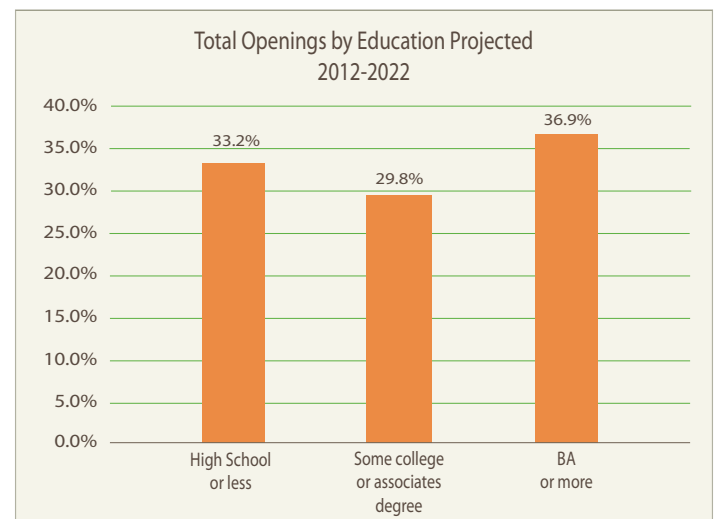
Accordingly, only about 9 percent of all Massachusetts workers have less than a high school degree. Another 24 percent have a high school degree, but no additional education. Nearly 22 percent have pursued college, but not completed it. Just under 8 percent have an associates degree from a community college. Those with a terminal BA degree constitute 22.5 percent of all workers with another 10.5 percent having a terminal master's degree. Only about 4 percent have a professional degree or Ph.D. Essentially, this is the current distribution of education across all jobs in the Commonwealth:

**Figure 2** provides a summary of this education distribution. As the figure suggests, about one-third of job holders in Massachusetts have a high school degree or less; a little less than 30 percent have some college or an associates degree, while a little more than a third have a BA or more. Hence, while there will be strong demand for college graduates in 2022, nearly two-thirds of job openings will require no more than a degree from a 2-year community college if education requirements remain roughly equivalent to today's.

**FIGURE 1**



**FIGURE 2**



SOURCE: American Community Survey, U.S. Census Bureau

## SECTION 3, TABLE 3

Not surprisingly, the number of job openings in each occupation requiring a given amount of education varies substantially. The 2-digit occupations requiring the least education are found in **Table 3**. Two-thirds of the jobs in Building and Grounds Cleaning and Maintenance Occupations, Production Occupations, and Construction and Extraction Occupations require no more than a high school degree. These three occupations alone are projected to require training for more than 112,000 Massachusetts workers between 2012 and 2022. The Commonwealth's vocational technical schools play a significant role in providing training for the range of production and construction occupations.

For four additional 2-digit occupations in this subset, at least half the employees require no more than a high school education. These are Farming, Fishing, and Forestry Occupations; Transportation and Material Moving Occupations; Installation, Maintenance, and Repair Occupations; and Food Preparation and Serving Related Occupations. These four alone account for a projected 236,000 openings between 2012 and 2022. Again, the state's vocational schools provide training in many of these occupations.

### 2-Digit Occupations Requiring Least Education

**TABLE 3**

Occupation Type	High School or less	Some college or associates degree	BA or more
370000 Building and Grounds Cleaning and Maintenance Occupations	<b>68.9%</b>	22.9%	8.2%
510000 Production Occupations	<b>65.6%</b>	25.0%	9.3%
470000 Construction and Extraction Occupations	<b>65.6%</b>	25.8%	8.6%
450000 Farming, Fishing, and Forestry Occupations	<b>63.5%</b>	23.3%	13.2%
530000 Transportation and Material Moving Occupations	<b>62.5%</b>	27.9%	9.6%
490000 Installation, Maintenance, and Repair Occupations	<b>58.0%</b>	32.9%	9.0%
350000 Food Preparation and Serving Related Occupations	<b>55.0%</b>	33.7%	11.3%
390000 Personal Care and Service Occupations	<b>47.1%</b>	36.6%	16.3%
290000 Healthcare Practitioners and Related Technical Occupations	<b>40.3%</b>	46.0%	13.7%
330000 Protective Service Occupations	<b>40.2%</b>	33.7%	11.3%
410000 Sales and Related Occupations	<b>36.4%</b>	33.8%	29.8%
430000 Office and Administrative Support Occupations	<b>36.0%</b>	40.6%	23.4%
310000 Healthcare Support Occupations	<b>28.5%</b>	40.9%	33.8%
210000 Community and Social Services Occupations	<b>12.7%</b>	23.1%	64.2%
110000 Management Occupations	<b>12.0%</b>	20.9%	67.1%
250000 Education, Training, and Library Occupations	<b>11.1%</b>	24.5%	61.5%
170000 Architecture and Engineering Occupations	<b>8.5%</b>	21.7%	69.8%
270000 Arts, Design, Entertainment, Sports, and Media Occupations	<b>7.6%</b>	35.2%	57.7%
130000 Business and Financial Operations Occupations	<b>5.8%</b>	19.4%	74.9%
150000 Computer and Mathematical Occupations	<b>5.8%</b>	19.4%	74.9%
190000 Life, Physical, and Social Science Occupations	<b>4.1%</b>	9.3%	86.7%
230000 Legal Occupations	<b>3.6%</b>	10.8%	85.6%
TOTALS All Occupations	<b>33.2%</b>	29.8%	36.9%

SOURCE: American Community Survey, U.S. Census Bureau

# SECTION 3, TABLE 4

## 2-Digit Occupations Requiring Some College or Associates Degree

TABLE 4

Occupation Type	High School or less	Some college or associates degree	BA or more
290000 Healthcare Practitioners and Related Technical Occupations	40.3%	46.0%	13.7%
310000 Healthcare Support Occupations	28.5%	40.9%	33.8%
430000 Office and Administrative Support Occupations	36.0%	40.6%	23.4%
390000 Personal Care and Service Occupations	47.1%	36.6%	16.3%
270000 Arts, Design, Entertainment, Sports, and Media Occupations	7.6%	35.2%	57.7%
410000 Sales and Related Occupations	36.4%	33.8%	29.8%
350000 Food Preparation and Serving Related Occupations	55.0%	33.7%	11.3%
330000 Protective Service Occupations	40.2%	33.7%	11.3%
490000 Installation, Maintenance, and Repair Occupations	58.0%	32.9%	9.0%
530000 Transportation and Material Moving Occupations	62.5%	27.9%	9.6%
470000 Construction and Extraction Occupations	65.6%	25.8%	8.6%
510000 Production Occupations	65.6%	25.0%	9.3%
250000 Education, Training, and Library Occupations	11.1%	24.5%	61.5%
450000 Farming, Fishing, and Forestry Occupations	63.5%	23.3%	13.2%
210000 Community and Social Services Occupations	12.7%	23.1%	64.2%
370000 Building and Grounds Cleaning and Maintenance Occupations	68.9%	22.9%	8.2%
170000 Architecture and Engineering Occupations	8.5%	21.7%	69.8%
110000 Management Occupations	12.0%	20.9%	67.1%
130000 Business and Financial Operations Occupations	5.8%	19.4%	74.9%
150000 Computer and Mathematical Occupations	5.8%	19.4%	74.9%
230000 Legal Occupations	3.6%	10.8%	85.6%
190000 Life, Physical, and Social Science Occupations	4.1%	9.3%	86.7%

SOURCE: American Community Survey, U.S. Census Bureau

A second subset of 2-digit occupations have a heavy concentration of jobs requiring some college or an associates degree. These are found in [Table 4](#). Leading the list are Healthcare Practitioners and Technical Occupations, Healthcare Support Occupations, and Office and Administrative Support Occupations. For each of these occupations, at least 40 percent of the job openings from 2012 to 2022 are expected to require such an educational background. Other 2-digit occupations in which at least a third of projected job openings will require some college or completion of community college include Personal Care and Service Occupations; Arts, Design, Entertainment, Sports, and Media Occupations; Sales and Related Occupations, Food Preparation and Serving Related Occupations; and Protective Service Occupations.

## SECTION 3, TABLE 5

Finally there are those 2-digit occupations in which a substantial proportion of expected job openings will require a four year college degree, professional degree, or post-graduate education including the Master's degree or Ph.D. These are found in **Table 5**. Essentially, three-quarters or more of the openings in Life, Physical, and Social Science Occupations; Legal Occupations; Business and Financial Operations Occupations; and Computer and Mathematical Occupations fall into this category.

### 2-Digit Occupations Requiring a B.A. or More Education

**TABLE 5**

SOC	Occupation Type	High School or less	Some college or associates degree	BA or more
190000	Life, Physical, and Social Science Occupations	4.1%	9.3%	<b>86.7%</b>
230000	Legal Occupations	3.6%	10.8%	<b>85.6%</b>
130000	Business and Financial Operations Occupations	5.8%	19.4%	<b>74.9%</b>
150000	Computer and Mathematical Occupations	5.8%	19.4%	<b>74.9%</b>
170000	Architecture and Engineering Occupations	8.5%	21.7%	<b>69.8%</b>
110000	Management Occupations	12.0%	20.9%	<b>67.1%</b>
210000	Community and Social Services Occupations	12.7%	23.1%	<b>64.2%</b>
250000	Education, Training, and Library Occupations	11.1%	24.5%	<b>61.5%</b>
270000	Arts, Design, Entertainment, Sports, and Media Occupations	7.6%	35.2%	<b>57.7%</b>
310000	Healthcare Support Occupations	28.5%	40.9%	<b>33.8%</b>
410000	Sales and Related Occupations	36.4%	33.8%	<b>29.8%</b>
430000	Office and Administrative Support Occupations	36.0%	40.6%	<b>23.4%</b>
390000	Personal Care and Service Occupations	47.1%	36.6%	<b>16.3%</b>
290000	Healthcare Practitioners and Related Technical Occupations	40.3%	46.0%	<b>13.7%</b>
450000	Farming, Fishing, and Forestry Occupations	63.5%	23.3%	<b>13.2%</b>
330000	Protective Service Occupations	40.2%	33.7%	<b>11.3%</b>
350000	Food Preparation and Serving Related Occupations	55.0%	33.7%	<b>11.3%</b>

SOURCE: American Community Survey, U.S. Census Bureau

Appendix B provides data on current education requirements for all 675 detailed occupations.