



# MOVING THE GOALPOSTS:

How Demand for  
a Bachelor's Degree is  
Reshaping the Workforce

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CAREERS IN FOCUS

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# INTRODUCTION

A Burning Glass Technologies analysis of shifting workforce credential requirements finds a broad range of occupations where employers are seeking a bachelor's degree for jobs that formerly required less education, even when the actual skills required haven't changed or when this makes the position harder to fill.

This phenomenon of “upcredentialing,” where employers seek college graduates for positions that used to require a high school diploma or other sub-baccalaureate training, has been much discussed but rarely quantified.

Burning Glass compared the education levels of workers currently employed in an occupation – a measure of past employer preferences – with the education levels employers are currently demanding for the same occupation. Current demand is measured from job postings and is indicative of the future orientation of each role. We can analyze the extent of upcredentialing by looking at the “credentials gap”: the difference between the educational attainment of currently employed workers and the educational attainment employers are demanding for new hires.



INCREASINGLY, EMPLOYERS ARE SEEKING  
BACCALAUREATE TALENT FOR WHAT HAVE BEEN  
SUB-BACCALAUREATE JOBS

Data on educational credentials currently in demand is drawn from Burning Glass's database of online job postings. Burning Glass gathers millions of job openings daily from more than 40,000 websites and then mines the text of each one to analyze each employer's specific requirements, including location and the particular skills, qualifications, and experience required. Data on the existing workforce's educational credentials comes from the 2011 and 2012 American Community Survey.<sup>1</sup> Occupations included in this analysis are positions that have traditionally been open to a broad range of job seekers, with or without a bachelor's degree. Specifically, we define these as roles where between 25% and 75% of job postings call for a B.A.<sup>2</sup>

Our analysis finds strong evidence of changes in the American workforce, with notable shifts in the qualifications employers are seeking. Increasingly, employers are seeking baccalaureate talent for what have historically been sub-baccalaureate jobs. Labor analysts have generally pointed to two possible explanations for this degree inflation: either jobs are becoming more complex and require new skills (known as “upskilling”), or employers have become more selective and favor more educated workers. Our analysis suggests both possibilities are at work, depending on the specific occupation.

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<sup>1</sup> The 2011 and 2012 ACS data represents most recent data available listing educational attainment by Standard Occupational Code.

<sup>2</sup> Throughout this report, the abbreviation “B.A.” is intended to refer generically to a bachelor's degree, including both Bachelors of Arts and Bachelors of Science degrees, among others.

## KEY FINDINGS

- Employers now require bachelor's degrees for a wide range of jobs, but the shift has been dramatic for some of the occupations historically dominated by workers without a college degree. The credential gap can amount to 25 percentage points or more for middle skill jobs in some occupational families, like Office and Administrative and Business and Financial Operations. For example, 65% of postings for Executive Secretaries and Executive Assistants<sup>3</sup> now call for a bachelor's degree. Only 19% of those currently employed in these roles have a B.A.
- In some roles, employers prefer bachelor's credentials even when that makes the position harder to fill. For example, Construction Supervisor<sup>4</sup> positions that require a B.A. take 61 days to fill on average, compared to 28 days for postings that don't require a bachelor's degree.
- In other occupations, such as entry level IT help desk<sup>5</sup> positions, the skill sets indicated in job postings don't include skills typically taught at the bachelor's level, and there is little difference in skill requirements for jobs requiring a college degree from those that do not. Yet the preference for a bachelor's degree has increased. This suggests that employers may be relying on a B.A. as a broad recruitment filter that may or may not correspond to specific capabilities needed to do the job.
- Jobs resist credential inflation when there are good alternatives for identifying skill proficiency. Many health care and engineering technician jobs, such as Respiratory Therapists<sup>6</sup>, show little sign of upcredentialing. That is likely because those positions are governed by strict licensing or certification standards, well-developed training programs, or by measurable skill standards such that employers do not need to look at a college degree as a proxy for capability.

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<sup>3</sup> 43-6011: Executive Secretaries and Executive Administrative Assistants. In this report, we will provide federal Standard Occupational Codes for clarity when positions are cited.

<sup>4</sup> 47-1011: First-Line Supervisors of Construction Trades and Extraction Workers

<sup>5</sup> 15-1151: Computer User Support Specialists & 15-1152: Computer Network Support Specialists

<sup>6</sup> 29-1126: Respiratory Therapists

## IMPLICATIONS

- One implication of this trend is that many middle-skill career pathways are becoming closed off to those without a bachelor's degree – a group that still comprises nearly two-thirds of the U.S. workforce.<sup>7</sup> Frequently these positions, such as IT help desk technicians<sup>8</sup>, serve as the first step on the career ladder to better jobs, so job seekers without a bachelor's degree may lose out on future advancement as well as current positions.
- This trend could exacerbate the problems employers face as they seek to replace workers amidst an aging workforce. Some of the occupations with the greatest credentials gap have older-than-average workforces, and will have significant turnover as workers retire. Raising credential requirements will make those employees even harder to replace.
- In many of those occupations with a growing credentials gap, it is worth examining exactly why employers prefer employees with a college education. In some cases, the skills needed in that occupation have objectively increased, as reflected in upgraded skill requirements as workers use advanced technology or apply more sophisticated analysis and judgment in their jobs. However, in many other cases — particularly those where the substance of the work does not appear to be changing or to be different based on whether or not a B.A. is required — employers may be using the bachelor's degree as a rough, rule-of-thumb screening system to recruit better workers. In the latter case, greater alignment between K-12 schools, job training programs, and employers might accomplish the same goal with greater precision.
- Jobs in fields with strong certification or licensure standards, or with discreet, measurable skill requirements seem to resist this trend. This suggests that developing certifications that better reflect industry needs, together with industry acceptance of these alternative credentials, could reduce pressure on job seekers to pursue a bachelor's degree and ensure that middle-skill Americans continue to have opportunities for rewarding careers, while continuing to provide employers with access to the talent they need.<sup>9</sup>

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<sup>7</sup> U.S. Bureau of Labor Statistics, "Educational attainment for workers 25 years and older by detailed occupation," Accessed Aug. 22, 2014; [www.bls.gov/emp/ep\\_table\\_111.htm](http://www.bls.gov/emp/ep_table_111.htm)

<sup>8</sup> 15-1151: Computer User Support Specialists & 15-1152: Computer Network Support Specialists

<sup>9</sup> Middle-skill jobs are usually considered occupations which require some post-secondary education, such as a certification or associate's degree, but not a bachelor's degree or higher.

## CREDENTIAL GAP BY MIDDLE SKILLS OCCUPATIONAL FAMILY

Occupational Family (+ Top Titles)	Credentials Gap	%Job Holders with BA+ (Source: American Community Survey)	% Postings Requiring Bachelor's Degree (Source: Burning Glass)	2013 Job Postings in Middle Skills Occupations (Source: Burning Glass)
<b>Management</b> - Production Supervisors - Transportation, Storage, and Distribution Managers	26%	42%	68%	710,652
<b>Office and Administrative Services</b> - Executive Secretaries and Executive Assistants - Insurance Claims Clerks	25%	20%	45%	865,134
<b>Business and Financial Operations</b> - Employment, Recruitment, and Placement Specialists - Training and Development Specialists	21%	51%	72%	535,921
<b>Computer and Mathematical</b> - Computer User Support Specialists - Computer Network Support Specialists	21%	39%	60%	226,240
<b>Sales and Related</b> - Wholesale and Manufacturing Sales Representatives - Supervisors of Retail Sales Workers	13%	43%	56%	1,391,113
<b>Architecture and Engineering</b> - Electrical and Electronic Engineering Technicians - Mechanical Drafters	10%	26%	36%	73,431
<b>Healthcare Practitioners</b> - Registered Nurses - Radiologic Technologists	0%	33%	33%	888,539

## RAISING THE BAR FOR MIDDLE SKILL WORKERS

### Credentials Gap in Administrative and Clerical Roles

Occupation Title	Credentials Gap	% Job Holders with BA+ (Source: American Community Survey)	% Postings Requiring Bachelor's Degree (Source: Burning Glass)	2013 Job Postings (Source: Burning Glass)
Executive Secretaries and Executive Assistants	46%	19%	65%	65,046
Credit Authorizers, Checkers and Clerks	40%	26%	66%	2,466
Insurance Claims and Policy Processing Clerks	24%	25%	49%	16,833
Production, Planning and Expediting Clerks	16%	32%	48%	70,102

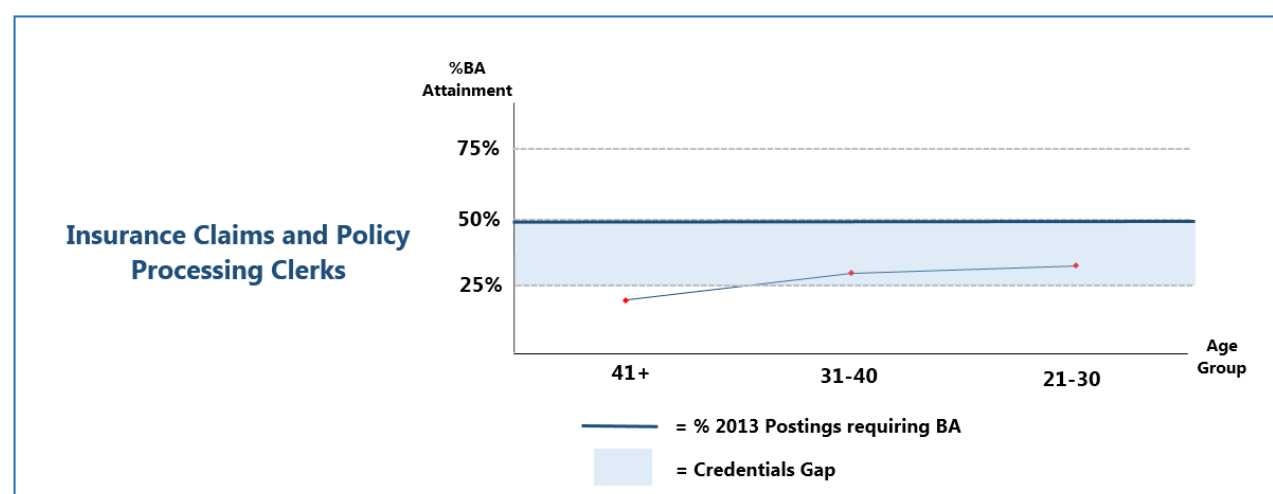
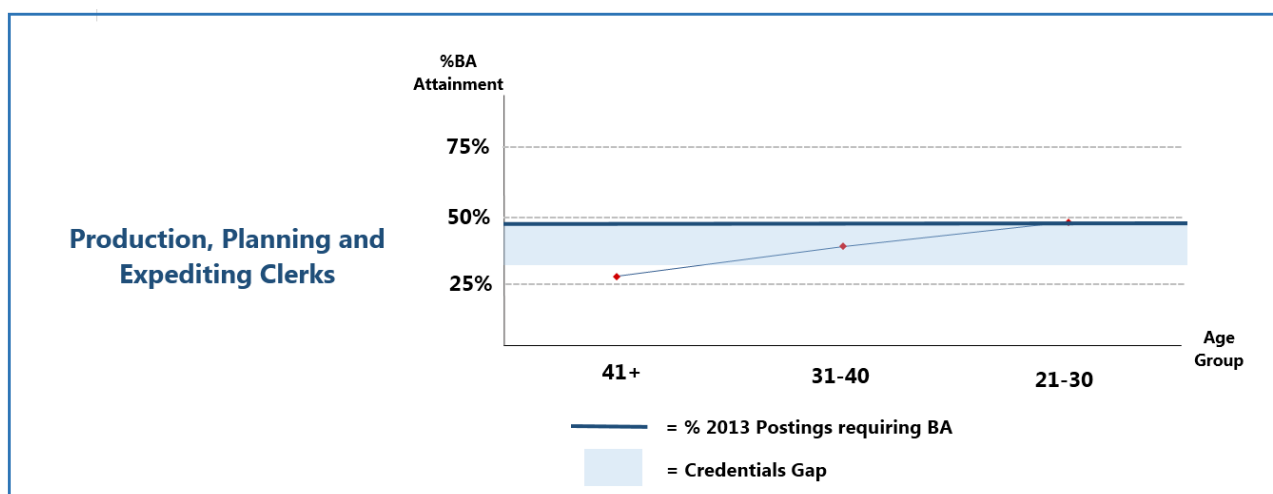
For generations, certain occupational families have served as a career paths for the high school graduate. Administrative Assistants, Executive Secretaries,<sup>10</sup> and clerks of all kinds are unlikely to have a bachelor's degree – yet they these jobs now face some of the largest credential gaps of any occupation. For example, half of postings for Insurance Claims Clerks<sup>11</sup> call for a bachelor's degree, but only a quarter of workers employed in the field have that degree. Similarly, there is a 16 percentage point credential gap between the current workforce and recent employer demand for Production Clerks. For Executive Secretaries and Executive Assistants<sup>10</sup>, the gap amounts to a staggering 46 percentage points. This reflects a shifting preference by employers for bachelor's-level talent among many support roles.

The preference for college graduates in clerical positions appears to have been growing over the last several decades. For example, Insurance Claims Clerks and Production Clerks in their forties, who likely entered the occupations decades ago, are only 60% as likely to have a bachelor's degree as newer entrants who are still in their twenties. For Insurance Claims Clerks, the credential gap between the existing workforce and what employers are requesting is widening even further, with recent job posting activity requesting a higher level of educational attainment than is held even by their youngest workers. However, the upcredentialing trend in many other occupations has begun to level off. In the case of Production Clerks, supply appears to be meeting demand, as the credential gap has been eliminated among workers aged 21 to 30. The 48% of workers in that age group with a bachelor's degree matches exactly the 48% of postings that call for a B.A.

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<sup>10</sup> 43-6011: Executive Secretaries and Executive Administrative Assistants

<sup>11</sup> 43-9041: Insurance Claims Clerks



Management career paths are also closing off for those without a bachelor's degree, particularly among those who supervise skilled-trade workers. Employers hiring Construction Supervisors<sup>12</sup> and Production and Operating Supervisors<sup>13</sup> are requesting candidates with greater academic pedigrees than those held by current workers. In addition to bachelor's credentials, these management roles commonly request managerial skills such as employee training proficiencies, manufacturing process skills such as Six Sigma, as well as knowledge of SAP and other sophisticated software packages.

The phenomenon of upcredentialing is particularly strong in the Human Resources occupations and related roles that manage the talent pool. Across entry-level Human Resource roles, employers are experiencing an average credential gap of 24 percentage points. In an increasingly competitive talent marketplace, employers appear to be putting more emphasis on filling HR departments with talent to recruit and develop their workforce. It is also possible that the upcredentialing of Human Resource positions could itself be contributing to the credential gap in other occupations if higher-credentialed recruiters are displaying an affinity for similarly qualified talent.

<sup>12</sup> 47-1011: First-Line Supervisors of Construction Trades and Extraction Workers

<sup>13</sup> 51-1011: First-Line Supervisors of Production and Operating Workers

### Credentials Gap in Management and Supervisory Roles

Occupation Title	Credentials Gap	%Job Holders with BA+ (Source: American Community Survey)	% Postings Requiring Bachelor's Degree (Source: Burning Glass)	2013 Job Postings (Source: Burning Glass)
First-Line Supervisors of Production and Operating Workers	45%	17%	62%	72,117
Transportation, Storage and Distribution Managers	42%	32%	74%	23,515
First-Line Supervisors of Mechanics, Installers, and Repairers	34%	14%	48%	49,097
First-Line Supervisors of Construction Trades and Extraction Workers	21%	12%	33%	19,411

### Credentials Gap in Human Resources Roles

Occupation Title	Credentials Gap	%Job Holders with BA+ (Source: American Community Survey)	%Real Time Postings Requiring Bachelor's Degree (Source: Burning Glass)	2013 Job Postings in Middle Skills Occupation (Source: Burning Glass)
Training and Development Specialists	25%	50%	75%	54,605
Human Resources Assistants, Except Payroll and Timekeeping	22%	29%	51%	28,337



## EMPLOYERS FAVOR COLLEGE GRADUATES, EVEN WHEN IT MAKES HIRING DIFFICULT

A preference for college graduates does have other implications for an employer. One is that this may make positions harder to fill. For example, Mechanic, Installation, and Repair Supervisor<sup>14</sup> positions that require a bachelor's take almost 20% longer to fill than those that don't (37.5 days compared to 32 days). The gap for Construction Supervisors is even greater, with bachelor's degree openings taking 61 days to fill compared to only 28 days for non-B.A. positions. A similar pattern is developing with Office and Administrative positions, with postings requiring a college degree taking substantially longer to fill than those that do not.

### Average Time to Fill Job Postings<sup>15</sup>

Occupational Title	Credentials Gap	Average # of Days to Fill Postings That Do Not Require a BA (Burning Glass)	Average # of Days to Fill Postings That Require a BA (Burning Glass)	% Change
Executive Secretaries and Executive Assistants	46%	24.85	27.96	13%
Transportation, Storage and Distribution Managers	42%	31.42	33.35	6%
First-Line Supervisors of Mechanics, Installers, and Repairers	34%	31.92	37.49	17%
Training and Development Specialists	25%	34.98	36.64	5%
Insurance Claims and Policy Processing Clerks	24%	24.08	27.93	16%
Human Resources Assistants, Except Payroll and Timekeeping	22%	21.65	24.02	11%
First-Line Supervisors of Construction Trades and Extraction Workers	21%	28.28	61.31	117%
Computer User Support Specialists (Helpdesk)	21%	27.14	37.88	40%
Production, Planning and Expediting Clerks	16%	25.83	31.08	20%

<sup>14</sup> 49-1011: First-Line Supervisors of Mechanics, Installers, and Repairers

<sup>15</sup> Statistics on the time required to fill various jobs is computed as the number of days they remain posted.

The good news for workers (or bad news for employers, depending on your point of view) is that this shift is raising salaries in these occupations. Office and Administrative positions have seen tremendous salary growth, according to the Bureau of Labor Statistics. Executive Secretaries and Executive Administrative Assistants<sup>16</sup> have seen a 41% raise in salaries since 2004, compared to the 24% national average over the period.



## THE GOOD NEWS FOR WORKERS (OR BAD NEWS FOR EMPLOYERS) IS THAT THIS SHIFT IS RAISING SALARIES

Employers' desire for a bachelor's degree can vary depending on the business sector involved, even for similar positions. The higher education sector is more likely than other industries to require a bachelor's degree for Executive Secretaries and Executive Assistants<sup>16</sup>, and so is the financial sector. By contrast, Hospitals and Public Sector employers continue to be centers of sub-B.A. opportunity. However, in many cases, the sectors that have been experiencing the greatest job growth are those that are more likely to require a bachelor's degree for equivalent positions. For example, while the Bureau of Labor Statistics projects high job growth for Financial Services industries, Public Sector and Governmental positions are projected to decline – thereby shifting the balance away from sub-B.A. opportunity in Office and Administrative Support roles.

It is important to note that, analysis of the skill requirements of Office and Administrative Support job postings shows little difference between those at the bachelor's and sub-baccalaureate levels, or between those in various sectors (e.g. financial services vs. public sector). This suggests that, for these jobs, degree inflation may not reflect any change in the role itself. Rather, private-sector industries appear to be using college credentials as a proxy for higher-caliber workers — and have the money to pay accordingly.

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<sup>16</sup> 43-6011: Executive Secretaries and Executive Administrative Assistants

## THIS TREND WILL EXACERBATE THE PROBLEM OF REPLACING AGING WORKFORCES

While rising demand for better-educated workers is already rendering many positions harder to fill, this problem is likely to become worse over time as higher qualification requirements compound the challenges presented by long-term demographic trends. That's because, in many of these occupations, the current workforce is older than average, and will need to be replaced as workers retire. Yet the desire for better-educated workers may make it more difficult to fill those positions.

### Credentials Gap and Average Age of Select Occupations

Occupational Title	Credentials Gap	2012 Median Age (BLS)	Number of Years Above National Workforce Median Age
Executive Secretaries and Executive Assistants	46%	48.5	6.2
First-Line Supervisors of Production and Operating Workers	45%	48	5.7
First-Line Supervisors of Mechanics, Installers, and Repairers	34%	47.7	5.4
First-Line Supervisors of Office and Administrative Support Workers	29%	45.3	3
Surveying and Mapping Technicians	25%	45	2.7
Training and Development Specialists	25%	43.8	1.5
First-Line Supervisors of Construction Trades and Extraction Workers	21%	47.8	5.5
All Engineering Technicians	21%	46.8	4.5
Production, Planning and Expediting Clerks	16%	44.1	1.8

Many of the Production and Operating supervisor<sup>17</sup> roles are prime examples. These positions have an older workforce, with a median age of 48, compared to 42 for the entire U.S. workforce. Construction Supervisors<sup>18</sup> and Production and Operating Supervisors<sup>17</sup> are typically promoted from line construction and production roles.<sup>19</sup> However, few of these skilled trade workers, such as Construction Workers, Construction/Building

<sup>17</sup> 51-1011: First-Line Supervisors of Production and Operating Workers

<sup>18</sup> 47-1011: First-Line Supervisors of Construction Trades and Extraction Workers

<sup>19</sup> Based on analysis of resumes in the Burning Glass proprietary database

Inspectors, and Chemical Operators, hold bachelor's degrees. The current talent pipeline is unlikely to be able to fill the demand.

The Office and Administrative Support and Business and Financial occupational families — both of which have experienced a significant credential gap — also have a higher-than-average proportion of older workers (a median age of 48.5 for Executive Secretaries and Executive Assistants), so they may also face problems replacing workers as they retire.

## IN SOME JOBS, HIGHER CREDENTIAL REQUIREMENTS REFLECT MORE SKILLED WORK...

### Credentials Gap in Drafting Roles

Occupation Title	Credentials Gap	%Job Holders with BA+ (Source: American Community Survey)	%Real Time Postings Requiring Bachelor's Degree (Source: Burning Glass)	2013 Job Postings in Middle Skills Occupation (Source: Burning Glass)
Electrical and Electronics Drafters	21%	27%	48%	5,026
Architectural and Civil Drafters	14%	27%	41%	4,112
Mechanical Drafters	12%	27%	39%	16,636

Some occupations are in fact becoming more complex, and that can be seen in the evolution of job requirements.

For example, employers are increasingly demanding that Drafters, an occupation traditionally open to those without a B.A., possess bachelor's-level credentials. Depending on the specific role, the credential gap for Drafters can be anywhere from 12 to 21 percentage points.

This change seems largely driven by technology. As computer-assisted design and other architectural software make the drafting process more efficient, employers are looking for Drafters to bring additional skills and expertise to the workplace. This includes expertise in fields like purchasing, as Drafters are moving into a more integrated role assisting in design structure during product development and therefore coordinating bills of material with purchasing departments. In effect, as technology reshapes their craft, Drafters are becoming more like junior engineers.

This is another area where a credentials gap also results in higher salaries for those who actually have a bachelor's degree. Salaries for Drafters have converged with engineering salaries over the last decade. Salaries for Electrical and Electronic Drafters<sup>20</sup> have grown 29% since 2004 while salaries for Mechanical Engineers have grown 25.5%. Further, Architectural and Civil Drafter<sup>21</sup> salaries have grown 26% since 2004, while salaries for Architects themselves have only seen 20% growth.

The continued evolution of the Engineering occupations is further reflected by a rise in employment for all Engineers compared to a decline in Drafting and Technician roles. In 2000, there were approximately 1.5 Engineers for every Drafter and Technician. By May 2013 that ratio had increased to 2.4 Engineers for every

<sup>20</sup> 17-3012: Electrical and Electronic Drafters

<sup>21</sup> 17-3011: Architectural and Civil Drafters

Drafter and Technician<sup>22</sup>. Not only are Engineering support occupations becoming more advanced, but many prospective Drafters and Technicians are foregoing this step and vying to become Engineers.

In other occupations as well, there is a clear distinction between the skill requirements of those postings that ask for a bachelor's degree and those that don't, suggesting that employers' growing preference for higher credentials may be a reflection of their need for more advanced skills. This is particularly true in financial occupations. Postings for Loan Officers<sup>23</sup> that require college graduates, for example, are more likely to ask for national accreditations and specific commercial and retail lending skills than other postings.

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<sup>22</sup> 2000 & 2013 Bureau of Labor Statistics Occupational Employment Statistics

<sup>23</sup> 13-2072: Loan Officers

## ...BUT IN MANY OTHER CASES IT'S STILL THE SAME JOB

### Credentials Gap in Help Desk Roles

Occupation Title	Credentials Gap	%Job Holders with BA+ (Source: American Community Survey)	% Postings Requiring Bachelor's Degree (Source: Burning Glass)	2013 Job Postings (Source: Burning Glass)
Computer Network Support Specialists	31%	39%	70%	11,675
Computer User Support Specialists	21%	39%	60%	201,332

While in some occupations the rising demand for college graduates reflects employers' need for more advanced skill sets, in many other occupations the substance of jobs at the B.A. and sub-B.A. levels seems little different. For example, there has been a striking rise in demand for bachelor's degrees in IT help desk positions, historically a first step on the IT career ladder – and an important entry to technology careers for those without a college degree. Our analysis finds a 21% credential gap for Computer User Support Specialists<sup>24</sup>, with only 39% of current job holders possessing a B.A., but 60% of new job postings requesting a degree. Yet when we examine the postings, the specific skills advertised for help desk roles with and without a B.A. are identical.

This strongly suggests that, in such occupations, employers have come to rely on a bachelor's degree primarily as a means of screening applicants, in a way that may not be related to job duties themselves – even though this preference for college graduates also makes these jobs substantially harder to fill. Help desk jobs calling for a bachelor's degree take 35% longer to fill on average than those that do not. The skills needed for these roles include hardware and software configuration, VPN and computer repair, knowledge sets which can typically be learned in one-to-two year training programs. In fact, these skills are rarely taught in four-year bachelor's degree programs, so applicants with college degrees may in fact be less directly qualified than their sub-B.A. peers.

When credential requirements align more clearly with skills, gaps in posting duration (a measure of how hard a job is to fill) narrow considerably. For example, among those computer support roles that require programming skills such as SQL and Java, which are often taught in B.A. computer science programs but less often in sub-B.A. programs of study, postings requesting a B.A. are open an average of 41 days compared to 36 days for sub-B.A. postings. For Network Support Specialists<sup>25</sup>, it actually takes two days longer to fill a non-bachelor's opening.

<sup>24</sup> 15-1151: Computer User Support Specialists

<sup>25</sup> 15-1152: Computer Network Support Specialists

There is considerable anecdotal evidence that many administrative, clerical, and human resources positions have become more demanding because workers have to deal with new technologies. However, the skills requested in job postings for those positions are similar whether they ask for a bachelor's degree or not. The degrees held by the existing workforce in these occupations are spread out over the educational spectrum (only one-third of the Insurance Clerks<sup>26</sup> have a bachelor's degree; only 8 percent of all workers have a business degree, for example).<sup>27</sup> This is additional evidence that employers are using the bachelor's degree as a proxy for higher-level skills. It isn't so much that college graduates bring a new skill set that employers can't find elsewhere; it's that employers seem to presume that a college graduate will be more capable at the needed skill set than those without a degree.

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<sup>26</sup> 43-9041: Insurance Claims and Policy Processing Clerks

<sup>27</sup> U.S. Census Bureau, American Community Survey, accessed via IPUMS-USA, <https://usa.ipums.org/usa/>



## SOME POSITIONS RESIST THE TREND

Some professions, while not exactly immune, show little or no signs of upcredentialing. Degree requirements for health care technicians, for example, reflect little evidence of a credential gap. What these positions have in common are strong credential requirements that exist outside the traditional higher education degree structure: state licensing requirements, certifications accepted industrywide, or specific measurable skills. A radiology technician, for example, needs to have specific certifications. Employers have specific criteria to use as a yardstick when hiring, so there's not as much incentive to apply the less-specific screen of a bachelor's degree.

One notable exception in health care involves registered nurses<sup>28</sup>, who account for half of all demand in occupations open to sub-B.A. job seekers. Yet, these roles too have been dramatically upcredentialing over the last several years. Some 64% of nurses under 30 years old hold a bachelor's degree compared with 51% of their colleagues older than age 40. This upcredentialing trend is particularly pronounced in hospital settings, where nursing roles tend to be more complex and technically sophisticated. While we do not currently see evidence of a credential gap for R.N.'s in national data, opportunities for job seekers without bachelor's degree are increasingly concentrated in less desirable, lower-paying roles in skilled nursing facilities and clinics vs. in hospitals where nursing roles tend to involve more technically sophisticated work and provide greater opportunity for upward career mobility. 🏠

### ABOUT BURNING GLASS

Burning Glass's tools and data are playing a growing role in informing the global conversation on education and the workforce by providing researchers, policy makers, educators, and employers with detailed real-time awareness into skill gaps and labor market demand. Burning Glass's job seeker applications power several government workforce systems and have been shown to have substantive impact on reemployment outcomes and on labor market literacy.

With headquarters in Boston's historic Faneuil Hall, Burning Glass is proud to serve a client base that spans six continents, including education institutions, government workforce agencies, academic research centers, global recruitment and staffing agencies, major employers, and leading job boards. Visit us at [www.burning-glass.com](http://www.burning-glass.com).

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<sup>28</sup> 29-1141: Registered Nurses

# APPENDIX

SOC Code	Occupation Title	2013 Total Postings (Burning Glass)	%BA+ 40+ (American Community Survey 2012)	%BA+ 31-40 (ACS 2012)	%BA+ 18-30 (ACS 2012)	%BA+ Total (2011 & 2012 ACS)	% 2013 Real Time Job Postings Requiring Bachelor's Degree (Burning Glass)	Credentials Gap	2012 Median Age (Bureau of Labor Statistics)	Average # of Days to Fill Postings That Do Not Require a BA (Burning Glass)	Average # of Days to Fill Postings That Require a BA (Burning Glass)	2004 Salary (BLS)	2013 Salary (BLS)	Salary % Change
11-1021	General and Operations Managers	157302	51%	56%	NA	52%	72%	20%	45.10	30.29	35.08	\$92,010	\$116,090	26%
11-3071	Transportation, Storage, and Distribution Managers	23515	31%	35%	31%	32%	74%	42%	44.70	31.42	33.35	\$72,530	\$91,220	26%
11-9013	Farmers, Ranchers, and Other Agricultural Managers	4618	23%	28%	27%	23%	68%	45%	55.90	22.53	31.96	\$55,140	\$73,210	33%
11-9051	Food Service Managers	147977	25%	27%	22%	25%	49%	24%	39.70	33.28	32.28	\$43,940	\$53,130	21%
11-9081	Lodging Managers	9300	38%	46%	49%	41%	58%	17%	48.30	26.50	31.17	\$44,060	\$55,810	27%
11-9111	Medical and Health Services Managers	314586	63%	67%	66%	64%	69%	5%	49.30	38.62	39.29	\$75,140	\$101,340	35%
11-9141	Property, Real Estate, and Community Association Managers	41296	41%	44%	42%	42%	68%	26%	50.20	34.32	31.79	\$48,760	\$64,270	32%
11-9151	Social and Community Service Managers	12058	65%	78%	80%	69%	70%	1%	46.20	36.46	28.32	\$50,740	\$65,750	30%
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	2177	58%	67%	56%	60%	61%	1%	NA	46.63	29.14	\$69,520	\$96,410	39%
13-2021	Appraisers and Assessors of Real Estate	4616	50%	63%	54%	53%	64%	11%	50.50	26.62	45.43	\$49,350	\$57,040	16%
13-1051	Cost Estimators	24305	28%	44%	52%	34%	65%	31%	45.60	34.13	39.91	\$53,870	\$63,660	18%
13-1021	Buyers and Purchasing Agents, Farm Products	1056	20%	38%	53%	28%	52%	24%	NA	33.09	36.37	\$49,980	\$60,470	21%
13-1131	Fundraisers	5095	79%	85%	79%	80%	71%	-9%	40.20	28.78	37.95	\$38,350	\$56,270	47%
13-1032	Insurance Appraisers, Auto Damage	6520	NA	NA	NA	44%	51%	7%	45.90	31.69	31.89	\$45,780	\$63,100	38%
13-1071	Human Resources Specialists*	211598	NA	NA	NA	54%	74%	20%	NA	29.27	32.12	\$47,330	\$61,560	30%
13-1075	Labor Relations Specialists	2316	NA	NA	NA	54%	71%	17%	NA	27.21	33.45	\$49,240	\$56,590	15%
13-2071	Credit Counselors	5207	NA	NA	NA	47%	58%	11%	42.40	27.52	24.76	\$38,710	\$44,960	16%
13-1081	Logisticians	64266	45%	46%	48%	46%	74%	28%	45.10	32.42	32.19	\$60,310	\$76,330	27%
13-2052	Personal Financial Advisors	90702	78%	83%	81%	79%	75%	-4%	45.70	23.15	38.01	\$82,570	\$99,920	21%
13-2072	Loan Officers	51957	NA	NA	NA	47%	62%	15%	42.40	31.51	40.01	\$58,200	\$71,800	23%
13-2081	Tax Examiners and Collectors, and Revenue Agents	3830	43%	58%	59%	46%	53%	7%	48.70	23.97	27.67	\$48,210	\$56,120	16%
13-2082	Tax Preparers	7671	49%	48%	38%	48%	43%	-5%	49.60	17.61	31.94	\$34,330	\$43,350	26%
13-1151	Training and Development Specialists	54605	49%	52%	49%	50%	75%	25%	43.80	34.98	36.64	\$47,780	\$60,780	27%
15-1111	Computer and Information Research Scientists	13233	78%	96%	86%	84%	54%	-30%	40.00	31.60	39.61	\$88,020	\$109,260	24%
15-1151	Computer User Support Specialists	201332	39%	39%	39%	39%	60%	21%	40.40	27.14	37.88	\$43,620	\$50,450	16%

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15-1152	Computer Network Support Specialists	11675	NA	NA	NA	39%	70%	31%	40.10	32.88	31.07	\$43,620	\$64,160	47%
17-1021	Cartographers and Photogrammetrists	360	NA	NA	NA	76%	56%	-20%	44.80	69.60	33.20	\$48,830	\$62,540	28%
17-1022	Surveyors	4286	NA	NA	NA	76%	50%	-26%	NA	42.87	26.43	\$46,080	\$59,570	29%
17-3011	Architectural and Civil Drafters	4112	NA	NA	NA	27%	41%	14%	NA	27.38	41.48	\$40,750	\$51,250	26%
17-3012	Electrical and Electronics Drafters	4112	NA	NA	NA	27%	48%	21%	NA	39.07	45.24	\$46,760	\$60,350	29%
17-3013	Mechanical Drafters	16636	NA	NA	NA	27%	39%	12%	NA	40.88	40.51	\$45,140	\$54,510	21%
17-3019	Drafters, All Other	6666	NA	NA	NA	27%	44%	17%	43.60	34.71	42.40	\$45,560	\$50,930	12%
17-3021	Aerospace Engineering and Operations Technicians	917	NA	NA	NA	17%	55%	38%	46.50	41.69	41.91	\$54,040	\$62,540	16%
17-3022	Civil Engineering Technicians	5283	NA	NA	NA	17%	37%	20%	NA	32.39	24.90	\$39,900	\$49,380	24%
17-3023	Electrical and Electronics Engineering Technicians	24252	NA	NA	NA	17%	28%	11%	NA	35.23	57.02	\$47,130	\$58,770	25%
17-3024	Electro-Mechanical Technicians	1349	NA	NA	NA	17%	30%	13%	NA	42.76	32.57	\$43,130	\$54,160	26%
17-3025	Environmental Engineering Technicians	237	NA	NA	NA	17%	44%	27%	NA	28.15	19.50	\$40,660	\$49,180	21%
17-3031	Surveying and Mapping Technicians	2982	7%	11%	12%	9%	34%	25%	45.00	29.87	26.66	\$32,780	\$43,540	33%
17-3026	Industrial Engineering Technicians	1325	NA	NA	NA	17%	37%	20%	NA	30.97	39.04	\$47,080	\$54,170	15%
19-1011	Animal Scientists	242	NA	NA	NA	79%	57%	-22%	NA	NA	19.50	\$53,800	\$72,930	36%
19-1012	Food Scientists and Technologists	2553	NA	NA	NA	79%	75%	-4%	NA	36.31	41.64	\$56,110	\$65,340	16%
19-1013	Soil and Plant Scientists	2017	NA	NA	NA	79%	65%	-14%	NA	NA	38.12	\$55,470	\$62,830	13%
19-1021	Biochemists and Biophysicists	1919	NA	NA	NA	96%	56%	-40%	NA	24.35	33.19	\$71,730	\$91,640	28%
19-1022	Microbiologists	3490	NA	NA	NA	96%	72%	-24%	NA	102.50	36.73	\$61,250	\$75,230	23%
19-1023	Zoologists and Wildlife Biologists	2038	NA	NA	NA	96%	66%	-30%	NA	5.00	47.31	\$53,120	\$62,610	18%
19-1031	Conservation Scientists	4567	NA	NA	NA	84%	64%	-20%	NA	36.06	25.92	\$53,500	\$63,330	18%
19-1041	Epidemiologists	1623	NA	NA	NA	84%	56%	-28%	NA	31.29	34.53	\$58,060	\$73,040	26%
19-1042	Medical Scientists, Except Epidemiologists	66823	NA	NA	NA	84%	55%	-29%	NA	42.45	40.71	\$68,730	\$90,230	31%
19-1099	Life Scientists, All Other	53	NA	NA	NA	84%	66%	-18%	NA	NA	59.25	\$63,710	\$76,900	21%
19-2012	Physicists	2823	NA	NA	NA	96%	36%	-60%	NA	12.25	36.12	\$89,090	\$117,040	31%
19-2021	Atmospheric and Space Scientists	1098	85%	78%	63%	76%	72%	-4%	NA	NA	35.47	\$69,590	\$88,140	27%

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19-2031	Chemists	22854	NA	NA	NA	92%	71%	-21%	NA	41.89	35.41	\$61,220	\$77,740	27%
19-2032	Materials Scientists	1284	NA	NA	NA	92%	54%	-38%	NA	21.86	32.94	\$74,390	\$91,160	23%
19-2042	Geoscientists, Except Hydrologists and Geographers	5776	NA	NA	NA	94%	72%	-22%	NA	40.20	45.40	\$76,870	\$108,420	41%
19-2043	Hydrologists	1040	NA	NA	NA	94%	72%	-22%	NA	NA	36.52	\$64,100	\$79,260	24%
19-3011	Economists	2578	99%	98%	100%	99%	47%	-52%	NA	76.75	37.54	\$79,770	\$101,450	27%
19-3051	Urban and Regional Planners	1929	94%	97%	96%	95%	74%	-21%	NA	30.22	36.40	\$55,640	\$67,920	22%
19-4011	Agricultural and Food Science Technicians	4370	21%	34%	42%	28%	64%	36%	NA	27.79	40.20	\$31,980	\$37,010	16%
19-4021	Biological Technicians	10068	40%	47%	61%	48%	57%	9%	NA	37.17	34.50	\$35,450	\$43,710	23%
19-4031	Chemical Technicians	3424	30%	46%	58%	39%	57%	18%	39.40	25.49	30.19	\$39,600	\$46,590	18%
21-1011	Substance Abuse and Behavioral Disorder Counselors	7487	NA	NA	NA	71%	50%	-21%	NA	24.75	31.38	\$34,310	\$41,090	20%
21-1013	Marriage and Family Therapists	6462	NA	NA	NA	71%	31%	-40%	NA	NA	34.26	\$42,040	\$51,690	23%
21-1014	Mental Health Counselors	35415	NA	NA	NA	71%	44%	-27%	NA	28.84	30.61	\$36,000	\$43,700	21%
21-1015	Rehabilitation Counselors	2395	NA	NA	NA	71%	56%	-15%	NA	33.75	23.13	\$30,710	\$37,660	23%
21-1019	Counselors, All Other	2757	NA	NA	NA	71%	60%	-11%	NA	34.31	24.66	\$37,880	\$46,330	22%
21-1021	Child, Family, and School Social Workers	12865	NA	NA	NA	75%	65%	-10%	NA	29.40	29.91	\$37,830	\$46,060	22%
21-1023	Mental Health and Substance Abuse Social Workers	5722	NA	NA	NA	75%	42%	-33%	NA	22.99	28.16	\$36,060	\$44,420	23%
21-1029	Social Workers, All Other	25704	NA	NA	NA	75%	33%	-42%	NA	55.50	31.96	\$41,180	\$56,060	36%
21-1091	Health Educators	20865	NA	NA	NA	75%	73%	-2%	NA	33.80	38.79	\$42,120	\$53,800	28%
21-1093	Social and Human Service Assistants	21867	34%	45%	47%	39%	48%	9%	42.20	34.40	32.16	\$25,890	\$31,280	21%
21-1094	Community Health Workers	1330	NA	NA	NA	52%	37%	-15%	NA	30.40	22.34	NA	\$37,640	NA
21-1099	Community and Social Service Specialists, All Other	5734	NA	NA	NA	52%	63%	11%	NA	26.86	29.94	\$34,470	\$42,690	24%
21-2021	Directors, Religious Activities and Education	3208	65%	67%	63%	65%	73%	8%	48.30	NA	22.76	\$33,560	\$44,240	32%
23-1012	Judicial Law Clerks	9715	71%	98%	100%	92%	52%	-40%	NA	22.63	30.41	\$35,180	\$53,890	53%
23-2091	Court Reporters	169	NA	NA	NA	40%	25%	-15%	NA	19.50	NA	\$47,070	\$54,760	16%
23-2093	Title Examiners, Abstractors, and Searchers	11175	NA	NA	NA	40%	60%	20%	NA	31.74	42.68	\$39,360	\$47,340	20%
23-2099	Legal Support Workers, All Other	2546	NA	NA	NA	40%	66%	26%	NA	23.82	30.79	\$45,330	\$61,560	36%

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25-3021	Self-Enrichment Education Teachers	16785	NA	NA	NA	49%	56%	7%	NA	44.17	48.28	\$35,210	\$40,680	16%
25-3099	Teachers and Instructors, All Other	45979	NA	NA	NA	49%	73%	24%	NA	44.56	66.65	\$33,100	\$48,750	47%
25-4011	Archivists	763	NA	NA	NA	79%	47%	-32%	NA	23.00	28.26	\$39,630	\$52,670	33%
25-4012	Curators	1731	NA	NA	NA	79%	53%	-26%	NA	8.60	26.04	\$47,920	\$55,620	16%
25-4013	Museum Technicians and Conservators	1610	NA	NA	NA	79%	60%	-19%	NA	17.00	36.50	\$35,270	\$44,330	26%
25-4021	Librarians	10776	82%	92%	75%	83%	37%	-46%	51.10	17.32	29.78	\$47,590	\$57,550	21%
25-4031	Library Technicians	1906	28%	51%	36%	32%	26%	-6%	NA	28.85	26.00	\$26,260	\$33,000	26%
25-9011	Audio-Visual and Multimedia Collections Specialists	1270	NA	NA	NA	74%	41%	-33%	NA	13.00	25.42	\$35,630	\$46,840	31%
25-9021	Farm and Home Management Advisors	5430	NA	NA	NA	74%	68%	-6%	NA	19.30	27.36	\$44,960	\$49,010	9%
25-9031	Instructional Coordinators	14966	NA	NA	NA	74%	75%	1%	NA	25.29	35.83	\$51,450	\$63,070	23%
27-1027	Set and Exhibit Designers	911	NA	NA	NA	51%	66%	15%	NA	32.22	43.80	\$40,000	\$53,990	35%
27-3031	Public Relations Specialists	44510	71%	89%	85%	78%	73%	-5%	41.10	31.95	29.15	\$49,510	\$63,020	27%
27-3091	Interpreters and Translators	14720	NA	NA	NA	44%	38%	-6%	NA	38.06	45.40	\$36,630	\$47,920	31%
27-4031	Camera Operators, Television, Video, and Motion Picture	3391	NA	NA	NA	47%	56%	9%	NA	22.57	26.31	\$41,690	\$52,530	26%
27-4032	Film and Video Editors	1509	NA	NA	NA	47%	68%	21%	NA	29.70	34.69	\$50,690	\$69,490	37%
29-1124	Radiation Therapists	1948	48%	61%	54%	53%	67%	14%	NA	21.16	35.70	\$60,420	\$81,740	35%
29-1126	Respiratory Therapists	16389	26%	24%	30%	26%	42%	16%	43.20	33.68	37.41	\$44,180	\$57,880	31%
29-1129	Therapists, All Other	141	81%	81%	81%	81%	52%	-29%	40.80	NA	17.83	\$44,620	\$58,610	31%
29-1141	Registered Nurses	667637	51%	57%	63%	54%	38%	-16%	45.00	38.85	35.30	\$54,210	\$68,910	27%
29-2012	Medical and Clinical Laboratory Technicians	49173	NA	NA	NA	51%	33%	-18%	NA	62.19	31.24	\$32,120	\$40,240	25%
29-2021	Dental Hygienists	5942	37%	31%	31%	34%	41%	7%	41.40	22.95	31.57	\$59,440	\$71,530	20%
29-2032	Diagnostic Medical Sonographers	9884	NA	NA	NA	23%	31%	8%	NA	39.26	39.58	\$53,620	\$67,170	25%
29-2033	Nuclear Medicine Technologists	1040	NA	NA	NA	23%	54%	31%	NA	28.50	43.56	\$61,210	\$71,970	18%
29-2034	Radiologic Technologists	14498	NA	NA	NA	23%	27%	4%	NA	26.95	34.02	\$44,530	\$56,760	27%
29-2053	Psychiatric Technicians	6513	NA	NA	NA	18%	41%	23%	NA	28.32	26.75	\$27,940	\$33,470	20%
29-2054	Respiratory Therapy Technicians	696	NA	NA	NA	18%	29%	11%	NA	38.20	38.86	\$37,440	\$47,850	28%

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29-2061	Licensed Practical and Licensed Vocational Nurses	114728	5%	6%	4%	5%	28%	23%	43.20	31.41	36.04	\$34,840	\$42,910	23%
31-1013	Psychiatric Aides	975	NA	NA	NA	8%	39%	31%	NA	37.55	35.36	\$24,340	\$26,990	11%
33-1011	First-Line Supervisors of Correctional Officers	987	29%	25%	15%	27%	55%	28%	NA	19.30	25.35	\$47,490	\$61,540	30%
33-1012	First-Line Supervisors of Police and Detectives	2035	44%	44%	23%	43%	54%	11%	45.60	20.48	25.93	\$65,180	\$82,710	27%
33-1021	First-Line Supervisors of Fire Fighting and Prevention Workers	2601	29%	22%	19%	28%	53%	25%	46.40	20.91	24.29	\$60,860	\$72,670	19%
33-1099	First-Line Supervisors of Protective Service Workers, All Other	6898	34%	35%	34%	34%	51%	17%	49.50	26.56	30.14	\$41,690	\$48,000	15%
33-2021	Fire Inspectors and Investigators	1663	NA	NA	NA	25%	30%	5%	NA	26.92	23.09	\$47,890	\$58,100	21%
33-3021	Detectives and Criminal Investigators	10527	50%	64%	58%	55%	72%	17%	43.20	38.23	34.01	\$56,500	\$79,030	40%
33-3052	Transit and Railroad Police	247	NA	NA	NA	30%	26%	-4%	NA	12.13	27.20	\$47,370	\$58,200	23%
33-9021	Private Detectives and Investigators	10658	57%	65%	53%	58%	67%	9%	43.50	40.96	29.63	\$36,330	\$53,890	48%
33-9031	Gaming Surveillance Officers and Gaming Investigators	697	NA	NA	NA	14%	25%	11%	NA	29.56	21.44	\$28,470	\$31,970	12%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	244034	13%	18%	15%	15%	36%	21%	34.90	32.75	33.89	\$27,480	\$31,980	16%
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	4174	17%	25%	22%	20%	57%	37%	45.30	31.10	28.00	\$38,230	\$45,560	19%
39-1021	First-Line Supervisors of Personal Service Workers	30079	30%	35%	31%	31%	41%	10%	42.80	33.79	38.91	\$33,430	\$38,260	14%
39-9011	Childcare Workers	128061	15%	22%	22%	19%	31%	12%	37.30	32.97	33.75	\$17,830	\$21,490	21%
41-3011	Advertising Sales Agents	17939	51%	57%	58%	54%	63%	9%	38.60	26.58	33.75	\$49,420	\$57,440	16%
41-2021	Counter and Rental Clerks	9592	14%	25%	22%	18%	34%	16%	34.60	33.94	47.66	\$21,770	\$27,130	25%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific	569809	NA	NA	NA	45%	65%	20%	NA	31.06	34.32	\$53,900	\$64,670	20%
41-1012	First-Line Supervisors of Non-Retail Sales Workers	69786	41%	47%	40%	42%	65%	23%	46.10	36.54	40.88	\$71,420	\$82,890	16%
41-1011	First-Line Supervisors of Retail Sales Workers	437829	25%	27%	26%	26%	48%	22%	42.70	40.85	37.19	\$37,470	\$41,450	11%
41-3021	Insurance Sales Agents	69403	47%	49%	50%	48%	40%	-8%	45.80	36.73	43.15	\$55,680	\$63,610	14%
41-9011	Demonstrators and Product Promoters	30510	NA	NA	NA	18%	37%	19%	NA	25.00	29.43	\$24,960	\$28,950	16%
41-9021	Real Estate Brokers	2033	NA	NA	NA	45%	41%	-4%	NA	30.20	16.54	\$77,850	\$82,380	6%
41-3099	Sales Representatives, Services, All Other	33835	45%	49%	45%	46%	63%	17%	42.00	38.37	42.60	\$53,940	\$61,450	14%
41-9022	Real Estate Sales Agents	43155	NA	NA	NA	45%	45%	0%	NA	28.38	32.52	\$47,950	\$53,140	11%
41-3031	Securities, Commodities, and Financial Services Sales Agents	76149	69%	73%	64%	69%	52%	-17%	41.70	26.48	31.89	\$91,040	\$102,510	13%

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41-9041	Telemarketers	26487	23%	11%	12%	17%	36%	19%	29.30	28.04	26.66	\$23,490	\$25,830	10%
41-3041	Travel Agents	4586	35%	41%	43%	36%	36%	0%	52.90	29.19	26.03	\$29,650	\$37,200	25%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	141972	17%	23%	28%	19%	37%	18%	49.70	24.67	27.51	\$29,830	\$37,250	25%
43-3061	Procurement Clerks	9447	27%	50%	41%	32%	55%	23%	NA	22.37	31.80	\$31,420	\$38,940	24%
43-4011	Brokerage Clerks	3581	27%	65%	65%	41%	40%	-1%	NA	30.88	27.06	\$37,750	\$47,760	27%
43-9011	Computer Operators	3372	26%	33%	35%	29%	30%	1%	45.60	27.91	26.90	\$32,850	\$40,040	22%
43-4031	Court, Municipal, and License Clerks	4215	16%	32%	41%	21%	32%	11%	47.60	22.76	20.44	\$30,420	\$36,850	21%
43-4041	Credit Authorizers, Checkers, and Clerks	2466	21%	39%	30%	26%	66%	40%	NA	21.20	31.10	\$31,520	\$35,660	13%
43-4061	Eligibility Interviewers, Government Programs	4007	39%	50%	52%	42%	54%	12%	46.10	23.64	29.87	\$33,800	\$41,910	24%
43-5011	Cargo and Freight Agents	6044	16%	31%	27%	21%	37%	16%	NA	33.95	30.40	\$35,870	\$43,620	22%
43-3099	Financial Clerks, All Other	62	34%	53%	47%	40%	72%	32%	40.70	16.75	11.86	\$27,380	\$40,590	48%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	140547	32%	36%	37%	33%	62%	29%	45.30	27.49	31.39	\$43,990	\$53,690	22%
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	28337	23%	38%	36%	29%	51%	22%	40.40	21.65	24.02	\$32,810	\$38,520	17%
43-9041	Insurance Claims and Policy Processing Clerks	16833	21%	31%	34%	25%	49%	24%	41.60	24.08	27.93	\$30,580	\$38,010	24%
43-4111	Interviewers, Except Eligibility and Loan	35376	33%	26%	23%	31%	36%	5%	41.30	25.36	25.39	\$24,770	\$31,660	28%
43-5031	Police, Fire, and Ambulance Dispatchers	5562	NA	NA	NA	12%	27%	15%	NA	26.83	27.98	\$30,330	\$38,960	28%
43-4131	Loan Interviewers and Clerks	13409	20%	28%	41%	26%	26%	0%	40.20	27.05	31.19	\$30,680	\$36,940	20%
43-9199	Office and Administrative Support Workers, All Other*	6290	NA	NA	NA	31%	41%	10%	42.80	23.26	26.32	\$27,380	\$34,000	24%
43-3051	Payroll and Timekeeping Clerks	24934	16%	25%	28%	19%	43%	24%	47.70	23.91	25.63	\$31,240	\$39,850	28%
43-6011	Executive Secretaries and Executive Administrative Assistants	65046	NA	NA	NA	19%	65%	46%	NA	24.85	27.96	\$36,790	\$51,870	41%
43-6012	Legal Secretaries	22672	NA	NA	NA	19%	39%	20%	NA	28.01	22.92	\$38,280	\$45,030	18%
43-5061	Production, Planning, and Expediting Clerks	70102	27%	38%	48%	32%	48%	16%	44.10	25.83	31.08	\$37,650	\$46,390	23%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	256834	NA	NA	NA	19%	34%	15%	NA	24.12	26.81	\$27,160	\$34,000	25%
43-9111	Statistical Assistants	4026	24%	45%	46%	33%	57%	24%	NA	26.16	27.82	\$31,600	\$42,530	35%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	3394	19%	31%	29%	22%	48%	26%	46.20	36.55	40.99	\$38,480	\$45,940	19%
45-2011	Agricultural Inspectors	641	NA	NA	NA	33%	42%	9%	NA	56.00	53.00	\$33,390	\$43,600	31%

SOC Code	Occupation Title	2013 Total Postings (Burning Glass)	%BA+ 40+ (American Community Survey 2012)	%BA+ 31-40 (ACS 2012)	%BA+ 18-30 (ACS 2012)	%BA+ Total (2011 & 2012 ACS)	% 2013 Real Time Job Postings Requiring Bachelor's Degree (Burning Glass)	Credentials Gap	2012 Median Age (Bureau of Labor Statistics)	Average # of Days to Fill Postings That Do Not Require a BA (Burning Glass)	Average # of Days to Fill Postings That Require a BA (Burning Glass)	2004 Salary (BLS)	2013 Salary (BLS)	Salary % Change
45-4011	Forest and Conservation Workers	708	26%	32%	13%	22%	39%	17%	NA	14.83	17.50	\$23,590	\$28,860	22%
45-4023	Log Graders and Scalars	280	NA	NA	NA	3%	72%	69%	NA	23.67	35.56	\$27,480	\$34,090	24%
45-4029	Logging Workers, All Other	1344	NA	NA	NA	3%	25%	22%	NA	29.36	29.33	\$29,240	\$34,680	19%
47-2161	Plasterers and Stucco Masons	263	2%	6%	10%	4%	57%	53%	NA	32.00	87.50	\$35,270	\$41,490	18%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	19411	12%	12%	13%	12%	33%	21%	46.30	28.28	61.31	\$53,980	\$63,860	18%
47-4011	Construction and Building Inspectors	9437	25%	29%	33%	26%	30%	4%	51.80	34.57	38.01	\$45,460	\$56,430	24%
47-4041	Hazardous Materials Removal Workers	1995	17%	6%	10%	13%	31%	18%	NA	22.49	33.24	\$36,480	\$42,220	16%
47-5031	Explosives Workers, Ordnance Handling Experts, and Blasters	885	19%	5%	3%	8%	30%	22%	NA	21.93	27.17	\$37,130	\$50,310	35%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	49097	13%	17%	16%	14%	48%	34%	47.70	31.92	37.49	\$52,700	\$63,490	20%
49-2011	Computer, Automated Teller, and Office Machine Repairers	28493	24%	29%	24%	25%	48%	23%	40.90	35.70	33.89	\$36,580	\$38,310	5%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	1541	NA	NA	NA	3%	34%	31%	NA	24.07	33.67	\$19,970	\$23,850	19%
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1042	2%	2%	2%	2%	28%	26%	NA	28.75	31.60	\$30,620	\$36,580	19%
51-4062	Patternmakers, Metal and Plastic	155	NA	NA	NA	16%	52%	36%	NA	13.60	43.20	\$37,840	\$42,030	11%
51-1011	First-Line Supervisors of Production and Operating Workers	72117	17%	19%	20%	17%	62%	45%	48.00	32.00	35.95	\$47,760	\$58,150	22%
51-8031	Water and Wastewater Treatment Plant and System Operators	4721	9%	15%	20%	11%	29%	18%	46.90	43.50	53.33	\$36,030	\$45,070	25%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	54232	15%	20%	17%	16%	38%	22%	45.40	29.61	34.53	\$31,210	\$37,860	21%
51-4071	Foundry Mold and Coremakers	170	NA	NA	NA	2%	43%	41%	NA	27.00	NA	\$29,720	\$31,350	5%
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	1004	NA	NA	NA	2%	30%	28%	NA	30.23	35.44	\$30,960	\$35,400	14%
51-5111	Prepress Technicians and Workers	3553	10%	16%	29%	14%	34%	20%	NA	33.34	37.27	\$33,450	\$39,150	17%
51-6052	Tailors, Dressmakers, and Custom Sewers	5615	NA	NA	NA	14%	42%	28%	NA	24.73	49.25	\$24,450	\$29,330	20%
51-6061	Textile Bleaching and Dyeing Machine Operators and Tenders	367	NA	NA	NA	7%	33%	26%	NA	26.56	28.86	\$22,790	\$25,710	13%
51-6092	Fabric and Apparel Patternmakers	283	NA	NA	NA	11%	36%	25%	NA	16.00	30.50	\$33,760	\$45,700	35%
51-6099	Textile, Apparel, and Furnishings Workers, All Other	3332	NA	NA	NA	11%	25%	14%	NA	30.82	45.86	\$22,790	\$28,680	26%
51-8011	Nuclear Power Reactor Operators	822	NA	NA	NA	15%	27%	12%	NA	46.09	19.86	\$63,880	\$78,400	23%
51-8012	Power Distributors and Dispatchers	162	NA	NA	NA	15%	43%	28%	NA	73.71	45.29	\$58,300	\$76,580	31%
51-8013	Power Plant Operators	2116	NA	NA	NA	15%	25%	10%	NA	39.55	30.64	\$52,030	\$67,230	29%



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51-8091	Chemical Plant and System Operators	364	NA	NA	NA	7%	46%	39%	NA	43.55	67.71	\$44,940	\$54,690	22%
51-8092	Gas Plant Operators	313	NA	NA	NA	7%	40%	33%	NA	46.33	14.80	\$50,660	\$62,770	24%
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	991	NA	NA	NA	4%	39%	35%	NA	39.33	41.24	\$28,490	\$34,040	19%
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	379	7%	0%	11%	6%	25%	19%	NA	33.19	36.08	\$31,360	\$37,320	19%
51-9083	Ophthalmic Laboratory Technicians	639	NA	NA	NA	11%	29%	18%	NA	37.16	34.83	\$25,620	\$30,450	19%
51-9141	Semiconductor Processors	512	NA	NA	NA	3%	25%	22%	NA	44.38	29.44	\$30,070	\$36,070	20%
51-9151	Photographic Process Workers and Processing Machine Operators	6894	23%	32%	24%	25%	39%	14%	30.90	28.13	38.37	\$23,010	\$27,410	19%
51-9198	Helpers--Production Workers	11531	9%	11%	5%	8%	29%	21%	35.40	36.73	31.08	\$21,530	\$25,070	16%
53-2021	Air Traffic Controllers	2792	NA	NA	NA	33%	44%	11%	NA	28.26	37.76	\$99,710	\$118,650	19%
53-2022	Airfield Operations Specialists	3747	NA	NA	NA	33%	59%	26%	NA	24.63	28.58	\$42,050	\$52,190	24%
53-4099	Rail Transportation Workers, All Other	455	NA	NA	NA	6%	30%	24%	NA	15.83	34.33	\$40,680	\$59,110	45%
53-5021	Captains, Mates, and Pilots of Water Vessels	2924	NA	NA	NA	13%	55%	42%	NA	22.27	37.08	\$52,230	\$75,580	45%
53-5031	Ship Engineers	304	NA	NA	NA	13%	70%	57%	NA	9.00	58.50	\$57,830	\$75,650	31%
53-6041	Traffic Technicians	1602	NA	NA	NA	9%	30%	21%	NA	23.88	45.93	\$35,600	\$43,920	23%
53-6099	Transportation Workers, All Other	631	NA	NA	NA	9%	47%	38%	NA	31.38	42.53	\$33,510	\$34,400	3%



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