THE ONLINE COLLEGE LABOR MARKET

WHERE THE JOBS ARE

| ALL JOBS ▾ | ANY LOCATION ▾ | CATEGORIES ▾ | SEARCH |

STEM

HEALTHCARE

EDUCATION

MANUFACTURING
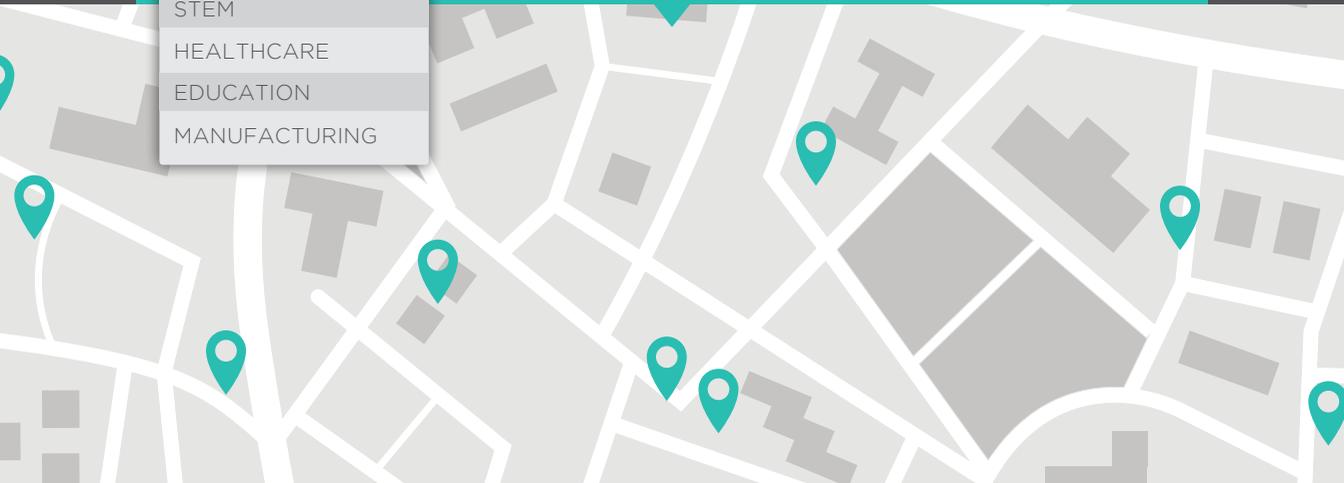
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THE ONLINE COLLEGE LABOR MARKET

Employers are increasingly utilizing online job boards and employer websites to fill job openings. Compared to the 3.7 million job openings each month in the economy, roughly 2.7 million job advertisements are posted online.[1] Our estimates indicate that more than 80 percent of job openings for workers with a Bachelor's degree or better are posted online. In comparison, less than 50 percent of job openings for workers with less education are posted online.[2]

Online job ads data are robust for job openings that require a Bachelor's degree or better, but underrepresent job openings for workers with education below the Bachelor's degree level (Figure 1). For college graduates, who are more likely to search for jobs on the Internet, online job ads data can be a viable tool for connecting real people with real jobs in real time.[3]

Working with data from Burning Glass Technologies, one of the leading developers of online job ads data, we find that there are almost 2 million new job ads posted online each quarter that require a Bachelor's degree or better.[4]

We estimate that between
80 AND 90 PERCENT OF JOB OPENINGS
that require at least a BA are posted online.

[1] The number of job openings (3.7 million) each month is based on the Job Openings and Labor Turnover Survey (JOLTS) July 2013 data. The 2.7 million total of online job advertisements is estimated using data provided by Burning Glass Technologies.

[2] See Carnevale, Anthony P., T. Jayasundera, D. Repnikov. *Understanding Online Job Ads Data: A Technical Report, 2014.*

[3] Computer and Internet Use at Work Supplement of Current Population Survey (October 2003) shows that 17.6 percent of workers with Bachelor's degrees or better used the Internet to search for jobs versus 6.5 percent of workers with high school diplomas, and 2.2 percent of high school dropouts. Also, Kuhn and Mansour (2011) find that unemployed college graduates are 40 percentage points more likely to use the Internet to search for jobs than unemployed high school dropouts.

[4] New job ads are new job openings that were not previously posted online in the past 60-day period.

FIGURE 1.

Jobs that require a BA are overrepresented in the online job market, while those below the BA level are underrepresented.
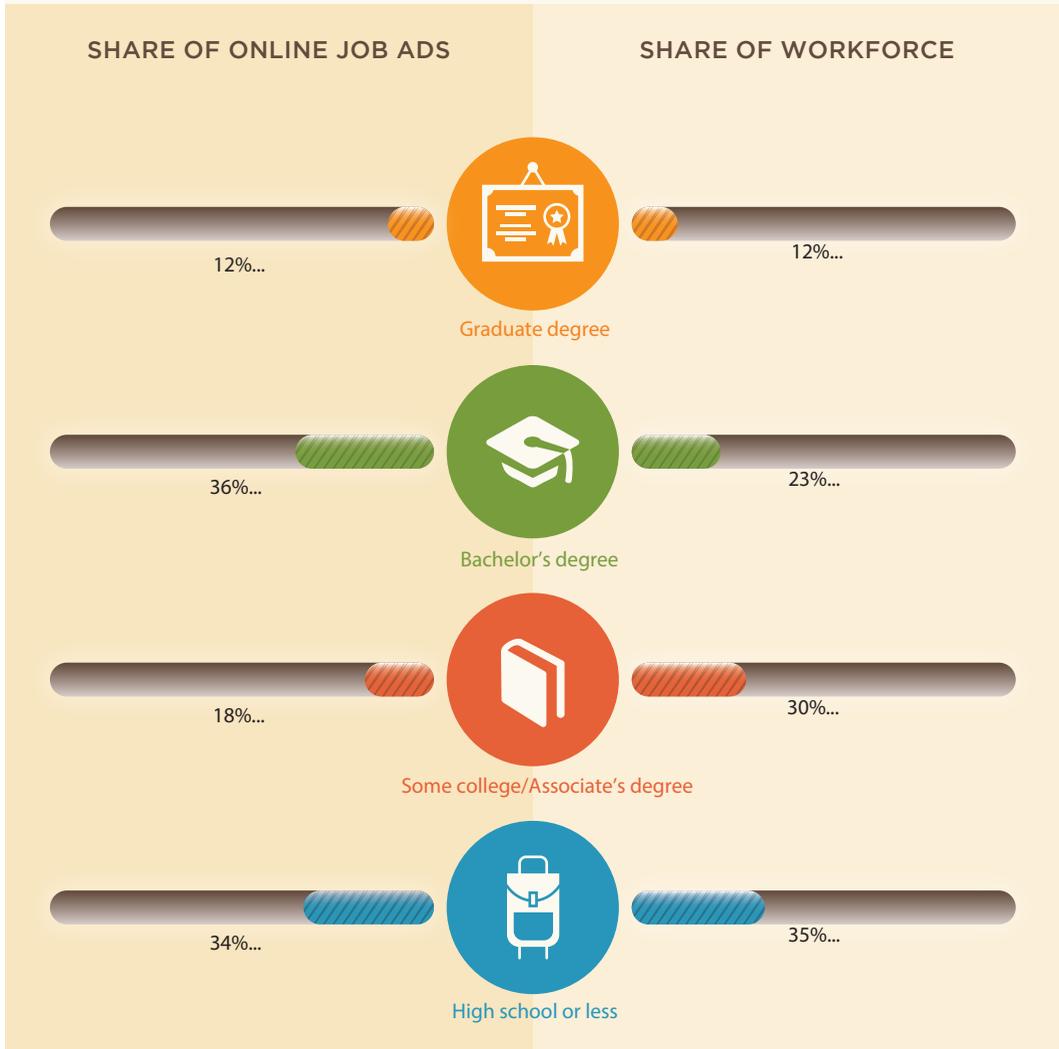
SHARE OF ONLINE JOB ADS	SHARE OF WORKFORCE

Graduate degree
- Share of online job ads: 12%...
- Share of workforce: 12%...

Bachelor's degree
- Share of online job ads: 36%...
- Share of workforce: 23%...

Some college/Associate's degree
- Share of online job ads: 18%...
- Share of workforce: 30%...

High school or less
- Share of online job ads: 34%...
- Share of workforce: 35%...

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2, and Current Population Survey, June 2013.

Managerial/professional office and science, technology, engineering, and mathematics (STEM) occupations are the most in-demand occupations for college graduates. Together, they accounted for 1.1 million online job ads in the second quarter of 2013, 61 percent of all online job ads.

FIGURE 2.

Among occupational clusters, managerial/professional office and STEM occupations are the two most in demand in the online college labor market.

MANAGERIAL/PROFESSIONAL OFFICE

33%

STEM

28%
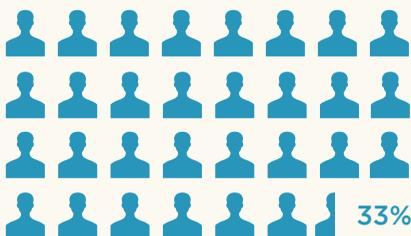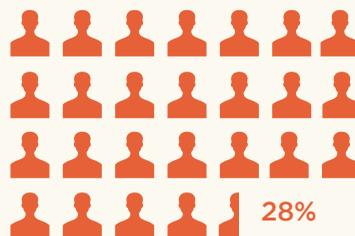
SALES/OFFICE SUPPORT

14%

HEALTHCARE PROFESSIONAL/TECHNICAL

11%

EDUCATION

5%

COMMUNITY SERVICES/ARTS

5%

FOOD/PERSONAL SERVICE 2%

BLUE-COLLAR 2%

HEALTHCARE SUPPORT <1%

SOCIAL SCIENCE <1%

=20,000 Job Ads*

*Number of job ads has been rounded to the nearest 10,000. Due to rounding, the percentages in this chart sum to more than 100%.
Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2.

Application software developer is the most in-demand occupation overall. There were 125,000 online job ads for application software developers in the second quarter of 2013. Among the 10 most in-demand occupations, there are four management occupations and three information technology occupations (Table 1). The other three occupations are wholesale and manufacturing sales representatives; registered nurses; and accountants/auditors.

TABLE 1.

Software developers (applications) are the most in demand; there were 125,000 online job ads for software developers in the second quarter of 2013.

Occupation	Number of online job ads
Software developer, applications	125,000
IT professional, NEC*	76,000
Sales representative, wholesale and manufacturing	63,000
Registered nurse	50,000
Accountant/auditor	49,000
Computer systems analyst	48,000
Medical and health services manager	47,000
Manager, NEC*	47,000
Sales manager	38,000
Financial manager	37,000

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2.
*Not elsewhere classified.
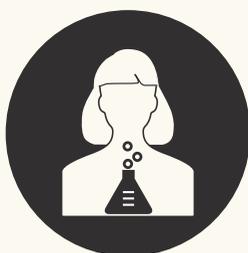
OCCUPATIONS AND INDUSTRIES

MANAGERIAL/PROFESSIONAL OFFICE OCCUPATIONS

Managerial/professional office occupations are the most in-demand occupational cluster for college graduates.

Three out of four job ads for managerial/professional office occupations require a Bachelor's degree or better. Managerial/professional office occupations are the most in demand among occupational clusters, representing 33 percent of online job ads. Managerial/professional office occupations are made up of three smaller clusters: management (54% of job ads); business/financial operations (38%); and legal (8%).

FIGURE 3.

More than half of the job ads for managerial/professional office occupations are for management occupations, and nearly 40 percent are for business/financial operations occupations.
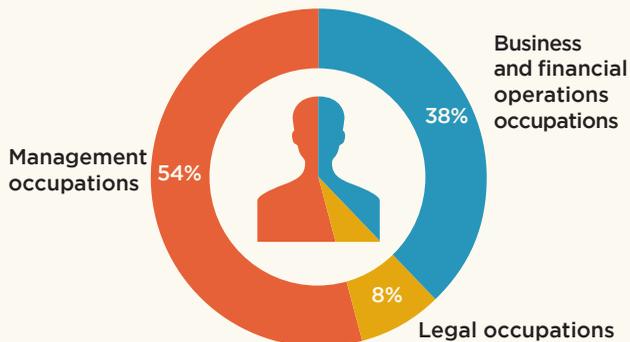
Business and financial operations occupations 38%

Management occupations 54%

Legal occupations 8%

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2.

TABLE 2.

Medical/health services; sales; financial; and marketing managers are the most in-demand management occupations. Accountants/auditors are the most in-demand business/financial operations occupations. Lawyer is the most in-demand legal occupation.

Occupation	Online job ads, 2013 Q2	Average annual salary
Management occupations		
Medical/health services manager	45,000	$114,000
Sales manager	40,000	$117,000
Financial manager	35,000	$117,000
Marketing manager	30,000	$126,000
Business/financial operations occupations		
Accountant/auditor	50,000	$70,000
Human resources specialist	30,000	$59,000
Financial analyst	25,000	$88,000
Legal occupations		
Lawyer	35,000	$131,000
Paralegal/legal assistant	10,000	$50,000

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2, and Occupational Employment Statistics, Bureau of Labor Statistics, 2012.

Managerial/professional office occupations are the most in demand, representing

33 PERCENT

of online job ads.

STEM

**Employers are looking online for STEM talent.**

STEM occupations account for 28 percent of online college job ads, even though STEM jobs are only 11 percent of college employment in the United States (Figure 4). STEM occupations are the most in-demand jobs advertised online for Bachelor's degree-holders, and the second among those with Bachelor's or better degrees Online job ads for STEM occupations are growing twice as fast as job ads overall. Two-thirds of STEM job ads require a Bachelor's degree and 11 percent require an advanced degree. Roughly three out of four STEM online job ads are for information technology (IT) occupations; the rest are mostly for engineers and architects, except for the 6 percent for life/physical science occupations.

FIGURE 4.

STEM occupations represent only 11 percent of college employment, but 28 percent of online job ads.
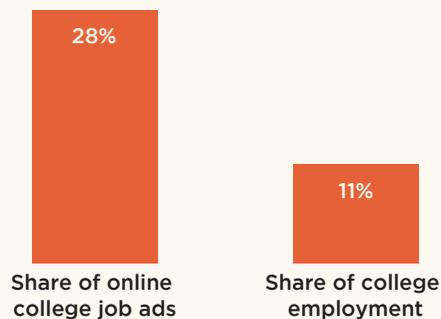
28%

Share of online college job ads

11%

Share of college employment

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2, and March Current Population Survey, 2013.
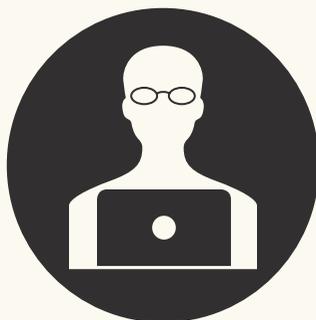
INFORMATION TECHNOLOGY

For information technology occupations, the most lucrative opportunities are for application software developers and computer systems analysts, who annually earn $92,000 and $82,000, respectively. For engineering/architecture occupations, mechanical engineers are the most in demand, representing more than one-third of job ads for engineers/architects. Mechanical engineers earn $87,000 annually.

TABLE 3.

One-third of IT job ads are for application software developers, whose average annual salary is $92,000. Mechanical engineer is the most in-demand architecture/engineering occupation, representing roughly one out of five architecture/engineering job ads.

Occupation	Online job ads, 2013 Q2	Average annual salary
Information technology/math occupations		
Application software developers	125,000	$92,000
Computer systems analyst	50,000	$82,000
Engineering/architecture occupations		
Mechanical engineer	20,000	$87,000
Electrical engineer	15,000	$89,000
Civil engineer	15,000	$83,000

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2, and Occupational Employment Statistics, Bureau of Labor Statistics, 2012.

HEALTHCARE

Healthcare occupations represent the second-most online job ads for job seekers with advanced degrees.

Healthcare professional/technical occupations represent 11 percent of online job ads for college-educated workers and are especially dominant for job openings that require advanced degrees. For advanced degree-holders, healthcare professional/ technical occupations are the second-most in-demand occupational cluster after white-collar office occupations. More than half of the online college job ads for these occupations require an advanced degree (Figure 5). Four out of the 10 most in-demand occupations for job seekers with Master's degrees, and four out of the 10 most in-demand occupations for job seekers with PhDs are in healthcare professional/technical occupations.

Registered nurse is the most in-demand occupation across healthcare professions. RNs represent one out of four job ads for healthcare professional/ technical occupations (Table 4). Physicians, surgeons, physical and occupational therapists, and nurse practitioners are also in high demand.

Hospital Corporation of America (HCA), Cleveland Clinic, and Providence Health & Services are the top advertisers for online college talent among healthcare employers.

TABLE 4.

Among healthcare professional/technical occupations, registered nurse is the most in-demand college occupation.

| Occupation	Online job ads, 2013 Q2	Average annual salary
Registered nurse	50,000	$69,000
Physician/surgeon	20,000	$185,000
Physical therapist	20,000	$80,000
Occupational therapist	15,000	$75,000
Nurse practitioner	10,000	$53,000

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2, and Occupational Employment Statistics, Bureau of Labor Statistics, 2012.

FIGURE 5.

Healthcare professional/technical and education occupations have the highest concentrations of online job ads for graduate degree-holders after social science occupations.
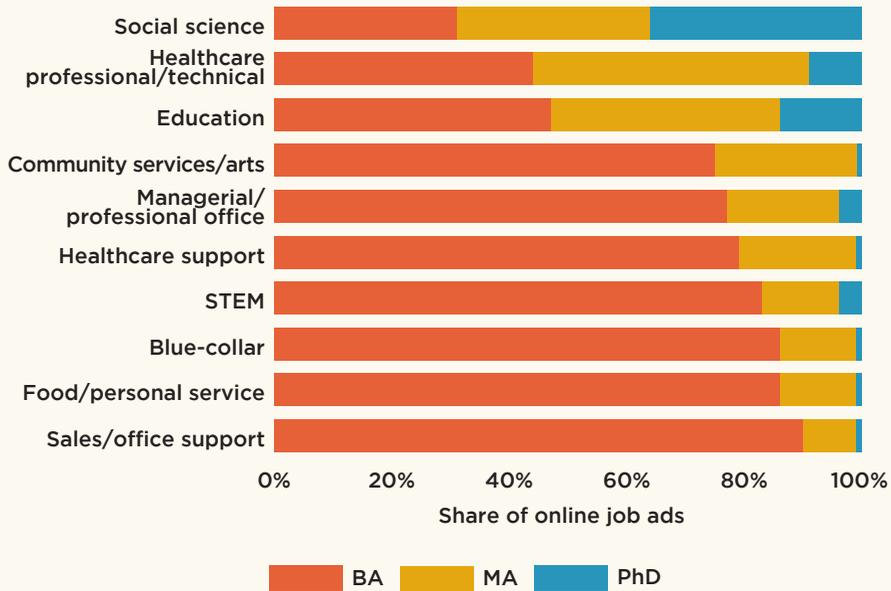
Share of online job ads

BA   MA   PhD

Source: Georgetown University Center on Education and the Workforce analysis of Burning Glass real-time online job ads data, 2013 Q2.

CONSULTING/ BUSINESS SERVICES

Consulting/business services is the top online advertiser among industries.

The consulting/business services sector represents 14 percent of employment in the economy, but 23 percent of online job ads for college graduates. Two out of three jobs in consulting/business services require a Bachelor's degree or better, and 14 percent require a graduate degree. There were 350,000 online job ads in consulting/business services in the second quarter of 2013.

The consulting/business services sector comprises three subsectors: professional, scientific, and technical services; management of companies and enterprises; and administrative/support, and waste management/remediation services. The top online advertisers in the consulting/business services industry are Accenture; Deloitte Development LLC; IBM; Automatic Data Processing (ADP); and Science Applications International Corp. (SAIC).

The consulting/business services sector arose in the post-1983 restructuring of the postindustrial economy. It employs educated professional contract workers, such as consultants, who constitute the complex organizational networks that individual businesses and organizations rely on to produce final products and services. While most industries comprise particular kinds of businesses and organizations, the professional and business services industry is integrated throughout the whole economy.

The consulting/business services sector represents

23 PERCENT OF ONLINE COLLEGE JOB ADS.

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The Online College Labor Market comprises a full report, an executive summary, and a technical report. All reports can be accessed online at cew.georgetown.edu/onlinejobmarket.