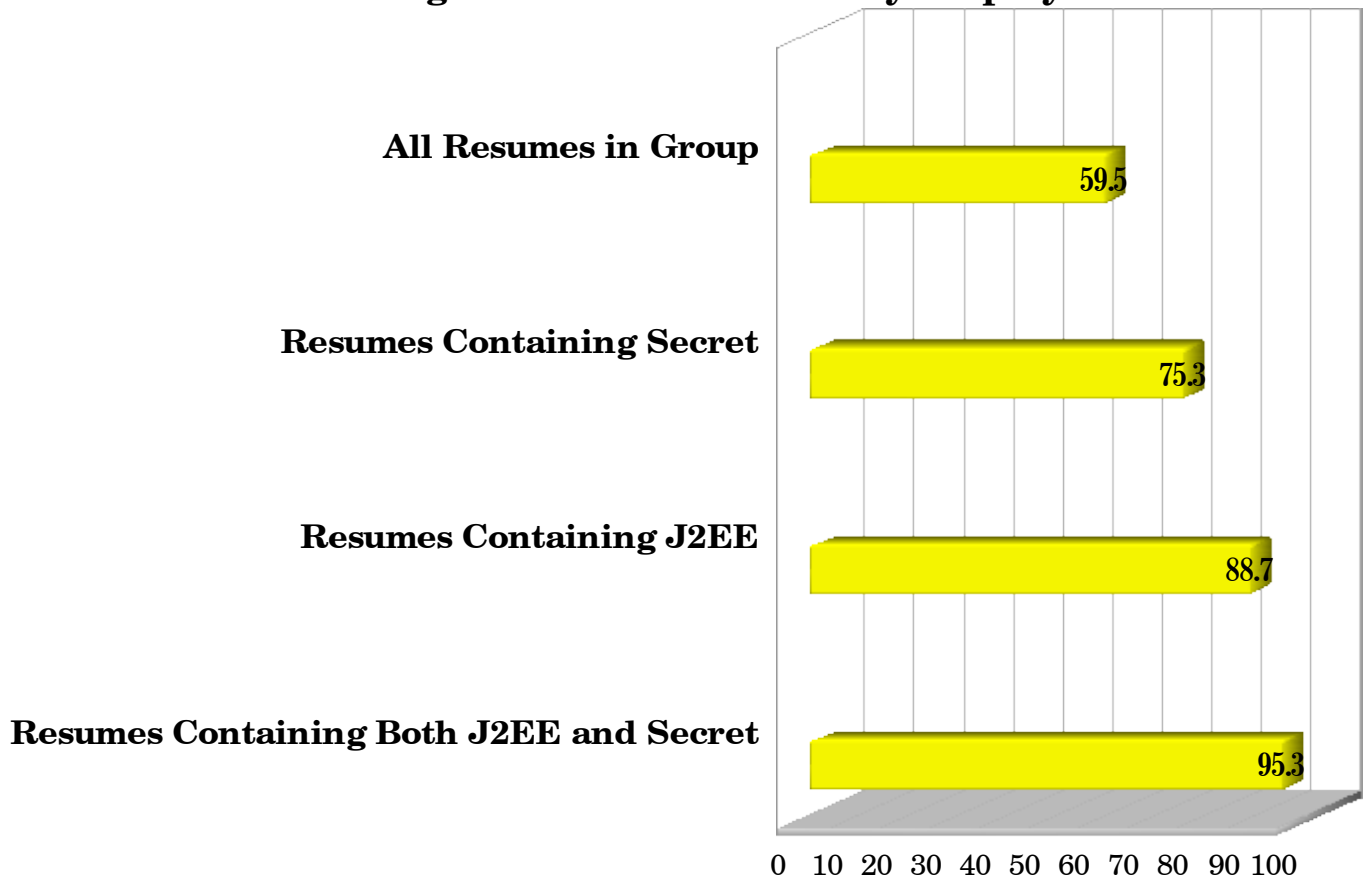OHIO
Job & Family
S E R V I C E S

Office of Workforce Development
Bureau of Labor Market Information

Keywords Found on America's Job Bank (AJB)
Resumes and Job Orders in 2006

Computer and Mathematical – Major Occupational Group 15
Percentage of Resumes Viewed by Employers

All Resumes in Group — 59.5

Resumes Containing Secret — 75.3

Resumes Containing J2EE — 88.7

Resumes Containing Both J2EE and Secret — 95.3

0 10 20 30 40 50 60 70 80 90 100

Keywords Found on America's Job Bank (AJB)
Resumes and Job Orders in 2006
Table of Contents

Introduction

Background

America's Job Bank (AJB) was established in 1995 and closed in mid-2007. AJB data was provided by state employment security systems, private job banks, some large corporations, as well as direct online entry from employers and job seekers. At its peak AJB contained more than two and one-half million job orders per quarter, as well as resumes and employer search criteria.

Recognizing the analytical potential of such a giant database, the Employment and Training Administration (ETA) of the U.S. Department of Labor established the AJB Transactions Consortium in 2000. The consortium was charged with determining the potential of the AJB database to enhance labor market information. Consortium members were selected from state labor market information agencies and from ETA.

The Ohio Department of Job and Family Service was represented on the consortium and they consistently looked for ways to use AJB data to enhance occupational information to assist job seeking and career planning.

Caldwell Economic Information Services (CEIS) worked under contract to the consortium. The primary tasks for CEIS were to explore the information potential and the data quality limitations of AJB data. Much of this work entailed keyword analysis of unstructured text fields. Two advantages of this approach were:

- Data quality issues of coded fields were discovered. The AJB Service Center made changes to their procedures and database structure based upon those findings.

- Unstructured fields were mined for labor market patterns. The high number of records allowed for analysis of detailed subsets and keyword combinations.

In 2004 the AJB Transactions Consortium was disbanded. Shortly after that, the Ohio Department of Job and Family Services contracted with CEIS to produce the report *Keywords Found on AJB Resumes and Job Orders 2004*.

Emerging skill shortages may initially be reflected in only a few job orders or resume searches. The shortage is because there are even fewer qualified applicants who have acquired the skill. This report introduced two unique measures of skill shortages by keyword and occupation:

- Active resumes were identified as to whether employers viewed them during a quarter, or not. Then the percentage of resumes viewed by employers during each quarter was tallied by their occupation(s) and the specific keywords they contained. Often in this report this indicator will be referred to more simply as the viewed percentage.

    This is the most important indicator of the relative value of keywords. For example, the percent of viewed resumes for *Computer and Mathematical* (major occupational group 15) in 2006 was 59.5%. However, employers viewed 88.7% of the group's resumes containing the

primary keyword *J2EE,* and 75.3% containing the keyword *Secret*. Of the group's resumes containing both keywords, 95.5% were viewed. A Keyword Glossary is provided at the end of this report to define special keywords such as acronyms, brand names, and other uncommon terms identified in this report.

- A ratio of job orders to resumes was tallied by occupation and keywords found on both the job orders and resumes.

Employers sought potential workers from AJB by either calling for resumes that met their search criteria, or placing a job order. Employers tended to use resume searches more often for positions with higher skill requirements. Having two skill shortage measures provides a more complete view of labor demand.

Additionally, the Ohio agency extracted data from the 2004 keyword analysis report and packaged it into a job search manual called *What's In A Word – Maybe Your Next Job*. That manual received the National Association of State Workforce Agencies' 2007 award in the category *Product or Service to Meet the Needs of State and Local Workforce Investment Board Customers*.

This report is an update of *Keywords Found on AJB Resumes and Job Orders 2004*. The current report is based primarily on 2006 AJB data, though the analysis does make some comparisons to 2004.

Data Overview
- Job Orders – Tallies of job orders from both the national online and state systems are often referred to as nonbatch orders in this report. To maintain consistency with resume data, average quarterly job orders are use throughout this report. In 2006, AJB averaged more than 2.6 million job orders per quarter. The three types of sources are shown below with their respective percentage of total job orders in 2006.

  - State systems (19.7%)

  - AJB's own national online system (5.2%)

  - A batch system (used by some large employers, private employment agencies, and other labor market intermediaries) (75.1%)

- Occupation – The Standard Occupational Classification (SOC) is a hierarchical coding system. Two levels of the SOC are used in this report.

  - Major Group – Two digits are used at this level and all data in this report can be aggregated to major group.

  - Detailed – Six digits are used at this level. Only nonbatch job orders are coded with sufficient precision at this level. Employers' resume criteria, resumes, and batch job orders cannot be aggregated accurately to the detailed level of the SOC. Occupational information from BLS, state Labor Market Information (LMI) agencies, and Career Information Delivery Systems (CIDS) are generally coded to this level.

- Resumes – Active resumes at the end of each quarter averaged more than 777,000 in 2006. Unlike job orders, which are never coded to multiple occupation codes, 34.1% of resumes in

2006 were coded to more than one occupation. Job seekers are often qualified for a variety of potential jobs.

◆ Education – Nearly all resumes and nonbatch job orders contained an educational level.

◆ Keywords – Employers' resume search criteria were tallied by major occupational group and keyword. Keywords commonly found on search criteria for each major group were searched for on resumes and job orders. Counts of resumes and job orders containing each keyword are developed for all occupational groups. When a keyword was found more than once on a resume, or job order, the tally was still only incremented once.

Primary and related keywords were identified for each major occupational group. Selection of those keywords entailed screening for at least 100 records and statistical significance testing of the percent of resumes viewed by employers. A higher proportion of resumes containing a primary keyword were viewed by employers than the overall proportion for their major occupational group. Up to 15 primary keywords were selected for each major group.

Similarly, the proportion of viewed resumes containing both a specific primary keyword and a related keyword was significantly higher than the proportion for all resumes containing the same primary keyword. In other words employers were more likely to view resumes that contained both primary and related keywords. Details on screening and statistical testing are provided in the Methodological Summary.

How to Use This Report
The core of the report is the keyword analysis sections for each major occupational group. Other information in the report supports this analysis.

Each keyword analysis will include the following information.

◆ Narrative analysis

◆ Table 1 – *Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006* – This table shows which detailed occupations had the most job orders in 2006. All federal and state statistical agencies that code occupational data use the Standard Occupational Classification (SOC) codes. Most occupational information from those agencies, as well as that found in Career Information Delivery Systems (CIDS), are coded to the detailed level of the SOC. This table permits comparisons to occupational information from Labor Market Information (LMI) agencies and CIDS for the subset of job orders that can be coded to the detailed SOC level.

◆ Table 2 – *Percent of Resumes by Educational Level in 2006* - Nearly all resumes in the AJB database specify an educational level. This table also shows the percentage of resumes in the major occupational group viewed by employers during 2006, by educational level.

◆ Table 3 – *Percent Education Required on Nonbatch Job Orders by Detailed SOC Code in 2006* – Career counselors can use this table to advise their clients to the need for a college degree, or vocational training to pursue work in many occupations. The occupations selected for this table are the same ones shown in Table 2. Education level required is only consistently coded on job orders from state systems and AJB's national online system.

- Table 4 – *Average Quarterly Resumes and Job Orders Containing Primary Keywords in 2006* – Both indicators of relative labor market demand described earlier are displayed in this table by primary keyword. The highest percent of resumes viewed by employers and the highest ratio of job orders to resumes are highlighted with a bold font.

  Using keywords shows pockets of skill demand, even if an occupation's employment level is falling. Training program graduates should have more success in the labor market if they have been taught the skills employers most require.

  Some businesses recruit primarily by reviewing resumes and others depend more on job orders. Lower skilled occupations are more often recruited with job orders. Some keywords rank highly on both indicators (percent of resumes viewed by employers and ratio of job orders to resumes). Those keywords may reflect especially strong demand with employers using all recruiting methods to meet their requirements.

  Many keywords refer to brand names or acronyms commonly used in an industry. At the end of this report is a Keyword Glossary that defines those terms.

- Table 5 – *Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006* -This table shows which detailed occupation is most commonly associated with each primary keyword on nonbatch job orders. Career counselors can use this table to link skill requirements to the coding level used for other occupational information, such as projections produced by state labor market information agencies. Since batch job orders are not adequately coded to the detailed SOC level it is especially valuable to use keywords to more precisely define employers' job requirements.

- Primary and Related Keyword Combinations – Employers generally specify multiple keywords to screen resumes for their viewing. When the subset of resumes containing two keywords has a percent of viewed resumes that is higher, by a statistically significant amount, than the percent of associated with the primary keyword alone a related keyword is assigned.

All primary/related keyword combinations are shown for each major occupational group with their respective average quarterly percentage of resumes viewed by employers. Frequently, but not always, two words will both be primary keywords and each may be a related keyword to the other. These keyword combinations are especially important when employers require a combination of skills. This is common for jobs requiring knowledge of multiple software and/or technologies.

Related keywords provide a context for primary keywords. The screens used to select these keywords are described in the Methodological Summary.

Descriptions of report sections, and their uses, follow below:

- Introduction – This is the section you are reading now. It provides an overview report's information and use. The report is structured to cluster all its detailed AJB information related to a major occupational group into a few pages to facilitate distribution to job seekers and students. If this is done, the introduction and keyword glossary should also be copied for them.

- Methodological Summary – The keyword selection process and other technical topics are covered in this section.

- Major Occupational Group Comparisons -Tables display percentages of resumes viewed by employers, ratios of job orders to resumes, and educational levels reported on resumes. This allows for quick comparisons between occupational groups for each of those indicators. Narrative is limited to highlighting groups of interest, and providing factors that affect all groups.

  Readers not already focused on a particular occupational group, may want to read this section before deciding which groups to read.

- Keyword Analysis by Major Occupational Group – This section is the core of the report where the most detailed data is provided. Most readers will benefit from first reading the Introduction before proceeding to this section. Those interested in a specific occupation could then go directly to that chapter. Other readers may want to first read the Major Occupational Group Comparisons to help them decide which groups to explore in more detail.

- Keyword Glossary – Covers acronyms, brand names and other keywords found on job orders and resumes.

Methodological Summary
Technical Documentation and Data Limitations

Occupational Coding

All occupational data in this report are based upon the Standard Occupational Classification (SOC). The SOC is a hierarchical classification system used by statistical agencies and others working with occupational data. In this report, two levels of the SOC are used.

◆ *Major Group* – Two digits are used to designate this level. Some data, such as employers' resume searches and job orders submitted through a batch system by private employers and intermediaries, are only considered by CEIS to be valid at this coding level.

◆ *Detailed SOC* – Six digits are used to designate this level. Existing data in career information delivery systems (CIDS) are often developed at this level. In this report, only job orders created by AJB's national online system, or submitted by state systems are tallied by detailed SOC.

Data Sources

Employers' Resume Search Criteria: Most criteria are only occupationally coded to the SOC major group level. Some criteria do not include keywords.

Resumes: Some resumes are active for several quarters. For this report, resumes active on the last day of the each quarter are tallied and expressed as a quarterly average.

Viewed Resumes: Each resume has a counter of how many times employers have viewed them. The counter of each active resume is read to see if the resume was viewed by an employer during the quarter. For this report, viewed resumes are displayed as an average quarterly percentage of all active resumes.

Job Orders: Job orders are submitted to AJB through three systems. In 2006, 75.1% of the job orders submitted to AJB originated with the national batch system. Batch job orders are not originally coded to the SOC, so they are not represented in Tables 1, 3 and 5 in the chapters of specific major occupational groups. Just over 19.7% percent of the job orders in 2006 came from state systems and the remaining 5.2% from the national online system.

Keywords

Words and acronyms are searched for in the database text columns of employers' resume searches, resumes, and job order descriptions. Large text columns entered into AJB databases are generally entered free-form. Often employers will delimit some words with hyphens or slashes instead of spaces. Other words were set off with asterisks, or other special characters, to highlight them.

CEIS developed a Java utility to identify words, even when surrounded by special characters. Additionally, that utility captured the record identification of the job order, resume, or employer search criteria. This avoided multiple counting, even if the same word occurred several times in a single record. Common terms, not adding to the understanding of labor market dynamics are excluded (for example: *the, or, and*).

Resumes were assigned to one or more SOC codes. All keywords pertain only to a specific SOC major group and meet the following selection criteria:

- Only words commonly found on employers' search criteria for the major group are considered as keywords.

- Each potential keyword must be found in at least 100 active resume/quarters assigned to the major group during the year. A resume is counted whenever it is active at the end of a quarter and some will be counted for multiple quarters. AJB resumes have free-form information in six database text columns covering job objectives, certificates, skills, previous job titles, duties, and other notes. All of those text columns are searched for potential keywords, but a keyword will only be tallied once for a specific resume and quarter, even if the term is used many times.

- Job descriptions are searched, and potential keywords must be found on at least 100 job orders created during the year and coded to the major group.

- The proportion of average quarterly viewed resumes containing a specific keyword, must have been significantly higher than the equivalent proportion of the all resumes coded to its major occupational group. Significance testing was at the 90% confidence level.

Keywords, meeting the criteria above, were organized by major occupational group and ranked by their proportion of viewed resumes. Up to 15 keywords, with the highest proportion of viewed resumes, were identified as *Primary Keywords* for each major group. Some major groups have fewer than 15 keywords to select from. In fact the *Military Specific* major group had none because there were no employer's resume search criteria, or job orders, coded to that occupational group in 2006.

Related Keywords were designated to provide a context for primary keywords. To be designated as a related keyword, the proportion of viewed resumes for the combination must have been significantly higher than the proportion of the primary keyword alone. Significance testing was at the 90% confidence level. Additionally, the combination of primary and related keywords had to be on at least 100 resume/quarters and 100 job orders.

Keywords were not selected because they were the most numerous terms found in resumes and job orders coded to specific major groups. Many selected keywords were only found on a small percentage of the resumes. But the resumes containing those keywords were more likely to be viewed by employers.

Major Occupational Group Comparisons

In 2004 occupational groups requiring little training before entry, such as *Personal Care and Service* (39), *Food Preparation and Serving Related* (35), and *Transportation and Material Moving* (53) had percentages of viewed resumes well below that of other major occupational groups. While those groups still have the lowest percentages of viewed resumes, the gap narrowed considerably in 2006 as each of those groups had an increase of over six percentage points.

Average Quarterly Resumes and Viewed Resumes
By Major Occupation Group in 2006

Standard Occupational Classification (SOC) Major Occupational Group		Average Quarterly		
			Viewed Resumes	
Code	Description	Resumes	#	%
11	Management	116,782	70,246	60.2
13	Business and Financial Operations	47,327	30,339	64.1
15	Computer and Mathematical	49,474	29,443	59.5
17	Architecture and Engineering	23,257	16,855	72.5
19	Life, Physical, and Social Science	10,000	6,611	66.1
21	Community and Social Services	22,817	13,855	60.7
23	Legal	8,424	5,435	64.5
25	Education, Training, and Library	22,524	12,794	56.8
27	Arts, Design, Entertainment, Sports, and Media	22,552	13,071	58.0
29	Healthcare Practitioners and Technical	15,400	9,793	63.6
31	Healthcare Support	25,519	12,949	50.7
33	Protective Service	22,269	12,567	56.4
35	Food Preparation and Serving Related	35,140	16,207	46.1
37	Building and Grounds Cleaning and Maintenance	29,865	15,116	50.6
39	Personal Care and Service	17,226	8,038	46.7
41	Sales and Related	81,252	46,588	57.3
43	Office and Administrative Support	201,230	112,884	56.1
45	Farming, Fishing, and Forestry	3,682	1,909	51.8
47	Construction and Extraction	39,386	22,128	56.2
49	Installation, Maintenance, and Repair	39,992	26,208	65.5
51	Production	75,958	39,293	51.7
53	Transportation and Material Moving	70,434	34,196	48.5
55	Military Specific	152	119	**78.2**

America's Job Bank (AJB) received resumes from only eight state systems and from their own online system. In contrast, job orders were received from 46 state and territorial systems, private job banks, and participating employers. For this reason a ratio of job orders to resumes above 1.00 does not mean that there are more jobs openings than available workers in an occupation.

Job orders in the AJB database increased by 46.7% between 2004 and 2006. Over 90 percent of that increase came from batch job orders submitted by private job banks and participating employers. Over a quarter of the increase in batch job orders came from accounts added to AJB since 2004. In contrast resumes in the AJB database only increased by 3.3% over that period and over half of that increase was in resumes without a valid education level coded. So increases in the ratio of job orders

to resumes shown for most major occupational groups since the 2004 data shown in our previous report are likely often due to noneconomic factors.

The ratio of job orders to resumes is a good indicator of the relative demand for labor between occupations at a point in time.

Average Quarterly Resumes and Job Orders
By Major Occupation Group in 2006

| Standard Occupational Classification (SOC) Major Occupational Group | | Average Quarterly | | |
| | | | Job | Orders/ |
Code	Description	Resumes	Orders	Resumes
11	Management	116,782	300,937	2.58
13	Business and Financial Operations	47,327	262,474	5.55
15	Computer and Mathematical	49,474	217,965	4.41
17	Architecture and Engineering	23,257	180,619	7.77
19	Life, Physical, and Social Science	10,000	37,850	3.78
21	Community and Social Services	22,817	20,663	0.91
23	Legal	8,424	11,600	1.38
25	Education, Training, and Library	22,524	21,309	0.95
27	Arts, Design, Entertainment, Sports, and Media	22,552	27,855	1.24
29	Healthcare Practitioners and Technical	15,400	532,488	**34.58**
31	Healthcare Support	25,519	55,636	2.18
33	Protective Service	22,269	29,238	1.31
35	Food Preparation and Serving Related	35,140	45,436	1.29
37	Building and Grounds Cleaning and Maintenance	29,865	32,711	1.10
39	Personal Care and Service	17,226	23,347	1.36
41	Sales and Related	81,252	210,929	2.60
43	Office and Administrative Support	201,230	324,687	1.61
45	Farming, Fishing, and Forestry	3,682	3,947	1.07
47	Construction and Extraction	39,386	45,476	1.15
49	Installation, Maintenance, and Repair	39,992	63,212	1.58
51	Production	75,958	100,826	1.33
53	Transportation and Material Moving	70,434	74,206	1.05
55	Military Specific	152	0	0.00

AJB data was extracted on a quarterly basis. The following table shows the quarterly distribution of job orders in 2006. Seasonal job order patterns reflect both economic factors and the addition of new accounts to the AJB database. The distribution of job orders by quarter is included for consistency with our previous report covering 2004 data. However, matched pairs of 2004 and 2006 quarterly percentages of annual job orders, for all major occupational groups, was tested and the correlation coefficient was only 21 percent.

Quarterly Distribution of Job Orders
By Major Occupation Group in 2006

Standard Occupational Classification (SOC)

	Major Occupational Group	Percentage of Annual Job Orders			
Code	Description	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
11	Management	21.5	25.8	26.1	26.6
13	Business and Financial Operations	25.8	25.6	24.7	23.9
15	Computer and Mathematical	26.1	27.7	24.7	21.6
17	Architecture and Engineering	**29.5**	24.6	22.7	23.2
19	Life, Physical, and Social Science	24.9	25.8	24.8	24.5
21	Community and Social Services	24.2	24.7	25.5	25.7
23	Legal	25.6	**28.7**	25.5	20.2
25	Education, Training, and Library	22.7	24.3	**28.4**	24.6
27	Arts, Design, Entertainment, Sports, and Media	22.7	22.5	27.5	27.3
29	Healthcare Practitioners and Technical	20.5	25.8	27.0	26.7
31	Healthcare Support	22.2	25.7	23.1	29.0
33	Protective Service	21.3	26.2	25.8	26.6
35	Food Preparation and Serving Related	24.3	25.6	26.4	23.7
37	Building and Grounds Cleaning and Maintenance	24.8	28.0	25.3	21.9
39	Personal Care and Service	24.9	24.0	25.8	25.3
41	Sales and Related	22.2	23.3	24.2	**30.3**
43	Office and Administrative Support	25.1	25.7	25.8	23.4
45	Farming, Fishing, and Forestry	27.9	28.1	25.0	19.0
47	Construction and Extraction	25.2	27.2	26.4	21.3
49	Installation, Maintenance, and Repair	24.1	26.8	26.7	22.4
51	Production	25.0	26.9	25.9	22.2
53	Transportation and Material Moving	25.0	26.4	26.1	22.5
55	Military Specific	NA	NA	NA	NA

The following table shows percentages of resumes for applicants with college degrees in 2006 varied greatly by major occupational group. While 74.5% of the resumes coded to *Life, Physical, and Social Science* reported graduation from college, the equivalent number for *Building and Grounds Cleaning and Maintenance* was only 2.6%. Overall, educational level coded on resumes changed little between 2004 and 2006.

Percent of Resumes by Educational Level
By Major Occupation Group in 2006

Standard Occupational Classification (SOC) Major Occupational Group		College Degree	Some College or Vocational	Other
Code	Description			
11	Management	46.9	35.3	17.8
13	Business and Financial Operations	53.0	33.9	13.1
15	Computer and Mathematical	44.0	44.8	11.3
17	Architecture and Engineering	49.5	39.8	10.7
19	Life, Physical, and Social Science	**74.5**	17.9	7.7
21	Community and Social Services	56.2	30.7	13.2
23	Legal	49.0	40.0	11.0
25	Education, Training, and Library	54.3	27.5	18.2
27	Arts, Design, Entertainment, Sports, and Media	49.4	34.9	15.7
29	Healthcare Practitioners and Technical	23.4	49.1	27.5
31	Healthcare Support	6.2	41.0	52.7
33	Protective Service	14.0	39.4	46.6
35	Food Preparation and Serving Related	4.4	27.9	67.8
37	Building and Grounds Cleaning and Maintenance	2.6	20.3	**77.2**
39	Personal Care and Service	9.3	32.0	58.6
41	Sales and Related	18.7	33.7	47.5
43	Office and Administrative Support	13.3	47.3	39.4
45	Farming, Fishing, and Forestry	12.6	27.3	60.0
47	Construction and Extraction	4.7	28.7	66.6
49	Installation, Maintenance, and Repair	6.4	47.9	45.6
51	Production	6.0	29.2	64.7
53	Transportation and Material Moving	4.4	24.5	71.1
55	Military Specific	16.4	**53.4**	30.2

Often the distribution of educational attainment reported on resumes (see the previous table) was considerably different from employer requirements, as indicated on nonbatch job orders in the following table. For example, 86.0% of the nonbatch job orders for *Healthcare Practitioners and Technical* (29) required a college degree in 2006, yet only 23.4% of resumes coded to that group reported attainment of a degree.

Job orders for *Computer and Mathematical* (15) occupations were more likely to call for formal training beyond high school in 2006 (62.8%) than in 2004 (24.5%).

<div align="center">

Percent Education Required on Nonbatch Job Orders
By Major Occupation Group in 2006

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Standard Occupational Classification (SOC) Major Occupational Group		College Degree	Some College or Vocational	Other
Code	Description			
11	Management	43.7	11.3	45.0
13	Business and Financial Operations	43.7	8.0	48.3
15	Computer and Mathematical	39.4	**23.4**	37.2
17	Architecture and Engineering	59.7	16.4	24.0
19	Life, Physical, and Social Science	64.6	12.4	23.0
21	Community and Social Services	53.6	13.9	32.5
23	Legal	47.6	15.7	36.7
25	Education, Training, and Library	52.8	19.5	27.8
27	Arts, Design, Entertainment, Sports, and Media	30.6	11.2	58.2
29	Healthcare Practitioners and Technical	**86.0**	7.1	6.9
31	Healthcare Support	34.0	19.3	46.7
33	Protective Service	2.8	4.8	92.4
35	Food Preparation and Serving Related	0.9	4.1	95.0
37	Building and Grounds Cleaning and Maintenance	1.8	2.4	95.8
39	Personal Care and Service	10.4	9.5	80.1
41	Sales and Related	29.3	6.3	64.4
43	Office and Administrative Support	6.9	10.2	82.9
45	Farming, Fishing, and Forestry	5.6	5.1	89.3
47	Construction and Extraction	4.8	5.8	89.5
49	Installation, Maintenance, and Repair	4.5	10.1	85.4
51	Production	6.9	7.3	85.7
53	Transportation and Material Moving	1.3	1.8	**96.9**
55	Military Specific	NA	NA	NA

While job orders for *Computer and Mathematical* (15) occupations were more likely to require a college degree in 2006, than in 2004, the opposite trend was seen with resumes. Employers only viewed 62.1% of active resumes specifying a college degree which were coded to this occupational group in 2006, down from 69.7% in 2004.

Major occupational groups with large increases in their percentage of viewed resumes in 2006, relative to 2004, included: *Community and Social Services* (21), *Education, Training, and Library* (25), *Arts, Design, Entertainment, Sports, and Media* (27), and *Protective Service* (33).

Percent of Resumes Viewed by Employers
By Major Occupation Group and Educational Level in 2006

Code	Description	College Degree	Some College or Vocational	Other
11	Management	63.7	60.1	49.0
13	Business and Financial Operations	67.3	62.8	52.6
15	Computer and Mathematical	62.1	60.0	42.7
17	Architecture and Engineering	76.8	70.5	56.5
19	Life, Physical, and Social Science	68.9	62.0	46.3
21	Community and Social Services	63.2	59.6	50.6
23	Legal	65.3	64.0	56.9
25	Education, Training, and Library	60.2	57.3	44.5
27	Arts, Design, Entertainment, Sports, and Media	61.2	57.8	45.9
29	Healthcare Practitioners and Technical	72.0	64.1	51.0
31	Healthcare Support	64.8	57.5	41.6
33	Protective Service	63.7	60.8	49.8
35	Food Preparation and Serving Related	53.8	53.4	42.2
37	Building and Grounds Cleaning and Maintenance	62.1	60.7	47.2
39	Personal Care and Service	54.6	53.9	40.8
41	Sales and Related	69.2	63.1	48.0
43	Office and Administrative Support	62.2	58.9	49.3
45	Farming, Fishing, and Forestry	62.2	58.9	45.9
47	Construction and Extraction	69.1	63.8	51.4
49	Installation, Maintenance, and Repair	71.4	69.8	58.5
51	Production	62.5	59.7	46.5
53	Transportation and Material Moving	59.7	59.3	43.8
55	Military Specific	**77.6**	**81.9**	**70.7**

Management
SOC Major Occupational Group 11

Detailed Occupations and Education Level
A broad range of detailed occupations make up the major occupational group *Management*. About one-fifth of the nonbatch job orders for this group were coded to the residual occupation *Managers, All Other* (11-9199). No other detailed occupation accounted for even 10 percent.

Educational requirements varied widely for different detailed occupations, as shown in Table 3. College degrees were required for 87.9% of the nonbatch job orders coded to *Engineering Managers* (11-9041) in 2006, but only 7.5% for *Food Service Managers* (11-9051) required a degree. Not only did few job orders for *Food Service Managers* (11-9051) require a college degrees, but that percentage even fell from the 13.5% recorded in 2004.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Management* - Major Occupational Group 11

Code	Title	#	%
11-9199	Managers, All Other	8,604	20.2
11-2022	Sales Managers	3,487	8.2
11-3031	Financial Managers	3,207	7.5
11-2021	Marketing Managers	2,620	6.2
11-1021	General and Operations Managers	2,599	6.1
11-9051	Food Service Managers	2,416	5.7
11-3021	Computer and Information Systems Managers	1,841	4.3
11-9111	Medical and Health Services Managers	1,611	3.8
11-3011	Administrative Services Managers	1,431	3.4
11-9041	Engineering Managers	1,360	3.2
11-3051	Industrial Production Managers	1,349	3.2
	Total of occupations with less than 3.0% of group's job orders	12,044	28.3
	Total Nonbatch Job Orders	42,569	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		14.1

Table 2 – Percent of Resumes by Education Level in 2006
For *Management*
Major Occupational Group 11

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	1.5	40.2
High School Diploma or GED	16.3	49.7
Some College or Vocational	35.3	60.1
Bachelors Degree	34.4	63.7
Graduate Degree	12.5	63.5

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Management* - Major Occupational Group 11

Code	Title	College Degree	Some College or Voc	Other
11-9199	Managers, All Other	52.6	12.2	35.2
11-2022	Sales Managers	30.7	12.4	56.9
11-3031	Financial Managers	59.0	8.5	32.5
11-2021	Marketing Managers	79.4	7.9	12.7
11-1021	General and Operations Managers	46.2	16.9	36.9
11-9051	Food Service Managers	7.7	11.9	**80.4**
11-3021	Computer and Information Systems Managers	79.4	9.5	11.1
11-9111	Medical and Health Services Managers	63.7	**22.3**	14.0
11-3011	Administrative Services Managers	39.9	17.3	42.8
11-9041	Engineering Managers	**87.9**	5.1	7.1
11-3051	Industrial Production Managers	41.1	16.2	42.7

Keywords

Table 4 shows there were more than five times as many job orders as resumes that contained the primary keyword *Health*. Though that was the highest ratio of orders to resumes of any primary keyword, it probably understates the relative demand for healthcare managers. Job seekers with other occupations often refer to their health in their resumes. Additionally, a review of the data for other healthcare workers (see major occupational groups 29 and 31) generally showed even higher ratios of orders to resumes.

Just over 60 percent of the resumes coded to *Management* occupations were viewed by employers in 2006. In contrast, at least 72 percent of the resumes containing any of the 15 primary keywords were viewed by employers. Additionally, several primary and related keyword combinations had percentages of resumes viewed over 80 percent when one of the keywords was *Automotive*. Of resumes coded to *Management* containing both keywords *Automotive* and *Medical* 85.6% were viewed by employers.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Management* - Major Occupational Group 11

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Automotive	2,250	74.6	10,456	4.65
Center	15,487	74.1	51,683	3.34
Construction	7,473	72.0	12,173	1.63
Engineer	15,246	74.1	38,845	2.55
Health	11,977	72.2	60,305	**5.04**
Logistics	5,820	**75.2**	11,061	1.90
Maintenance	21,305	73.3	31,857	1.50
Manufacturing	9,573	73.7	19,079	1.99
Plant	7,309	74.3	8,700	1.19
Quality	24,533	72.0	59,363	2.42
Real	7,479	72.1	23,436	3.13
Regional	6,570	72.9	20,435	3.11
Resources	15,564	72.3	45,850	2.95
Safety	12,750	75.0	22,455	1.76
Shop	11,387	72.0	15,571	1.37
Major Group Total	116,782	60.2	300,937	2.58

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Management* - Major Occupational Group 11

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders Major Group	Detailed SOC	%
Automotive	11-2022	Sales Managers	507	182	36.0
Center	11-2022	Sales Managers	5,365	1,081	20.2
Construction	11-9021	Construction Managers	2,305	677	29.4
Engineer	11-9199	Managers, All Other	4,754	1,177	24.8
Health	11-9111	Medical and Health Services Managers	4,872	939	19.3
Logistics	11-9199	Managers, All Other	904	227	25.1
Maintenance	11-9199	Managers, All Other	4,231	1,007	23.8
Manufacturing	11-9199	Managers, All Other	2,977	747	25.1
Plant	11-9199	Managers, All Other	1,601	421	26.3
Quality	11-9199	Managers, All Other	6,771	1,648	24.3
Real	11-2022	Sales Managers	2,189	830	37.9
Regional	11-9199	Managers, All Other	2,021	400	19.8
Resources	11-9199	Managers, All Other	5,930	1,041	17.5
Safety	11-9199	Managers, All Other	3,370	851	25.2
Shop	11-9199	Managers, All Other	1,289	332	25.7

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Automotive
Related Keywords: Accounting 76.8%, Business 79.6%, Center 81.3%, Construction 82.9%, Coordinator 79.5%, Customer 78.2%, Development 82.5%, Director 79.5%, Distribution 81.4%, District 83.1%, Engineer 83.5%, Food 79.7%, Health 82.6%, Human 80.0%, Insurance 80.2%, Leader 81.7%, Logistics 82.9%, Maintenance 80.9%, Management 77.2%, Manager 76.3%, Manufacturing 80.9%, Marketing 78.4%, Medical 85.6%, Operations 78.7%, Plant 81.7%, Production 79.3%, Project 81.5%, Purchasing 78.5%, Quality 81.3%, Real 83.4%, Regional 80.0%, Resources 81.5%, Safety 80.8%, Sales 76.1%, Service 76.6%, Services 80.5%, Shop 79.5%, Store 77.5%, Supervisor 78.7%, Warehouse 79.2%

Primary Keyword: Center
Related Keywords: Accounting 78.5%, Automotive 81.3%, Business 76.5%, Construction 80.2%, Coordinator 76.6%, Customer 74.9%, Development 78.1%, Director 77.2%, Distribution 75.9%, District 77.0%, Engineer 80.8%, Estate 76.8%, Food 75.4%, Health 79.3%, Human 77.9%, Insurance 77.0%, Leader 77.4%, Logistics 80.9%, Maintenance 79.2%, Management 75.7%, Manager 75.1%, Manufacturing 81.0%, Marketing 76.8%, Medical 77.6%, Nurse 76.9%, Operations 76.5%, Plant 80.4%, Production 76.0%, Project 77.7%, Property 79.2%, Purchasing 77.1%, Quality 78.5%, Real 79.2%, Regional 77.6%, Resources 79.3%, Restaurant 76.3%, Retail 75.9%, Safety 80.2%, Sales 75.3%, Service 75.2%, Services 76.7%, Shop 77.1%, Store 76.9%, Warehouse 76.8%

Primary Keyword: Construction
Related Keywords: Accounting 77.4%, Assistant 75.4%, Automotive 82.9%, Business 76.9%, Center 80.2%, Coordinator 77.8%, Customer 76.6%, Development 79.4%, Director 77.0%, Distribution 77.7%, District 78.8%, Engineer 79.1%, Food 76.3%, Health 81.0%, Human 77.6%, Insurance 77.9%, Leader 79.2%, Logistics 82.4%, Maintenance 77.1%, Management 75.2%, Manager 74.5%, Manufacturing 79.8%, Marketing 76.4%, Medical 79.8%, Nurse 82.4%, Operations 77.6%, Plant 80.0%, Production 76.3%, Project 75.9%, Property 74.7%, Purchasing 76.3%, Quality 80.0%, Real 76.0%, Regional 80.1%, Resources 79.4%, Restaurant 76.1%, Retail 76.1%, Safety 79.5%, Sales 75.1%, Service 76.4%, Services 77.9%, Shop 79.1%, Store 78.5%, Supervisor 74.3%, Warehouse 77.2%

Primary Keyword: Engineer
Related Keywords: Accounting 78.6%, Assistant 77.0%, Automotive 83.5%, Business 77.2%, Center 80.8%, Construction 79.1%, Coordinator 78.7%, Customer 77.4%, Development 78.6%, Director 78.5%, Distribution 79.6%, District 77.7%, Food 79.1%, Health 81.6%, Human 79.6%, Insurance 77.9%, Leader 78.5%, Logistics 82.0%, Maintenance 79.6%, Management 76.2%, Manager 75.8%, Manufacturing 79.2%, Marketing 76.6%, Medical 81.0%, Nurse 80.4%, Operations 78.0%, Plant 80.4%, Production 76.9%, Project 76.7%, Property 79.8%, Purchasing 77.4%, Quality 79.6%, Real 79.4%, Regional 79.8%, Resources 80.6%, Restaurant 78.8%, Retail 79.1%, Safety 82.2%, Sales 75.8%, Service 77.4%, Services 78.0%, Shop 81.2%, Store 79.2%, Supervisor 76.0%, Warehouse 81.2%

Primary Keyword: Health
Related Keywords: Accounting 77.8%, Assistant 74.1%, Automotive 82.6%, Business 76.5%, Center 79.3%, Construction 81.0%, Coordinator 75.6%, Customer 75.1%, Development 77.9%, Director 76.3%, Distribution 77.5%, District 80.3%, Engineer 81.6%, Estate 75.9%, Human 77.2%, Insurance 74.2%, Leader 78.1%, Logistics 82.0%, Maintenance 77.0%, Management 75.2%, Manager 74.4%, Manufacturing 79.8%, Marketing 75.8%, Medical 75.1%, Nurse 77.1%, Operations 77.3%, Plant 80.9%, Production 75.5%, Project 78.0%, Property 77.3%, Purchasing 76.3%, Quality 77.4%, Real 78.3%, Regional 79.7%, Resources 78.5%, Retail 75.5%, Safety 78.9%, Sales 75.0%, Service 74.4%,

Services 75.9%, Shop 78.4%, Store 75.0%, Supervisor 74.6%, Warehouse 77.5%

Primary Keyword: Logistics
Related Keywords: Accounting 79.9%, Automotive 82.9%, Business 78.2%, Center 80.9%, Construction 82.4%, Customer 77.2%, Development 79.9%, Director 79.0%, Distribution 76.2%, Engineer 82.0%, Estate 80.7%, Food 79.1%, Health 82.0%, Human 78.5%, Insurance 78.6%, Leader 79.3%, Maintenance 81.3%, Management 76.8%, Manager 76.6%, Manufacturing 79.5%, Marketing 77.1%, Medical 82.5%, Operations 78.0%, Plant 81.0%, Production 76.7%, Project 79.3%, Property 80.3%, Purchasing 76.8%, Quality 79.8%, Real 81.6%, Regional 79.4%, Resources 79.7%, Restaurant 79.8%, Retail 77.1%, Safety 80.7%, Sales 76.5%, Service 77.5%, Services 78.9%, Shop 81.1%, Store 77.1%, Supervisor 78.0%, Warehouse 76.8%

Primary Keyword: Maintenance
Related Keywords: Accounting 77.0%, Assistant 74.4%, Automotive 80.9%, Business 76.3%, Center 79.2%, Construction 77.1%, Coordinator 76.4%, Customer 75.2%, Development 78.0%, Director 77.7%, Distribution 75.8%, District 76.5%, Engineer 79.6%, Health 77.0%, Human 76.9%, Insurance 76.5%, Leader 77.3%, Logistics 81.3%, Management 75.4%, Manager 74.4%, Manufacturing 79.4%, Marketing 75.6%, Medical 78.0%, Nurse 78.0%, Operations 76.3%, Plant 78.6%, Production 74.8%, Project 77.2%, Property 74.7%, Purchasing 75.3%, Quality 77.7%, Real 77.5%, Regional 79.4%, Resources 78.4%, Retail 75.9%, Safety 78.8%, Sales 74.9%, Service 75.4%, Services 77.2%, Shop 79.2%, Store 76.2%, Supervisor 74.7%, Warehouse 76.1%

Primary Keyword: Manufacturing
Related Keywords: Accounting 77.2%, Assistant 75.9%, Automotive 80.9%, Business 77.9%, Center 81.0%, Construction 79.8%, Coordinator 77.9%, Customer 77.6%, Development 79.1%, Director 79.2%, Distribution 75.5%, District 81.3%, Engineer 79.2%, Estate 76.9%, Food 77.6%, Health 79.8%, Human 77.4%, Insurance 78.4%, Leader 77.8%, Logistics 79.5%, Maintenance 79.4%, Management 76.0%, Manager 75.4%, Marketing 76.8%, Medical 79.6%, Operations 76.7%, Plant 77.9%, Production 74.9%, Project 79.0%, Property 81.1%, Purchasing 75.8%, Quality 77.7%, Real 79.8%, Regional 80.3%, Resources 79.3%, Restaurant 77.6%, Retail 76.5%, Safety 80.0%, Sales 77.0%, Service 77.6%, Services 79.7%, Shop 79.9%, Store 77.5%, Supervisor 74.8%, Warehouse 77.5%

Primary Keyword: Plant
Related Keywords: Accounting 77.2%, Assistant 76.0%, Automotive 81.7%, Business 77.6%, Center 80.4%, Construction 80.0%, Coordinator 78.3%, Customer 76.6%, Development 80.5%, Director 79.1%, Distribution 77.1%, District 79.8%, Engineer 80.4%, Estate 77.9%, Food 76.5%, Health 80.9%, Human 78.0%, Insurance 80.4%, Leader 79.1%, Logistics 81.0%, Maintenance 78.6%, Management 76.6%, Manager 75.4%, Manufacturing 77.9%, Marketing 77.1%, Medical 79.4%, Operations 76.7%, Production 75.9%, Project 79.7%, Property 79.1%, Purchasing 76.3%, Quality 79.1%, Real 79.3%, Regional 79.4%, Resources 79.4%, Safety 79.4%, Sales 76.2%, Service 77.3%, Services 79.3%, Shop 79.0%, Supervisor 76.5%, Warehouse 77.2%

Primary Keyword: Quality
Related Keywords: Accounting 76.4%, Assistant 73.4%, Automotive 81.3%, Business 75.1%, Center 78.5%, Construction 80.0%, Coordinator 75.4%, Customer 73.6%, Development 77.0%, Director 77.3%, Distribution 74.8%, District 75.6%, Engineer 79.6%, Estate 75.0%, Health 77.4%, Human 76.3%, Insurance 75.7%, Leader 75.9%, Logistics 79.8%, Maintenance 77.7%, Management 74.3%, Manager 73.9%, Manufacturing 77.7%, Marketing 73.9%, Medical 78.1%, Nurse 78.4%, Operations 75.6%, Plant 79.1%, Production 73.2%, Project 76.4%, Property 77.8%, Purchasing 74.5%, Real 77.8%, Regional 77.7%, Resources 77.9%, Retail 74.3%, Safety 78.4%, Sales 74.0%, Service 74.0%, Services 75.6%, Shop 77.3%, Store 74.4%, Supervisor 73.1%, Warehouse 76.2%

Primary Keyword: Real
Related Keywords: Accounting 75.9%, Automotive 83.4%, Business 75.7%, Center 79.2%, Construction 76.0%, Coordinator 77.3%, Customer 74.6%, Development 77.7%, Director 76.9%, Distribution 76.5%, District 76.1%, Engineer 79.4%, Food 74.8%, Health 78.3%, Human 76.8%, Insurance 74.5%, Leader 77.6%, Logistics 81.6%, Maintenance 77.5%, Management 74.6%, Manager 73.7%, Manufacturing 79.8%, Marketing 75.5%, Medical 78.5%, Nurse 77.9%, Operations 76.2%, Plant 79.3%, Production 75.0%, Project 77.2%, Purchasing 76.3%, Quality 77.8%, Regional 77.0%, Resources 79.5%, Retail 75.2%, Safety 79.9%, Sales 73.6%, Service 75.3%, Services 76.3%, Shop 77.6%, Store 75.4%, Supervisor 74.5%, Warehouse 77.7%

Primary Keyword: Regional
Related Keywords: Accounting 77.7%, Assistant 74.3%, Automotive 80.0%, Business 76.6%, Center 77.6%, Construction 80.1%, Coordinator 75.0%, Customer 75.6%, Development 77.3%, Director 75.0%, Distribution 77.3%, District 76.9%, Engineer 79.8%, Food 76.9%, Health 79.7%, Human 77.5%, Insurance 78.8%, Leader 77.1%, Logistics 79.4%, Maintenance 79.4%, Management 74.7%, Manufacturing 80.3%, Marketing 74.7%, Medical 78.4%, Nurse 81.4%, Operations 76.1%, Plant 79.4%, Production 74.6%, Project 77.0%, Property 78.3%, Purchasing 77.0%, Quality 77.7%, Real 77.0%, Resources 77.8%, Restaurant 78.2%, Retail 76.6%, Safety 80.5%, Service 75.6%, Services 75.9%, Store 76.9%, Supervisor 76.0%, Warehouse 78.4%

Primary Keyword: Resources
Related Keywords: Accounting 75.2%, Assistant 73.5%, Automotive 81.5%, Business 76.1%, Center 79.3%, Construction 79.4%, Coordinator 75.6%, Customer 74.8%, Development 77.5%, Director 76.8%, Distribution 74.9%, District 77.3%, Engineer 80.6%, Estate 77.8%, Food 76.1%, Health 78.5%, Insurance 76.6%, Leader 76.9%, Logistics 79.7%, Maintenance 78.4%, Management 74.6%, Manager 74.2%, Manufacturing 79.3%, Marketing 75.1%, Medical 77.4%, Nurse 79.4%, Operations 76.0%, Plant 79.4%, Production 73.8%, Project 77.2%, Property 77.3%, Purchasing 75.1%, Quality 77.9%, Real 79.5%, Regional 77.8%, Restaurant 75.0%, Retail 76.8%, Safety 78.0%, Sales 74.8%, Service 75.0%, Services 76.7%, Shop 76.8%, Store 75.9%, Supervisor 73.8%, Warehouse 76.0%

Primary Keyword: Safety
Related Keywords: Accounting 79.4%, Assistant 75.9%, Automotive 80.8%, Business 78.0%, Center 80.2%, Construction 79.5%, Coordinator 78.2%, Customer 75.9%, Development 79.6%, Director 77.6%, District 78.5%, Engineer 82.2%, Health 78.9%, Human 76.2%, Insurance 78.9%, Leader 78.3%, Logistics 80.7%, Maintenance 78.8%, Management 76.9%, Manager 76.3%, Manufacturing 80.0%, Marketing 78.9%, Medical 80.3%, Nurse 82.5%, Operations 77.3%, Plant 79.4%, Production 76.7%, Project 79.5%, Property 77.7%, Purchasing 76.5%, Quality 78.4%, Real 79.9%, Regional 80.5%, Resources 78.0%, Retail 77.2%, Sales 77.0%, Service 76.6%, Services 78.2%, Shop 80.0%, Store 76.0%, Supervisor 76.5%

Primary Keyword: Shop
Related Keywords: Accounting 75.6%, Assistant 73.3%, Automotive 79.5%, Business 75.2%, Center 77.1%, Construction 79.1%, Coordinator 74.9%, Customer 73.9%, Development 76.9%, Director 75.4%, Distribution 76.1%, District 75.3%, Engineer 81.2%, Estate 75.4%, Food 74.6%, Health 78.4%, Human 75.4%, Insurance 77.5%, Leader 77.3%, Logistics 81.1%, Maintenance 79.2%, Management 74.4%, Manager 73.4%, Manufacturing 79.9%, Marketing 73.7%, Medical 77.3%, Nurse 75.7%, Operations 76.7%, Plant 79.0%, Production 73.4%, Project 77.1%, Property 78.0%, Purchasing 74.2%, Quality 77.3%, Real 77.6%, Regional 73.4%, Resources 76.8%, Restaurant 75.1%, Retail 75.0%, Safety 80.0%, Sales 73.5%, Service 74.2%, Services 75.6%, Store 73.6%, Supervisor 74.3%, Warehouse 77.1%

Business and Financial Operations
SOC Major Occupational Group 13

Detailed Occupations and Educational Level

If an occupation cannot be coded to a distinct detailed occupation, it is coded to the closest residual occupation. Residual occupations can be easily identified because their occupational title ends with *All Other*. Of the nine detailed occupations with at least 3.0% of the major group's nonbatch job orders, three were residual occupations.

Financial Specialist, All Other (13-2099) is a residual occupation that accounted for 8.5% of the major group's nonbatch job orders in 2006. Of those orders, 41.9% required a college degree in 2006 compared to only 19.2% in 2004. Of those orders requiring a degree in 2006, 21.5% contained the keyword *Management,* and 12.3% contained *Manager*.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Business and Financial Operations* – Major Occupational Group 13

Code	Title	#	%
13-2011	Accountants and Auditors	7,667	23.7
13-1199	Business Operations Specialists, All Other	5,641	17.4
13-2099	Financial Specialists, All Other	2,746	8.5
13-2051	Financial Analysts	2,588	8.0
13-1071	Employment, Recruitment, and Placement Specialists	1,485	4.6
13-1111	Management Analysts	1,418	4.4
13-2072	Loan Officers	1,169	3.6
13-2053	Insurance Underwriters	1,102	3.4
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	1,063	3.3
	Total of occupations with less than 3.0% of group's job orders	7,455	23.1
	Total Nonbatch Job Orders	32,334	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		12.3

Table 2 – Percent of Resumes by Education Level in 2006
For *Business and Financial Operations*
Major Occupational Group 13

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	0.9	39.8
High School Diploma or GED	12.2	53.6
Some College or Vocational	33.9	62.8
Bachelors Degree	41.3	66.9
Graduate Degree	11.7	68.4

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Business and Financial Operations* – Major Occupational Group 13

Code	Title	College Degree	Some College or Voc	Other
13-2011	Accountants and Auditors	70.3	14.0	15.8
13-1199	Business Operations Specialists, All Other	48.9	**26.3**	24.7
13-2099	Financial Specialists, All Other	41.9	10.7	47.4
13-2051	Financial Analysts	**79.7**	7.7	12.7
13-1071	Employment, Recruitment, and Placement Specialists	39.0	19.6	41.4
13-1111	Management Analysts	73.9	9.7	16.4
13-2072	Loan Officers	22.5	13.6	**63.9**
13-2053	Insurance Underwriters	75.9	3.5	20.7
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	55.9	17.7	26.5

Keywords

Demand for CPAs remained very high in 2006. The ratio of job orders to resumes with the keyword *CPA* was 23.39. The percentage of resumes containing *CPA* that were viewed by employers was 78.0%, the highest percentage of any keyword. Of resumes containing both *CPA* and *Contracts,* 86.4% were viewed.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Business and Financial Operations* – Major Occupational Group 13

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Commercial	3,088	75.3	16,079	5.21
Contracts	4,305	75.2	9,346	2.17
Cost	8,663	74.2	36,381	4.20
CPA	1,281	**78.0**	29,966	**23.39**
Credit	7,330	73.2	63,303	8.64
Estate	2,582	75.0	11,287	4.37
Loan	5,499	74.3	21,381	3.89
Marketing	7,652	72.4	20,568	2.69
Mortgage	2,844	76.5	15,367	5.40
Officer	4,760	75.6	11,112	2.33
Processor	1,692	73.8	4,094	2.42
Property	3,165	73.5	9,945	3.14
QuickBooks	2,680	74.9	5,302	1.98
Real	3,607	75.1	18,057	5.01
Staff	11,686	73.0	92,077	7.88
Major Group Total	47,327	64.1	262,474	5.55

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Business and Financial Operations* – Major Occupational Group 13

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Commercial	13-2053	Insurance Underwriters	2,664	674	25.3
Contracts	13-1199	Business Operations Specialists, All Other	1,813	454	25.0
Cost	13-2011	Accountants and Auditors	4,760	1,318	27.7
CPA	13-2011	Accountants and Auditors	2,091	1,454	69.5
Credit	13-2011	Accountants and Auditors	3,790	682	18.0
Estate	13-2072	Loan Officers	1,260	286	22.7
Loan	13-2072	Loan Officers	2,520	1,030	40.9
Marketing	13-1199	Business Operations Specialists, All Other	2,586	783	30.3
Mortgage	13-2072	Loan Officers	1,090	549	50.3
Officer	13-2072	Loan Officers	1,676	626	37.4
Processor	13-2072	Loan Officers	343	121	35.3
Property	13-2053	Insurance Underwriters	1,930	543	28.1
QuickBooks	13-2011	Accountants and Auditors	385	301	78.2
Real	13-2072	Loan Officers	1,782	348	19.5
Staff	13-2011	Accountants and Auditors	6,862	2,100	30.6

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: CPA
Related Keywords: Accountant 81.6%, Accounts 82.0%, Analysis 82.4%, Analyst 83.8%, Audit 82.4%, Auditor 85.2%, Bank 81.3%, Banking 84.7%, Business 83.6%, Buyer 84.7%, Collections 84.9%, Commercial 83.6%, Contracts 86.4%, Controller 80.6%, Cost 84.0%, Credit 82.8%, Customer 81.0%, Estate 84.1%, Finance 84.0%, Financial 80.7%, Human 82.0%, Insurance 83.0%, Loan 81.1%, Management 82.7%, Manager 81.7%, Mortgage 82.1%, Officer 83.6%, Payable 82.3%, Payroll 81.4%, Processor 86.0%, Property 81.0%, Purchasing 85.5%, QuickBooks 83.5%, Real 80.9%, Receivable 82.9%, Resources 83.0%, Sales 82.7%, Series 83.8%, Service 83.2%, Staff 82.6%, Tax 80.7%

Primary Keyword: Commercial
Related Keywords: Account 77.0%, Accountant 78.5%, Accounting 77.3%, Accounts 76.9%, Analysis 79.5%, Analyst 80.4%, Audit 79.0%, Auditor 81.3%, Bank 77.5%, Banking 79.0%, Business 79.0%, Buyer 78.9%, CPA 83.6%, Contracts 80.6%, Controller 82.3%, Cost 80.7%, Credit 76.7%, Customer 76.7%, Estate 79.1%, Finance 80.6%, Financial 78.0%, Human 79.3%, Insurance 76.8%, Loan 78.9%, Management 77.9%, Manager 77.9%, Marketing 79.8%, Mortgage 83.2%, Officer 81.6%, Payable 77.3%, Payroll 78.6%, Property 78.2%, Purchasing 77.1%, QuickBooks 80.4%, Real 80.6%, Resources 80.4%, Sales 78.4%, Series 84.2%, Service 77.5%, Staff 77.9%, Tax 77.4%

Primary Keyword: Contracts
Related Keywords: Account 77.1%, Accountant 79.3%, Accounting 78.2%, Accounts 77.3%, Analysis 79.7%, Analyst 81.7%, Audit 79.4%, Auditor 80.2%, Bank 78.7%, Banking 78.0%, Business 78.3%, CPA 86.4%, Collections 79.4%, Commercial 80.6%, Controller 80.1%, Cost 78.8%, Credit 78.9%, Customer 76.6%, Estate 78.6%, Finance 81.8%, Financial 78.2%, Insurance 77.1%, Loan 79.8%, Management 78.0%, Manager 77.9%, Marketing 78.1%, Mortgage 79.4%, Officer 82.1%, Payable 76.7%, Payroll 77.9%, Processor 78.8%, Property 78.5%, QuickBooks 81.7%, Real 79.5%, Receivable 77.5%, Resources 78.2%, Sales 77.4%, Series 79.9%, Staff 78.4%, Tax 79.0%

Primary Keyword: Cost
Related Keywords: Account 75.0%, Accounting 75.0%, Accounts 75.6%, Analysis 76.8%, Analyst 79.7%, Audit 77.4%, Auditor 77.6%, Bank 76.0%, Business 77.7%, Buyer 76.0%, CPA 84.0%, Collections 76.5%, Commercial 80.7%, Contracts 78.8%, Controller 76.7%, Credit 78.7%, Customer 76.9%, Estate 79.1%, Finance 77.1%, Financial 75.7%, Human 78.2%, Insurance 78.5%, Loan 79.7%, Management 76.7%, Manager 77.0%, Marketing 77.7%, Mortgage 81.9%, Officer 81.6%, Processor 80.3%, Property 77.8%, QuickBooks 79.4%, Real 79.5%, Receivable 75.6%, Resources 77.8%, Sales 76.7%, Series 78.7%, Service 76.8%, Staff 78.0%, Tax 75.6%

Primary Keyword: Credit
Related Keywords: Account 74.1%, Accountant 76.7%, Accounting 74.8%, Accounts 74.0%, Analysis 76.3%, Analyst 76.5%, Audit 77.2%, Auditor 78.2%, Bank 75.8%, Banking 75.2%, Business 76.8%, Buyer 77.2%, CPA 82.8%, Commercial 76.7%, Contracts 78.9%, Controller 79.3%, Cost 78.7%, Customer 74.3%, Estate 80.5%, Finance 77.3%, Financial 75.7%, Human 76.9%, Insurance 77.5%, Loan 76.3%, Management 76.5%, Manager 76.0%, Marketing 78.2%, Mortgage 78.9%, Officer 78.3%, Payroll 75.7%, Processor 77.9%, Property 78.2%, Purchasing 75.8%, QuickBooks 80.3%, Real 80.1%, Resources 77.4%, Sales 76.1%, Series 76.1%, Service 75.3%, Staff 77.5%, Tax 77.1%, Teller 75.0%

Primary Keyword: Estate
Related Keywords: Account 76.9%, Accountant 78.7%, Accounting 76.6%, Accounts 77.4%, Analysis 78.8%, Analyst 80.4%, Audit 78.0%, Auditor 82.8%, Bank 76.8%, Business 77.8%, Buyer 78.2%, CPA 84.1%, Clerk 77.7%, Commercial 79.1%, Contracts 78.6%, Controller 79.3%, Cost 79.1%, Credit 80.5%, Customer 77.2%, Finance 78.7%, Financial 77.3%, Insurance 77.6%, Loan 80.1%, Management 77.5%, Manager 77.1%, Marketing 78.8%, Mortgage 81.6%, Officer 79.4%, Processor 81.5%, Property 77.7%, Purchasing 77.6%, QuickBooks 80.6%, Receivable 77.9%, Sales 77.2%, Series 78.0%, Service 77.3%, Staff 78.3%, Tax 77.8%

Primary Keyword: Loan
Related Keywords: Account 75.6%, Accountant 75.9%, Accounting 75.9%, Accounts 75.2%, Analysis 77.9%, Analyst 79.5%, Audit 77.8%, Business 78.7%, Buyer 81.9%, CPA 81.1%, Commercial 78.9%, Contracts 79.8%, Controller 79.5%, Cost 79.7%, Credit 76.3%, Customer 76.1%, Estate 80.1%, Finance 77.4%, Financial 76.6%, Human 76.2%, Insurance 78.0%, Management 78.0%, Manager 77.1%, Marketing 79.1%, Mortgage 77.8%, Officer 76.8%, Payable 75.7%, Payroll 75.9%, Processor 78.1%, Property 78.0%, Purchasing 78.3%, QuickBooks 80.2%, Real 80.1%, Receivable 76.0%, Sales 77.9%, Service 76.6%, Staff 78.7%, Tax 76.4%

Primary Keyword: Marketing
Related Keywords: Account 75.7%, Accountant 78.0%, Accounting 76.2%, Accounts 76.6%, Analysis 77.6%, Analyst 76.8%, Audit 78.6%, Auditor 81.6%, Bank 77.5%, Banking 76.7%, Bookkeeper 75.8%, Business 75.9%, Buyer 75.7%, CPA 80.4%, Collections 76.7%, Commercial 79.8%, Contracts 78.1%, Controller 79.8%, Cost 77.7%, Credit 78.2%, Customer 75.4%, Estate 78.8%, Finance 79.0%, Financial 76.7%, Human 74.9%, Insurance 77.4%, Loan 79.1%, Management 74.8%, Manager 74.9%, Mortgage 80.0%, Officer 78.9%, Payable 76.0%, Payroll 76.7%, Processor 79.3%, Property 79.7%, Purchasing 76.1%, QuickBooks 81.6%, Real 80.2%, Receivable 75.9%, Resources 76.8%, Sales 74.1%, Series 77.4%, Service 74.7%, Staff 76.6%, Tax 79.1%, Teller 75.8%

Primary Keyword: Mortgage
Related Keywords: Account 78.5%, Accountant 80.0%, Accounting 78.1%, Accounts 79.1%, Analysis 79.9%, Analyst 82.6%, Audit 80.1%, Auditor 81.1%, Bank 78.3%, Bookkeeper 83.5%, Business 81.3%, Buyer 82.9%, CPA 82.1%, Commercial 83.2%, Contracts 79.4%, Controller 81.6%, Cost 81.9%, Credit 78.9%, Customer 78.6%, Estate 81.6%, Finance 80.7%, Financial 79.1%, Insurance 80.3%, Loan 77.8%, Management 80.9%, Manager 79.7%, Marketing 80.0%, Officer 79.5%, Payable 79.6%, Property 79.9%, QuickBooks 83.0%, Real 80.9%, Receivable 79.0%, Resources 81.7%, Sales 80.3%, Series 80.0%, Service 78.7%, Staff 80.5%, Tax 78.9%

Primary Keyword: Officer
Related Keywords: Account 77.9%, Accountant 78.5%, Accounting 78.1%, Accounts 78.3%, Analysis 80.9%, Analyst 81.9%, Audit 79.6%, Auditor 78.0%, Bank 77.0%, Business 79.9%, Buyer 81.3%, CPA 83.6%, Commercial 81.6%, Contracts 82.1%, Cost 81.6%, Credit 78.3%, Customer 78.4%, Estate 79.4%, Finance 79.4%, Financial 77.8%, Human 77.3%, Insurance 78.7%, Loan 76.8%, Management 79.0%, Manager 78.5%, Marketing 78.9%, Mortgage 79.5%, Processor 81.2%, Property 78.5%, Purchasing 77.6%, Real 80.3%, Receivable 77.8%, Resources 78.2%, Sales 78.9%, Service 78.6%, Staff 80.3%, Tax 78.0%

Primary Keyword: Processor
Related Keywords: Accountant 77.4%, Analyst 77.5%, Audit 78.9%, Auditor 78.5%, Bank 77.1%, Banking 76.4%, Bookkeeper 79.7%, Business 77.6%, Buyer 81.6%, CPA 86.0%, Collections 77.2%, Contracts 78.8%, Cost 80.3%, Credit 77.9%, Customer 75.8%, Estate 81.5%, Finance 80.0%, Financial 75.7%, Human 77.2%, Loan 78.1%, Management 77.7%, Manager 76.6%, Marketing 79.3%, Mortgage 77.3%, Officer 81.2%, Payroll 77.3%, Property 77.5%, Purchasing 80.7%, QuickBooks 82.0%, Real 81.5%, Resources 79.4%, Sales 78.5%, Service 75.7%, Staff 77.8%

Primary Keyword: Property
Related Keywords: Account 75.2%, Accountant 77.8%, Accounting 75.9%, Accounts 76.5%, Analysis 78.6%, Analyst 80.1%, Audit 78.3%, Auditor 78.8%, Bank 76.5%, Bookkeeper 78.7%, Business 76.9%, Buyer 80.8%, CPA 81.0%, Clerk 75.5%, Collections 79.6%, Commercial 78.2%, Contracts 78.5%, Controller 81.2%, Cost 77.8%, Credit 78.2%, Customer 75.7%, Estate 77.7%, Finance 78.8%, Financial 76.5%, Human 77.0%, Loan 78.0%, Management 76.3%, Manager 76.6%, Marketing 79.7%, Mortgage 79.9%, Officer 78.5%, Payable 78.2%, Payroll 78.5%, Processor 77.5%, Purchasing 79.6%, QuickBooks 78.5%, Real 77.4%, Receivable 78.7%, Resources 78.3%, Sales 77.6%, Service 75.8%, Staff 79.2%, Tax 75.2%

Primary Keyword: QuickBooks
Related Keywords: Account 76.2%, Accountant 78.2%, Accounting 76.4%, Accounts 78.1%, Analysis 77.9%, Analyst 80.9%, Audit 79.5%, Auditor 82.2%, Bank 77.9%, Banking 78.8%, Business 78.6%, CPA 83.5%, Clerk 78.4%, Collections 78.4%, Commercial 80.4%, Contracts 81.7%, Controller 80.8%, Cost 79.4%, Credit 80.3%, Customer 77.4%, Estate 80.6%, Finance 81.0%, Financial 78.1%, Human 78.3%, Insurance 80.7%, Loan 80.2%, Management 78.3%, Manager 77.5%, Marketing 81.6%, Mortgage 83.0%, Payable 77.5%, Payroll 77.4%, Processor 82.0%, Property 78.5%, Purchasing 77.5%, Real 80.6%, Receivable 78.1%, Sales 78.4%, Service 77.3%, Staff 79.1%, Tax 78.2%

Primary Keyword: Real
Related Keywords: Account 77.0%, Accountant 79.1%, Accounting 77.0%, Accounts 77.7%, Analysis 79.0%, Analyst 80.3%, Audit 79.0%, Auditor 80.6%, Bank 77.4%, Business 77.7%, Buyer 78.9%, CPA 80.9%, Collections 77.4%, Commercial 80.6%, Contracts 79.5%, Controller 78.8%, Cost 79.5%, Credit 80.1%, Customer 77.4%, Finance 79.9%, Financial 77.9%, Human 77.5%, Insurance 77.8%, Loan 80.1%, Management 78.3%, Manager 77.8%, Marketing 80.2%, Mortgage 80.9%, Officer 80.3%, Payroll 76.8%, Processor 81.5%, Property 77.4%, Purchasing 78.2%, QuickBooks 80.6%, Resources 78.8%, Sales 77.8%, Series 78.0%, Service 77.7%, Staff 79.1%, Tax 77.8%

Primary Keyword: Staff
Related Keywords: Account 74.6%, Accounting 75.3%, Accounts 75.3%, Analysis 76.7%, Analyst 78.4%, Audit 77.0%, Auditor 77.6%, Bank 75.7%, Banking 74.5%, Business 76.9%, Buyer 76.0%, CPA 82.6%, Collections 77.1%, Commercial 77.9%, Contracts 78.4%, Controller 77.9%, Cost 78.0%, Credit 77.5%, Customer 75.4%, Estate 78.3%, Finance 77.7%, Financial 76.1%, Human 73.9%, Insurance 77.0%, Loan 78.7%, Management 75.2%, Manager 75.3%, Marketing 76.6%, Mortgage 80.5%, Officer 80.3%, Payable 75.0%, Payroll 74.8%, Processor 77.8%, Property 79.2%, Purchasing 76.5%, QuickBooks 79.1%, Real 79.1%, Receivable 75.5%, Resources 75.0%, Sales 75.6%, Series 77.9%, Service 75.4%, Tax 76.3%, Teller 75.7%

Computer and Mathematical
SOC Major Occupational Group 15

Detailed Occupations and Educational Level

Overall, educational requirements of job orders for *Computer and Mathematical* (15) occupations were much more likely to call for formal training beyond high school in 2006 (62.8%) than in 2004 (24.5%). In 2004 many job orders required specific software knowledge, but did not require formal training beyond high school. All detailed occupations, with at least 3.0% of the group's nonbatch job orders, had a higher percentage of nonbatch job orders calling for education past high school in 2006 than in 2004.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Computer and Mathematical* – Major Occupational Group 15

Code	Title	#	%
15-1021	Computer Programmers	3,735	14.4
15-1032	Computer Software Engineers, Systems Software	3,652	14.1
15-1041	Computer Support Specialists	3,629	14.0
15-1099	Computer Specialists, All Other	3,270	12.6
15-1031	Computer Software Engineers, Applications	3,116	12.1
15-1071	Network and Computer Systems Administrators	3,008	11.6
15-1051	Computer Systems Analysts	2,677	10.4
15-1061	Database Administrators	1,114	4.3
	Total of occupations with less than 3.0% of group's job orders	1,651	6.4
	Total Nonbatch Job Orders	25,852	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		11.9

Table 2 – Percent of Resumes by Education Level in 2006
For *Computer and Mathematical*
Major Occupational Group 15

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	0.9	35.1
High School Diploma or GED	10.3	43.4
Some College or Vocational	44.8	60.0
Bachelors Degree	33.6	63.0
Graduate Degree	10.3	59.3

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Computer and Mathematical* – Major Occupational Group 15

Code	Title	College Degree	Some College or Voc	Other
15-1021	Computer Programmers	66.3	17.9	15.8
15-1032	Computer Software Engineers, Systems Software	**87.8**	5.6	6.5
15-1041	Computer Support Specialists	34.3	**28.8**	36.9
15-1099	Computer Specialists, All Other	45.4	16.7	**37.9**
15-1031	Computer Software Engineers, Applications	84.5	7.8	7.7
15-1071	Network and Computer Systems Administrators	65.0	18.2	16.8
15-1051	Computer Systems Analysts	77.5	10.5	12.0
15-1061	Database Administrators	70.6	14.6	14.8

Keywords

Six primary keywords were new for this group in 2006: *DBA, Java, Linux, Security, SQL,* and *Visual.* Of the new primary keywords *Linux* had the highest percentage of viewed resumes (76.3%). The *Linux* operating system was on far more servers in 2006 compared to 2004.

Of all primary keywords *J2EE (Java 2 Enterprise Edition)* had the highest percentage of viewed resumes (88.7%), and the highest order/resume ratio (18.58). There were 19 keyword combinations, with *J2EE* and a related keyword, which had viewed percentages over 90 percent. The highest percentage of 95.5% occurred on resumes containing both *J2EE* and *Secret*. While job orders containing *J2EE* increased by 27.0% between 2004 and 2006, resumes coded to this group with *J2EE* fell by 43.9%.

SAP was the keyword with the second highest order/resume ratio (17.49). Job orders with this keyword grew by 256.9% between 2004 and 2006. Resumes coded to this group containing *SAP* declined by 21.4% over this period.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Computer and Mathematical* – Major Occupational Group 15

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
C#	1,134	87.4	12,273	10.82
Clearance	1,745	81.0	11,568	6.63
DBA	3,395	74.6	12,274	3.62
J2EE	712	**88.7**	13,221	**18.57**
Java	7,929	72.8	34,326	4.33
Linux	6,553	76.3	13,603	2.08
Oracle	6,772	74.2	32,775	4.84
PeopleSoft	753	80.9	4,947	6.57
SAP	1,516	76.8	26,518	17.49
Secret	2,278	75.3	5,915	2.60
Security	10,868	73.4	32,775	3.02
SQL	12,027	74.3	49,295	4.10
VB	3,810	74.5	12,629	3.31
Visual	8,668	72.6	13,743	1.59
WebSphere	453	86.2	6,483	14.31
Major Group Total	49,474	59.5	217,965	4.41

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Computer and Mathematical* – Major Occupational Group 15

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
C#	15-1021	Computer Programmers	1,274	375	29.4
Clearance	15-1032	Computer Software Engineers, Systems Software	1,636	381	23.3
DBA	15-1061	Database Administrators	1,134	283	24.9
J2EE	15-1021	Computer Programmers	1,476	342	23.2
Java	15-1021	Computer Programmers	4,473	1,187	26.5
Linux	15-1032	Computer Software Engineers, Systems Software	1,953	457	23.4
Oracle	15-1021	Computer Programmers	3,815	783	20.5
PeopleSoft	15-1051	Computer Systems Analysts	396	74	18.7
SAP	15-1051	Computer Systems Analysts	1,013	178	17.5
Secret	15-1032	Computer Software Engineers, Systems Software	869	217	24.9
Security	15-1071	Network and Computer Systems Administrators	4,320	1,061	24.6
SQL	15-1021	Computer Programmers	6,039	1,510	25.0
VB	15-1021	Computer Programmers	1,588	515	32.5
Visual	15-1021	Computer Programmers	2,091	596	28.5
WebSphere	15-1021	Computer Programmers	614	164	26.7

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: C#
Related Keywords: Administrator 90.6%, Analyst 89.5%, Business 90.3%, Cisco 91.8%, Clearance 93.4%, DBA 89.8%, Data 89.5%, Database 89.5%, Developer 89.8%, Engineer 88.8%, J2EE 93.6%, Linux 89.6%, MCSE 93.8%, Manager 89.5%, Oracle 89.0%, Project 89.8%, SAP 91.8%, SQL 88.9%, Security 90.5%, Server 88.9%, Software 88.7%, Support 90.1%, System 88.7%, Systems 88.8%, Tech 89.3%, Technical 89.8%, Technology 90.6%, Test 91.1%, UNIX 89.6%, Web 89.1%, Windows 88.6%

Primary Keyword: Clearance
Related Keywords: Administrator 83.3%, Analyst 82.7%, Basic 84.9%, Business 82.6%, C# 93.4%, C++ 85.3%, Cisco 83.2%, DBA 87.2%, Data 82.2%, Database 82.7%, Developer 85.5%, Engineer 83.9%, Help 82.7%, J2EE 94.2%, Java 86.7%, Linux 84.8%, MCSE 86.1%, Manager 83.7%, Net 82.2%, Network 82.3%, Oracle 88.5%, Project 83.9%, SAP 87.7%, SCI 84.5%, SQL 86.1%, Server 83.6%, Support 82.6%, Technical 83.1%, Technician 83.3%, Technology 83.8%, Test 83.4%, UNIX 84.9%, VB 87.6%, Visual 86.1%, Web 85.2%, Windows 82.4%

Primary Keyword: DBA
Related Keywords: ASP 79.9%, Administrator 78.4%, Analyst 78.3%, Basic 77.8%, Business 78.9%, C# 89.8%, C++ 79.3%, COBOL 77.5%, Cisco 78.4%, Clearance 87.2%, Data 76.5%, Database 78.1%, Desk 77.2%, Developer 81.4%, Engineer 78.3%, Hardware 76.1%, Help 77.8%, J2EE 93.4%, Java 80.6%, Linux 83.2%, Manager 76.9%, Net 76.2%, Network 76.2%, Oracle 79.4%, PeopleSoft 85.6%, Project 78.0%, SAP 81.5%, SCI 78.5%, SQL 79.8%, Secret 83.7%, Security 80.4%, Server 78.2%, Software 76.3%, Support 77.2%, System 76.2%, Systems 76.4%, TS 76.0%, Tech 75.9%, Technical 76.9%, Technician 76.1%, Technology 75.9%, Test 77.4%, UNIX 78.9%, VB 81.3%, Visual 78.8%, Web 79.1%, WebSphere 87.8%, Windows 76.8%

Primary Keyword: J2EE
Related Keywords: Administrator 91.8%, Analyst 91.6%, Basic 90.8%, Business 90.4%, C# 93.6%, Cisco 95.1%, Clearance 94.2%, DBA 93.4%, Database 90.5%, Desk 92.1%, Help 91.3%, Linux 90.8%, SAP 93.0%, Secret 95.5%, Security 91.4%, Support 91.0%, UNIX 90.7%, VB 91.8%, WebSphere 91.6%

Primary Keyword: Java
Related Keywords: ASP 76.2%, Administrator 79.7%, Analyst 77.8%, Basic 74.8%, Business 79.4%, C# 88.5%, C++ 75.2%, COBOL 74.0%, Cisco 80.4%, Clearance 86.7%, DBA 80.6%, Data 76.6%, Database 77.8%, Desk 79.6%, Developer 77.5%, Engineer 77.6%, Hardware 75.9%, Help 78.1%, Information 74.4%, J2EE 89.1%, Linux 80.9%, MCSE 77.3%, Manager 78.1%, Net 76.7%, Network 76.9%, Oracle 77.2%, PeopleSoft 85.6%, Project 78.5%, SAP 81.4%, SCI 76.0%, SQL 76.8%, Secret 83.1%, Security 80.8%, Server 78.0%, Software 75.0%, Support 78.7%, System 76.0%, Systems 76.0%, TS 75.9%, Tech 76.0%, Technical 77.3%, Technician 77.8%, Technology 77.0%, Test 77.1%, UNIX 76.7%, VB 76.3%, Visual 75.6%, Web 76.2%, WebSphere 86.0%, Windows 76.0%

Primary Keyword: Linux
Related Keywords: ASP 80.9%, Administrator 78.2%, Analyst 82.1%, Basic 78.0%, Business 80.6%, C# 89.6%, C++ 79.4%, COBOL 80.9%, Cisco 77.7%, Clearance 84.8%, DBA 83.2%, Data 79.0%, Database 80.8%, Desk 78.3%, Developer 84.3%, Engineer 80.3%, Help 78.6%, Information 77.5%, J2EE 90.8%, Java 80.9%, MCSE 78.8%, Manager 79.9%, Oracle 83.7%, PeopleSoft 88.2%, Programmer 81.0%, Project 81.4%, SAP 84.6%, SCI 80.1%, SQL 81.4%, Secret 83.4%, Security 79.7%, Server 78.4%, Software 77.9%, Support 78.4%, System 77.2%, Systems 77.5%, TS 77.4%, Tech 77.0%, Technical 78.0%, Technology 78.5%, Test 80.4%, UNIX 78.6%, VB 82.4%, Visual 79.3%, Web 79.5%, WebSphere 89.4%

Primary Keyword: Oracle
Related Keywords: ASP 77.9%, Administrator 78.7%, Analyst 77.4%, Basic 76.2%, Business 79.9%, C# 89.0%, C++ 76.8%, Cisco 81.8%, Clearance 88.5%, DBA 79.4%, Data 76.4%, Database 77.2%, Desk 80.5%, Developer 79.0%, Engineer 78.8%, Hardware 77.6%, Help 80.4%, Information 75.6%, J2EE 89.5%, Java 77.2%, Linux 83.7%, MCSE 79.3%, Manager 79.0%, Net 78.2%, Network 78.9%, PeopleSoft 84.9%, Project 78.4%, SAP 83.4%, SCI 78.7%, SQL 77.1%, Secret 84.1%, Security 81.9%, Server 78.7%, Software 76.5%, Support 78.9%, System 76.5%, Systems 76.9%, TS 76.4%, Tech 77.1%, Technical 78.5%, Technician 79.8%, Technology 78.2%, Test 77.6%, UNIX 77.0%, VB 77.9%, Visual 76.7%, Web 79.5%, WebSphere 88.4%, Windows 77.4%

Primary Keyword: PeopleSoft
Related Keywords: ASP 84.4%, Analyst 83.8%, Basic 85.6%, Business 84.4%, C++ 88.8%, COBOL 86.3%, Cisco 84.4%, DBA 85.6%, Data 82.7%, Database 84.7%, Desk 83.9%, Developer 87.0%, Engineer 86.8%, Help 83.9%, Java 85.6%, Linux 88.2%, Manager 82.9%, Network 83.0%, Oracle 84.9%, Programmer 83.6%, Project 84.2%, SCI 86.1%, SQL 85.5%, Secret 88.7%, Security 84.3%, Server 83.4%, Technician 86.0%, Test 83.4%, UNIX 83.6%, VB 85.6%, Visual 86.3%, Windows 82.8%

Primary Keyword: SAP
Related Keywords: ASP 81.6%, Administrator 79.5%, Analyst 81.6%, Basic 81.9%, Business 80.9%, C# 91.8%, C++ 84.6%, COBOL 83.2%, Cisco 82.1%, Clearance 87.7%, DBA 81.5%, Data 80.3%, Database 82.2%, Desk 78.6%, Developer 82.4%, Engineer 79.8%, Hardware 79.0%, Help 80.4%, J2EE 93.0%, Java 81.4%, Linux 84.6%, MCSE 81.4%, Manager 81.3%, Net 79.0%, Network 79.0%, Oracle 83.4%, PeopleSoft 83.5%, Programmer 81.0%, Project 81.6%, SCI 83.5%, SQL 82.8%, Secret 82.7%, Security 82.2%, Server 80.1%, Software 79.5%, Support 79.4%, System 78.7%, Systems 78.9%, TS 78.9%, Tech 78.6%, Technical 80.1%, Technology 81.3%, Test 81.1%, UNIX 81.6%, VB 83.9%, Visual 82.4%, Web 82.4%, WebSphere 92.1%, Windows 79.0%

Primary Keyword: SQL
Related Keywords: ASP 77.0%, Administrator 78.7%, Analyst 77.0%, Basic 75.3%, Business 78.9%, C# 88.9%, C++ 76.7%, Cisco 79.7%, Clearance 86.1%, DBA 79.8%, Data 76.5%, Database 77.3%, Desk 78.9%, Developer 79.0%, Engineer 78.7%, Hardware 76.7%, Help 78.8%, Information 75.2%, J2EE 89.8%, Java 76.8%, Linux 81.4%, MCSE 78.8%, Manager 78.3%, Net 77.2%, Network 77.4%, Oracle 77.1%, PeopleSoft 85.5%, Project 78.6%, SAP 82.8%, SCI 77.1%, Secret 84.4%, Security 80.4%, Server 77.3%, Software 76.1%, Support 78.1%, System 76.2%, Systems 76.5%, TS 76.0%, Tech 76.6%, Technical 77.6%, Technician 78.7%, Technology 78.1%, Test 77.0%, UNIX 77.4%, VB 77.1%, Visual 75.9%, Web 78.3%, WebSphere 87.6%, Windows 76.4%

Primary Keyword: Secret
Related Keywords: ASP 81.2%, Administrator 80.6%, Analyst 80.2%, Basic 79.9%, Business 78.7%, C# 90.9%, C++ 81.5%, Cisco 82.8%, Clearance 81.8%, DBA 83.7%, Data 78.2%, Database 79.1%, Desk 78.8%, Developer 85.6%, Engineer 82.9%, Hardware 79.5%, Help 78.1%, Information 78.7%, J2EE 95.5%, Java 83.1%, Linux 83.4%, MCSE 82.7%, Manager 80.3%, Net 78.9%, Network 79.8%, Oracle 84.1%, PeopleSoft 88.7%, Programmer 78.2%, Project 82.1%, SAP 82.7%, SCI 83.5%, SQL 84.4%, Security 81.8%, Server 81.3%, Software 78.7%, Support 79.2%, System 78.3%, Systems 79.0%, TS 77.0%, Tech 78.4%, Technical 79.7%, Technician 80.7%, Technology 82.1%, Test 81.9%, UNIX 83.2%, VB 86.4%, Visual 80.7%, Web 81.1%, Windows 79.4%

Primary Keyword: Security
Related Keywords: ASP 78.4%, Administrator 76.8%, Analyst 77.3%, Basic 78.6%, Business 78.1%, C# 90.5%, C++ 80.1%, COBOL 79.3%, Cisco 77.1%, Clearance 81.8%, DBA 80.4%, Data 75.7%, Database 78.2%, Desk 76.6%, Developer 82.3%, Engineer 76.9%, Hardware 74.5%, Help 76.9%, Information 74.1%, J2EE 91.4%, Java 80.8%, Linux 79.7%, MCSE 75.6%, Manager 77.4%, Net 74.8%, Network 74.7%, Oracle 81.9%, PeopleSoft 84.3%, Programmer 77.3%, Project 77.9%, SAP 82.2%, SCI 78.6%, SQL 80.4%, Secret 81.8%, Server 76.8%, Software 74.8%, Support 75.9%, System 74.6%, Systems 75.0%, TS 74.4%, Tech 74.7%, Technical 76.0%, Technician 75.6%, Technology 76.3%, Test 76.4%, UNIX 78.6%, VB 81.7%, Visual 80.5%, Web 78.1%, WebSphere 88.9%, Windows 75.9%

Primary Keyword: VB

Related Keywords: ASP 75.6%, Administrator 81.2%, Analyst 78.5%, Basic 76.1%, Business 80.7%, C# 88.5%, C++ 78.7%, COBOL 76.1%, Cisco 82.4%, Clearance 87.6%, DBA 81.3%, Data 77.7%, Database 78.4%, Desk 79.8%, Developer 78.5%, Engineer 79.8%, Hardware 77.9%, Help 79.5%, Information 76.2%, J2EE 91.8%, Java 76.3%, Linux 82.4%, MCSE 77.8%, Manager 79.8%, Net 78.5%, Network 78.9%, Oracle 77.9%, PeopleSoft 85.6%, Project 79.9%, SAP 83.9%, SCI 77.1%, SQL 77.1%, Secret 86.4%, Security 81.7%, Server 78.2%, Software 76.8%, Support 80.5%, System 77.8%, Systems 78.0%, TS 77.2%, Tech 77.8%, Technical 79.4%, Technician 79.4%, Technology 79.6%, Test 78.9%, UNIX 80.1%, Visual 77.1%, Web 78.4%, WebSphere 87.3%, Windows 78.2%

Primary Keyword: Visual

Related Keywords: ASP 77.0%, Administrator 78.4%, Analyst 76.9%, Business 77.8%, C# 88.1%, C++ 75.0%, Cisco 78.3%, Clearance 86.1%, DBA 78.8%, Data 75.1%, Database 76.0%, Desk 77.4%, Developer 78.5%, Engineer 77.3%, Hardware 74.8%, Help 77.0%, Information 73.9%, J2EE 90.1%, Java 75.6%, Linux 79.3%, MCSE 80.1%, Manager 76.3%, Net 75.7%, Network 75.6%, Oracle 76.7%, PeopleSoft 86.3%, Project 77.3%, SAP 82.4%, SCI 75.1%, SQL 75.9%, Secret 80.7%, Security 80.5%, Server 76.3%, Software 74.4%, Support 77.1%, System 74.5%, Systems 74.8%, TS 74.3%, Tech 74.6%, Technical 75.8%, Technician 75.5%, Technology 76.8%, Test 76.5%, UNIX 76.7%, VB 77.1%, Web 76.7%, WebSphere 88.0%, Windows 74.5%

Primary Keyword: WebSphere

Related Keywords: C# 91.3%, C++ 89.8%, Desk 89.4%, Developer 90.7%, Engineer 88.6%, J2EE 91.6%, Linux 89.4%, Oracle 88.4%, SAP 92.1%, Support 89.3%, Test 88.4%, UNIX 88.9%

Architecture and Engineering
SOC Major Occupational Group 17

Detailed Occupations and Education Level

Over half of the nonbatch job orders coded to *Engineers, All Other* (17-2199) contained the term *RF* (generally refers to radio frequency).

Table 3 shows that nonbatch job orders for engineering occupations generally require a college degree, while few orders for engineering technicians do.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Architecture and Engineering* – Major Occupational Group 17

Code	Title	#	%
17-2199	Engineers, All Other	8,637	27.6
17-2141	Mechanical Engineers	2,797	8.9
17-2071	Electrical Engineers	2,516	8.0
17-2051	Civil Engineers	2,493	8.0
17-3023	Electrical and Electronic Engineering Technicians	1,479	4.7
17-3029	Engineering Technicians, Except Drafters, All Other	1,359	4.3
17-2112	Industrial Engineers	1,081	3.4
	Total of occupations with less than 3.0% of group's job orders	10,987	35.0
	Total Nonbatch Job Orders	31,349	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		17.4

Table 2 – Percent of Resumes by Education Level in 2006
For *Architecture and Engineering*
Major Occupational Group 17

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	1.1	50.2
High School Diploma or GED	9.5	57.2
Some College or Vocational	39.8	70.5
Bachelors Degree	36.9	77.4
Graduate Degree	12.6	75.1

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Architecture and Engineering* – Major Occupational Group 17

Code	Title	College Degree	Some College or Voc	Other
17-2199	Engineers, All Other	82.6	9.2	8.2
17-2141	Mechanical Engineers	85.1	8.4	6.4
17-2071	Electrical Engineers	87.3	7.2	5.5
17-2051	Civil Engineers	**89.7**	5.3	5.0
17-3023	Electrical and Electronic Engineering Technicians	12.9	**46.6**	40.5
17-3029	Engineering Technicians, Except Drafters, All Other	9.7	28.6	**61.7**
17-2112	Industrial Engineers	82.0	8.7	9.3

Keywords

Six primary keywords in 2006 were not selected in 2004. Those new keywords are: *Controls, Designer, Environmental, HVAC* (heating, ventilation, and air conditioning), *Survey,* and *Wastewater.*

Civil is the primary keyword with the highest ratio of job orders to resumes. Civil engineers commonly work on water and environmental projects. A review of the primary keyword *Controls* and its related keywords at the end of this chapter suggests strong demand for civil engineers with skills related to protecting the environment.

Sometimes a job requirement is so universal that terms do not standout as having a viewed percentage much higher than the major group's average. If all resumes contained a specific keyword then its viewed percentage would be equal to that of the major group. For that reason *PE* (referring to a profession engineers license), which was found on 87.0% of the groups resumes and with a viewed percentage of 75.9%, was not selected as a primary keyword. However that term was found on 96.4% of the job orders for this major group.

Table 4 – Average Quarterly Resumes and Job Orders Containing Primary Keywords in 2006
For *Architecture and Engineering* – Major Occupational Group 17

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
AutoCAD	5,567	83.1	20,642	3.71
Civil	1,364	84.5	24,382	**17.88**
Controls	1,655	83.4	11,283	6.82
Designer	2,935	81.8	16,582	5.65
Development	5,914	82.2	63,976	10.82
Environmental	1,840	83.3	18,537	10.07
HVAC	899	86.5	3,964	4.41
Land	1,961	83.1	15,970	8.14
Manufacturing	4,986	82.5	36,130	7.25
Power	6,690	81.7	32,702	4.89
Project	9,079	81.8	75,109	8.27
Structural	1,190	**87.7**	9,418	7.91
Survey	1,632	81.7	6,585	4.03
Surveyor	319	82.8	1,268	3.97
Wastewater	335	84.7	3,306	9.87
Major Group Total	23,257	72.5	180,619	7.77

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Architecture and Engineering* – Major Occupational Group 17

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders Major Group	Detailed SOC	%
AutoCAD	17-2051	Civil Engineers	3,519	473	13.4
Civil	17-2051	Civil Engineers	3,197	1,742	54.5
Controls	17-2199	Engineers, All Other	2,184	908	41.6
Designer	17-2199	Engineers, All Other	2,741	575	21.0
Development	17-2199	Engineers, All Other	10,440	3,968	38.0
Environmental	17-2199	Engineers, All Other	2,425	644	26.5
HVAC	17-2199	Engineers, All Other	713	250	35.1
Land	17-2051	Civil Engineers	2,309	478	20.7
Manufacturing	17-2199	Engineers, All Other	6,310	2,181	34.6
Power	17-2199	Engineers, All Other	4,050	1,453	35.9
Project	17-2199	Engineers, All Other	12,648	4,056	32.1
Structural	17-2051	Civil Engineers	1,952	592	30.3
Survey	17-1022	Surveyors	1,811	381	21.0
Surveyor	17-1022	Surveyors	437	231	52.9
Wastewater	17-2051	Civil Engineers	720	261	36.2

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: AutoCAD
Related Keywords: Architect 85.1%, Chemical 87.4%, Civil 87.9%, Construction 86.5%, Controls 88.9%, Design 84.3%, Designer 85.4%, Development 87.9%, Drafter 84.6%, Electrical 85.7%, Engineer 84.6%, Engineering 85.2%, Environmental 88.0%, HVAC 89.1%, Industrial 86.6%, Land 88.1%, Manager 86.2%, Manufacturing 86.4%, Mechanical 85.4%, PE 84.0%, Power 86.6%, Process 86.6%, Project 86.6%, Quality 87.4%, RF 86.7%, Sales 86.9%, Software 86.5%, Structural 89.2%, Survey 85.5%, Surveyor 87.6%, Systems 86.0%, Technician 86.9%, Wastewater 89.4%

Primary Keyword: Civil
Related Keywords: Architect 87.8%, AutoCAD 87.9%, CAD 86.8%, Chemical 89.6%, Construction 87.8%, Controls 92.2%, Design 86.8%, Designer 86.9%, Development 90.2%, Electrical 87.1%, Engineering 86.1%, Environmental 89.2%, HVAC 92.0%, Industrial 88.2%, Land 88.1%, Manager 87.6%, Manufacturing 88.9%, Mechanical 87.2%, PE 85.7%, Power 89.2%, Process 87.8%, Project 88.2%, Quality 88.8%, RF 88.4%, Software 89.8%, Structural 89.4%, Systems 88.3%, Technician 87.3%

Primary Keyword: Controls
Related Keywords: Architect 93.6%, AutoCAD 88.9%, CAD 87.7%, Chemical 89.2%, Civil 92.2%, Construction 86.3%, Design 85.2%, Designer 88.6%, Development 88.1%, Drafter 88.9%, Electrical 85.8%, Engineer 85.0%, Engineering 85.7%, Environmental 90.8%, HVAC 89.7%, Land 89.7%, Manager 88.4%, Manufacturing 87.9%, Mechanical 85.1%, Power 86.9%, Process 86.3%, Project 87.3%, Quality 88.6%, RF 87.4%, Software 85.5%, Structural 90.9%, Survey 89.0%, Systems 85.1%, Technician 85.3%, Wastewater 90.9%

Primary Keyword: Designer
Related Keywords: Architect 84.7%, AutoCAD 85.4%, CAD 84.0%, Chemical 87.5%, Civil 86.9%, Construction 86.1%, Controls 88.6%, Development 86.8%, Drafter 86.1%, Drafting 84.0%, Electrical 86.8%, Engineer 83.8%, Engineering 84.9%, Environmental 87.2%, HVAC 91.1%, Industrial 85.0%, Land 86.3%, Manager 84.2%, Manufacturing 86.4%, Mechanical 84.1%, PE 83.6%, Power 87.8%, Process 86.5%, Project 86.0%, Quality 86.7%, RF 85.5%, Sales 85.6%, Software 86.9%, Structural 87.0%, Survey 85.2%, Surveyor 89.1%, Systems 84.4%, Technician 86.6%, Wastewater 91.8%

Primary Keyword: Development
Related Keywords: Architect 85.8%, AutoCAD 87.9%, CAD 86.7%, Chemical 84.5%, Civil 90.2%, Construction 86.6%, Controls 88.1%, Design 84.2%, Designer 86.8%, Drafter 90.2%, Drafting 86.0%, Electrical 84.8%, Engineer 83.3%, Engineering 84.0%, Environmental 87.3%, HVAC 91.5%, Industrial 84.8%, Land 87.9%, Manager 84.0%, Manufacturing 85.7%, Mechanical 85.4%, PE 83.1%, Power 85.5%, Process 84.2%, Project 85.3%, Quality 85.8%, RF 85.1%, Sales 84.7%, Software 83.9%, Structural 90.7%, Survey 86.0%, Surveyor 89.1%, Systems 83.8%, Technician 83.8%, Wastewater 87.7%

Primary Keyword: Environmental
Related Keywords: Architect 86.0%, AutoCAD 88.0%, CAD 87.5%, Civil 89.2%, Construction 85.0%, Controls 90.8%, Design 86.4%, Designer 87.2%, Development 87.3%, Drafter 87.4%, Drafting 87.3%, Electrical 88.8%, Engineer 84.8%, Engineering 85.6%, HVAC 91.5%, Industrial 86.3%, Land 86.8%, Manager 85.1%, Manufacturing 88.4%, Mechanical 88.2%, Power 88.1%, Process 86.1%, Project 85.5%, Quality 87.0%, RF 86.2%, Sales 86.5%, Software 87.8%, Structural 90.8%, Survey 85.9%, Systems 87.2%, Technician 85.4%

Primary Keyword: HVAC
Related Keywords: Architect 90.9%, AutoCAD 89.1%, CAD 89.0%, Chemical 92.7%, Civil 92.0%, Construction 89.1%, Controls 89.7%, Design 88.0%, Designer 91.1%, Development 91.5%, Electrical 89.3%, Environmental 91.5%, Industrial 91.0%, Land 93.0%, Manufacturing 89.6%, Power 89.4%, Process 89.4%, Project 89.3%, Quality 91.7%, RF 90.0%, Software 90.1%, Structural 90.6%, Survey 89.9%, Systems 88.7%, Technician 89.4%

Primary Keyword: Land
Related Keywords: Architect 86.5%, AutoCAD 88.1%, CAD 87.0%, Civil 88.1%, Construction 85.0%, Controls 89.7%, Design 86.1%, Designer 86.3%, Development 87.9%, Drafter 88.0%, Drafting 86.2%, Electrical 88.6%, Engineer 87.0%, Engineering 87.6%, Environmental 86.8%, HVAC 93.0%, Industrial 87.2%, Manager 87.5%, Manufacturing 88.4%, Mechanical 88.2%, Power 88.2%, Process 85.5%, Project 87.2%, Quality 87.3%, RF 86.4%, Software 87.6%, Structural 92.6%, Systems 86.9%, Technician 85.9%, Wastewater 89.1%

Primary Keyword: Manufacturing
Related Keywords: Architect 86.6%, AutoCAD 86.4%, CAD 85.7%, Chemical 86.4%, Civil 88.9%, Construction 84.7%, Controls 87.9%, Design 84.3%, Designer 86.4%, Development 85.7%, Drafter 87.9%, Drafting 84.5%, Electrical 85.6%, Engineering 83.6%, Environmental 88.4%, HVAC 89.6%, Land 88.4%, Manager 84.2%, Mechanical 85.4%, PE 83.1%, Power 85.7%, Process 84.5%, Project 85.0%, Quality 84.5%, RF 85.6%, Sales 85.9%, Software 85.7%, Structural 89.0%, Survey 85.0%, Systems 85.0%, Technician 84.8%, Wastewater 88.6%

Primary Keyword: Power
Related Keywords: Architect 86.8%, AutoCAD 86.6%, CAD 85.7%, Chemical 84.4%, Civil 89.2%, Construction 86.7%, Controls 86.9%, Design 84.2%, Designer 87.8%, Development 85.5%, Drafter 85.3%, Drafting 84.7%, Electrical 84.8%, Engineer 83.5%, Engineering 84.2%, Environmental 88.1%, HVAC 89.4%, Industrial 83.3%, Land 88.2%, Manager 84.9%, Manufacturing 85.7%, Mechanical 83.2%, Process 83.6%, Project 85.8%, Quality 85.4%, RF 84.2%, Sales 83.9%, Software 82.7%, Structural 89.5%, Survey 86.1%, Surveyor 88.1%, Systems 83.7%, Technician 83.1%, Wastewater 86.8%

Primary Keyword: Project
Related Keywords: Architect 84.7%, AutoCAD 86.6%, CAD 85.9%, Chemical 83.8%, Civil 88.2%, Construction 84.0%, Controls 87.3%, Design 83.8%, Designer 86.0%, Development 85.3%, Drafter 87.6%, Drafting 85.1%, Electrical 86.1%, Engineer 82.9%, Engineering 83.9%, Environmental 85.5%, HVAC 89.3%, Industrial 83.8%, Land 87.2%, Manufacturing 85.0%, Mechanical 85.7%, PE 82.5%, Power 85.8%, Process 83.8%, Quality 85.4%, RF 84.7%, Sales 83.4%, Software 84.0%, Structural 89.1%, Survey 84.7%, Surveyor 86.2%, Systems 83.8%, Technician 83.9%, Wastewater 87.9%

Primary Keyword: Structural
Related Keywords: Architect 89.8%, AutoCAD 89.2%, Civil 89.4%, Construction 89.7%, Controls 90.9%, Development 90.7%, Environmental 90.8%, HVAC 90.6%, Land 92.6%, Power 89.5%, Project 89.1%, Quality 90.1%, RF 89.1%, Software 90.4%, Wastewater 95.0%

Primary Keyword: Survey
Related Keywords: Architect 83.9%, AutoCAD 85.5%, CAD 85.0%, Chemical 84.8%, Civil 85.5%, Construction 83.4%, Controls 89.0%, Design 84.0%, Designer 85.2%, Development 86.0%, Electrical 86.2%, Engineer 83.6%, Engineering 84.4%, Environmental 85.9%, HVAC 89.9%, Industrial 84.8%, Land 84.0%, Manager 85.4%, Manufacturing 85.0%, Mechanical 85.5%, Power 86.1%, Project 84.7%, Quality 86.2%, RF 84.4%, Software 86.3%, Structural 87.8%, Systems 84.6%, Technician 83.9%, Wastewater 91.4%

Primary Keyword: Surveyor
Related Keywords: AutoCAD 87.6%, CAD 85.9%, Construction 86.2%, Design 87.0%, Designer 89.1%, Development 89.1%, Drafting 87.7%, Mechanical 87.9%, Power 88.1%, Project 86.2%, Quality 89.0%, RF 87.7%, Software 87.9%, Structural 90.0%

Primary Keyword: Wastewater
Related Keywords: Architect 95.1%, AutoCAD 89.4%, CAD 88.5%, Construction 89.0%, Controls 90.9%, Design 88.3%, Designer 91.8%, Development 87.7%, Drafting 93.3%, Electrical 88.6%, Land 89.1%, Manager 89.9%, Manufacturing 88.6%, Mechanical 89.9%, Project 87.9%, Quality 88.1%, Structural 95.0%, Survey 91.4%, Technician 88.6%

Life, Physical, and Social Science
SOC Major Occupational Group 19

Detailed Occupations and Education Level

The percentage of nonbatch job orders coded as *Biological Scientists, All Other* (19-1029) nearly tripled between 2004 and 2006. It appears likely that this demand is to meet requirements of the Food and Drug Administration (FDA). Of nonbatch job orders coded to this detailed occupation in 2006, 96.3% required a college degree.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Life, Physical, and Social Science* – Major Occupational Group 19

Code	Title	#	%
19-1029	Biological Scientists, All Other	1,042	12.2
19-3021	Market Research Analysts	798	9.3
19-2031	Chemists	615	7.2
19-1099	Life Scientists, All Other	462	5.4
19-4031	Chemical Technicians	393	4.6
19-3051	Urban and Regional Planners	357	4.2
19-3031	Clinical, Counseling, and School Psychologists	348	4.1
19-1042	Medical Scientists, Except Epidemiologists	342	4.0
19-4021	Biological Technicians	320	3.7
19-2041	Environmental Scientists and Specialists, Including Health	291	3.4
19-4099	Life, Physical, and Social Science Technicians, All Other	287	3.3
	Total of occupations with less than 3.0% of group's job orders	3,319	38.7
	Total Nonbatch Job Orders	8,574	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		22.7

Table 2 – Percent of Resumes by Education Level in 2006
For *Life, Physical, and Social Science*
Major Occupational Group 19

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	1.2	36.6
High School Diploma or GED	6.5	48.0
Some College or Vocational	17.9	62.0
Bachelors Degree	50.7	68.3
Graduate Degree	23.8	70.3

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Life, Physical, and Social Science* – Major Occupational Group 19

Code	Title	College Degree	Some College or Voc	Other
19-1029	Biological Scientists, All Other	**96.3**	1.1	2.6
19-3021	Market Research Analysts	79.1	9.1	11.8
19-2031	Chemists	87.3	7.3	5.4
19-1099	Life Scientists, All Other	90.8	4.9	4.3
19-4031	Chemical Technicians	24.3	27.8	**47.9**
19-3051	Urban and Regional Planners	84.5	7.5	8.0
19-3031	Clinical, Counseling, and School Psychologists	79.2	5.3	15.4
19-1042	Medical Scientists, Except Epidemiologists	78.2	11.7	10.1
19-4021	Biological Technicians	47.1	18.8	34.1
19-2041	Environmental Scientists and Specialists, Including Health	81.5	5.8	12.6
19-4099	Life, Physical, and Social Science Technicians, All Other	39.2	**34.1**	26.6

Keywords

An analysis of keyword data indicates that there was a strong demand for people to work on meeting the requirements of the Food and Drug Administration's process validation regulations.

♦ *FDA* was the primary keyword found on the group's highest percentage of viewed resumes.

♦ *Regulatory* was the primary keyword with the highest ratio of job orders to resumes.

♦ *Validation* and *Response* were the two primary keywords associated with the detailed occupation coded to the most nonbatch job orders (*Biological Scientists, All Other 19-1029).*

♦ *FDA* and *Regulatory* were related keywords to both primary keywords *Validation* and *Response*.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Life, Physical, and Social Science* – Major Occupational Group 19

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Analytical	1,600	76.1	5,002	3.13
Coatings	134	76.2	182	1.36
Device	330	80.6	1,258	3.81
Engineer	1,169	78.0	5,556	4.75
Engineering	733	80.6	4,358	5.95
FDA	354	**84.2**	1,358	3.84
Formulation	373	78.3	1,235	3.31
Geologist	154	78.8	839	5.45
Geology	173	76.5	871	5.03
Nuclear	313	78.2	480	1.53
Quality	2,447	75.9	7,508	3.07
Regulatory	509	81.2	4,174	**8.20**
Response	473	78.1	2,914	6.16
Validation	453	82.1	1,625	3.59
Wastewater	224	77.3	250	1.12
Major Group Total	10,000	66.1	37,850	3.78

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Life, Physical, and Social Science* – Major Occupational Group 19

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Analytical	19-2031	Chemists	974	254	26.1
Coatings	19-2031	Chemists	35	18	51.1
Device	19-1099	Life Scientists, All Other	272	105	38.5
Engineer	19-1099	Life Scientists, All Other	1,053	119	11.3
Engineering	19-1099	Life Scientists, All Other	872	104	12.0
FDA	19-1099	Life Scientists, All Other	242	78	32.2
Formulation	19-2031	Chemists	266	66	24.7
Geologist	19-2042	Geoscientists, Except Hydrologists and Geographers	179	134	75.1
Geology	19-2042	Geoscientists, Except Hydrologists and Geographers	219	127	58.1
Nuclear	19-4051	Nuclear Technicians	91	17	19.1
Quality	19-2031	Chemists	1,461	165	11.3
Regulatory	19-1099	Life Scientists, All Other	754	166	22.0
Response	19-1029	Biological Scientists, All Other	547	285	52.1
Validation	19-1029	Biological Scientists, All Other	367	71	19.2
Wastewater	19-2041	Environmental Scientists and Specialists, Including Health	98	21	21.4

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Analytical
Related Keywords: Biology 80.0%, Chemical 78.4%, Chemist 78.1%, Chemistry 80.0%, Clinical 85.3%, Coatings 85.0%, Computer 78.4%, Data 79.8%, Device 82.4%, Engineer 78.9%, Engineering 83.8%, Environmental 81.2%, FDA 85.5%, Formulation 82.2%, GIS 79.9%, Lab 78.8%, Laboratory 79.6%, Manager 79.6%, Materials 80.5%, Medical 82.2%, Nuclear 80.7%, Pharmaceutical 80.6%, Physics 81.1%, Quality 80.7%, Regulatory 86.1%, Research 78.4%, Response 82.0%, Science 78.4%, Scientist 80.7%, Service 79.6%, Technician 79.1%, Testing 78.4%, Validation 84.1%

Primary Keyword: Coatings
Related Keywords: Analytical 85.0%, Chemist 81.1%, Chemistry 82.1%, Materials 84.0%, Scientist 85.7%, Service 83.2%

Primary Keyword: Device
Related Keywords: Biology 84.9%, Chemist 86.4%, Chemistry 85.5%, Environmental 85.3%, FDA 90.1%, Medical 85.0%, Scientist 85.3%, Validation 85.4%

Primary Keyword: Engineer
Related Keywords: Chemical 80.7%, Clinical 86.2%, Data 81.3%, Engineering 80.6%, Environmental 81.1%, FDA 86.3%, Formulation 84.7%, GIS 81.3%, Geology 85.4%, Lab 81.6%, Laboratory 81.3%, Manager 80.3%, Materials 81.5%, Medical 84.2%, Nuclear 81.9%, Pharmaceutical 83.4%, Quality 82.2%, Regulatory 85.6%, Science 82.2%, Service 80.7%, Technician 80.2%, Validation 83.9%, Wastewater 84.6%

Primary Keyword: Engineering
Related Keywords: Analytical 83.8%, Chemical 83.8%, Chemistry 83.5%, GIS 84.1%, Geology 90.4%, Lab 83.9%, Laboratory 84.0%, Manager 83.2%, Materials 84.2%, Medical 84.3%, Pharmaceutical 85.4%, Quality 84.2%, Regulatory 86.0%, Research 82.8%, Science 84.0%, Technician 83.2%, Wastewater 85.6%

Primary Keyword: FDA
Related Keywords: Chemical 86.9%, Device 90.1%, Formulation 88.7%, Quality 87.3%, Regulatory 88.8%, Validation 88.7%

Primary Keyword: Formulation
Related Keywords: Analytical 82.2%, Biology 87.2%, Clinical 84.7%, Data 83.2%, Engineer 84.7%, Engineering 83.7%, FDA 88.7%, GIS 83.0%, Laboratory 82.1%, Manager 84.4%, Materials 81.8%, Medical 86.4%, Physical 83.5%, Quality 81.9%, Regulatory 85.0%, Research 82.2%, Scientist 83.1%, Testing 82.0%, Validation 87.0%

Primary Keyword: Geologist
Related Keywords: Chemist 87.3%, Science 86.6%, Service 84.1%

Primary Keyword: Geology
Related Keywords: Engineer 85.4%, Engineering 90.4%, Laboratory 86.3%, Research 81.4%, Science 82.8%

Primary Keyword: Nuclear
Related Keywords: Biology 86.2%, Chemist 83.3%, Chemistry 83.6%, Engineering 83.9%, Lab 84.1%, Laboratory 85.2%, Materials 82.0%, Medical 86.1%, Physical 83.6%, Quality 84.8%, Research 82.3%, Science 85.6%, Scientist 84.3%

Primary Keyword: Quality
Related Keywords: Analytical 80.7%, Biology 79.0%, Chemical 78.9%, Chemist 79.1%, Chemistry 80.7%, Clinical 83.3%, Computer 77.5%, Data 79.0%, Device 82.0%, Engineer 82.2%, Engineering 84.2%, Environmental 79.4%, FDA 87.3%, Formulation 81.9%, GIS 78.4%, Geologist 82.0%, Lab 78.3%, Laboratory 79.8%, Manager 79.4%, Materials 80.6%, Medical 82.3%, Nuclear 84.8%, Pharmaceutical 80.4%, Physical 81.1%, Physics 84.8%, Regulatory 85.7%, Research 79.1%, Response 80.8%, Science 78.3%, Scientist 82.0%, Service 78.6%, Technician 78.0%, Testing 79.3%, Validation 86.1%, Wastewater 79.3%

Primary Keyword: Regulatory
Related Keywords: Analytical 86.1%, Chemistry 85.3%, Engineer 85.6%, Engineering 86.0%, FDA 88.8%, Lab 83.8%, Laboratory 86.3%, Manager 83.8%, Materials 83.9%, Medical 84.8%, Pharmaceutical 87.3%, Physical 85.6%, Quality 85.7%, Response 84.8%, Scientist 84.3%, Technician 85.4%, Testing 84.4%, Validation 91.2%

Primary Keyword: Response
Related Keywords: Analytical 82.0%, Biology 86.3%, Chemical 83.2%, Chemist 84.3%, Chemistry 83.0%, Environmental 81.7%, FDA 84.2%, GIS 83.8%, Lab 82.5%, Laboratory 85.9%, Manager 81.1%, Medical 83.8%, Pharmaceutical 84.3%, Regulatory 84.8%, Science 82.9%, Scientist 86.7%, Validation 87.1%, Wastewater 89.3%

Primary Keyword: Validation
Related Keywords: Chemistry 85.8%, FDA 88.7%, Formulation 87.0%, Lab 84.3%, Manager 86.0%, Materials 87.2%, Medical 86.2%, Physical 87.1%, Quality 86.1%, Regulatory 91.2%

Primary Keyword: Wastewater
Related Keywords: Engineer 84.6%, Engineering 85.6%, Manager 81.6%, Materials 82.0%, Regulatory 83.4%, Response 89.3%, Service 82.0%

Community and Social Services
SOC Major Occupational Group 21

Detailed Occupations and Education Level

The percent of resumes coded to *Community and Social Services* (21) viewed by employers in 2006 was higher for all educational levels than in 2004.

Community and Social Service Specialists, All Other (21-1099) was the detailed occupation coded to the most nonbatch job orders. Nonbatch job orders in 2006 for this occupation increased by 173.8% from 2004.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Community and Social Services* – Major Occupational Group 21

Code	Title	#	%
21-1099	Community and Social Service Specialists, All Other	2,026	16.5
21-1093	Social and Human Service Assistants	1,953	15.9
21-1021	Child, Family, and School Social Workers	1,549	12.6
21-1019	Counselors, All Other	1,174	9.5
21-1029	Social Workers, All Other	1,031	8.4
21-1012	Educational, Vocational, and School Counselors	968	7.9
21-1014	Mental Health Counselors	676	5.5
21-1023	Mental Health and Substance Abuse Social Workers	665	5.4
21-1011	Substance Abuse and Behavioral Disorder Counselors	654	5.3
21-1022	Medical and Public Health Social Workers	434	3.5
	Total of occupations with less than 3.0% of group's job orders	1,175	9.6
	Total Nonbatch Job Orders	12,305	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		59.6

Table 2 – Percent of Resumes by Education Level in 2006
For *Community and Social Services*
Major Occupational Group 21

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	1.8	39.4
High School Diploma or GED	11.4	52.4
Some College or Vocational	30.7	59.6
Bachelors Degree	41.1	62.4
Graduate Degree	15.1	65.4

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Community and Social Services* – Major Occupational Group 21

Code	Title	College Degree	Some College or Voc	Other
21-1099	Community and Social Service Specialists, All Other	48.2	17.9	34.0
21-1093	Social and Human Service Assistants	18.3	14.3	**67.4**
21-1021	Child, Family, and School Social Workers	62.8	13.4	23.8
21-1019	Counselors, All Other	50.4	15.5	34.1
21-1029	Social Workers, All Other	68.1	12.7	19.2
21-1012	Educational, Vocational, and School Counselors	58.4	13.2	28.3
21-1014	Mental Health Counselors	74.2	9.8	16.0
21-1023	Mental Health and Substance Abuse Social Workers	74.2	10.3	15.5
21-1011	Substance Abuse and Behavioral Disorder Counselors	49.8	**28.8**	21.4
21-1022	Medical and Public Health Social Workers	**78.5**	7.0	14.4

Keywords

Employers were most apt to view resumes of bilingual substance abuse therapists. The five primary/related keyword combinations with the highest percentages of viewed resumes all matched that pattern.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Community and Social Services* – Major Occupational Group 21

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Abuse	2,741	66.6	2,438	0.89
Assistant	6,685	66.4	1,485	0.22
Bilingual	743	67.0	1,396	**1.88**
Case	6,216	67.1	5,095	0.82
Community	6,338	66.4	6,971	1.10
Health	5,311	66.7	8,392	1.58
Management	7,583	67.4	5,826	0.77
Manager	6,906	67.4	3,105	0.45
Mental	5,489	65.8	5,623	1.02
Program	8,975	66.8	9,790	1.09
Services	8,615	65.2	11,123	1.29
Spanish	1,526	66.9	1,471	0.96
Substance	1,713	66.7	1,519	0.89
Therapist	1,131	69.8	1,037	0.92
Therapists	215	**72.3**	199	0.93
Major Group Total	22,817	60.7	20,663	0.91

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006 For *Community and Social Services* – Major Occupational Group 21

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Abuse	21-1011	Substance Abuse and Behavioral Disorder Counselors	1,443	340	23.5
Assistant	21-1093	Social and Human Service Assistants	788	266	33.8
Bilingual	21-1099	Community and Social Service Specialists, All Other	1,160	289	24.9
Case	21-1021	Child, Family, and School Social Workers	3,333	617	18.5
Community	21-1099	Community and Social Service Specialists, All Other	4,286	991	23.1
Health	21-1014	Mental Health Counselors	3,522	458	13.0
Management	21-1099	Community and Social Service Specialists, All Other	2,971	547	18.4
Manager	21-1099	Community and Social Service Specialists, All Other	1,852	408	22.0
Mental	21-1093	Social and Human Service Assistants	3,375	637	18.9
Program	21-1099	Community and Social Service Specialists, All Other	5,545	1,106	19.9
Services	21-1099	Community and Social Service Specialists, All Other	6,185	993	16.1
Spanish	21-1099	Community and Social Service Specialists, All Other	1,234	309	25.0
Substance	21-1011	Substance Abuse and Behavioral Disorder Counselors	989	306	31.0
Therapist	21-1014	Mental Health Counselors	558	121	21.7
Therapists	21-1021	Child, Family, and School Social Workers	96	17	17.7

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Abuse
Related Keywords: Assistant 70.6%, Bilingual 76.4%, Care 70.5%, Case 70.4%, Community 71.3%, Health 70.7%, Job 68.8%, Management 71.1%, Manager 71.0%, Mental 69.9%, Program 71.3%, Residential 69.1%, Services 69.8%, Skills 69.9%, Social 68.6%, Spanish 75.8%, Therapist 71.7%, Therapists 75.6%, Work 68.0%, Worker 68.9%, Workers 71.5%, Youth 69.8%

Primary Keyword: Assistant
Related Keywords: Abuse 70.6%, Care 68.4%, Case 70.6%, Community 69.3%, Health 69.8%, Job 68.1%, Management 71.5%, Manager 70.1%, Mental 68.9%, Program 69.4%, Services 69.1%, Skills 68.8%, Social 67.6%, Spanish 69.9%, Substance 70.2%, Therapist 72.3%, Work 67.4%, Workers 68.6%, Youth 67.8%

Primary Keyword: Bilingual
Related Keywords: Abuse 76.4%, Care 70.9%, Case 72.5%, Community 71.9%, Health 71.9%, Management 70.6%, Manager 72.2%, Mental 72.9%, Program 70.6%, Services 69.9%, Substance 73.7%, Worker 70.7%

Primary Keyword: Case
Related Keywords: Abuse 70.4%, Assistant 70.6%, Bilingual 72.5%, Care 69.8%, Community 70.1%, Health 71.0%, Job 68.7%, Management 69.1%, Manager 69.2%, Mental 69.4%, Program 69.7%, Residential 68.8%, Services 69.0%, Skills 69.3%, Social 67.9%, Spanish 73.9%, Substance 70.9%, Therapist 71.8%, Therapists 72.6%, Work 67.9%, Workers 69.2%, Youth 68.7%

Primary Keyword: Community
Related Keywords: Abuse 71.3%, Assistant 69.3%, Bilingual 71.9%, Care 68.4%, Case 70.1%, Counselor 67.9%, Health 70.3%, Job 68.0%, Management 70.0%, Manager 70.3%, Mental 69.2%, Program 69.2%, Residential 67.9%, Services 68.1%, Skills 68.7%, Social 67.4%, Spanish 73.5%, Substance 70.7%, Therapist 74.0%, Therapists 72.5%, Work 67.2%, Worker 68.0%, Youth 67.8%

Primary Keyword: Health
Related Keywords: Abuse 70.7%, Assistant 69.8%, Bilingual 71.9%, Care 68.6%, Case 71.0%, Community 70.3%, Counselor 68.0%, Job 69.4%, Management 71.3%, Manager 72.3%, Program 70.6%, Residential 68.9%, Services 69.7%, Skills 69.7%, Social 68.2%, Spanish 71.1%, Substance 71.1%, Therapist 71.5%, Therapists 71.6%, Work 68.0%, Worker 67.8%, Workers 68.4%, Youth 69.5%

Primary Keyword: Management
Related Keywords: Abuse 71.1%, Assistant 71.5%, Bilingual 70.6%, Care 69.8%, Case 69.1%, Community 70.0%, Health 71.3%, Job 68.5%, Manager 70.1%, Mental 69.8%, Program 70.2%, Services 69.4%, Skills 69.6%, Social 68.4%, Spanish 72.5%, Substance 70.6%, Therapist 71.8%, Therapists 73.0%, Work 68.6%, Worker 68.6%

Primary Keyword: Manager
Related Keywords: Abuse 71.0%, Assistant 70.1%, Bilingual 72.2%, Care 70.7%, Case 69.2%, Community 70.3%, Health 72.3%, Job 69.1%, Management 70.1%, Mental 70.6%, Program 70.5%, Services 70.0%, Skills 69.8%, Social 68.4%, Spanish 70.7%, Substance 70.9%, Therapist 73.5%, Work 68.5%, Worker 69.0%, Workers 70.3%, Youth 69.7%

Primary Keyword: Mental
Related Keywords: Abuse 69.9%, Assistant 68.9%, Bilingual 72.9%, Care 67.7%, Case 69.4%, Community 69.2%, Health 67.6%, Job 68.1%, Management 69.8%, Manager 70.6%, Program 69.2%, Services 68.4%, Skills 68.5%, Spanish 72.1%, Substance 70.9%, Therapist 70.0%, Therapists 72.4%, Work 66.7%, Youth 68.2%

Primary Keyword: Program
Related Keywords: Abuse 71.3%, Assistant 69.4%, Bilingual 70.6%, Care 69.2%, Case 69.7%, Community 69.2%, Health 70.6%, Job 68.3%, Management 70.2%, Manager 70.5%, Mental 69.2%, Residential 68.2%, Services 69.1%, Skills 69.1%, Social 68.0%, Spanish 72.8%, Substance 70.8%, Therapist 72.8%, Therapists 72.5%, Work 67.6%, Worker 67.9%, Youth 67.8%

Primary Keyword: Services
Related Keywords: Abuse 69.8%, Assistant 69.1%, Bilingual 69.9%, Care 67.9%, Case 69.0%, Community 68.1%, Counselor 67.1%, Health 69.7%, Job 67.9%, Management 69.4%, Manager 70.0%, Mental 68.4%, Program 69.1%, Residential 67.0%, Skills 68.5%, Spanish 70.0%, Substance 70.6%, Therapist 72.7%, Therapists 74.7%, Work 66.3%, Youth 66.8%

Primary Keyword: Spanish
Related Keywords: Abuse 75.8%, Assistant 69.9%, Care 71.3%, Case 73.9%, Community 73.5%, Counselor 69.6%, Health 71.1%, Management 72.5%, Manager 70.7%, Mental 72.1%, Program 72.8%, Services 70.0%, Skills 69.6%, Substance 77.6%, Therapist 77.1%, Worker 69.7%, Youth 71.4%

Primary Keyword: Substance
Related Keywords: Assistant 70.2%, Bilingual 73.7%, Care 71.2%, Case 70.9%, Community 70.7%, Health 71.1%, Job 69.5%, Management 70.6%, Manager 70.9%, Mental 70.9%, Program 70.8%, Residential 69.5%, Services 70.6%, Skills 69.8%, Social 69.2%, Spanish 77.6%, Therapist 72.0%, Work 68.4%, Worker 69.3%, Workers 71.1%, Youth 69.5%

Primary Keyword: Therapist
Related Keywords: Assistant 72.3%, Care 72.7%, Case 71.8%, Community 74.0%, Management 71.8%, Manager 73.5%, Program 72.8%, Services 72.7%, Skills 71.9%, Spanish 77.1%, Worker 72.0%, Workers 73.6%

Legal
SOC Major Occupational Group 23

Detailed Occupations and Education Level

A college degree was a requirement on 90.1% of the nonbatch job orders for *Lawyers* (23-1011) in 2006, compared to only 75.7% in 2004.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Legal* – Major Occupational Group 23

Code	Title	#	%
23-2011	Paralegals and Legal Assistants	817	32.8
23-1011	Lawyers	816	32.7
23-2099	Legal Support Workers, All Other	604	24.2
23-2093	Title Examiners, Abstractors, and Searchers	76	3.0
	Total of occupations with less than 3.0% of group's job orders	182	7.3
	Total Nonbatch Job Orders	2,495	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		21.5

Table 2 – Percent of Resumes by Education Level in 2006
For *Legal*
Major Occupational Group 23

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	1.1	46.0
High School Diploma or GED	9.9	58.1
Some College or Vocational	40.0	64.0
Bachelors Degree	30.9	65.7
Graduate Degree	18.1	64.8

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Legal* – Major Occupational Group 23

Code	Title	College Degree	Some College or Voc	Other
23-2011	Paralegals and Legal Assistants	29.6	**30.0**	40.4
23-1011	Lawyers	**90.1**	3.6	6.2
23-2099	Legal Support Workers, All Other	31.9	19.9	48.3
23-2093	Title Examiners, Abstractors, and Searchers	6.4	15.7	**77.9**

Keywords

Real estate activity was high in 2006, and this was reflected by the primary keywords: *Title, Insurance, Real,* and *Estate.* The term *Title* was not a primary keyword in 2004, but had the highest viewed percentage and the highest job orders to resumes ratio of any primary keyword in 2006.

While the keyword *Bilingual* was only found on an average of 223 resumes per quarter, it appears that language skills are growing in importance. In 2004 *Bilingual* was not selected as a primary keyword. Additionally, it did not pass the screens for selection as a related keyword to any primary keyword for the *Legal* major occupational group. In contrast, not only was *Bilingual* a primary keyword in 2006, but it was the most important related keyword for the primary keyword *Insurance.*

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Legal* – Major Occupational Group 23

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Assistant	3,427	70.3	1,918	0.56
Attorney	2,802	69.7	4,371	1.56
Bilingual	223	70.4	307	1.38
Estate	1,393	70.5	1,321	0.95
Insurance	1,217	72.4	1,232	1.01
Legal	5,699	67.6	7,501	1.32
Litigation	1,597	72.1	2,766	1.73
Paralegal	2,922	68.4	3,140	1.07
Real	1,372	71.4	1,387	1.01
Secretary	1,277	69.7	1,215	0.95
Title	757	**73.2**	2,328	**3.08**
Major Group Total	8,424	64.5	11,600	1.38

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Legal* – Major Occupational Group 23

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Assistant	23-2011	Paralegals and Legal Assistants	515	278	54.0
Attorney	23-1011	Lawyers	1,043	576	55.3
Bilingual	23-2011	Paralegals and Legal Assistants	106	41	39.1
Estate	23-2011	Paralegals and Legal Assistants	224	105	46.9
Insurance	23-1011	Lawyers	218	66	30.4
Legal	23-2011	Paralegals and Legal Assistants	1,756	772	43.9
Litigation	23-1011	Lawyers	596	259	43.4
Paralegal	23-2011	Paralegals and Legal Assistants	671	539	80.3
Real	23-2011	Paralegals and Legal Assistants	222	94	42.4
Secretary	23-2099	Legal Support Workers, All Other	236	114	48.3
Title	23-2099	Legal Support Workers, All Other	274	77	28.2

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Assistant
Related Keywords: Attorney 73.9%, Bilingual 74.2%, Estate 72.7%, Insurance 74.7%, Legal 71.6%, Litigation 75.2%, Paralegal 72.6%, Real 72.7%, Secretary 72.6%, Title 74.2%

Primary Keyword: Attorney
Related Keywords: Assistant 73.9%, Estate 72.5%, Insurance 75.1%, Legal 71.7%, Litigation 73.5%, Paralegal 73.3%, Real 73.0%, Secretary 72.1%, Title 74.7%

Primary Keyword: Bilingual
Related Keywords: Insurance 80.0%, Litigation 76.6%

Primary Keyword: Estate
Related Keywords: Assistant 72.7%, Attorney 72.5%, Insurance 74.5%, Lawyer 76.0%, Title 74.2%

Primary Keyword: Insurance
Related Keywords: Assistant 74.7%, Attorney 75.1%, Bilingual 80.0%, Estate 74.5%, Litigation 75.7%, Title 75.8%

Primary Keyword: Legal
Related Keywords: Assistant 71.6%, Attorney 71.7%, Estate 71.0%, Insurance 73.6%, Lawyer 70.0%, Litigation 73.0%, Real 71.4%, Secretary 70.8%, Title 75.1%

Primary Keyword: Litigation
Related Keywords: Assistant 75.2%, Attorney 73.5%, Insurance 75.7%, Lawyer 77.1%, Title 76.1%

Primary Keyword: Paralegal
Related Keywords: Assistant 72.6%, Attorney 73.3%, Bilingual 73.2%, Estate 70.8%, Insurance 72.6%, Lawyer 73.3%, Litigation 73.6%, Real 71.3%, Secretary 72.6%, Title 74.4%

Primary Keyword: Real
Related Keywords: Insurance 74.1%, Title 74.1%

Primary Keyword: Secretary
Related Keywords: Assistant 72.6%, Attorney 72.1%, Insurance 74.5%, Lawyer 80.9%, Litigation 74.0%, Paralegal 72.6%, Real 72.3%

Education, Training, and Library
SOC Major Occupational Group 25

Detailed Occupations and Education Level

Nonbatch job orders for *Teachers and Instructors, All Other* (25-3099) more than doubled between 2004 and 2006 while educational requirements increased. College degrees were required on 51.1% of those orders in 2004 and 58.4% in 2006. Similarly, the percentage requiring some college also fell from 43.5% to 39.1% over this period.

In contrast, college degrees for *Preschool Teachers, Except Special Education* (25-2011) nonbatch job orders fell from 18.0% in 2004 to 12.4% in 2006.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006

For *Education, Training, and Library* – Major Occupational Group 25

Code	Title	#	%
25-3099	Teachers and Instructors, All Other	2,368	16.8
25-9041	Teacher Assistants	2,029	14.4
25-9099	Education, Training, and Library Workers, All Other	1,639	11.6
25-2011	Preschool Teachers, Except Special Education	1,501	10.7
25-2021	Elementary School Teachers, Except Special Education	620	4.4
25-9031	Instructional Coordinators	539	3.8
25-2031	Secondary School Teachers, Except Special and Vocational Education	522	3.7
25-1199	Postsecondary Teachers, All Other	424	3.0
	Total of occupations with less than 3.0% of group's job orders	4,446	31.6
	Total Nonbatch Job Orders	14,088	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		66.1

Table 2 – Percent of Resumes by Education Level in 2006

For *Education, Training, and Library*

Major Occupational Group 25

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	2.9	37.8
High School Diploma or GED	15.3	45.8
Some College or Vocational	27.5	57.3
Bachelors Degree	35.4	59.6
Graduate Degree	18.9	61.3

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Education, Training, and Library* – Major Occupational Group 25

Code	Title	College Degree	Some College or Voc	Other
25-3099	Teachers and Instructors, All Other	58.4	21.1	20.5
25-9041	Teacher Assistants	2.8	32.3	**64.9**
25-9099	Education, Training, and Library Workers, All Other	52.8	23.3	23.9
25-2011	Preschool Teachers, Except Special Education	12.4	**39.1**	48.5
25-2021	Elementary School Teachers, Except Special Education	78.8	12.5	8.7
25-9031	Instructional Coordinators	58.1	20.5	21.4
25-2031	Secondary School Teachers, Except Special and Vocational Education	85.4	12.1	2.5
25-1199	Postsecondary Teachers, All Other	**89.3**	7.3	3.4

Keywords

There were seven primary keywords most often found on nonbatch job orders coded to the detailed occupation *Teachers and Instructors, All Other* (25-3099). College degrees were required for 81.7% of those orders containing the primary keyword *Tutor*. Job orders containing any of the other primary keywords most often associated with this detailed occupation had below average requirements for a a college degree.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Education, Training, and Library* – Major Occupational Group 25

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Admissions	213	69.8	133	0.62
Dean	164	65.3	397	**2.42**
Director	2,480	66.9	2,225	0.90
EMT	118	65.3	34	0.29
Head	1,322	67.0	1,317	1.00
Health	2,168	66.2	2,607	1.20
Healthcare	281	**70.5**	410	1.46
Instructor	3,728	66.5	3,569	0.96
Medic	2,179	65.0	1,861	0.85
Medical	1,805	64.8	1,674	0.93
Special	5,389	65.9	5,438	1.01
Technician	1,463	69.0	435	0.30
Trainer	1,605	69.1	772	0.48
Training	6,459	66.4	5,936	0.92
Tutor	1,676	64.5	1,448	0.86
Major Group Total	22,524	56.8	21,309	0.95

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Education, Training, and Library* – Major Occupational Group 25

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Admissions	25-9099	Education, Training, and Library Workers, All Other	62	38	60.5
Dean	25-9099	Education, Training, and Library Workers, All Other	190	34	17.7
Director	25-9099	Education, Training, and Library Workers, All Other	990	141	14.2
EMT	25-3099	Teachers and Instructors, All Other	21	8	36.1
Head	25-2011	Preschool Teachers, Except Special Education	826	228	27.6
Health	25-3099	Teachers and Instructors, All Other	1,347	224	16.6
Healthcare	25-9099	Education, Training, and Library Workers, All Other	85	17	20.0
Instructor	25-3099	Teachers and Instructors, All Other	2,098	659	31.4
Medic	25-3099	Teachers and Instructors, All Other	803	139	17.3
Medical	25-3099	Teachers and Instructors, All Other	697	127	18.1
Special	25-9041	Teacher Assistants	2,943	518	17.6
Technician	25-4031	Library Technicians	190	46	24.3
Trainer	25-9099	Education, Training, and Library Workers, All Other	236	83	34.9
Training	25-3099	Teachers and Instructors, All Other	2,885	717	24.8
Tutor	25-3099	Teachers and Instructors, All Other	973	484	49.7

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Admissions
Related Keywords: Assistant 74.6%, Care 75.6%

Primary Keyword: Dean
Related Keywords: EMS 76.0%, Instructor 75.0%

Primary Keyword: Director
Related Keywords: Assistant 68.8%, Care 71.1%, EMS 70.5%, Early 70.4%, Education 69.2%, Head 71.4%, Health 73.8%, Healthcare 80.1%, Instructional 73.3%, Instructor 74.0%, Math 71.7%, Medic 71.2%, Medical 71.7%, Nursing 73.5%, Pre 70.0%, Sales 70.1%, School 68.4%, Science 71.6%, Special 72.9%, Technician 74.4%, Trainer 74.7%, Training 71.8%, Tutor 71.0%

Primary Keyword: Head
Related Keywords: Care 70.8%, Director 71.4%, EMS 74.2%, Instructional 77.4%, Instructor 75.8%, Medic 74.1%, Medical 74.4%, Pre 70.5%, Sales 70.7%, Special 73.2%, Technician 77.6%, Trainer 78.1%, Training 73.2%

Primary Keyword: Health
Related Keywords: Assistant 67.9%, Bilingual 72.9%, Care 67.8%, Director 73.8%, EMS 72.7%, Education 69.3%, English 69.7%, Head 69.6%, Healthcare 70.5%, Instructional 72.2%, Instructor 75.2%, Math 70.1%, Medic 70.5%, Medical 70.4%, Nursing 69.8%, Pre 69.6%, Sales 71.1%, School 69.1%, Science 70.4%, Special 72.6%, Technician 74.6%, Trainer 74.7%, Training 73.5%, Tutor 70.7%

Primary Keyword: Healthcare
Related Keywords: Director 80.1%, EMS 76.5%, Education 77.5%, Instructional 78.4%, Instructor 76.3%, Pre 74.5%, Sales 78.9%, School 75.7%, Special 75.0%, Trainer 82.8%, Training 79.7%

Primary Keyword: Instructor
Related Keywords: Aide 69.3%, Assistant 71.3%, Care 73.7%, Child 68.2%, Dean 75.0%, Director 74.0%, EMS 71.5%, Early 74.2%, Education 69.1%, Head 75.8%, Health 75.2%, Healthcare 76.3%, Instructional 74.1%, Math 70.4%, Medic 71.8%, Medical 71.9%, Nurse 75.2%, Nursing 73.9%, Pre 71.0%, Preschool 75.1%, Sales 70.2%, School 69.5%, Science 71.2%, Special 72.8%, Technician 72.6%, Trainer 72.3%, Training 71.9%

Primary Keyword: Medic
Related Keywords: Bilingual 70.9%, Care 67.3%, Director 71.2%, EMS 68.5%, Education 70.8%, Elementary 71.3%, English 69.6%, Head 74.1%, Health 70.5%, Healthcare 74.2%, Instructional 72.9%, Instructor 71.8%, Math 71.4%, Nurse 69.3%, Nursing 69.1%, Pre 68.0%, Sales 69.1%, School 68.7%, Science 70.0%, Special 70.9%, Technician 72.3%, Trainer 72.2%, Training 71.8%, Tutor 68.9%

Primary Keyword: Medical
Related Keywords: Care 66.9%, Director 71.7%, EMS 69.1%, Education 71.3%, Elementary 72.5%, English 71.3%, Head 74.4%, Health 70.4%, Healthcare 73.0%, Instructional 71.7%, Instructor 71.9%, Math 73.3%, Nurse 68.2%, Nursing 70.1%, Pre 67.9%, Sales 69.3%, School 68.9%, Science 70.7%, Special 71.4%, Technician 72.9%, Trainer 74.3%, Training 72.2%, Tutor 71.0%

Primary Keyword: Special
Related Keywords: Admissions 72.9%, Assistant 68.9%, Bilingual 71.4%, Care 69.9%, Childhood 70.1%, Director 72.9%, EMS 70.4%, Early 70.1%, English 68.2%, Head 73.2%, Health 72.6%, Healthcare 75.0%, Instructional 71.8%, Instructor 72.8%, Math 67.9%, Medic 70.9%, Medical 71.4%, Nurse 70.1%, Nursing 70.9%, Pre 69.4%, Sales 70.7%, School 67.7%, Science 68.6%, Technician 75.1%, Trainer 74.4%, Training 71.7%, Tutor 68.9%

Primary Keyword: Technician
Related Keywords: Care 72.2%, Director 74.4%, EMS 73.4%, Education 73.5%, Head 77.6%, Health 74.6%, Instructional 76.4%, Instructor 72.6%, Medic 72.3%, Medical 72.9%, Pre 71.9%, Special 75.1%, Trainer 74.1%, Training 74.0%

Primary Keyword: Trainer
Related Keywords: Assistant 73.2%, Care 73.9%, Director 74.7%, EMS 73.4%, Early 76.6%, Education 72.7%, English 73.1%, Head 78.1%, Health 74.7%, Healthcare 82.8%, Instructional 74.8%, Instructor 72.3%, Medic 72.2%, Medical 74.3%, Pre 72.7%, Sales 71.2%, School 71.8%, Special 74.4%, Technician 74.1%, Training 71.3%, Admissions 73.9%, Assistant 69.8%, Care 70.5%, Director 71.8%, EMS 70.5%, Early 70.7%, Education 68.4%, Head 73.2%, Health 73.5%, Healthcare 79.7%, Instructional 69.2%, Instructor 71.9%, Math 70.6%, Medic 71.8%, Medical 72.2%, Nurse 73.2%, Nursing 72.2%, Pre 70.0%, Sales 70.1%, School 68.7%, Science 69.4%, Special 71.7%, Technician 74.0%, Trainer 71.3%, Tutor 69.6%

Primary Keyword: Tutor
Related Keywords: Assistant 67.9%, Bilingual 69.4%, Care 70.0%, Child 67.1%, Director 71.0%, EMS 67.8%, Early 71.6%, Education 67.5%, English 67.5%, Health 70.7%, Instructional 69.9%, Instructor 66.9%, Math 69.0%, Medic 68.9%, Medical 71.0%, Pre 68.5%, School 66.8%, Science 68.2%, Special 68.9%, Training 69.6%

Arts, Design, Entertainment, Sports, & Media
SOC Major Occupational Group 27

Detailed Occupations and Education Level

Nonbatch job orders for *Producers and Directors* (27-2012) in 2006 were 74.2% higher than in 2004. However, the educational requirements of those job orders fell. In 2004, 59.1% of the those orders required a college degree and only 26.6% did not specify education past high school. The corresponding percentages for 2006 were 51.3% for college degrees and 36.2% requiring no education past high school.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Arts, Design, Entertainment, Sports, and Media* – Major Occupational Group 27

Code	Title	#	%
27-2012	Producers and Directors	1,087	12.1
27-1024	Graphic Designers	1,074	11.9
27-1026	Merchandise Displayers and Window Trimmers	798	8.9
27-3031	Public Relations Specialists	563	6.3
27-3042	Technical Writers	490	5.5
27-2022	Coaches and Scouts	470	5.2
27-1029	Designers, All Other	461	5.1
27-3041	Editors	409	4.5
27-3099	Media and Communication Workers, All Other	407	4.5
27-3091	Interpreters and Translators	298	3.3
	Total of occupations with less than 3.0% of group's job orders	2,933	32.6
	Total Nonbatch Job Orders	8,990	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		32.3

Table 2 – Percent of Resumes by Education Level in 2006
For *Arts, Design, Entertainment, Sports, and Media*
Major Occupational Group 27

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	2.4	35.9
High School Diploma or GED	13.3	47.7
Some College or Vocational	34.9	57.8
Bachelors Degree	41.9	61.4
Graduate Degree	7.5	59.8

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Arts, Design, Entertainment, Sports, and Media* – Major Occupational Group 27

Code	Title	College Degree	Some College or Voc	Other
27-2012	Producers and Directors	51.3	12.5	36.2
27-1024	Graphic Designers	34.5	32.4	33.1
27-1026	Merchandise Displayers and Window Trimmers	1.5	4.7	**93.8**
27-3031	Public Relations Specialists	64.1	11.0	25.0
27-3042	Technical Writers	64.2	18.1	17.7
27-2022	Coaches and Scouts	44.7	12.8	42.5
27-1029	Designers, All Other	42.5	**34.7**	22.9
27-3041	Editors	**68.0**	13.2	18.8
27-3099	Media and Communication Workers, All Other	41.0	16.9	42.1
27-3091	Interpreters and Translators	15.1	22.5	62.4

Keywords

There was a major turnover in primary keywords in 2006. Only three primary keywords were also selected in 2004 (*Graphics, Marketing,* and *Web*). Reasons for the high number of new primary keywords include:

- The distribution of nonbatch job orders by detailed occupation shifted between 2004 and 2006. There were substantially more orders for *Producers and Directors* (27-2012) and fewer orders for *Merchandise Displayers and Window Trimmers* (27-1026).

- In 2004 a single large batch account coded over 11,000 job orders to this major occupational group which should have been coded to *Installation, Maintenance, and Repair* (49). This affected two primary keywords in 2004, and neither was selected as a keyword in 2006.

- Technology, especially specific software skills, appeared to be more in demand in 2006. Three of the new primary keywords referred to specific software skills (*Adobe, CAD,* and *Photoshop*), and a fourth (*Illustrator*) often does.

    In 2004 5.1% of the nonbatch job orders for *Producers and Directors* (27-2012) contained the keyword *Web*. By 2006 that percentage increased more than five-fold to 26.8%.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Arts, Design, Entertainment, Sports, & Media* – Major Occupational Group 27

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Adobe	4,861	70.1	1,498	0.31
Advertising	2,940	67.2	1,901	0.65
CAD	1,747	**72.6**	2,155	1.23
Development	3,621	70.2	5,999	1.66
Graphics	2,779	66.5	1,933	0.70
Illustrator	4,272	67.3	1,910	0.45
Industrial	484	69.4	653	1.35
Internet	3,054	66.9	2,398	0.79
Management	5,533	68.0	7,417	1.34
Manager	6,103	66.9	7,416	1.22
Marketing	4,810	68.7	7,352	1.53
Media	5,469	68.2	5,934	1.09
Photoshop	6,380	67.6	2,334	0.37
Web	4,981	68.7	8,837	**1.77**
Website	1,982	72.0	3,516	**1.77**
Major Group Total	22,552	58.0	27,855	1.24

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Arts, Design, Entertainment, Sports, and Media* – Major Occupational Group 27

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Adobe	27-1024	Graphic Designers	599	304	50.7
Advertising	27-1024	Graphic Designers	460	145	31.5
CAD	27-1029	Designers, All Other	627	181	28.9
Development	27-2012	Producers and Directors	1,439	255	17.7
Graphics	27-1024	Graphic Designers	741	382	51.5
Illustrator	27-1024	Graphic Designers	711	454	63.8
Industrial	27-1029	Designers, All Other	139	40	28.5
Internet	27-1024	Graphic Designers	404	63	15.6
Management	27-2012	Producers and Directors	1,579	470	29.8
Manager	27-2012	Producers and Directors	1,115	279	25.0
Marketing	27-1024	Graphic Designers	1,147	261	22.7
Media	27-2012	Producers and Directors	1,623	298	18.4
Photoshop	27-1024	Graphic Designers	887	498	56.1
Web	27-1024	Graphic Designers	1,607	397	24.7
Website	27-1024	Graphic Designers	717	172	23.9

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Adobe
Related Keywords: Advertising 71.9%, Art 71.6%, Assistant 72.4%, CAD 76.0%, Designer 72.2%, Development 75.7%, Editor 71.7%, Graphics 72.4%, Industrial 76.3%, Management 75.6%, Manager 74.3%, Marketing 75.5%, Media 72.5%, Photographer 72.8%, Public 72.8%, Relations 73.2%, Sales 75.0%, Visual 71.9%, Web 72.8%, Website 75.2%, Writer 73.8%

Primary Keyword: Advertising
Related Keywords: Adobe 71.9%, Art 69.1%, Artist 69.4%, Assistant 71.7%, CAD 75.5%, Design 69.5%, Designer 71.3%, Development 73.2%, Editor 69.1%, Graphic 69.1%, Graphics 72.0%, Illustrator 69.2%, Industrial 74.4%, Internet 71.4%, Management 71.8%, Manager 70.7%, Marketing 70.4%, Media 70.9%, Photographer 69.8%, Photoshop 70.2%, Public 69.3%, Quark 68.6%, Relations 69.2%, Sales 70.6%, Web 72.6%, Website 75.8%, Writer 72.2%

Primary Keyword: CAD
Related Keywords: Adobe 76.0%, Advertising 75.5%, Art 74.8%, Assistant 74.6%, Designer 75.2%, Development 79.1%, Graphic 74.5%, Graphics 75.9%, Illustrator 75.5%, Industrial 83.2%, Internet 76.5%, Management 77.3%, Manager 75.7%, Marketing 79.7%, Media 75.1%, Photoshop 76.2%, Public 76.2%, Relations 75.4%, Sales 77.0%, Visual 75.9%, Website 76.9%, Writer 76.4%

Primary Keyword: Development
Related Keywords: Adobe 75.7%, Advertising 73.2%, Art 71.9%, Assistant 73.6%, CAD 79.1%, Design 71.9%, Designer 74.5%, Graphic 72.8%, Graphics 73.3%, Illustrator 73.9%, Industrial 78.7%, Interior 76.5%, Internet 72.7%, Management 73.7%, Manager 73.7%, Marketing 73.5%, Media 73.7%, Photographer 72.8%, Photoshop 74.4%, Public 72.4%, Quark 72.5%, Relations 71.9%, Sales 73.1%, Web 73.4%, Website 77.2%, Writer 73.2%

Primary Keyword: Graphics
Related Keywords: Adobe 72.4%, Advertising 72.0%, Art 68.1%, Assistant 69.2%, CAD 75.9%, Design 67.9%, Designer 69.6%, Development 73.3%, Editor 70.6%, Illustrator 70.2%, Industrial 75.6%, Interior 73.9%, Internet 71.7%, Management 73.0%, Manager 71.9%, Marketing 72.4%, Media 71.4%, Photographer 72.2%, Photoshop 69.9%, Public 70.3%, Quark 68.4%, Relations 68.9%, Sales 70.9%, Visual 68.9%, Web 70.7%, Website 74.0%, Writer 73.3%

Primary Keyword: Illustrator
Related Keywords: Adobe 69.6%, Advertising 69.2%, Art 68.8%, Assistant 72.0%, CAD 75.5%, Designer 69.5%, Development 73.9%, Editor 70.2%, Graphics 70.2%, Industrial 75.1%, Interior 72.1%, Internet 70.6%, Management 75.1%, Manager 72.8%, Marketing 74.0%, Media 71.8%, Photographer 71.2%, Public 72.7%, Relations 71.7%, Sales 74.5%, Visual 70.5%, Web 71.3%, Website 75.1%, Writer 74.9%

Primary Keyword: Industrial
Related Keywords: Adobe 76.3%, Advertising 74.4%, Art 73.0%, Assistant 76.5%, CAD 83.2%, Design 75.5%, Designer 75.5%, Development 78.7%, Graphic 74.4%, Graphics 75.6%, Illustrator 75.1%, Interior 82.9%, Management 76.6%, Manager 75.9%, Marketing 75.7%, Media 78.4%, Photoshop 76.8%, Public 73.5%, Sales 76.4%, Visual 76.6%, Web 79.6%, Website 80.4%, Writer 76.1%

Primary Keyword: Internet
Related Keywords: Adobe 69.1%, Advertising 71.4%, Art 69.8%, Assistant 69.6%, CAD 76.5%, Design 69.7%, Designer 72.7%, Development 72.7%, Editor 68.8%, Graphic 69.9%, Graphics 71.7%, Illustrator 70.6%, Industrial 73.9%, Interior 74.7%, Management 73.3%, Manager 72.4%, Marketing 73.2%, Media 71.7%, Photoshop 69.5%, Public 69.9%, Relations 70.4%, Sales 71.4%, Visual 71.7%, Web 71.4%, Website 73.7%, Writer 69.5%

Primary Keyword: Management
Related Keywords: Adobe 75.6%, Advertising 71.8%, Art 71.1%, Artist 69.5%, Assistant 72.3%, CAD 77.3%, Design 71.0%, Designer 73.9%, Development 73.7%, Editor 70.1%, Graphic 71.9%, Graphics 73.0%, Illustrator 75.1%, Industrial 76.6%, Internet 73.3%, Manager 70.6%, Marketing 72.9%, Media 72.2%, Photographer 73.0%, Photoshop 74.2%, Public 70.9%, Quark 72.3%, Relations 70.1%, Sales 71.2%, Visual 70.8%, Web 74.5%, Website 77.1%, Writer 72.3%

Primary Keyword: Manager
Related Keywords: Adobe 74.3%, Advertising 70.7%, Art 69.5%, Assistant 69.2%, CAD 75.7%, Design 70.4%, Designer 71.6%, Development 73.7%, Editor 70.2%, Graphic 70.6%, Graphics 71.9%, Illustrator 72.8%, Industrial 75.9%, Internet 72.4%, Management 70.6%, Marketing 72.3%, Media 72.5%, Photoshop 71.8%, Public 70.8%, Quark 70.5%, Relations 70.5%, Sales 70.5%, Visual 69.9%, Web 73.2%, Website 74.9%, Writer 72.1%

Primary Keyword: Marketing
Related Keywords: Adobe 75.5%, Advertising 70.4%, Art 71.7%, Artist 72.1%, Assistant 71.6%, CAD 79.7%, Design 71.9%, Designer 74.3%, Development 73.5%, Editor 71.3%, Graphic 72.1%, Graphics 72.4%, Illustrator 74.0%, Industrial 75.7%, Internet 73.2%, Management 72.9%, Manager 72.3%, Media 72.6%, Photographer 74.3%, Photoshop 73.9%, Public 70.0%, Quark 72.3%, Relations 70.5%, Sales 70.9%, Visual 70.6%, Web 74.6%, Website 77.0%, Writer 73.2%

Primary Keyword: Media
Related Keywords: Adobe 72.5%, Advertising 70.9%, Art 70.6%, Artist 69.7%, Assistant 70.7%, CAD 75.1%, Design 71.1%, Designer 73.0%, Development 73.7%, Graphic 70.5%, Graphics 71.4%, Illustrator 71.8%, Industrial 78.4%, Internet 71.7%, Management 72.2%, Manager 72.5%, Marketing 72.6%, Photographer 73.6%, Photoshop 71.7%, Public 70.0%, Quark 70.5%, Relations 69.9%, Sales 72.4%, Web 72.6%, Website 74.8%, Writer 71.7%

Primary Keyword: Photoshop
Related Keywords: Adobe 69.5%, Advertising 70.2%, Art 69.4%, Assistant 71.2%, CAD 76.2%, Design 68.5%, Designer 69.9%, Development 74.4%, Editor 70.1%, Graphics 69.9%, Industrial 76.8%, Interior 72.8%, Internet 69.5%, Management 74.2%, Manager 71.8%, Marketing 73.9%, Media 71.7%, Photographer 70.9%, Public 71.8%, Relations 71.4%, Sales 73.4%, Visual 70.2%, Web 71.4%, Website 74.2%, Writer 73.8%

Primary Keyword: Web
Related Keywords: Adobe 72.8%, Advertising 72.6%, Art 70.8%, Assistant 72.6%, CAD 73.0%, Designer 70.4%, Development 73.4%, Editor 71.5%, Graphics 70.7%, Illustrator 71.3%, Industrial 79.6%, Internet 71.4%, Management 74.5%, Manager 73.2%, Marketing 74.6%, Media 72.6%, Photographer 73.9%, Photoshop 71.4%, Public 73.3%, Quark 69.9%, Relations 71.7%, Sales 74.7%, Website 72.0%, Writer 73.0%

Primary Keyword: Website

Related Keywords: Adobe 75.2%, Advertising 75.8%, Art 73.5%, CAD 76.9%, Designer 74.7%, Development 77.2%, Graphic 73.4%, Graphics 74.0%, Illustrator 75.1%, Industrial 80.4%, Management 77.1%, Manager 74.9%, Marketing 77.0%, Media 74.8%, Photographer 79.3%, Photoshop 74.2%, Public 74.5%, Relations 74.8%, Sales 75.9%

Healthcare Practitioners and Technical
SOC Major Occupational Group 29

Detailed Occupations and Education Level
Nonbatch job orders accounted for only 5.6% of total job orders for the *Healthcare Practitioners and Technical* (29) occupational group. Characteristics, such as detailed occupational coding and educational requirements are not consistently available from batch job orders.

Since nonbatch job orders were such a low percentage of total job orders, orders containing keywords were tallied for both batch and nonbatch orders. Keywords associated with *Licensed Practical and Licensed Vocational Nurses* (29-2061) were found on a lower percentage of batch job orders. In contrast, keywords associated with *Physical Therapists* (29-1123) were found on a higher percentage of batch job orders.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Healthcare Practitioners and Technical* – Major Occupational Group 29

Code	Title	#	%
29-1111	Registered Nurses	11,018	37.1
29-2061	Licensed Practical and Licensed Vocational Nurses	3,820	12.8
29-1051	Pharmacists	1,095	3.7
29-2012	Medical and Clinical Laboratory Technicians	1,041	3.5
29-1123	Physical Therapists	1,022	3.4
29-2071	Medical Records and Health Information Technicians	953	3.2
29-2034	Radiologic Technologists and Technicians	902	3.0
	Total of occupations with less than 3.0% of group's job orders	9,881	33.2
	Total Nonbatch Job Orders	29,732	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		5.6

Table 2 – Percent of Resumes by Education Level in 2006
For *Healthcare Practitioners and Technical*
Major Occupational Group 29

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	4.3	45.5
High School Diploma or GED	23.2	52.0
Some College or Vocational	49.1	64.1
Bachelors Degree	16.4	71.0
Graduate Degree	7.1	74.4

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Healthcare Practitioners and Technical* – Major Occupational Group 29

Code	Title	College Degree	Some College or Voc	Other
29-1111	Registered Nurses	28.3	64.5	7.2
29-2061	Licensed Practical and Licensed Vocational Nurses	5.1	73.7	21.2
29-1051	Pharmacists	**85.9**	8.3	5.8
29-2012	Medical and Clinical Laboratory Technicians	15.0	36.0	49.0
29-1123	Physical Therapists	66.6	26.9	6.5
29-2071	Medical Records and Health Information Technicians	7.6	14.7	**77.8**
29-2034	Radiologic Technologists and Technicians	7.4	**75.4**	17.3

Keywords

A major batch account specialized in job orders for healthcare occupations. Their impact was a major factor in the exceptionally high ratio of job orders to resumes for this major occupational group.

Keyword combinations for the *Healthcare Practitioners and Technical* (29) occupational group had high percentages of resumes viewed by employers. The list of primary and related keywords at the end of this chapter shows over a hundred different keyword combinations with a viewed percentage over 80 percent.

Table 4 – Average Quarterly Resumes and Job Orders Containing Primary Keywords in 2006
For *Healthcare Practitioners and Technical* – Major Occupational Group 29

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Director	800	75.8	26,012	32.52
Healthcare	1,279	73.5	88,959	69.55
Licensed	1,188	73.9	61,501	51.77
LPN	1,335	71.6	13,750	10.30
Manager	2,554	73.0	40,301	15.78
Occupational	425	**78.8**	63,131	148.54
Pharmacist	433	78.1	32,905	75.99
Physical	1,200	75.3	105,242	87.70
Physician	1,434	76.6	82,061	57.23
Practitioner	183	74.0	8,659	47.32
Radiology	306	76.7	9,934	32.46
Registered	1,474	76.2	112,113	76.06
RN	5,731	72.0	352,501	61.51
Therapist	593	74.8	128,037	**215.91**
Therapy	1,208	76.8	121,147	100.29
Major Group Total	15,400	63.6	532,488	34.58

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Healthcare Practitioners and Technical* – Major Occupational Group 29

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders Major Group	Detailed SOC	%
Director	29-1111	Registered Nurses	1,962	643	32.8
Healthcare	29-1111	Registered Nurses	2,471	1,162	47.0
Licensed	29-2061	Licensed Practical and Licensed Vocational Nurses	4,316	1,644	38.1
LPN	29-2061	Licensed Practical and Licensed Vocational Nurses	2,482	1,885	76.0
Manager	29-1111	Registered Nurses	2,138	1,118	52.3
Occupational	29-1122	Occupational Therapists	1,085	553	50.9
Pharmacist	29-1051	Pharmacists	1,358	1,003	73.9
Physical	29-1123	Physical Therapists	3,473	989	28.5
Physician	29-1111	Registered Nurses	4,238	1,142	27.0
Practitioner	29-1111	Registered Nurses	1,108	412	37.2
Radiology	29-2034	Radiologic Technologists and Technicians	738	491	66.6
Registered	29-1111	Registered Nurses	7,113	5,175	72.7
RN	29-1111	Registered Nurses	14,119	8,025	56.8
Therapist	29-1123	Physical Therapists	2,464	968	39.3
Therapy	29-1123	Physical Therapists	2,817	643	22.8

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Director
Related Keywords: Care 80.7%, Certified 79.8%, Health 82.2%, Healthcare 84.4%, Home 80.5%, LPN 83.6%, Licensed 82.4%, Manager 79.3%, Medical 80.6%, Nurse 83.3%, Nursing 84.2%, Occupational 89.0%, Office 78.2%, Physical 80.8%, Physician 82.0%, RN 80.9%, Registered 86.2%, Therapist 83.6%, Therapy 80.7%

Primary Keyword: Healthcare
Related Keywords: Certified 78.4%, Director 84.4%, Home 78.6%, LPN 80.6%, Licensed 82.9%, Manager 78.8%, Medical 77.6%, Nurse 79.5%, Nursing 77.2%, Occupational 87.9%, Office 75.9%, Pharmacist 80.5%, Pharmacy 77.4%, Physical 84.8%, Physician 82.5%, RN 79.3%, Radiology 84.3%, Registered 82.6%, Tech 75.4%, Technician 76.4%, Therapist 85.4%, Therapy 84.1%

Primary Keyword: LPN
Related Keywords: Assistant 75.7%, Care 75.7%, Certified 75.2%, Director 83.6%, Health 80.2%, Healthcare 80.6%, Home 77.1%, Licensed 74.9%, Manager 80.6%, Medical 77.1%, Nurse 74.4%, Nursing 74.1%, Occupational 81.5%, Office 75.2%, Pharmacy 78.1%, Physical 78.1%, Physician 78.8%, RN 78.6%, Registered 82.4%, Tech 75.7%, Technician 77.3%, Therapy 78.7%

Primary Keyword: Licensed
Related Keywords: Assistant 76.6%, Billing 80.8%, Care 77.7%, Certified 78.7%, Director 82.4%, Health 79.4%, Healthcare 82.9%, Home 77.9%, Manager 80.8%, Medical 78.2%, Nursing 77.3%, Occupational 88.5%, Pharmacist 85.9%, Pharmacy 83.0%, Physical 81.3%, Physician 79.3%, RN 80.8%, Registered 82.9%, Tech 76.5%, Technician 76.9%, Therapist 78.3%, Therapy 80.4%

Primary Keyword: Manager
Related Keywords: Care 77.8%, Certified 77.0%, Director 79.3%, Health 78.5%, Healthcare 78.8%, Home 78.4%, LPN 80.6%, Licensed 80.8%, Medical 77.1%, Nurse 81.6%, Nursing 80.3%, Occupational 83.1%, Office 74.3%, Pharmacist 87.3%, Pharmacy 76.7%, Physical 82.1%, Physician 81.7%, RN 78.2%, Radiology 83.0%, Registered 82.4%, Therapist 79.9%, Therapy 82.2%

Primary Keyword: Occupational
Related Keywords: Billing 86.0%, Care 83.0%, Director 89.0%, Healthcare 87.9%, Home 84.7%, Licensed 88.5%, Manager 83.1%, Medical 81.9%, Nurse 82.5%, Nursing 84.7%, Physical 87.4%, Physician 83.5%, RN 84.0%, Registered 85.0%, Therapist 87.5%, Therapy 83.8%

Primary Keyword: Pharmacist
Related Keywords: Care 81.2%, Health 83.6%, Licensed 85.9%, Manager 87.3%, Nurse 84.5%, Physician 84.9%, RN 81.6%, Registered 86.4%, Therapy 84.6%

Primary Keyword: Physical
Related Keywords: Assistant 77.9%, Care 78.8%, Certified 79.7%, Dental 81.8%, Director 80.8%, Health 79.1%, Healthcare 84.8%, Home 81.3%, Licensed 81.3%, Manager 82.1%, Medical 77.5%, Nurse 81.6%, Nursing 82.3%, Occupational 87.4%, Office 78.8%, Pharmacy 83.3%, Physician 81.6%, Practitioner 83.2%, RN 79.2%, Radiology 86.4%, Registered 85.8%, Technician 78.7%, Therapist 79.5%, Therapy 79.4%

Primary Keyword: Physician
Related Keywords: Care 79.2%, Certified 79.1%, Director 82.0%, Health 80.4%, Healthcare 82.5%, Home 83.1%, Licensed 79.3%, Manager 81.7%, Nurse 82.7%, Nursing 83.1%, Occupational 83.5%, Pharmacist 84.9%, Pharmacy 80.0%, Physical 81.6%, Practitioner 86.2%, RN 82.4%, Radiology 81.7%, Registered 87.1%, Therapist 86.3%, Therapy 82.8%

Primary Keyword: Practitioner
Related Keywords: Assistant 81.7%, Nurse 80.7%, Nursing 84.1%, Physical 83.2%, Physician 86.2%, RN 82.1%, Registered 89.6%, Therapy 85.5%

Primary Keyword: RN
Related Keywords: Assistant 74.1%, Care 76.4%, Caregiver 78.6%, Certified 76.5%, Dental 78.2%, Director 80.9%, Health 77.2%, Healthcare 79.3%, Home 77.4%, LPN 78.6%, Licensed 80.8%, Manager 78.2%, Medical 76.0%, Nurse 80.0%, Nursing 77.9%, Occupational 84.0%, Office 74.0%, Pharmacist 81.6%, Pharmacy 76.0%, Physical 79.2%, Physician 82.4%, Practitioner 82.1%, Radiology 84.0%, Registered 82.1%, Tech 73.3%, Technician 73.3%, Technologist 77.8%, Therapist 81.5%, Therapy 80.9%

Primary Keyword: Radiology
Related Keywords: Care 80.5%, Certified 87.9%, Health 83.1%, Healthcare 84.3%, Manager 83.0%, Physical 86.4%, RN 84.0%, Registered 86.0%, Technologist 82.7%, Therapy 87.0%

Primary Keyword: Registered
Related Keywords: Assistant 79.4%, Billing 80.3%, CNA 81.9%, Care 80.2%, Certified 81.1%, Director 86.2%, Health 80.1%, Healthcare 82.6%, Home 81.9%, LPN 82.4%, Licensed 82.9%, Manager 82.4%, Medical 81.8%, Nursing 79.9%, Occupational 85.0%, Office 79.6%, Pharmacist 86.4%, Pharmacy 81.9%, Physical 85.8%, Physician 87.1%, Practitioner 89.6%, RN 82.1%, Radiology 86.0%, Tech 78.8%, Technologist 84.3%, Therapist 85.9%, Therapy 83.9%

Primary Keyword: Therapist
Related Keywords: Aide 80.2%, Assistant 78.5%, Care 81.4%, Certified 79.5%, Director 83.6%, Health 81.0%, Healthcare 85.4%, Home 84.8%, Manager 79.9%, Medical 82.6%, Nurse 81.2%, Nursing 85.2%, Occupational 87.5%, Office 81.7%, Physical 79.5%, Physician 86.3%, RN 81.5%, Registered 85.9%, Tech 78.6%, Technician 80.6%, Therapy 77.8%

Primary Keyword: Therapy
Related Keywords: Care 80.1%, Certified 82.5%, Director 80.7%, Health 80.0%, Healthcare 84.1%, Home 82.7%, Licensed 80.4%, Manager 82.2%, Medical 78.8%, Nurse 81.5%, Nursing 81.7%, Occupational 83.8%, Pharmacist 84.6%, Pharmacy 81.0%, Physical 79.4%, Physician 82.8%, Practitioner 85.5%, RN 80.9%, Radiology 87.0%, Registered 83.9%

Healthcare Support
SOC Major Occupational Group 31

Detailed Occupations and Education Level

In 2006 employers were less likely to view resumes of those with less than a high school education than in 2004. Only 33.9% of those resumes were viewed in 2006 compared to 38.2% in 2004.

Healthcare Support Workers, All Other (31-9099) accounted for 24.5% of the nonbatch job orders for the *Healthcare Support* occupational group in 2006, up from 16.1% in 2004. Some of this increase might not be valid. Keyword analysis suggests that many job orders for *Registered Nurses* (29-1111) were coded instead as *Healthcare Support Workers, All Other* (31-9099).

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Healthcare Support* – Major Occupational Group 31

Code	Title	#	%
31-1012	Nursing Aides, Orderlies, and Attendants	5,238	31.5
31-9099	Healthcare Support Workers, All Other	4,077	24.5
31-1011	Home Health Aides	2,694	16.2
31-9092	Medical Assistants	2,209	13.3
31-9091	Dental Assistants	627	3.8
	Total of occupations with less than 3.0% of group's job orders	1,806	10.8
	Total Nonbatch Job Orders	16,651	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		29.9

Table 2 – Percent of Resumes by Education Level in 2006
For *Healthcare Support*
Major Occupational Group 31

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	13.3	33.9
High School Diploma or GED	39.5	44.2
Some College or Vocational	41.0	57.5
Bachelors Degree	5.1	63.7
Graduate Degree	1.1	69.6

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Healthcare Support* – Major Occupational Group 31

Code	Title	College Degree	Some College or Voc	Other
31-1012	Nursing Aides, Orderlies, and Attendants	0.4	30.6	69.0
31-9099	Healthcare Support Workers, All Other	**14.7**	25.3	60.0
31-1011	Home Health Aides	0.7	8.2	**91.2**
31-9092	Medical Assistants	1.6	**43.7**	54.7
31-9091	Dental Assistants	2.1	30.9	67.0

Keywords

The issue where job orders for *Registered Nurses* (29-1111) were coded to this major occupational group occurred with both batch and nonbatch job orders. This distorted the keyword pattern. Some employer demand for skills needed for *Healthcare Practitioners and Technical* (29) occupations are instead reflected in the data for the *Healthcare Support* (31) major occupational group.

Keywords most affected are listed as related keywords to the primary keywords *Registered* and *RN* at the end of this chapter.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Healthcare Support* – Major Occupational Group 31

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Delivery	633	60.3	3,314	5.24
Dialysis	121	64.5	200	1.65
Director	618	67.6	2,726	4.41
ICU	637	**68.0**	2,699	4.24
Labor	1,674	60.5	6,051	3.61
Licensed	402	63.6	4,390	**10.92**
Long	1,297	61.2	5,699	4.39
Manager	3,393	63.5	5,962	1.76
Operating	793	65.8	2,234	2.82
Practitioner	92	59.8	744	8.09
Psychiatric	174	65.8	524	3.01
Registered	626	63.5	6,019	9.62
RN	7,224	61.0	21,611	2.99
Room	3,624	59.8	5,198	1.43
Term	3,602	64.1	9,305	2.58
Major Group Total	25,519	50.7	55,636	2.18

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Healthcare Support* – Major Occupational Group 31

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Delivery	31-9099	Healthcare Support Workers, All Other	337	120	35.7
Dialysis	31-9099	Healthcare Support Workers, All Other	25	12	49.5
Director	31-9099	Healthcare Support Workers, All Other	289	143	49.4
ICU	31-9099	Healthcare Support Workers, All Other	325	163	50.0
Labor	31-9099	Healthcare Support Workers, All Other	920	425	46.2
Licensed	31-1012	Nursing Aides, Orderlies, and Attendants	869	349	40.2
Long	31-1012	Nursing Aides, Orderlies, and Attendants	975	390	40.0
Manager	31-9099	Healthcare Support Workers, All Other	640	333	52.0
Operating	31-9099	Healthcare Support Workers, All Other	226	112	49.4
Psychiatric	31-9099	Healthcare Support Workers, All Other	115	54	47.4
Registered	31-1012	Nursing Aides, Orderlies, and Attendants	828	366	44.1
RN	31-9099	Healthcare Support Workers, All Other	4,061	1,574	38.8
Room	31-1012	Nursing Aides, Orderlies, and Attendants	2,214	847	38.3
Term	31-9099	Healthcare Support Workers, All Other	1,823	690	37.9

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Delivery
Related Keywords: Assistant 64.5%, Director 74.3%, Health 65.4%, ICU 73.0%, Labor 66.4%, Manager 67.1%, Med 66.5%, Nurse 64.5%, Registered 74.8%, Term 68.3%

Primary Keyword: Director
Related Keywords: Care 70.5%, Delivery 74.3%, Health 73.4%, Long 74.1%, Manager 72.1%, Med 70.4%, Operating 78.5%, RN 71.5%, Term 72.9%

Primary Keyword: ICU
Related Keywords: Assistant 71.3%, Health 71.5%, Labor 75.2%, Licensed 81.9%, Long 74.9%, Manager 72.8%, Room 73.1%, Term 73.8%

Primary Keyword: Labor
Related Keywords: Assistant 66.4%, Care 64.3%, Delivery 66.4%, Director 72.3%, Health 65.2%, ICU 75.2%, Licensed 73.1%, Long 74.1%, Manager 70.4%, Med 66.3%, Operating 71.7%, RN 67.9%, Registered 75.8%, Room 69.1%, Term 69.8%

Primary Keyword: Licensed
Related Keywords: Health 69.3%, ICU 81.9%, Labor 73.1%, Long 80.5%, Manager 72.4%, Med 69.4%, RN 70.7%, Room 73.1%, Term 75.6%

Primary Keyword: Long
Related Keywords: Assistant 65.0%, Director 74.1%, Health 65.2%, ICU 74.9%, Labor 74.1%, Licensed 80.5%, Manager 69.9%, Med 66.2%, Operating 73.8%, Psychiatric 72.3%, RN 64.3%, Room 65.9%

Primary Keyword: Manager
Related Keywords: Assistant 65.2%, Care 65.7%, Delivery 67.1%, Director 72.1%, Health 65.7%, ICU 72.8%, Labor 70.4%, Licensed 72.4%, Long 69.9%, Med 67.0%, Operating 72.3%, Practical 75.9%, Psychiatric 77.3%, RN 68.7%, Registered 68.4%, Room 68.9%, Term 71.6%

Primary Keyword: Operating
Related Keywords: Assistant 69.3%, CNA 70.2%, Care 68.2%, Director 78.5%, Health 70.2%, ICU 72.9%, Labor 71.7%, Long 73.8%, Manager 72.3%, Med 71.9%, RN 70.0%, Term 71.1%

Primary Keyword: Psychiatric
Related Keywords: Home 71.8%, Manager 77.3%, RN 74.5%, Term 75.1%

Primary Keyword: RN
Related Keywords: Assistant 64.8%, Care 63.3%, Dialysis 70.9%, Director 71.5%, Health 64.3%, Home 62.1%, ICU 70.2%, LPN 65.0%, Labor 67.9%, Licensed 70.7%, Long 64.3%, Manager 68.7%, Med 65.4%, Operating 70.0%, Psychiatric 74.5%, Registered 67.9%, Room 63.9%, Term 68.1%

Primary Keyword: Registered
Related Keywords: Delivery 74.8%, Health 67.5%, ICU 71.1%, Labor 75.8%, Manager 68.4%, Med 70.0%, RN 67.9%, Room 72.2%, Term 70.7%

Primary Keyword: Room
Related Keywords: Assistant 64.8%, Care 61.2%, Director 68.3%, Health 63.7%, ICU 73.1%, Labor 69.1%, Licensed 73.1%, Long 65.9%, Manager 68.9%, Med 64.8%, Operating 65.8%, Practical 76.4%, Psychiatric 69.7%, RN 63.9%, Registered 72.2%, Term 66.8%

Primary Keyword: Term
Related Keywords: Assistant 66.6%, Care 66.2%, Delivery 68.3%, Director 72.9%, Health 67.3%, Home 66.9%, ICU 73.8%, LPN 69.9%, Labor 69.8%, Licensed 75.6%, Manager 71.6%, Med 66.2%, Operating 71.1%, Practical 72.2%, Psychiatric 75.1%, RN 68.1%, Registered 70.7%, Room 66.8%

Protective Service
SOC Major Occupational Group 33

Detailed Occupations and Education Level

Security Guards (33-9032) accounted for 58.0% of nonbatch job orders in 2006, up from 54.9% in 2004. However, nonbatch job orders were only 43.5% of all orders in 2006, down sharply from 80.6% in 2004. While nonbatch job orders for *Protective Service* (33) occupations increased by 24.4% over those two years, batch job orders grew 572.9%.

Keyword analysis showed that batch job orders were far more likely to be for law enforcement occupations.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Protective Service* - Major Occupational Group 33

Code	Title	#	%
33-9032	Security Guards	7,370	58.0
33-3051	Police and Sheriff's Patrol Officers	1,279	10.1
33-9099	Protective Service Workers, All Other	1,013	8.0
33-3012	Correctional Officers and Jailers	914	7.2
	Total of occupations with less than 3.0% of group's job orders	2,130	16.8
	Total Nonbatch Job Orders	12,706	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		43.5

Table 2 – Percent of Resumes by Education Level in 2006
For *Protective Service*
Major Occupational Group 33

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	7.4	37.6
High School Diploma or GED	39.2	52.1
Some College or Vocational	39.4	60.8
Bachelors Degree	12.0	63.0
Graduate Degree	2.0	68.0

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Protective Service* - Major Occupational Group 33

Code	Title	College Degree	Some College or Voc	Other
33-9032	Security Guards	0.4	3.6	96.0
33-3051	Police and Sheriff's Patrol Officers	2.8	**20.4**	76.8
33-9099	Protective Service Workers, All Other	**13.3**	9.1	77.6
33-3012	Correctional Officers and Jailers	2.0	3.6	**94.4**

Keywords

The exceptional growth in batch job orders between 2004 and 2006, coupled with a higher incidence of law enforcement occupations in batch job orders caused a major turnover in the primary keywords selected. Of the 15 primary keywords selected for 2006, only three (*Armed, Military,* and *Protection*) were also selected for 2004.

Resumes with the primary/related keyword combination *Licensed* and *Driver* were most likely to be viewed by employers (81.5%). This is consistent with the increased demand for law enforcement staff, many of whom drive police cars. Many of the other keyword combinations with a high percentage of viewed resumes included the keyword *Military*.

There were over six times as many job orders containing the keyword *Alarm* as resumes with that term in 2006. However, it had the lowest percentage of viewed resumes of any primary keyword. A query of other terms contained on the job orders with *Alarm* showed 15 other terms were found on over 85 percent of the same orders. Given that, the presence of *Alarm* cannot be confirmed to be the primary reason for the high ratio of job orders to resumes.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Protective Service* - Major Occupational Group 33

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Alarm	1,216	67.8	7,356	**6.05**
Armed	1,245	72.0	1,611	1.29
Card	1,186	69.3	2,057	1.73
CCTV	724	73.3	915	1.26
Dispatcher	579	68.9	188	0.32
Legal	1,141	67.9	1,297	1.14
Licensed	412	70.8	315	0.76
Male	152	69.6	226	1.49
Military	2,746	**73.9**	2,624	0.96
Officers	1,747	69.2	9,581	5.48
Protection	1,969	69.1	2,819	1.43
Safety	3,783	68.1	4,262	1.13
Secret	1,181	69.8	920	0.78
System	4,245	69.3	4,160	0.98
Traffic	1,381	70.1	1,449	1.05
Major Group Total	22,269	56.4	29,238	1.31

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Protective Service* - Major Occupational Group 33

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders Major Group	Detailed SOC	%
Alarm	33-9032	Security Guards	666	530	79.6
Armed	33-9032	Security Guards	1,113	996	89.5
Card	33-9032	Security Guards	1,755	1,474	84.0
CCTV	33-9032	Security Guards	141	107	76.3
Dispatcher	33-9032	Security Guards	89	27	29.9
Legal	33-3051	Police and Sheriff's Patrol Officers	686	290	42.2
Licensed	33-9032	Security Guards	207	111	53.9
Male	33-3012	Correctional Officers and Jailers	146	81	55.3
Military	33-9032	Security Guards	904	558	61.7
Officers	33-9032	Security Guards	2,310	1,431	62.0
Protection	33-9032	Security Guards	964	599	62.2
Safety	33-9032	Security Guards	2,177	1,110	51.0
Secret	33-9032	Security Guards	108	46	42.3
System	33-9032	Security Guards	861	419	48.6
Traffic	33-3051	Police and Sheriff's Patrol Officers	1,014	492	48.5

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Alarm
Related Keywords: Age 70.5%, Armed 76.2%, CCTV 72.2%, Card 71.9%, Criminal 76.4%, Customer 70.0%, Driver 71.9%, Drivers 75.4%, Enforcement 75.8%, Fire 70.3%, Law 75.6%, Legal 76.4%, Loss 71.3%, Manager 74.5%, Military 78.0%, Officer 73.0%, Officers 74.9%, Police 71.2%, Prevention 71.9%, Private 76.5%, Protection 73.3%, Protective 72.2%, Safety 73.6%, Secret 76.1%, Service 71.1%, Services 74.0%, Supervisor 72.2%, System 72.8%, Traffic 77.3%

Primary Keyword: Armed
Related Keywords: Age 75.2%, Alarm 76.2%, Alarms 77.5%, CCTV 76.6%, Card 79.0%, Clean 76.8%, Criminal 77.6%, Customer 75.9%, Driver 75.3%, Enforcement 75.0%, Event 74.7%, Fire 74.4%, Guards 75.7%, Law 74.9%, Manager 77.6%, Military 77.7%, Officers 75.5%, Protection 76.0%, Safety 74.6%, Secret 78.5%, Service 75.8%, Services 75.6%, Supervisor 75.1%, System 77.7%, Traffic 75.2%

Primary Keyword: CCTV
Related Keywords: Customer 76.3%, Enforcement 77.0%, Law 76.2%, Military 77.8%, Service 75.8%, Services 77.9%

Primary Keyword: Card
Related Keywords: Age 71.8%, Armed 79.0%, CCTV 76.6%, Criminal 76.5%, Enforcement 76.0%, Fire 72.3%, Law 75.4%, Legal 75.2%, Manager 73.1%, Military 77.6%, Officer 73.1%, Officers 74.1%, Operator 73.1%, Patrol 72.6%, Police 75.7%, Protection 75.2%, Safety 73.1%, Secret 76.1%, Security 71.3%, Service 71.9%, Services 74.4%, Supervisor 73.8%, System 75.2%, Traffic 76.4%

Primary Keyword: Dispatcher
Related Keywords: Age 73.2%, Enforcement 76.0%, Event 74.6%, Law 74.1%, Officer 72.2%, Officers 74.8%, Safety 76.2%, Service 71.7%, Services 74.6%, System 74.4%, Traffic 74.6%

Primary Keyword: Legal
Related Keywords: Alarm 76.4%, Alarms 74.8%, Armed 74.9%, Card 75.2%, Clean 76.3%, Customer 71.9%, Driver 72.6%, Drivers 75.4%, Enforcement 73.1%, Fire 74.2%, Investigator 71.7%, Licensed 77.9%, Loss 72.2%, Manager 73.7%, Military 80.0%, Officer 72.1%, Officers 75.6%, Police 73.0%, Private 74.6%, Protection 71.0%, Secret 72.3%, Service 72.4%, Services 73.7%, Store 72.4%, System 72.7%, Traffic 73.7%

Primary Keyword: Licensed
Related Keywords: Criminal 75.5%, Driver 81.5%, Event 74.8%, Law 74.7%, Legal 77.9%, Military 78.0%, Officers 77.7%, Patrol 76.7%, System 76.7%

Primary Keyword: Male
Related Keywords: Enforcement 79.3%, Safety 76.1%, Service 75.7%, System 78.2%

Primary Keyword: Military
Related Keywords: Age 76.7%, Alarm 78.0%, Armed 77.7%, CCTV 77.8%, Card 77.6%, Clean 80.7%, Criminal 77.3%, Customer 77.7%, Driver 76.0%, Event 76.7%, Fire 75.5%, Guard 75.8%, Guards 78.9%, Law 75.3%, Legal 80.0%, Manager 78.8%, Officer 75.8%, Officers 77.9%, Operator 78.7%, Private 78.1%, Protection 76.2%, Protective 77.0%, Safety 77.6%, Secret 78.2%, Security 75.2%, Service 77.0%, Services 78.8%, Supervisor 76.4%, System 78.1%, Traffic 77.8%

Primary Keyword: Officers
Related Keywords: Age 73.7%, Alarm 74.9%, Alarms 74.2%, Armed 75.5%, CCTV 74.8%, Card 74.1%, Criminal 72.6%, Customer 73.0%, Dispatcher 74.8%, Driver 72.7%, Enforcement 73.4%, Event 73.6%, Fire 74.9%, Guard 72.2%, Guards 74.3%, Investigator 75.0%, Law 73.6%, Legal 75.6%, Licensed 77.7%, Manager 74.1%, Military 77.9%, Operator 73.6%, Police 71.8%, Prevention 73.1%, Private 75.0%, Protection 75.4%, Protective 73.9%, Safety 73.8%, Secret 77.7%, Security 71.0%, Service 72.5%, Services 74.5%, Store 74.2%, Supervisor 71.8%, System 76.2%, Traffic 75.3%

Primary Keyword: Protection
Related Keywords: Age 71.5%, Alarm 73.3%, Armed 76.0%, CCTV 73.4%, Card 75.2%, Criminal 73.6%, Driver 73.5%, Enforcement 72.9%, Fire 73.6%, Investigator 72.0%, Law 71.6%, Loss 71.4%, Manager 74.7%, Military 76.2%, Officer 72.8%, Officers 75.4%, Operator 77.1%, Police 71.9%, Private 72.8%, Protective 73.0%, Secret 77.6%, Service 72.0%, Services 72.7%, Supervisor 71.1%, System 73.3%, Traffic 74.1%

Primary Keyword: Safety
Related Keywords: Age 70.7%, Alarm 73.6%, Alarms 71.0%, Armed 74.6%, CCTV 73.4%, Card 73.1%, Clean 70.2%, Criminal 72.5%, Customer 69.7%, Detective 72.3%, Dispatcher 76.2%, Driver 73.1%, Drivers 73.7%, Enforcement 72.3%, Fire 71.8%, Investigator 74.1%, Law 71.8%, Licensed 73.3%, Loss 71.7%, Male 76.1%, Manager 73.2%, Military 77.6%, Officer 70.7%, Officers 73.8%, Operator 73.1%, Patrol 70.0%, Police 71.5%, Private 73.2%, Protective 70.5%, Secret 76.8%, Service 71.5%, Services 73.4%, Store 69.8%, Supervisor 71.5%, System 72.9%, Traffic 74.6%

Primary Keyword: Secret
Related Keywords: Age 73.6%, Alarm 76.1%, Armed 78.5%, Card 76.1%, Criminal 73.5%, Enforcement 73.3%, Event 75.2%, Fire 74.8%, Investigator 75.8%, Law 72.2%, Manager 75.3%, Military 78.2%, Officer 74.7%, Officers 77.7%, Patrol 73.3%, Police 74.4%, Prevention 73.2%, Private 75.1%, Protection 77.6%, Safety 76.8%, Security 73.0%, Service 71.7%, Services 73.0%, Supervisor 73.1%, System 75.3%, Traffic 78.1%

Primary Keyword: System
Related Keywords: Age 71.7%, Alarm 72.8%, Alarms 71.9%, Armed 77.7%, CCTV 75.3%, Card 75.2%, Criminal 73.3%, Dispatcher 74.4%, Driver 72.4%, Drivers 72.3%, Enforcement 74.2%, Event 70.6%, Fire 73.1%, Investigator 73.9%, Law 73.7%, Legal 72.7%, Licensed 76.7%, Loss 72.6%, Male 78.2%, Manager 74.4%, Military 78.1%, Officer 73.7%, Officers 76.2%, Operator 72.1%, Patrol 71.4%, Police 72.8%, Prevention 71.1%, Private 74.8%, Protection 73.3%, Protective 73.9%, Safety 72.9%, Secret 75.3%, Security 71.1%, Service 71.7%, Services 73.3%, Supervisor 73.3%, Traffic 75.1%

Primary Keyword: Traffic
Related Keywords: Age 74.0%, Alarm 77.3%, Alarms 76.0%, Armed 75.2%, Card 76.4%, Criminal 73.2%, Dispatcher 74.6%, Driver 73.9%, Enforcement 74.3%, Event 74.3%, Fire 74.5%, Investigator 74.3%, Law 73.6%, Legal 73.7%, Manager 77.4%, Military 77.8%, Officer 73.6%, Officers 75.3%, Operator 73.1%, Patrol 71.8%, Police 73.4%, Prevention 75.0%, Private 73.8%, Protection 74.1%, Protective 76.1%, Safety 74.6%, Secret 78.1%, Security 72.5%, Service 74.7%, Services 76.4%, Supervisor 75.7%, System 75.1%

Food Preparation and Serving Related

SOC Major Occupational Group 35

Detailed Occupations and Education Level

Food Preparation and Serving Related (35) occupations had the lowest percentage of nonbatch job orders requiring a college degree (0.9%)of any major occupational group in 2006. It was rare for any job orders to require a college degree for jobs in the group, with the exception of a few cooks and first-line supervisors.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Food Preparation and Serving Related* - Major Occupational Group 35

Code	Title	#	%
35-2014	Cooks, Restaurant	4,131	12.8
35-3031	Waiters and Waitresses	3,858	11.9
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	2,625	8.1
35-2021	Food Preparation Workers	2,500	7.7
35-9021	Dishwashers	2,318	7.2
35-2012	Cooks, Institution and Cafeteria	2,124	6.6
35-9099	Food Preparation and Serving Related Workers, All Other	2,025	6.3
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	1,980	6.1
35-2019	Cooks, All Other	1,721	5.3
35-3041	Food Servers, Nonrestaurant	1,536	4.7
35-3011	Bartenders	1,301	4.0
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	1,232	3.8
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	1,169	3.6
35-1011	Chefs and Head Cooks	1,068	3.3
	Total of occupations with less than 3.0% of group's job orders	2,780	8.6
	Total Nonbatch Job Orders	32,368	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		71.2

Table 2 – Percent of Resumes by Education Level in 2006
For *Food Preparation and Serving Related*
Major Occupational Group 35

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	20.3	35.3
High School Diploma or GED	47.5	45.1
Some College or Vocational	27.9	53.4
Bachelors Degree	3.9	54.5
Graduate Degree	0.5	48.6

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Food Preparation and Serving Related* - Major Occupational Group 35

Code	Title	College Degree	Some College or Voc	Other
35-2014	Cooks, Restaurant	0.2	4.2	95.6
35-3031	Waiters and Waitresses	0.1	1.1	98.9
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	0.2	1.3	98.5
35-2021	Food Preparation Workers	0.3	5.3	94.5
35-9021	Dishwashers	0.0	0.5	**99.4**
35-2012	Cooks, Institution and Cafeteria	0.5	4.4	95.1
35-9099	Food Preparation and Serving Related Workers, All Other	0.8	1.7	97.5
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	**4.0**	9.7	86.3
35-2019	Cooks, All Other	0.2	2.6	97.1
35-3041	Food Servers, Nonrestaurant	0.1	1.1	98.8
35-3011	Bartenders	0.0	4.1	95.9
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	0.0	1.1	98.9
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	0.2	1.6	98.2
35-1011	Chefs and Head Cooks	3.2	**20.0**	76.9

Keywords

Food Preparation and Serving Related (35) had the lowest percentage of resumes viewed by employers of any major occupational group. However, that percentage did increase from 39.0% in 2004 to 46.1% in 2006.

Sous, a term often used for a kitchen manager, had the highest percentage of viewed resumes of any of the group's primary keywords at 63.4%. When coupled with the related keyword *Front* the viewed percentage jumped to 78.1%.

Hotel was the primary keyword with the group's highest ratio of job orders to resumes (2.77).

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Food Preparation and Serving Related* - Major Occupational Group 35

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Assistant	3,982	55.7	2,447	0.61
Chef	2,416	54.6	2,152	0.89
Customer	13,330	54.8	10,877	0.82
Desk	1,306	58.4	195	0.15
Front	1,518	56.9	1,088	0.72
General	2,891	56.2	3,030	1.05
Hotel	1,191	55.8	3,303	**2.77**
Management	3,252	59.7	3,975	1.22
Manager	6,170	58.6	4,318	0.70
Managers	590	61.8	1,320	2.24
Pizza	944	53.8	867	0.92
Restaurant	4,354	52.4	8,646	1.99
Service	15,286	53.1	15,740	1.03
Sous	528	**63.4**	629	1.19
Supervisor	3,277	58.2	3,715	1.13
Major Group Total	35,140	46.1	45,436	1.29

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Food Preparation and Serving Related* - Major Occupational Group 35

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Assistant	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	890	289	32.5
Chef	35-1011	Chefs and Head Cooks	1,039	517	49.7
Customer	35-3031	Waiters and Waitresses	6,021	1,119	18.6
Desk	35-3031	Waiters and Waitresses	153	26	17.0
Front	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	471	71	15.1
General	35-9021	Dishwashers	1,148	142	12.3
Hotel	35-3031	Waiters and Waitresses	1,353	181	13.3
Management	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	918	385	41.9
Manager	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	1,724	855	49.6
Managers	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	293	182	62.0
Pizza	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	559	106	18.9
Restaurant	35-2014	Cooks, Restaurant	5,382	1,163	21.6
Service	35-3031	Waiters and Waitresses	8,079	1,072	13.3
Sous	35-1011	Chefs and Head Cooks	238	132	55.6
Supervisor	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	1,393	622	44.6

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Assistant
Related Keywords: Chef 62.8%, Cook 57.0%, Customer 58.8%, Fast 57.9%, Food 57.3%, Front 64.0%, General 61.4%, Hotel 61.0%, Kitchen 57.5%, Management 63.5%, Manager 59.9%, Managers 66.3%, Pizza 60.6%, Prep 58.5%, Restaurant 62.2%, Service 58.9%, Sous 69.7%, Supervisor 61.9%

Primary Keyword: Chef
Related Keywords: Assistant 62.8%, Cashier 61.6%, Customer 64.3%, Dishwasher 63.7%, Fast 62.4%, Food 59.0%, Front 72.6%, General 65.8%, Hotel 65.6%, Kitchen 61.7%, Management 65.4%, Manager 61.4%, Managers 65.0%, Prep 60.1%, Restaurant 63.6%, Server 63.7%, Service 61.9%, Sous 63.4%, Supervisor 63.0%

Primary Keyword: Customer
Related Keywords: Assistant 58.8%, Bartender 56.4%, Cashier 56.2%, Chef 64.3%, Cook 55.7%, Desk 61.7%, Fast 57.8%, Food 55.5%, Front 60.7%, General 61.3%, Hotel 59.4%, Management 63.6%, Manager 62.6%, Managers 65.5%, Pizza 58.7%, Prep 56.9%, Restaurant 57.5%, Server 56.9%, Service 56.5%, Sous 72.1%, Supervisor 62.4%

Primary Keyword: Desk
Related Keywords: Customer 61.7%, Fast 62.2%, Manager 64.7%, Prep 61.1%, Restaurant 63.9%, Service 61.0%

Primary Keyword: Front
Related Keywords: Assistant 64.0%, Chef 72.6%, Customer 60.7%, Desk 60.3%, General 62.8%, Hotel 61.0%, Kitchen 63.3%, Management 68.1%, Manager 64.6%, Managers 72.6%, Prep 60.3%, Restaurant 61.0%, Service 61.3%, Sous 78.1%, Supervisor 68.4%

Primary Keyword: General
Related Keywords: Assistant 61.4%, Bartender 61.0%, Cashier 59.2%, Chef 65.8%, Cooks 61.4%, Customer 61.3%, Fast 59.5%, Food 58.5%, Front 62.8%, Hotel 62.3%, Kitchen 58.7%, Management 65.8%, Manager 62.8%, Managers 64.8%, Prep 59.2%, Restaurant 63.0%, Server 59.7%, Service 61.5%, Sous 68.8%, Supervisor 67.2%

Primary Keyword: Hotel
Related Keywords: Assistant 61.0%, Cashier 59.8%, Chef 65.6%, Cook 60.1%, Customer 59.4%, Desk 59.6%, Fast 59.1%, Food 58.3%, Front 61.0%, General 62.3%, Kitchen 61.4%, Management 62.7%, Manager 63.0%, Prep 59.1%, Restaurant 60.5%, Service 58.4%, Sous 73.9%, Supervisor 65.5%

Primary Keyword: Management
Related Keywords: Assistant 63.5%, Chef 65.4%, Cook 61.1%, Customer 63.6%, Fast 63.4%, Food 61.7%, Front 68.1%, General 65.8%, Hotel 62.7%, Kitchen 64.2%, Manager 62.0%, Managers 69.5%, Pizza 68.3%, Prep 64.0%, Restaurant 64.8%, Server 61.9%, Service 62.8%, Sous 72.0%, Supervisor 66.6%

Primary Keyword: Manager
Related Keywords: Assistant 59.9%, Cashier 59.9%, Chef 61.4%, Cook 59.9%, Customer 62.6%, Desk 64.7%, Fast 60.8%, Food 60.0%, Front 64.6%, General 62.8%, Hotel 63.0%, Kitchen 60.3%, Management 62.0%, Managers 61.8%, Prep 61.8%, Restaurant 63.2%, Service 61.4%, Sous 66.7%, Supervisor 62.6%, Assistant 66.3%, Cashier 66.1%, Cook 65.3%, Customer 65.5%, Fast 73.1%, Front 72.6%, Management 69.5%, Prep 65.0%, Restaurant 67.9%, Supervisor 64.9%

Primary Keyword: Pizza
Related Keywords: Assistant 60.6%, Customer 58.7%, General 59.5%, Management 68.3%, Manager 60.1%, Prep 58.6%, Restaurant 57.9%, Service 59.5%, Supervisor 65.6%

Primary Keyword: Restaurant
Related Keywords: Assistant 62.2%, Bartender 58.3%, Cashier 54.1%, Chef 63.6%, Customer 57.5%, Desk 63.9%, Dishwasher 54.8%, Fast 56.9%, Food 55.3%, Front 61.0%, General 63.0%, Hotel 60.5%, Kitchen 58.5%, Management 64.8%, Manager 63.2%, Managers 67.9%, Pizza 57.9%, Prep 56.9%, Service 58.2%, Sous 70.8%, Supervisor 61.9%

Primary Keyword: Service
Related Keywords: Assistant 58.9%, Bartender 56.4%, Cashier 55.5%, Chef 61.9%, Cook 55.0%, Customer 56.5%, Desk 61.0%, Fast 57.3%, Front 61.3%, General 61.5%, Hotel 58.4%, Kitchen 55.2%, Management 62.8%, Manager 61.4%, Managers 63.9%, Pizza 59.5%, Prep 55.5%, Restaurant 58.2%, Server 55.8%, Sous 68.6%, Supervisor 61.0%

Primary Keyword: Sous
Related Keywords: Assistant 69.7%, Customer 72.1%, Fast 72.8%, Food 66.5%, Front 78.1%, Hotel 73.9%, Kitchen 66.9%, Management 72.0%, Manager 66.7%, Prep 67.3%, Restaurant 70.8%, Service 68.6%

Primary Keyword: Supervisor
Related Keywords: Assistant 61.9%, Cashier 59.7%, Chef 63.0%, Cook 60.3%, Customer 62.4%, Food 59.5%, Front 68.4%, General 67.2%, Hotel 65.5%, Management 66.6%, Manager 62.6%, Managers 64.9%, Pizza 65.6%, Prep 61.2%, Restaurant 61.9%, Service 61.0%, Sous 67.5%

Building and Grounds Cleaning and Maintenance
SOC Major Occupational Group 37

Detailed Occupations and Education Level

Percentages of resumes viewed by employers increased across all education levels for the *Building and Grounds Cleaning and Maintenance* (37) major occupational group in 2006 compared to 2004. The largest increases were for the lowest educational levels. The viewed percentage of resumes coded as less than high school increased from 32.0% in 2004 to 39.2% in 2006 . Similarly, 42.7% of resumes coded as high school completion were viewed in 2004 and that percentage increased to 51.3% in 2006.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Building and Grounds Cleaning and Maintenance* - Major Occupational Group 37

Code	Title	#	%
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	9,257	35.5
37-2012	Maids and Housekeeping Cleaners	6,464	24.8
37-3011	Landscaping and Groundskeeping Workers	3,759	14.4
37-3019	Grounds Maintenance Workers, All Other	2,040	7.8
37-2019	Building Cleaning Workers, All Other	1,628	6.2
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	1,585	6.1
	Total of occupations with less than 3.0% of group's job orders	1,364	5.2
	Total Nonbatch Job Orders	26,097	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		79.8

Table 2 – Percent of Resumes by Education Level in 2006
For *Building and Grounds Cleaning and Maintenance*
Major Occupational Group 37

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	26.1	39.2
High School Diploma or GED	51.1	51.3
Some College or Vocational	20.3	60.7
Bachelors Degree	2.2	62.1
Graduate Degree	0.3	62.6

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Building and Grounds Cleaning and Maintenance* - Major Occupational Group 37

Code	Title	College Degree	Some College or Voc	Other
	Janitors and Cleaners, Except Maids and Housekeeping			
37-2011	Cleaners	0.1	1.1	98.8
37-2012	Maids and Housekeeping Cleaners	0.1	0.8	**99.1**
37-3011	Landscaping and Groundskeeping Workers	0.6	1.7	97.7
37-3019	Grounds Maintenance Workers, All Other	0.6	**5.3**	94.1
37-2019	Building Cleaning Workers, All Other	0.3	3.4	96.3
	First-Line Supervisors/Managers of Housekeeping and			
37-1011	Janitorial Workers	**2.2**	4.9	92.8

Keywords

HVAC (an acronym for heating, ventilation, and air conditioning) was the primary keyword with the highest percentage of resumes viewed by employers (75.4%). However, that percentage was boosted by employers searching to recruit for positions in other major occupational groups.

While a job is properly coded to a single occupation, job seekers are usually qualified for multiple occupations. To match up job seekers with all of the occupations they are qualified for, and interested in, their resumes are often coded to more than one major occupational group. Of the resumes containing the keyword *HVAC* and coded to the *Building and Grounds Cleaning and Maintenance* (37) group, 47.6% were also coded to the *Installation, Maintenance, and Repair* (49) group and 24.1% to the *Construction and Extraction* (47) group.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Building & Grounds Cleaning & Maintenance* - Major Occupational Group 37

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Apartment	715	69.5	1,151	1.61
Carpet	1,398	64.1	2,470	1.77
Control	2,192	67.9	1,792	0.82
Facilities	967	71.6	2,072	2.14
Floor	4,733	62.5	6,095	1.29
HVAC	440	**75.4**	686	1.56
Irrigation	236	65.7	631	**2.67**
Manager	2,860	65.5	1,942	0.68
Mechanic	1,750	64.5	1,324	0.76
Part	4,199	65.8	10,141	2.42
Plumbing	1,960	68.4	1,389	0.71
Supervisor	3,062	64.4	3,581	1.17
Tech	3,273	65.7	4,317	1.32
Technician	1,259	69.3	1,959	1.56
Water	1,143	64.3	1,873	1.64
Major Group Total	29,865	50.6	32,711	1.10

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Building and Grounds Cleaning and Maintenance* - Major Occupational Group 37

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Apartment	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	712	195	27.4
Carpet	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,898	1,134	59.8
Control	37-2021	Pest Control Workers	984	260	26.4
Facilities	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,261	507	40.2
Floor	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	4,931	3,219	65.3
HVAC	37-3019	Grounds Maintenance Workers, All Other	197	102	52.0
Irrigation	37-3011	Landscaping and Groundskeeping Workers	582	388	66.7
Manager	37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	1,000	279	27.9
Mechanic	37-3019	Grounds Maintenance Workers, All Other	641	205	32.0
Part	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	6,040	2,475	41.0
Plumbing	37-3019	Grounds Maintenance Workers, All Other	856	366	42.7
Supervisor	37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	2,173	759	34.9
Tech	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2,380	866	36.4
Technician	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,284	439	34.2
Water	37-3011	Landscaping and Groundskeeping Workers	1,602	739	46.1

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Apartment
Related Keywords: Building 74.6%, Care 73.0%, Construction 76.0%, Control 74.8%, Driver 74.5%, Facilities 82.9%, General 74.3%, Grounds 72.7%, HVAC 78.5%, Janitor 74.0%, Janitorial 76.4%, Landscape 82.8%, Landscaping 78.9%, Lawn 77.9%, Maintenance 74.3%, Manager 79.6%, Mechanic 74.6%, Operator 74.6%, Plumbing 74.7%, Service 75.1%, Supervisor 79.9%, Tech 79.9%, Technician 78.3%, Time 73.2%, Water 81.1%, Workers 76.8%

Primary Keyword: Carpet
Related Keywords: Apartment 71.5%, Building 71.6%, Care 69.6%, Cleaning 67.6%, Construction 70.9%, Control 72.9%, Custodial 78.4%, Custodian 75.7%, Facilities 75.0%, Floor 69.0%, General 71.8%, Grounds 73.5%, HVAC 81.2%, Janitor 72.4%, Janitorial 75.2%, Labor 68.9%, Lawn 75.5%, Maintenance 72.7%, Manager 75.8%, Mechanic 72.1%, Operator 69.9%, Part 70.8%, Plumbing 71.1%, Service 68.8%, Supervisor 73.7%, Tech 75.7%, Technician 77.6%, Time 71.5%, Water 68.6%, Workers 68.4%

Primary Keyword: Control
Related Keywords: Apartment 74.8%, Building 73.0%, Care 72.4%, Carpet 72.9%, Construction 74.4%, Custodial 74.7%, Custodian 74.4%, Driver 71.3%, Facilities 79.4%, Floor 70.8%, General 73.0%, Grounds 75.0%, HVAC 84.6%, House 70.1%, Janitor 70.6%, Janitorial 74.3%, Landscape 71.1%, Landscaping 72.2%, Maintenance 72.7%, Manager 73.3%, Mechanic 76.1%, Operator 70.0%, Part 74.8%, Plumbing 74.8%, Service 72.5%, Supervisor 72.1%, Tech 75.1%, Technician 75.1%, Time 72.4%, Water 72.1%

Primary Keyword: Facilities
Related Keywords: Apartment 82.9%, Building 77.7%, Care 74.6%, Clean 74.3%, Cleaning 74.4%, Construction 81.9%, Control 79.4%, Custodial 80.2%, Driver 75.4%, Floor 77.4%, General 79.9%, Grounds 79.1%, HVAC 86.3%, Janitorial 77.0%, Labor 78.7%, Laborer 79.8%, Maintenance 76.5%, Manager 77.6%, Mechanic 81.9%, Part 77.8%, Plumbing 80.0%, Service 76.9%, Supervisor 78.5%, Tech 79.5%, Technician 82.7%, Time 75.2%

Primary Keyword: Floor
Related Keywords: Apartment 72.1%, Building 64.0%, Care 67.2%, Carpet 69.0%, Construction 67.3%, Control 70.8%, Custodial 69.3%, Custodian 67.7%, Driver 68.6%, Facilities 77.4%, General 68.2%, Grounds 69.9%, HVAC 77.7%, House 65.1%, Janitor 64.9%, Janitorial 66.0%, Landscape 66.4%, Landscaping 68.2%, Lawn 69.1%, Maintenance 66.3%, Manager 71.6%, Mechanic 72.2%, Operator 67.4%, Part 70.9%, Plumbing 71.1%, Service 67.0%, Supervisor 70.4%, Tech 69.8%, Technician 76.2%, Time 68.5%, Water 64.8%, Workers 65.0%

Primary Keyword: HVAC
Related Keywords: Care 81.3%, Construction 79.6%, Control 84.6%, Facilities 86.3%, General 80.0%, Grounds 79.1%, Janitor 80.8%, Manager 80.9%, Mechanic 79.8%, Operator 82.6%, Part 82.0%, Plumbing 78.9%, Service 80.0%, Supervisor 83.7%, Tech 81.6%, Technician 83.3%, Water 81.2%

Primary Keyword: Irrigation
Related Keywords: Construction 72.8%, General 72.1%, Maintenance 71.7%, Manager 72.2%, Pest 72.6%, Tech 71.9%, Water 76.4%

Primary Keyword: Manager
Related Keywords: Apartment 79.6%, Building 72.2%, Care 70.7%, Carpet 75.8%, Clean 68.6%, Cleaning 67.6%, Construction 69.8%, Control 73.3%, Custodial 75.5%, Custodian 73.8%, Driver 68.7%, Facilities 77.6%, Floor 71.6%, General 71.6%, Grounds 71.9%, HVAC 80.9%, House 68.5%, Housekeeper 70.9%, Irrigation 72.2%, Janitorial 68.5%, Labor 68.8%, Landscape 69.4%, Landscaping 70.1%, Lawn 68.4%, Maintenance 70.7%, Mechanic 72.9%, Operator 71.4%, Part 75.3%, Pest 70.5%, Plumbing 75.7%, Service 69.2%, Supervisor 69.1%, Tech 74.4%, Technician 76.6%, Time 71.0%, Water 78.3%

Primary Keyword: Mechanic
Related Keywords: Apartment 74.6%, Building 69.8%, Care 70.8%, Carpet 72.1%, Clean 67.0%, Cleaners 74.8%, Cleaning 67.5%, Construction 70.3%, Control 76.1%, Custodial 76.1%, Custodian 70.0%, Driver 67.5%, Facilities 81.9%, Floor 72.2%, General 72.7%, HVAC 79.8%, House 70.6%, Housekeeping 69.3%, Janitor 69.3%, Janitorial 72.4%, Landscaping 67.8%, Maintenance 68.9%, Manager 72.9%, Operator 69.6%, Part 73.8%, Plumbing 72.2%, Service 72.7%, Supervisor 70.1%, Tech 73.0%, Technician 74.0%, Time 70.4%, Water 71.4%, Workers 68.3%

Primary Keyword: Part
Related Keywords: Apartment 69.5%, Building 72.6%, Care 70.1%, Carpet 70.8%, Cleaning 67.0%, Construction 73.4%, Control 74.8%, Custodial 75.0%, Custodian 72.2%, Driver 70.5%, Facilities 77.8%, Floor 70.9%, General 72.8%, Grounds 71.2%, HVAC 82.0%, House 67.9%, Janitor 68.9%, Janitorial 70.7%, Labor 68.8%, Landscaping 71.2%, Lawn 68.5%, Maintenance 72.3%, Manager 75.3%, Mechanic 73.8%, Operator 69.6%, Plumbing 75.2%, Service 71.6%, Supervisor 74.7%, Tech 76.4%, Technician 78.0%, Water 72.3%, Workers 68.5%

Primary Keyword: Plumbing
Related Keywords: Apartment 74.7%, Building 71.1%, Carpet 71.1%, Clean 70.6%, Construction 71.7%, Control 74.8%, Custodial 77.1%, Facilities 80.0%, Floor 71.1%, General 71.6%, Grounds 71.5%, HVAC 78.9%, House 72.5%, Janitorial 72.1%, Manager 75.7%, Mechanic 72.2%, Operator 71.8%, Part 75.2%, Service 73.7%, Supervisor 74.9%, Tech 77.7%, Technician 80.6%, Time 73.5%

Primary Keyword: Supervisor
Related Keywords: Apartment 79.9%, Building 71.7%, Care 71.9%, Carpet 73.7%, Clean 66.9%, Cleaning 67.1%, Construction 72.8%, Control 72.1%, Custodial 74.5%, Custodian 71.0%, Driver 66.9%, Facilities 78.5%, Floor 70.4%, General 74.3%, Grounds 71.5%, HVAC 83.7%, Irrigation 70.2%, Labor 67.1%, Maintenance 70.2%, Manager 69.1%, Mechanic 70.1%, Operator 68.3%, Part 74.7%, Pest 68.8%, Plumbing 74.9%, Service 67.4%, Tech 74.5%, Technician 77.9%, Time 68.5%, Water 72.9%

Primary Keyword: Tech
Related Keywords: Apartment 79.9%, Building 71.7%, Care 69.8%, Carpet 75.7%, Clean 67.1%, Cleaning 68.7%, Construction 70.6%, Control 75.1%, Custodial 76.9%, Custodian 76.0%, Driver 69.3%, Facilities 79.5%, Floor 69.8%, General 73.0%, Grounds 71.5%, HVAC 81.6%, House 68.4%, Irrigation 71.9%, Janitorial 70.8%, Labor 67.9%, Landscaping 70.5%, Maintenance 70.5%, Manager 74.4%, Mechanic 73.0%, Operator 70.5%, Part 76.4%, Plumbing 77.7%, Service 69.1%, Supervisor 74.5%, Technician 69.3%, Time 72.4%, Water 75.3%

Primary Keyword: Technician
Related Keywords: Apartment 78.3%, Building 75.3%, Care 72.9%, Carpet 77.6%, Clean 71.3%, Cleaning 71.7%, Construction 75.5%, Control 75.1%, Custodial 76.7%, Facilities 82.7%, Floor 76.2%, General 72.7%, HVAC 83.3%, House 72.0%, Janitorial 77.2%, Landscaping 73.6%, Maintenance 73.0%, Manager 76.6%, Mechanic 74.0%, Part 78.0%, Plumbing 80.6%, Service 73.2%, Supervisor 77.9%, Time 75.7%, Water 79.6%

Primary Keyword: Water

Related Keywords: Apartment 81.1%, Care 69.9%, Carpet 68.6%, Cleaners 69.5%, Construction 70.6%, Control 72.1%, Custodial 75.5%, Driver 70.5%, Facilities 74.7%, General 70.0%, HVAC 81.2%, House 69.0%, Housekeeping 70.0%, Irrigation 76.4%, Janitorial 71.1%, Landscape 67.9%, Landscaping 69.7%, Maintenance 68.2%, Manager 78.3%, Mechanic 71.4%, Operator 68.6%, Part 72.3%, Plumbing 69.9%, Service 71.4%, Supervisor 72.9%, Tech 75.3%, Technician 79.6%, Time 72.8%

Personal Care and Service
SOC Major Occupational Group 39

Detailed Occupations and Education Level

Between 2004 and 2006 nonbatch job orders for *Personal Care and Service* (39) occupations increased by 18.0%. However, batch job orders (from private job banks and large corporations) for this occupational group grew 287.1% over the same period.

Nonbatch job orders for *Personal Care and Service Workers, All Other* (39-9099) were much more likely to require a college degree in 2006 (11.6%) than in 2004 (3.7%). The increase appears to be related to home healthcare technology.

Personal and Home Care Aides (39-9021) accounted for 19.1% of the group's nonbatch job orders in 2006, up from 13.0% in 2004.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Personal Care and Service* - Major Occupational Group 39

Code	Title	#	%
39-9011	Child Care Workers	2,651	23.3
39-9021	Personal and Home Care Aides	2,172	19.1
39-9032	Recreation Workers	995	8.8
39-9099	Personal Care and Service Workers, All Other	924	8.1
39-2021	Nonfarm Animal Caretakers	547	4.8
39-3091	Amusement and Recreation Attendants	534	4.7
39-5012	Hairdressers, Hairstylists, and Cosmetologists	525	4.6
39-6011	Baggage Porters and Bellhops	470	4.1
39-9041	Residential Advisors	464	4.1
	Total of occupations with less than 3.0% of group's job orders	2,078	18.3
	Total Nonbatch Job Orders	11,360	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		48.7

Table 2 – Percent of Resumes by Education Level in 2006
For *Personal Care and Service*
Major Occupational Group 39

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	16.8	32.2
High School Diploma or GED	41.8	44.2
Some College or Vocational	32.0	53.9
Bachelors Degree	8.1	54.5
Graduate Degree	1.3	55.8

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Personal Care and Service* - Major Occupational Group 39

Code	Title	College Degree	Some College or Voc	Other
39-9011	Child Care Workers	1.4	19.2	79.4
39-9021	Personal and Home Care Aides	0.6	6.2	93.2
39-9032	Recreation Workers	11.4	12.9	75.7
39-9099	Personal Care and Service Workers, All Other	11.6	7.7	80.6
39-2021	Nonfarm Animal Caretakers	1.5	2.8	95.7
39-3091	Amusement and Recreation Attendants	2.3	2.7	95.0
39-5012	Hairdressers, Hairstylists, and Cosmetologists	1.2	**35.7**	63.1
39-6011	Baggage Porters and Bellhops	0.0	0.9	**99.1**
39-9041	Residential Advisors	**14.9**	17.6	67.5

Keywords

Healthcare had the group's highest job order to resume ratio (4.48) of the group's primary keywords in 2006. Some of those job orders may not be coded correctly to the *Personal Care and Service* (39) major occupational group. This skepticism is based upon the following:

◆ Only a few limited healthcare tasks, such as monitoring vital signs or giving medication under supervision of a healthcare professional, fit the occupational coding guidelines for this group.

◆ Keywords related to *Healthcare* included terms such as: *Manager, Sales,* and *Tech*. No related keywords suggested tasks associated with tasks that would be coded to this group.

◆ Of the group's job orders containing the keyword *Healthcare,* 93.4% came from the batch system. So the incidence of the keyword among batch job orders is suspicious.

It appears from the scarcity of keywords associated with beauty salons that very few batch job orders were placed for the detailed occupation *Hairdressers, Hairstylists, and Cosmetologists (39-5012).*

Domestic was the group's primary keyword with the highest percentage of viewed resumes (63.8%). The subset of resumes containing both *Domestic* and *Tech* had an even higher viewed percentage of 73.3%. *Tech* was most often associated with the detailed occupation *Personal Care and Service Workers, All Other* (39-9099). Although college degrees were required for 11.6% of nonbatch job orders for that occupation in 2006 few orders containing the keyword *Domestic* required a degree.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Personal Care and Service* - Major Occupational Group 39

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Assistant	3,447	57.5	2,347	0.68
Caregiver	344	60.0	884	2.57
Certified	1,667	58.1	793	0.48
Companion	239	58.1	419	1.75
Domestic	97	**63.8**	227	2.34
Esthetician	57	62.1	62	1.09
Healthcare	331	63.0	1,482	**4.48**
Manager	2,243	59.8	2,677	1.19
Nail	156	58.1	333	2.13
Nanny	212	59.6	170	0.80
PCA	187	58.8	168	0.90
Sales	3,118	57.3	809	0.26
Salon	161	61.7	300	1.86
Tech	1,972	58.1	3,096	1.57
Technician	652	61.1	1,096	1.68
Major Group Total	17,226	46.7	23,347	1.36

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Personal Care and Service* - Major Occupational Group 39

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Assistant	39-9011	Child Care Workers	1,063	304	28.6
Caregiver	39-9021	Personal and Home Care Aides	787	577	73.4
Certified	39-9021	Personal and Home Care Aides	410	173	42.2
Companion	39-9021	Personal and Home Care Aides	408	337	82.7
Domestic	39-9021	Personal and Home Care Aides	63	20	32.4
Healthcare	39-9021	Personal and Home Care Aides	89	40	44.7
Manager	39-9032	Recreation Workers	599	70	11.7
Nanny	39-9011	Child Care Workers	169	161	95.1
PCA	39-9021	Personal and Home Care Aides	156	128	82.3
Sales	39-3091	Amusement and Recreation Attendants	226	29	12.7
Salon	39-5012	Hairdressers, Hairstylists, and Cosmetologists	227	159	70.1
Tech	39-9099	Personal Care and Service Workers, All Other	705	111	15.7
Technician	39-5092	Manicurists and Pedicurists	288	55	19.1

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Assistant
Related Keywords: CNA 62.0%, Caregiver 66.7%, Certified 62.2%, Cleaning 62.8%, Hair 63.2%, Health 62.4%, Healthcare 66.4%, Home 59.9%, House 62.8%, Live 64.1%, Manager 63.5%, Personal 61.4%, Sales 64.0%, Security 62.9%, Service 61.8%, Spa 65.5%, Tech 64.1%, Technician 66.9%

Primary Keyword: Caregiver
Related Keywords: Assistant 66.7%, Certified 70.0%, Companion 71.9%, Health 67.0%, House 70.6%, Live 69.6%, Personal 65.1%, Service 67.7%

Primary Keyword: Certified
Related Keywords: Assistant 62.2%, Caregiver 70.0%, Cleaning 62.4%, Companion 67.4%, Healthcare 64.5%, House 62.6%, Live 63.9%, Manager 67.2%, Personal 62.7%, Security 62.9%, Service 63.3%, Spa 67.3%, Tech 66.9%, Technician 66.1%, Trainer 63.3%

Primary Keyword: Companion
Related Keywords: CNA 65.6%, Caregiver 71.9%, Certified 67.4%, Cleaning 65.5%, Health 62.9%, House 69.4%, Personal 63.0%, Service 65.7%

Primary Keyword: Domestic
Related Keywords: Child 72.5%, Tech 73.3%

Primary Keyword: Healthcare
Related Keywords: Manager 74.0%, Sales 70.7%, Service 67.5%, Tech 69.7%

Primary Keyword: Manager
Related Keywords: Assistant 63.5%, Care 61.4%, Certified 67.2%, Cleaning 64.6%, Game 68.4%, Hair 63.6%, Health 65.5%, Healthcare 74.0%, Home 63.1%, House 67.9%, Live 62.6%, Personal 63.0%, Sales 64.3%, Salon 67.6%, Security 66.7%, Service 63.3%, Spa 65.0%, Tech 64.0%, Technician 64.6%

Primary Keyword: Nail
Related Keywords: Service 64.7%

Primary Keyword: PCA
Related Keywords: House 66.9%

Primary Keyword: Sales
Related Keywords: Assistant 64.0%, Care 59.1%, Cleaning 59.9%, Hair 63.1%, Health 62.4%, Healthcare 70.7%, Home 62.8%, House 62.8%, Manager 64.3%, Personal 61.0%, Security 62.8%, Service 60.9%, Spa 63.2%, Tech 61.7%

Primary Keyword: Salon
Related Keywords: Stylist 70.1%

Primary Keyword: Tech
Related Keywords: Aide 60.5%, Assistant 64.1%, Care 60.6%, Certified 66.9%, Cleaning 63.5%, Domestic 73.3%, Health 64.4%, Healthcare 69.7%, Home 62.0%, House 66.6%, Instructor 65.5%, Manager 64.0%, Sales 61.7%, Security 68.6%, Service 60.7%, Spa 64.0%, Stylist 65.6%, Teacher 63.1%, Technician 61.1%, Trainer 63.1%

Primary Keyword: Technician
Related Keywords: Assistant 66.9%, Care 64.9%, Certified 66.1%, Cleaning 70.5%, Health 65.5%, Healthcare 70.3%, House 68.9%, Security 73.7%

Sales and Related
SOC Major Occupational Group 41

Detailed Occupations and Education Level

College degrees were required most often for *Sales and Related* (41) jobs which involved at least one of the following characteristics:

◆ Sales of technical products, especially medical or scientific products

◆ Management responsibilities

◆ Sales directly to other businesses

Overall 29.3% of nonbatch job orders for this occupational group required a college degree in 2006, up from 20.8% in 2004. In contrast, only 18.7% of resumes coded to *Sales and Related* occupations listed a college degree.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Sales and Related* - Major Occupational Group 41

Code	Title	#	%
41-2031	Retail Salespersons	14,076	23.3
41-9099	Sales and Related Workers, All Other	9,485	15.7
41-3099	Sales Representatives, Services, All Other	8,573	14.2
41-2011	Cashiers	8,401	13.9
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	3,424	5.7
41-9041	Telemarketers	2,406	4.0
41-3021	Insurance Sales Agents	2,181	3.6
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,153	3.6
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	2,141	3.5
	Total of occupations with less than 3.0% of group's job orders	7,627	12.6
	Total Nonbatch Job Orders	60,467	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		28.7

Table 2 – Percent of Resumes by Education Level in 2006
For *Sales and Related*
Major Occupational Group 41

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	11.2	37.6
High School Diploma or GED	36.4	51.1
Some College or Vocational	33.7	63.1
Bachelors Degree	16.3	69.3
Graduate Degree	2.4	68.9

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Sales and Related* - Major Occupational Group 41

Code	Title	College Degree	Some College or Voc	Other
41-2031	Retail Salespersons	3.3	8.3	88.4
41-9099	Sales and Related Workers, All Other	22.9	13.4	63.7
41-3099	Sales Representatives, Services, All Other	30.0	10.6	59.4
41-2011	Cashiers	1.0	1.6	**97.4**
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	7.2	10.3	82.5
41-9041	Telemarketers	2.1	6.6	91.4
41-3021	Insurance Sales Agents	6.6	**14.9**	78.5
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	16.8	11.6	71.5
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	**52.2**	12.2	35.6

Keywords

In 2006, 84.8% of resumes containing the keyword *B2B* (business to business) were viewed by employers. This was not only substantially above the 57.3% viewed for all resumes coded to this occupational group, but also well above the comparable percentage for any other primary keyword. Similarly, all of the group's primary/related keyword combinations with the highest viewed percentages contained the term *B2B*.

Much of the software and techniques for business to business sales have evolved recently. The number of nonbatch job orders containing the *B2B* keyword were below all but one of the other primary keywords, however *B2B* was found on relatively few resumes.

Commission was the primary keyword with by far the highest ratio of job orders to resumes in the group. This is due more to the fact that job orders for sales workers often list *Commission* when describing the pay. Resumes are far less likely to describe how the job seeker was paid on previous jobs, or how they wish to be paid on their next one.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Sales and Related* - Major Occupational Group 41

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Advertising	3,393	73.4	7,247	2.14
B2B	386	**84.8**	3,707	9.60
Business	14,608	73.1	82,459	5.64
Call	11,892	72.5	73,241	6.16
Center	4,295	75.0	35,135	8.18
Cold	2,389	79.4	10,778	4.51
Commission	1,216	74.1	28,025	**23.05**
Development	6,392	77.8	35,439	5.54
Executive	4,535	74.8	24,518	5.41
Financial	4,402	73.3	29,209	6.64
Life	2,732	73.1	30,558	11.19
Loan	2,155	76.1	12,255	5.69
Mortgage	1,240	78.3	8,546	6.89
Officer	2,366	74.0	3,117	1.32
Software	5,393	74.0	15,148	2.81
Major Group Total	81,252	57.3	210,929	2.60

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Sales and Related* - Major Occupational Group 41

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Advertising	41-3011	Advertising Sales Agents	1,423	489	34.4
B2B	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	577	234	40.5
Business	41-3099	Sales Representatives, Services, All Other	14,550	3,833	26.3
Call	41-2031	Retail Salespersons	16,595	3,618	21.8
Center	41-3099	Sales Representatives, Services, All Other	5,200	1,168	22.5
Cold	41-9099	Sales and Related Workers, All Other	1,932	582	30.1
Commission	41-2031	Retail Salespersons	8,871	2,809	31.7
Development	41-3099	Sales Representatives, Services, All Other	4,782	1,418	29.6
Executive	41-3099	Sales Representatives, Services, All Other	3,841	1,539	40.1
Financial	41-3099	Sales Representatives, Services, All Other	4,410	1,640	37.2
Life	41-3099	Sales Representatives, Services, All Other	4,129	1,025	24.8
Loan	41-3099	Sales Representatives, Services, All Other	878	257	29.3
Mortgage	41-3021	Insurance Sales Agents	698	220	31.5
Officer	41-3031	Securities, Commodities, and Financial Services Sales Agents	301	82	27.1
Software	41-3099	Sales Representatives, Services, All Other	2,990	1,145	38.3

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Advertising
Related Keywords: Account 77.2%, Agent 77.4%, B2B 85.5%, Business 78.2%, Call 80.1%, Center 79.1%, Cold 83.1%, Commission 85.8%, Customer 75.9%, Development 79.4%, Equipment 77.7%, Estate 77.6%, Executive 77.9%, Financial 80.2%, Home 80.9%, Industrial 78.7%, Inside 79.4%, Insurance 80.6%, License 80.1%, Life 83.4%, Loan 83.1%, Management 77.6%, Manager 77.0%, Marketing 75.7%, Mortgage 79.8%, Officer 84.4%, Outside 77.2%, Real 78.9%, Rep 76.4%, Representative 78.6%, Sales 74.4%, Service 75.3%, Services 76.2%, Software 80.9%, Telemarketing 80.3%

Primary Keyword: B2B
Related Keywords: Agent 91.9%, Business 87.1%, Customer 87.1%, Financial 90.8%, Home 91.7%, Inside 89.5%, Insurance 90.6%, Life 91.0%, Manager 87.7%, Outside 89.9%, Representative 89.7%, Retail 88.5%, Services 90.2%, Software 89.2%, Telemarketing 91.6%

Primary Keyword: Business
Related Keywords: Account 78.0%, Advertising 78.2%, Agent 78.7%, B2B 87.1%, Call 79.7%, Center 80.9%, Cold 83.5%, Commission 80.4%, Customer 75.4%, Development 80.5%, Equipment 78.3%, Estate 79.9%, Executive 80.3%, Financial 78.9%, Home 78.9%, Industrial 79.8%, Inside 78.5%, Insurance 79.9%, License 80.5%, Life 80.8%, Loan 81.5%, Management 77.9%, Manager 77.5%, Marketing 78.2%, Mortgage 83.3%, Officer 82.4%, Outside 77.9%, Real 79.5%, Rep 76.7%, Representative 78.9%, Retail 74.7%, Sales 75.3%, Service 75.7%, Services 78.0%, Software 80.8%, Telemarketing 78.2%

Primary Keyword: Call
Related Keywords: Account 78.1%, Advertising 80.1%, Agent 78.0%, B2B 86.5%, Business 79.7%, Center 77.6%, Cold 80.8%, Commission 82.4%, Customer 73.9%, Development 82.3%, Equipment 77.4%, Estate 81.8%, Executive 80.8%, Financial 80.3%, Home 77.3%, Industrial 76.3%, Inside 77.6%, Insurance 77.5%, License 79.1%, Life 80.3%, Loan 81.0%, Management 79.2%, Manager 77.9%, Marketing 78.7%, Mortgage 82.3%, Officer 80.3%, Outside 77.8%, Real 81.1%, Rep 75.2%, Representative 77.5%, Retail 75.4%, Sales 75.3%, Service 74.7%, Services 77.4%, Software 79.6%, Telemarketing 74.8%

Primary Keyword: Center
Related Keywords: Account 80.3%, Advertising 79.1%, Agent 79.1%, B2B 85.2%, Business 80.9%, Call 77.6%, Cold 84.1%, Commission 83.8%, Customer 76.5%, Development 81.3%, Equipment 81.0%, Estate 79.6%, Executive 83.2%, Financial 79.5%, Home 79.5%, Industrial 82.8%, Inside 82.4%, Insurance 78.9%, License 80.6%, Life 80.3%, Loan 79.7%, Management 79.5%, Manager 78.6%, Marketing 80.5%, Mortgage 83.5%, Officer 82.8%, Outside 81.0%, Real 80.0%, Rep 77.5%, Representative 78.7%, Retail 76.8%, Sales 77.6%, Service 76.8%, Services 78.6%, Software 80.3%, Telemarketing 77.6%

Primary Keyword: Cold
Related Keywords: Account 81.9%, Advertising 83.1%, Agent 82.3%, B2B 87.0%, Business 83.5%, Call 80.8%, Center 84.1%, Commission 84.4%, Customer 81.0%, Development 83.9%, Equipment 82.7%, Estate 84.7%, Executive 81.9%, Financial 84.3%, Home 85.5%, Industrial 86.3%, Inside 82.7%, Insurance 84.2%, License 83.0%, Life 83.4%, Loan 87.1%, Management 83.9%, Manager 82.8%, Marketing 82.9%, Mortgage 84.6%, Officer 87.3%, Outside 81.5%, Real 85.1%, Rep 81.0%, Representative 82.5%, Retail 82.2%, Service 81.2%, Services 82.6%, Software 84.4%

Primary Keyword: Commission
Related Keywords: Account 81.3%, Advertising 85.8%, Agent 81.3%, Business 80.4%, Call 82.4%, Center 83.8%, Cold 84.4%, Customer 77.1%, Development 84.0%, Equipment 80.5%, Estate 78.9%, Executive 83.6%, Financial 80.8%, Home 81.3%, Industrial 85.1%, Inside 81.2%, Insurance 81.6%, Life 82.1%, Loan 84.2%, Management 81.6%, Manager 80.5%, Marketing 82.6%, Mortgage 85.1%, Officer 84.0%, Outside 79.8%, Real 80.2%, Rep 78.7%, Representative 79.2%, Retail 77.3%, Service 77.5%, Services 78.7%, Software 83.3%, Telemarketing 86.6%

Primary Keyword: Development
Related Keywords: Account 80.9%, Advertising 79.4%, Agent 82.4%, B2B 85.8%, Business 80.5%, Call 82.3%, Center 81.3%, Cold 83.9%, Commission 84.0%, Customer 79.5%, Equipment 81.1%, Estate 82.6%, Executive 81.9%, Financial 81.3%, Home 82.3%, Industrial 83.5%, Inside 81.8%, Insurance 83.4%, License 83.0%, Life 82.6%, Loan 84.3%, Management 80.6%, Manager 80.2%, Marketing 79.9%, Mortgage 86.9%, Officer 85.2%, Outside 81.3%, Real 83.9%, Rep 80.8%, Representative 82.1%, Retail 80.4%, Sales 78.9%, Service 79.8%, Services 80.8%, Software 83.4%, Telemarketing 81.9%

Primary Keyword: Executive

Related Keywords: Account 76.5%, Advertising 77.9%, Agent 81.1%, B2B 85.1%, Business 80.3%, Call 80.8%, Center 83.2%, Cold 81.9%, Commission 83.6%, Customer 78.6%, Development 81.9%, Equipment 78.5%, Estate 80.9%, Financial 82.5%, Home 82.2%, Industrial 81.2%, Inside 80.1%, Insurance 83.7%, License 83.3%, Life 84.7%, Loan 82.5%, Management 79.6%, Manager 79.3%, Marketing 79.0%, Mortgage 82.3%, Officer 82.5%, Outside 78.5%, Real 81.2%, Rep 79.4%, Representative 81.5%, Retail 79.8%, Sales 75.7%, Service 78.1%, Services 79.6%, Software 81.0%, Telemarketing 78.2%

Primary Keyword: Financial

Related Keywords: Account 77.6%, Advertising 80.2%, B2B 90.8%, Business 78.9%, Call 80.3%, Center 79.5%, Cold 84.3%, Commission 80.8%, Customer 75.5%, Development 81.3%, Equipment 80.1%, Estate 79.1%, Executive 82.5%, Home 81.4%, Industrial 81.2%, Inside 80.4%, Insurance 77.9%, License 78.3%, Life 80.3%, Loan 80.4%, Management 78.7%, Manager 78.1%, Marketing 79.0%, Mortgage 82.7%, Officer 82.7%, Outside 80.2%, Real 79.5%, Rep 76.8%, Representative 78.4%, Retail 76.9%, Sales 75.8%, Service 75.0%, Services 75.9%, Software 81.1%

Primary Keyword: Life

Related Keywords: Account 80.2%, Advertising 83.4%, Agent 80.0%, B2B 91.0%, Business 80.8%, Call 80.3%, Center 80.3%, Cold 83.4%, Commission 82.1%, Customer 75.8%, Development 82.6%, Equipment 79.7%, Estate 82.2%, Executive 84.7%, Financial 80.3%, Home 80.1%, Industrial 81.4%, Inside 78.9%, Insurance 78.5%, License 79.4%, Loan 79.7%, Management 80.8%, Manager 79.4%, Marketing 80.7%, Mortgage 86.2%, Officer 80.9%, Outside 79.4%, Real 78.1%, Rep 77.5%, Representative 79.8%, Retail 75.7%, Sales 77.4%, Service 76.9%, Services 79.8%, Software 83.7%

Primary Keyword: Loan

Related Keywords: Account 79.6%, Advertising 83.1%, Agent 80.4%, Business 81.5%, Call 81.0%, Center 79.7%, Cold 87.1%, Commission 84.2%, Development 84.3%, Estate 80.8%, Executive 82.5%, Financial 80.4%, Home 81.3%, Inside 81.9%, Insurance 79.3%, License 82.4%, Life 79.7%, Management 80.6%, Manager 78.9%, Marketing 81.0%, Mortgage 81.5%, Officer 79.4%, Outside 83.2%, Real 80.9%, Rep 77.7%, Representative 78.6%, Sales 77.3%, Service 78.0%, Services 81.2%, Software 84.5%, Telemarketing 80.1%

Primary Keyword: Mortgage

Related Keywords: Account 82.3%, Agent 82.9%, Business 83.3%, Call 82.3%, Center 83.5%, Cold 84.6%, Commission 85.1%, Customer 79.9%, Development 86.9%, Equipment 81.7%, Estate 81.0%, Executive 82.3%, Financial 82.7%, Home 83.8%, Inside 85.3%, Insurance 84.6%, License 84.1%, Life 86.2%, Loan 81.5%, Management 83.5%, Manager 81.9%, Marketing 82.3%, Officer 82.9%, Outside 85.8%, Real 81.6%, Rep 80.0%, Retail 81.6%, Sales 79.8%, Service 80.5%, Services 84.8%, Software 83.8%

Primary Keyword: Officer

Related Keywords: Account 81.8%, Advertising 84.4%, Agent 84.0%, Business 82.4%, Call 80.3%, Center 82.8%, Cold 87.3%, Commission 84.0%, Customer 76.8%, Development 85.2%, Equipment 80.9%, Estate 83.1%, Executive 82.5%, Financial 82.7%, Home 80.7%, Industrial 77.8%, Inside 83.8%, Insurance 82.8%, License 80.9%, Life 80.9%, Loan 79.4%, Management 81.1%, Manager 79.1%, Marketing 81.8%, Mortgage 82.9%, Outside 85.0%, Real 81.8%, Rep 78.6%, Representative 80.0%, Retail 76.4%, Sales 78.6%, Service 77.0%, Services 80.3%, Software 85.7%, Telemarketing 78.3%

Primary Keyword: Software

Related Keywords: Account 79.6%, Advertising 80.9%, Agent 79.4%, B2B 89.2%, Business 80.8%, Call 79.6%, Center 80.3%, Cold 84.4%, Commission 83.3%, Customer 76.1%, Development 83.4%, Equipment 77.2%, Estate 81.2%, Executive 81.0%, Financial 81.1%, Home 82.2%, Industrial 81.1%, Inside 80.5%, Insurance 79.5%, License 81.1%, Life 83.7%, Loan 84.5%, Management 78.9%, Manager 79.2%, Marketing 80.3%, Mortgage 83.8%, Officer 85.7%, Outside 79.7%, Real 81.9%, Rep 77.6%, Representative 80.2%, Retail 77.4%, Sales 76.1%, Service 76.4%, Services 78.1%, Telemarketing 78.1%

Office and Administrative Support
SOC Major Occupational Group 43

Detailed Occupations and Education Level

In 2006 the detailed occupation with the most nonbatch job orders in the group was *Customer Service Representatives* (43-4051). This occupation accounted for 11.1% of the *Office and Administrative Support* (43) group's nonbatch job orders in 2006, up sharply from 6.9% in 2004. Many of those jobs were part-time.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Office and Administrative Support* - Major Occupational Group 43

Code	Title	#	%
43-4051	Customer Service Representatives	11,224	11.1
43-9199	Office and Administrative Support Workers, All Other	10,054	9.9
43-6011	Executive Secretaries and Administrative Assistants	9,041	8.9
43-9061	Office Clerks, General	8,996	8.9
43-5081	Stock Clerks and Order Fillers	8,055	7.9
43-3031	Bookkeeping, Accounting, and Auditing Clerks	7,418	7.3
43-4171	Receptionists and Information Clerks	7,253	7.2
43-3071	Tellers	4,058	4.0
43-5071	Shipping, Receiving, and Traffic Clerks	3,749	3.7
	Total of occupations with less than 3.0% of group's job orders	31,524	31.1
	Total Nonbatch Job Orders	101,372	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		31.2

Table 2 – Percent of Resumes by Education Level in 2006
For *Office and Administrative Support*
Major Occupational Group 43

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	4.8	38.2
High School Diploma or GED	34.6	50.8
Some College or Vocational	47.3	58.9
Bachelors Degree	11.8	62.0
Graduate Degree	1.5	63.0

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Office and Administrative Support* - Major Occupational Group 43

Code	Title	College Degree	Some College or Voc	Other
43-4051	Customer Service Representatives	4.8	9.3	85.9
43-9199	Office and Administrative Support Workers, All Other	7.7	17.1	75.2
43-6011	Executive Secretaries and Administrative Assistants	**9.0**	21.2	69.8
43-9061	Office Clerks, General	0.9	7.3	91.8
43-5081	Stock Clerks and Order Fillers	0.5	2.7	**96.8**
43-3031	Bookkeeping, Accounting, and Auditing Clerks	7.6	**24.9**	67.5
43-4171	Receptionists and Information Clerks	0.6	5.8	93.7
43-3071	Tellers	0.4	3.4	96.2
43-5071	Shipping, Receiving, and Traffic Clerks	0.8	3.6	95.7

Keywords

The job order to resume ratio for the primary keyword *Call* was 2.70. That ratio may have overstated the labor market demand associated with the keyword as some job orders asked interested applicants to *Call* their *Human Resources* departments.

Center was the primary keyword with the group's highest percentage of resumes viewed. Training centers target skills in demand. A partial reason for the high viewed percentage for *Center* may be more related to the skills that they teach, than to employers directly searching for resumes containing *Center*. However, the keyword combination with the group's highest viewed percentage was *Quickbooks* and *Center* (75.8%).

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Office and Administrative Support* - Major Occupational Group 43

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Accounts	40,971	63.9	33,363	0.81
Call	47,272	65.3	127,596	2.70
Center	16,799	**69.0**	59,518	3.54
Excel	83,463	63.2	143,322	1.72
Human	13,666	67.7	16,861	1.23
Insurance	21,706	65.4	31,803	1.47
Manager	55,238	64.8	62,896	1.14
Medical	29,721	62.7	50,127	1.69
Part	55,723	65.9	141,121	2.53
Payable	20,305	62.8	9,194	0.45
Payroll	27,169	64.0	11,667	0.43
QuickBooks	7,613	67.3	4,041	0.53
Resources	11,381	68.2	49,717	**4.37**
Sales	53,155	63.3	57,782	1.09
Support	39,785	65.9	100,888	2.54
Major Group Total	201,230	56.1	324,687	1.61

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Office and Administrative Support* - Major Occupational Group 43

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders Major Group	Average Quarterly Job Orders Detailed SOC	%
Accounts	43-3031	Bookkeeping, Accounting, and Auditing Clerks	10,783	3,656	33.9
Call	43-4051	Customer Service Representatives	26,775	5,159	19.3
Center	43-4051	Customer Service Representatives	10,490	2,702	25.8
Excel	43-6011	Executive Secretaries and Administrative Assistants	32,194	4,855	15.1
Human	43-4161	Human Resources Assistants, Except Payroll and Timekeeping	5,409	978	18.1
Insurance	43-4051	Customer Service Representatives	7,505	1,027	13.7
Manager	43-6011	Executive Secretaries and Administrative Assistants	9,835	1,580	16.1
Medical	43-6013	Medical Secretaries	9,381	1,123	12.0
Part	43-9199	Office and Administrative Support Workers, All Other	31,754	3,778	11.9
Payable	43-3031	Clerks	4,332	2,591	59.8
Payroll	43-3031	Bookkeeping, Accounting, and Auditing Clerks	4,746	1,433	30.2
QuickBooks	43-3031	Bookkeeping, Accounting, and Auditing Clerks	2,380	1,054	44.3
Resources	43-4161	Human Resources Assistants, Except Payroll and Timekeeping	5,361	815	15.2
Sales	43-4051	Customer Service Representatives	11,485	2,776	24.2
Support	43-6011	Executive Secretaries and Administrative Assistants	18,014	4,032	22.4

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Accounts
Related Keywords: Accounting 64.7%, Admin 66.5%, Administrative 66.1%, Assistant 66.8%, Bilingual 66.6%, Call 68.2%, Center 70.8%, Computer 64.3%, Customer 65.5%, Data 66.1%, Entry 65.6%, Excel 66.9%, Executive 68.0%, Human 69.7%, Insurance 68.1%, Manager 67.8%, Medical 67.7%, Office 66.0%, Part 68.1%, Payroll 65.8%, QuickBooks 69.5%, Receptionist 65.6%, Resources 70.6%, Sales 67.2%, Secretary 65.0%, Service 66.1%, Spanish 67.2%, Support 69.8%, Time 67.2%, Word 65.5%

Primary Keyword: Call
Related Keywords: Accounting 70.2%, Accounts 68.2%, Admin 67.8%, Administrative 67.2%, Assistant 68.2%, Bilingual 69.0%, Center 69.4%, Clerk 65.9%, Customer 66.5%, Data 67.3%, Entry 66.7%, Excel 68.2%, Executive 69.3%, Human 72.9%, Insurance 69.4%, Manager 69.4%, Medical 68.2%, Office 67.4%, Part 69.1%, Payable 68.3%, Payroll 68.7%, QuickBooks 72.4%, Receptionist 65.9%, Resources 72.9%, Sales 68.2%, Service 67.0%, Spanish 68.9%, Support 70.4%, Time 68.5%, Word 66.6%

Primary Keyword: Center
Related Keywords: Accounting 73.0%, Accounts 70.8%, Admin 71.6%, Administrative 71.1%, Assistant 71.0%, Bilingual 72.4%, Computer 69.7%, Customer 69.6%, Data 71.2%, Entry 70.4%, Excel 71.6%, Executive 72.2%, Human 74.9%, Insurance 72.0%, Manager 71.3%, Medical 71.8%, Office 71.3%, Part 72.0%, Payable 70.8%, Payroll 71.8%, QuickBooks 75.8%, Receptionist 70.0%, Resources 74.9%, Sales 70.8%, Secretary 70.7%, Service 69.9%, Spanish 72.9%, Support 73.0%, Time 71.8%, Word 70.6%

Primary Keyword: Excel
Related Keywords: Accounting 66.5%, Accounts 66.9%, Admin 64.9%, Administrative 64.4%, Assistant 65.8%, Bilingual 65.7%, Bookkeeper 65.0%, Call 68.2%, Center 71.6%, Clerk 64.7%, Computer 63.8%, Customer 65.8%, Data 66.1%, Entry 65.5%, Executive 65.5%, Human 70.5%, Insurance 69.1%, Manager 68.1%, Medical 68.2%, Office 65.4%, Part 68.9%, Payable 66.1%, Payroll 67.4%, QuickBooks 68.5%, Receptionist 65.8%, Resources 70.8%, Sales 67.3%, Secretary 64.0%, Service 66.2%, Spanish 65.7%, Support 68.7%, Time 67.3%

Primary Keyword: Human
Related Keywords: Accounting 70.6%, Accounts 69.7%, Admin 69.5%, Administrative 69.3%, Assistant 69.5%, Bilingual 71.5%, Call 72.9%, Center 74.9%, Clerk 68.6%, Computer 68.3%, Customer 69.8%, Data 70.4%, Entry 70.0%, Excel 70.5%, Executive 70.4%, Insurance 71.0%, Manager 70.8%, Medical 71.3%, Office 69.6%, Part 71.3%, Payable 69.0%, Payroll 69.0%, QuickBooks 73.2%, Receptionist 69.4%, Sales 70.8%, Secretary 69.0%, Service 69.9%, Spanish 70.7%, Support 72.3%, Time 71.0%, Word 69.4%

Primary Keyword: Insurance
Related Keywords: Accounting 68.8%, Accounts 68.1%, Admin 67.9%, Administrative 67.6%, Assistant 68.2%, Bilingual 70.0%, Call 69.4%, Center 72.0%, Customer 67.4%, Data 67.5%, Entry 67.2%, Excel 69.1%, Executive 70.3%, Human 71.0%, Manager 69.2%, Medical 67.0%, Office 67.3%, Part 69.8%, Payable 67.8%, Payroll 68.4%, QuickBooks 71.9%, Receptionist 66.2%, Resources 71.5%, Sales 69.2%, Secretary 66.3%, Service 67.7%, Spanish 69.6%, Support 70.8%, Time 68.8%, Word 67.3%

Primary Keyword: Manager
Related Keywords: Accounting 67.8%, Accounts 67.8%, Admin 66.8%, Administrative 66.3%, Assistant 66.6%, Bilingual 68.0%, Call 69.4%, Center 71.3%, Clerk 65.8%, Computer 65.6%, Customer 66.9%, Data 68.2%, Entry 67.4%, Excel 68.1%, Executive 67.7%, Human 70.8%, Insurance 69.2%, Medical 68.7%, Office 66.3%, Part 69.2%, Payable 66.8%, Payroll 67.0%, QuickBooks 70.4%, Receptionist 66.7%, Resources 71.2%, Sales 67.5%, Service 67.2%, Spanish 67.5%, Support 70.1%, Time 68.7%, Word 66.8%

Primary Keyword: Medical

Related Keywords: Accounting 68.3%, Accounts 67.7%, Admin 66.7%, Administrative 66.2%, Assistant 66.1%, Bilingual 66.0%, Bookkeeper 66.1%, Call 68.2%, Center 71.8%, Clerk 63.3%, Computer 63.9%, Customer 66.1%, Data 66.6%, Entry 66.0%, Excel 68.2%, Executive 68.9%, Human 71.3%, Insurance 67.0%, Manager 68.7%, Office 65.2%, Part 69.9%, Payable 67.0%, Payroll 69.0%, QuickBooks 72.3%, Receptionist 63.7%, Resources 71.4%, Sales 67.3%, Service 66.5%, Spanish 67.3%, Support 69.9%, Time 67.7%, Word 66.2%

Primary Keyword: Part

Related Keywords: Accounting 69.1%, Accounts 68.1%, Admin 68.1%, Administrative 67.4%, Assistant 68.4%, Bilingual 70.3%, Call 69.1%, Center 72.0%, Clerk 66.3%, Customer 67.4%, Data 68.3%, Entry 67.6%, Excel 68.9%, Executive 69.0%, Human 71.3%, Insurance 69.8%, Manager 69.2%, Medical 69.9%, Office 67.8%, Payable 67.8%, Payroll 68.7%, QuickBooks 72.5%, Receptionist 67.5%, Resources 71.7%, Sales 68.1%, Secretary 66.5%, Service 67.8%, Spanish 70.3%, Support 70.6%, Time 67.8%, Word 67.7%

Primary Keyword: Payable

Related Keywords: Accounting 63.8%, Accounts 63.3%, Admin 65.8%, Administrative 65.8%, Assistant 66.4%, Call 68.3%, Center 70.8%, Computer 63.3%, Customer 65.3%, Data 65.4%, Entry 65.1%, Excel 66.1%, Executive 68.2%, Human 69.0%, Insurance 67.8%, Manager 66.8%, Medical 67.0%, Office 64.8%, Part 67.8%, Payroll 64.9%, QuickBooks 69.0%, Receptionist 64.9%, Resources 69.4%, Sales 67.2%, Secretary 64.4%, Service 65.8%, Spanish 65.5%, Support 69.3%, Time 66.5%, Word 64.6%

Primary Keyword: Payroll

Related Keywords: Accounting 65.7%, Accounts 65.8%, Admin 66.4%, Administrative 66.1%, Assistant 66.7%, Bilingual 67.9%, Call 68.7%, Center 71.8%, Computer 64.7%, Customer 66.3%, Data 66.8%, Entry 66.4%, Excel 67.4%, Executive 69.3%, Human 69.0%, Insurance 68.4%, Manager 67.0%, Medical 69.0%, Office 65.7%, Part 68.7%, Payable 64.9%, QuickBooks 70.0%, Receptionist 66.0%, Resources 69.4%, Sales 67.5%, Secretary 65.4%, Service 66.8%, Spanish 68.4%, Support 69.9%, Time 67.1%, Word 65.9%

Primary Keyword: QuickBooks

Related Keywords: Accounting 68.9%, Accounts 69.5%, Admin 69.3%, Administrative 69.0%, Assistant 69.8%, Call 72.4%, Center 75.8%, Clerk 68.9%, Computer 68.1%, Customer 69.7%, Data 70.2%, Entry 70.0%, Excel 68.5%, Executive 72.9%, Human 73.2%, Insurance 71.9%, Manager 70.4%, Medical 72.3%, Office 68.5%, Part 72.5%, Payable 69.0%, Payroll 70.0%, Receptionist 70.1%, Resources 73.4%, Sales 70.6%, Service 70.0%, Support 72.7%, Time 70.5%

Primary Keyword: Resources

Related Keywords: Accounting 70.8%, Accounts 70.6%, Admin 69.8%, Administrative 69.4%, Assistant 69.8%, Bilingual 73.2%, Call 72.9%, Center 74.9%, Customer 70.2%, Data 70.8%, Entry 70.7%, Excel 70.8%, Executive 70.4%, Insurance 71.5%, Manager 71.2%, Medical 71.4%, Office 69.9%, Part 71.7%, Payable 69.4%, Payroll 69.4%, QuickBooks 73.4%, Sales 70.7%, Service 70.6%, Spanish 71.6%, Support 72.5%, Time 71.2%, Word 69.9%

Primary Keyword: Sales

Related Keywords: Accounting 67.6%, Accounts 67.2%, Admin 66.1%, Administrative 65.7%, Assistant 66.5%, Bilingual 66.0%, Bookkeeper 65.5%, Call 68.2%, Center 70.8%, Computer 63.7%, Customer 65.0%, Data 66.1%, Entry 65.5%, Excel 67.3%, Executive 67.4%, Human 70.8%, Insurance 69.2%, Manager 67.5%, Medical 67.3%, Office 65.9%, Part 68.1%, Payable 67.2%, Payroll 67.5%, QuickBooks 70.6%, Receptionist 64.6%, Resources 70.7%, Secretary 64.3%, Service 65.3%, Spanish 67.1%, Support 69.0%, Time 67.5%, Word 65.6%

Primary Keyword: Support

Related Keywords: Accounting 71.0%, Accounts 69.8%, Admin 66.8%, Assistant 68.0%, Bilingual 68.5%, Call 70.4%, Center 73.0%, Clerk 66.7%, Computer 66.6%, Customer 68.0%, Data 69.0%, Entry 68.1%, Excel 68.7%, Executive 68.1%, Human 72.3%, Insurance 70.8%, Manager 70.1%, Medical 69.9%, Office 67.4%, Part 70.6%, Payable 69.3%, Payroll 69.9%, QuickBooks 72.7%, Receptionist 67.4%, Resources 72.5%, Sales 69.0%, Secretary 66.8%, Service 68.5%, Spanish 67.9%, Time 70.5%, Word 67.7%

Farming, Fishing, and Forestry
SOC Major Occupational Group 45

Detailed Occupations and Education Level

College degrees were required on 27.2% of nonbatch job orders coded to the detailed occupation *First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers* (45-1011) in 2006, up from 19.2% in 2004.

Overall, average quarterly nonbatch job orders declined slightly from 3,743 in 2004 to 3,686 in 2006. Most detailed occupations had slightly more nonbatch job orders in 2006 than in 2004. However, nonbatch job orders for *Farmworkers and Laborers, Crop, Nursery, and Greenhouse* workers (45-2092) fell by 20.9% over this period.

The percentages of resumes viewed by employers, that were coded with educational levels beyond high school, all decreased slightly in 2006 compared to 2004. In contrast the viewed percentage of resumes with less than high school increased from 33.9% in 2004 to 39.5% in 2006.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Farming, Fishing, and Forestry* - Major Occupational Group 45

Code	Title	#	%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	1,280	34.7
45-2093	Farmworkers, Farm and Ranch Animals	719	19.5
45-2091	Agricultural Equipment Operators	312	8.5
45-2099	Agricultural Workers, All Other	275	7.4
45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	229	6.2
45-4011	Forest and Conservation Workers	199	5.4
45-4022	Logging Equipment Operators	139	3.8
45-2041	Graders and Sorters, Agricultural Products	125	3.4
45-3011	Fishers and Related Fishing Workers	112	3.0
	Total of occupations with less than 3.0% of group's job orders	296	8.1
	Total Nonbatch Job Orders	3,686	100.0

Table 2 – Percent of Resumes by Education Level in 2006
For *Farming, Fishing, and Forestry*
Major Occupational Group 45

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	18.4	39.5
High School Diploma or GED	41.6	48.8
Some College or Vocational	27.3	58.9
Bachelors Degree	11.1	61.2
Graduate Degree	1.5	68.9

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Farming, Fishing, and Forestry* - Major Occupational Group 45

Code	Title	College Degree	Some College or Voc	Other
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	0.6	3.1	96.3
45-2093	Farmworkers, Farm and Ranch Animals	1.3	1.8	96.9
45-2091	Agricultural Equipment Operators	0.2	**12.0**	87.8
45-2099	Agricultural Workers, All Other	6.0	2.7	91.3
45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	**27.2**	11.4	61.4
45-4011	Forest and Conservation Workers	17.3	11.7	71.0
45-4022	Logging Equipment Operators	0.0	3.9	96.1
45-2041	Graders and Sorters, Agricultural Products	1.0	0.0	**99.0**
45-3011	Fishers and Related Fishing Workers	1.4	7.4	91.1

Keywords

Travel was the group's primary keyword with the highest percentage of resumes viewed by employers. No other term raised the viewed percentage by a statistically significant amount, so there were not any related keywords associated with *Travel*. However, a frequency distribution of all other potential keywords found on the resumes with *Travel* provides some clues. The words most often found on the same resumes as *Travel* were: *Service, Driver, Farm, Worker, Equipment, Hand,* and *Labor*.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Farming, Fishing, and Forestry* - Major Occupational Group 45

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Biology	43	67.6	41	0.95
Career	218	66.7	185	0.85
Cattle	145	63.4	207	1.43
Foreman	73	66.4	36	0.49
Irrigation	52	64.7	193	**3.71**
Manager	539	64.3	178	0.33
Mechanic	357	62.6	193	0.54
Milker	57	62.7	65	1.14
Poultry	61	64.9	111	1.82
Ranch	137	68.4	358	2.61
Service	829	63.9	502	0.61
Supervisor	329	65.3	273	0.83
Technician	263	65.9	146	0.56
Timber	51	70.1	71	1.39
Travel	166	**76.8**	156	0.94
Major Group Total	3,682	51.8	3,947	1.07

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Farming, Fishing, and Forestry* - Major Occupational Group 45

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders Major Group	Detailed SOC	%
Career	45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	83	23	27.6
Cattle	45-2093	Farmworkers, Farm and Ranch Animals	207	129	62.3
Manager	45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	140	61	43.4
Mechanic	45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	187	47	25.2
Ranch	45-2093	Farmworkers, Farm and Ranch Animals	313	186	59.3
Service	45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	331	116	34.9
Supervisor	45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	228	92	40.4
Technician	45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	132	33	25.3
Travel	45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	123	24	19.1

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Cattle
Related Keywords: Ranch 71.4%

Primary Keyword: Manager
Related Keywords: Driver 70.3%, Equipment 71.5%, Service 72.4%, Supervisor 71.9%, Worker 68.5%

Primary Keyword: Mechanic
Related Keywords: Equipment 66.7%, Ranch 76.7%, Service 76.1%, Supervisor 79.7%, Truck 69.8%

Primary Keyword: Ranch
Related Keywords: Mechanic 76.7%, Service 82.7%

Primary Keyword: Service
Related Keywords: Career 71.0%, Driver 70.8%, Equipment 69.0%, Hand 68.0%, Manager 72.4%, Mechanic 76.1%, Ranch 82.7%, Supervisor 71.3%, Technician 71.9%, Travel 80.8%, Tree 73.6%, Truck 70.1%

Primary Keyword: Supervisor
Related Keywords: Animal 79.4%, Career 72.4%, Equipment 70.3%, Farm 73.4%, Hand 69.8%, Labor 71.4%, Manager 71.9%, Mechanic 79.7%, Service 71.3%

Construction and Extraction

SOC Major Occupational Group 47

Detailed Occupations and Education Level

A college degree was required for 22.8% of the nonbatch job orders for *First-Line Supervisors/Managers of Construction Trades and Extraction Workers* (47-1011) in 2006, compared to 15.0% in 2004.

College degrees were required on 2.6% of the group's nonbatch job orders for all other detailed occupations. Most of those orders contained keywords such as *Engineer, Management,* or *Manager.* First level supervisory job orders can be correctly coded to this occupational group. Any job orders for engineers or higher level managers should have been coded to other groups.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Construction and Extraction* - Major Occupational Group 47

Code	Title	#	%
47-2061	Construction Laborers	5,265	15.4
47-2031	Carpenters	4,686	13.7
47-2111	Electricians	3,465	10.2
47-4099	Construction and Related Workers, All Other	2,422	7.1
47-2152	Plumbers, Pipefitters, and Steamfitters	2,035	6.0
47-2073	Operating Engineers and Other Construction Equipment Operators	1,985	5.8
47-2141	Painters, Construction and Maintenance	1,574	4.6
47-4011	Construction and Building Inspectors	1,367	4.0
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	1,333	3.9
	Total of occupations with less than 3.0% of group's job orders	9,998	29.3
	Total Nonbatch Job Orders	34,130	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		75.0

Table 2 – Percent of Resumes by Education Level in 2006
For *Construction and Extraction*
Major Occupational Group 47

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	15.5	44.0
High School Diploma or GED	51.1	53.7
Some College or Vocational	28.7	63.8
Bachelors Degree	4.0	68.3
Graduate Degree	0.7	74.2

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Construction and Extraction* - Major Occupational Group 47

Code	Title	College Degree	Some College or Voc	Other
47-2061	Construction Laborers	0.3	1.3	**98.4**
47-2031	Carpenters	0.1	2.8	97.1
47-2111	Electricians	0.8	**14.5**	84.8
47-4099	Construction and Related Workers, All Other	6.0	8.6	85.5
47-2152	Plumbers, Pipefitters, and Steamfitters	0.6	8.6	90.8
47-2073	Operating Engineers and Other Construction Equipment Operators	0.8	3.0	96.3
47-2141	Painters, Construction and Maintenance	0.2	3.1	96.7
47-4011	Construction and Building Inspectors	4.0	8.2	87.8
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	**22.8**	13.7	63.5

Keywords

Overall, the group's percentage of viewed resumes was 56.2% in 2006, up from 50.8% in 2004. This corresponds to the more than ten percent gain in the nation's annual average construction jobs during that period.

Estimator remained the primary keyword with the group's highest viewed percentage in 2006 (81.8%), though that percentage fell from 2004 (86.9%). Estimators are needed before projects begin, so demand for that skill probably leads overall construction employment.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Construction and Extraction* - Major Occupational Group 47

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Crane	1,006	71.8	573	0.57
Electrical	5,063	70.7	4,877	0.96
Electrician	2,934	69.3	4,743	1.62
Engineer	2,079	74.3	4,169	2.01
Estimator	411	**81.8**	745	1.81
Fitter	849	71.0	985	1.16
HVAC	1,047	75.8	845	0.81
Inspector	1,167	73.0	1,015	0.87
Journeyman	1,177	72.3	2,422	2.06
Management	3,214	73.6	4,824	1.50
Manager	4,815	70.1	3,292	0.68
Project	3,450	76.8	7,792	**2.26**
Remodel	1,809	72.1	1,327	0.73
Residential	3,417	71.8	4,265	1.25
Superintendent	869	76.9	1,393	1.60
Major Group Total	39,386	56.2	45,476	1.15

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Construction and Extraction* - Major Occupational Group 47

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Crane	47-2073	Operating Engineers and Other Construction Equipment Operators	362	105	29.1
Electrical	47-2111	Electricians	3,345	2,002	59.9
Electrician	47-2111	Electricians	3,634	2,973	81.8
Engineer	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	1,007	212	21.0
Estimator	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	151	61	40.2
Fitter	47-2152	Plumbers, Pipefitters, and Steamfitters	745	513	68.9
HVAC	47-2211	Sheet Metal Workers	385	88	22.8
Inspector	47-4011	Construction and Building Inspectors	599	441	73.5
Journeyman	47-2111	Electricians	1,839	889	48.4
Management	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	879	324	36.9
Manager	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	980	400	40.8
Project	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	3,542	586	16.5
Remodel	47-2031	Carpenters	1,165	551	47.3
Residential	47-2031	Carpenters	3,630	864	23.8
Superintendent	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	405	238	58.7

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Crane
Related Keywords: CDL 76.9%, Concrete 80.4%, Construction 77.6%, Driver 76.0%, Electrical 80.1%, Electrician 80.7%, Engineer 80.0%, Equipment 74.5%, Finish 80.6%, Fitter 83.7%, Foreman 79.0%, Heavy 75.1%, Labor 74.4%, Management 84.1%, Mechanic 81.8%, Metal 76.6%, Pipe 80.2%, Project 85.2%, Sheet 79.4%, Supervisor 81.8%

Primary Keyword: Electrical
Related Keywords: Cabinet 76.8%, Carpenter 72.8%, Carpenters 76.5%, Concrete 76.2%, Construction 74.6%, Crane 80.1%, Drywall 74.1%, Electrician 72.9%, Engineer 81.2%, Equipment 74.7%, Estimator 88.3%, Finish 74.8%, Foreman 77.2%, Framing 76.8%, HVAC 80.8%, Heavy 72.9%, Inspector 82.9%, Installer 74.9%, Journeyman 77.6%, Management 81.0%, Manager 79.4%, Mechanic 75.8%, Metal 78.6%, Operator 73.1%, Pipe 78.3%, Plumber 77.0%, Plumbing 72.9%, Project 82.2%, Remodel 79.1%, Residential 76.0%, Roofing 74.2%, Sheet 78.1%, Superintendent 82.5%, Supervisor 78.2%, Tile 74.7%, Welder 77.5%

Primary Keyword: Electrician
Related Keywords: Carpenter 74.0%, Carpenters 82.5%, Carpentry 74.7%, Concrete 79.6%, Construction 74.7%, Crane 80.7%, Drywall 77.9%, Electrical 72.9%, Engineer 82.9%, Equipment 76.2%, Finish 75.5%, Fitter 76.3%, Foreman 79.1%, HVAC 80.1%, Heavy 74.3%, Installer 77.3%, Journeyman 76.9%, Labor 72.0%, Management 81.5%, Manager 78.0%, Mechanic 75.4%, Metal 80.8%, Operator 74.1%, Painter 74.9%, Pipe 77.2%, Plumber 75.2%, Plumbing 75.6%, Project 82.4%, Remodel 81.6%, Residential 74.4%, Sheet 80.1%, Supervisor 77.5%, Tile 73.9%, Welder 77.8%

Primary Keyword: Engineer
Related Keywords: Cabinet 81.4%, Carpenter 78.2%, Carpenters 86.9%, Carpentry 77.2%, Concrete 82.9%, Construction 78.0%, Crane 80.0%, Drywall 84.0%, Electrical 81.2%, Electrician 82.9%, Electricians 88.4%, Estimator 87.4%, Finish 80.1%, Fitter 82.9%, Foreman 78.3%, Framing 85.7%, HVAC 86.0%, Inspector 83.3%, Installer 80.5%, Journeyman 84.7%, Management 83.7%, Manager 83.3%, Mechanic 81.2%, Metal 84.8%, Painter 83.3%, Pipe 82.3%, Plumbing 82.2%, Project 83.5%, Remodel 85.7%, Residential 84.9%, Roofing 81.7%, Sheet 85.8%, Superintendent 84.7%, Supervisor 81.7%, Welder 77.9%

Primary Keyword: Estimator
Related Keywords: Concrete 89.5%, Electrical 88.3%, Engineer 87.4%, Equipment 87.3%, Heavy 87.1%, Labor 89.5%, Management 85.4%, Mechanic 87.4%, Residential 87.2%, Sheet 87.2%, Superintendent 86.1%

Primary Keyword: Fitter
Related Keywords: Carpenter 78.2%, Construction 73.7%, Crane 83.7%, Engineer 82.9%, Equipment 78.7%, Finish 76.3%, Foreman 82.2%, HVAC 82.5%, Heavy 78.5%, Journeyman 82.7%, Management 83.4%, Mechanic 79.8%, Metal 81.0%, Painter 84.3%, Plumbing 76.7%, Project 83.3%, Sheet 81.4%, Supervisor 81.3%, Welder 76.8%

Primary Keyword: HVAC
Related Keywords: Carpenter 82.3%, Concrete 84.6%, Construction 80.0%, Driver 79.4%, Drywall 81.2%, Electrical 80.8%, Electrician 80.1%, Electricians 85.0%, Engineer 86.0%, Equipment 80.8%, Finish 79.0%, Fitter 82.5%, Foreman 83.8%, Installer 79.2%, Journeyman 83.0%, Management 88.5%, Manager 85.5%, Mechanic 80.7%, Metal 78.9%, Operator 78.5%, Plumbing 80.1%, Project 87.6%, Residential 82.0%, Sheet 80.8%, Supervisor 82.6%

Primary Keyword: Inspector
Related Keywords: Concrete 79.0%, Construction 75.9%, Electrical 82.9%, Engineer 83.3%, Equipment 78.8%, Finish 78.0%, Foreman 78.3%, Heavy 77.2%, Management 82.2%, Manager 81.7%, Mechanic 80.9%, Pipe 80.8%, Plumbing 81.1%, Project 83.2%, Residential 81.4%, Roofing 80.2%, Sheet 82.4%, Superintendent 83.3%, Supervisor 80.9%

Primary Keyword: Journeyman
Related Keywords: CDL 78.3%, Cabinet 82.6%, Construction 75.9%, Electrical 77.6%, Electrician 76.9%, Engineer 84.7%, Equipment 77.5%, Fitter 82.7%, Foreman 79.4%, HVAC 83.0%, Helper 77.6%, Installer 82.9%, Labor 77.0%, Management 81.3%, Manager 83.4%, Mechanic 81.3%, Operator 75.4%, Pipe 82.5%, Plumbing 78.0%, Project 83.0%, Remodel 79.9%, Residential 78.8%, Superintendent 79.7%, Supervisor 78.2%, Welder 76.3%

Primary Keyword: Management
Related Keywords: CDL 79.4%, Cabinet 81.3%, Carpenters 82.0%, Carpentry 75.9%, Concrete 80.8%, Construction 76.6%, Crane 84.1%, Driver 76.1%, Drywall 79.3%, Electrical 81.0%, Electrician 81.5%, Electricians 86.9%, Engineer 83.7%, Equipment 78.3%, Estimator 85.4%, Finish 76.6%, Fitter 83.4%, Foreman 79.0%, Framing 81.4%, HVAC 88.5%, Heavy 77.4%, Inspector 82.2%, Journeyman 81.3%, Labor 76.5%, Manager 76.8%, Mechanic 82.1%, Metal 80.2%, Painter 79.8%, Pipe 79.7%, Plumber 82.8%, Plumbing 79.9%, Project 80.7%, Remodel 81.4%, Residential 81.2%, Roofing 77.1%, Sheet 80.5%, Superintendent 83.3%, Supervisor 77.6%, Tile 77.7%, Welder 81.3%

Primary Keyword: Manager
Related Keywords: Cabinet 74.7%, Carpenters 80.4%, Carpentry 72.6%, Concrete 78.9%, Construction 73.6%, Drywall 74.3%, Electrical 79.4%, Electrician 78.0%, Engineer 83.3%, Equipment 76.3%, Estimator 83.6%, Finish 75.2%, Foreman 77.3%, Framing 77.2%, HVAC 85.5%, Heavy 75.2%, Inspector 81.7%, Installer 75.3%, Journeyman 83.4%, Management 76.8%, Mechanic 79.4%, Metal 82.5%, Operator 72.3%, Pipe 81.3%, Plumbing 76.7%, Project 80.5%, Remodel 79.2%, Residential 80.8%, Roofing 76.4%, Sheet 79.9%, Superintendent 82.4%, Supervisor 71.4%, Tile 77.2%

Primary Keyword: Project
Related Keywords: CDL 80.7%, Cabinet 80.7%, Carpenters 84.4%, Carpentry 79.4%, Concrete 78.9%, Construction 79.1%, Crane 85.2%, Driver 79.8%, Drywall 79.9%, Electrical 82.2%, Electrician 82.4%, Electricians 83.2%, Engineer 83.5%, Equipment 79.4%, Estimator 84.1%, Fitter 83.3%, Foreman 80.0%, Framing 80.3%, HVAC 87.6%, Heavy 78.5%, Inspector 83.2%, Installer 81.7%, Journeyman 83.0%, Labor 78.4%, Management 80.7%, Manager 80.5%, Mechanic 83.5%, Metal 85.2%, Operator 79.6%, Pipe 81.9%, Plumber 84.0%, Plumbing 83.0%, Remodel 83.9%, Residential 81.6%, Roofing 80.2%, Sheet 83.9%, Superintendent 81.5%, Supervisor 80.5%, Welder 82.7%

Primary Keyword: Remodel
Related Keywords: Cabinet 74.7%, Concrete 76.7%, Construction 74.6%, Drywall 74.4%, Electrical 79.1%, Electrician 81.6%, Engineer 85.7%, Equipment 76.1%, Finish 75.5%, Framing 75.8%, Journeyman 79.9%, Management 81.4%, Manager 79.2%, Mechanic 77.7%, Metal 79.6%, Pipe 81.4%, Plumber 79.1%, Plumbing 77.5%, Project 83.9%, Residential 78.1%, Sheet 78.2%, Superintendent 84.5%, Supervisor 78.7%, Tile 77.5%

Primary Keyword: Residential
Related Keywords: Cabinet 75.8%, Carpenters 79.9%, Concrete 76.2%, Construction 75.0%, Drywall 75.9%, Electrical 76.0%, Electrician 74.4%, Engineer 84.9%, Equipment 74.4%, Estimator 87.2%, Foreman 77.4%, Framing 75.5%, HVAC 82.0%, Inspector 81.4%, Installer 74.6%, Journeyman 78.8%, Management 81.2%, Manager 80.8%, Mechanic 75.6%, Metal 75.8%, Operator 73.9%, Pipe 78.0%, Plumber 76.2%, Plumbing 76.5%, Project 81.6%, Remodel 78.1%, Sheet 79.7%, Superintendent 83.2%, Supervisor 78.8%, Tile 80.4%

Primary Keyword: Superintendent
Related Keywords: Electrical 82.5%, Engineer 84.7%, Estimator 86.1%, Inspector 83.3%, Management 83.3%, Manager 82.4%, Mechanic 81.1%, Plumbing 82.3%, Project 81.5%, Remodel 84.5%, Residential 83.2%, Sheet 84.0%

Installation, Maintenance and Repair
SOC Major Occupational Group 49

Detailed Occupations and Education Level

Generally, major occupational groups with a high percentage of resumes viewed by employers also have a high incidence of job seekers with college degrees. *Installation, Maintenance, and Repair* (49) is an exception as its viewed percentage of 65.5% was the fourth highest among the 23 occupational groups, yet only four groups had a lower percentage of college graduates.

Nonbatch job orders made up 56.9% of this occupational group's total job orders in 2006, down from 75.7% in 2004. Batch job orders had a smaller proportion of orders for diesel mechanics than nonbatch orders in 2006, and higher proportions of jobs associated with telecommunications and security systems.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Installation, Maintenance, and Repair* - Major Occupational Group 49

Code	Title	#	%
49-9042	Maintenance and Repair Workers, General	5,096	14.2
49-3023	Automotive Service Technicians and Mechanics	4,824	13.4
49-9099	Installation, Maintenance, and Repair Workers, All Other	3,595	10.0
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	2,591	7.2
49-9041	Industrial Machinery Mechanics	2,523	7.0
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2,301	6.4
49-9043	Maintenance Workers, Machinery	2,044	5.7
49-9098	Helpers--Installation, Maintenance, and Repair Workers	1,355	3.8
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,126	3.1
	Total of occupations with less than 3.0% of group's job orders	10,534	29.3
	Total Nonbatch Job Orders	35,989	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		56.9

Table 2 – Percent of Resumes by Education Level in 2006
For *Installation, Maintenance, and Repair*
Major Occupational Group 49

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	6.7	48.6
High School Diploma or GED	38.9	60.3
Some College or Vocational	47.9	69.8
Bachelors Degree	5.7	71.2
Graduate Degree	0.8	72.8

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Installation, Maintenance, and Repair* - Major Occupational Group 49

Code	Title	College Degree	Some College or Voc	Other
49-9042	Maintenance and Repair Workers, General	0.8	8.4	90.8
49-3023	Automotive Service Technicians and Mechanics	1.6	12.1	86.3
49-9099	Installation, Maintenance, and Repair Workers, All Other	1.0	10.0	89.0
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	0.3	11.2	88.5
49-9041	Industrial Machinery Mechanics	0.7	12.9	86.4
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	0.9	18.9	80.2
49-9043	Maintenance Workers, Machinery	0.6	11.1	88.3
49-9098	Helpers--Installation, Maintenance, and Repair Workers	0.3	5.2	**94.5**
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	**2.2**	**31.1**	66.7

Keywords
PLC (programmable logic controller) was the primary keyword with the highest percentage of viewed resumes (79.7%). Of resumes containing both *PLC* and *Diesel,* 91.7% were viewed by employers in 2006. In 2004 *PLC* not only was not a primary keyword, it also failed testing for even a designation as a related keyword.

Of all job orders coded to this group in 2006, which contained the keyword *PLC,* only 2.6% required a college degree. In comparison, completion of high school was required on 66.9% of job orders and on 27.4% requiring some college or vocational training.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Installation, Maintenance, and Repair* - Major Occupational Group 49

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Alarm	1,266	78.9	997	0.79
Conditioning	1,814	76.4	3,815	2.10
Diesel	1,951	77.6	3,921	2.01
Electrical	10,908	75.2	15,869	1.45
Electrician	3,234	75.6	1,725	0.53
Electronics	4,522	75.3	3,072	0.68
Engine	8,823	76.9	11,438	1.30
Fire	2,809	79.0	2,312	0.82
HVAC	3,031	77.4	5,727	1.89
Machinist	990	76.4	509	0.51
Mechanical	7,169	75.6	13,741	1.92
PLC	1,864	**79.7**	2,062	1.11
Plumbing	4,288	75.0	5,673	1.32
Refrigeration	1,175	79.5	2,842	**2.42**
Security	4,105	77.0	3,884	0.95
Major Group Total	39,992	65.5	63,212	1.58

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Installation, Maintenance, and Repair* - Major Occupational Group 49

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Alarm	49-2098	Security and Fire Alarm Systems Installers	566	248	43.9
Conditioning	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,518	787	51.8
Diesel	49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	2,879	1,571	54.6
Electrical	49-9042	Maintenance and Repair Workers, General	9,280	2,360	25.4
Electrician	49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,050	310	29.5
Electronics	49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,374	266	19.4
Engine	49-3023	Automotive Service Technicians and Mechanics	4,993	975	19.5
Fire	49-2098	Security and Fire Alarm Systems Installers	815	180	22.1
HVAC	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2,891	1,457	50.4
Machinist	49-9041	Industrial Machinery Mechanics	232	55	23.8
Mechanical	49-9042	Maintenance and Repair Workers, General	7,984	1,319	16.5
PLC	49-9041	Industrial Machinery Mechanics	1,069	288	27.0
Plumbing	49-9042	Maintenance and Repair Workers, General	3,451	1,769	51.3
Refrigeration	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,246	618	49.6
Security	49-2098	Security and Fire Alarm Systems Installers	1,308	189	14.4

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Superintendent
Related Keywords: Electrical 82.5%, Engineer 84.7%, Estimator 86.1%, Inspector 83.3%, Management 83.3%, Manager 82.4%, Mechanic 81.1%, Plumbing 82.3%, Project 81.5%, Remodel 84.5%, Residential 83.2%, Sheet 84.0%

Primary Keyword: Alarm
Related Keywords: Air 80.7%, Auto 84.3%, Automotive 87.6%, Conditioning 86.8%, Electric 81.3%, Electrical 82.1%, Electrician 82.8%, Electronics 81.2%, Engine 83.4%, Equipment 80.6%, Field 81.6%, HVAC 86.1%, Heating 88.6%, Industrial 83.7%, Installation 80.9%, Maintenance 81.0%, Plumbing 83.8%, Refrigeration 88.1%, Repair 80.8%, Security 81.3%, Service 82.5%, Tech 80.7%, Technician 81.9%, Telecommunications 81.8%

Primary Keyword: Conditioning
Related Keywords: Alarm 86.8%, Automotive 79.4%, Cable 87.0%, Diesel 82.1%, Electric 79.9%, Electrical 80.4%, Electrician 80.8%, Electronic 82.4%, Electronics 84.8%, Engine 81.7%, Equipment 81.0%, Field 80.0%, Fire 85.9%, HVAC 80.7%, Industrial 80.0%, Install 78.8%, Installation 79.1%, Machine 79.4%, Machinist 88.8%, Maintenance 81.3%, Mechanic 78.4%, Mechanical 81.3%, PLC 87.9%, Plumbing 80.3%, Refrigeration 79.4%, Repair 79.2%, Security 81.5%, Service 80.4%, Tech 80.5%, Technician 81.7%

Primary Keyword: Diesel
Related Keywords: Air 80.0%, Auto 79.7%, Automotive 80.4%, Cable 87.2%, Conditioning 82.1%, Electric 83.4%, Electrical 84.0%, Electrician 84.6%, Electronic 85.2%, Electronics 85.9%, Engine 80.6%, Equipment 81.2%, Field 83.0%, Fire 86.9%, HVAC 86.9%, Heating 84.0%, Industrial 83.7%, Install 82.7%, Installation 84.5%, Machine 80.6%, Machinist 89.0%, Maintenance 82.3%, Mechanical 82.4%, PLC 91.7%, Plumbing 83.4%, Refrigeration 88.4%, Repair 80.0%, Security 83.4%, Service 83.3%, Tech 83.2%, Technician 84.3%

Primary Keyword: Electrical
Related Keywords: Air 77.2%, Alarm 82.1%, Auto 79.9%, Automotive 80.2%, Cable 78.9%, Conditioning 80.4%, Diesel 84.0%, Electrician 77.9%, Electronic 76.8%, Electronics 78.6%, Engine 81.5%, Equipment 77.6%, Field 78.1%, Fire 82.7%, HVAC 81.3%, Heating 80.2%, Industrial 76.4%, Install 77.7%, Installation 78.6%, Machine 76.6%, Machinist 82.8%, Maintenance 78.0%, Mechanic 78.2%, Mechanical 78.3%, PLC 80.8%, Plumber 79.2%, Plumbing 77.1%, Refrigeration 81.5%, Repair 77.1%, Security 82.6%, Service 80.1%, Tech 78.6%, Technician 80.0%, Truck 79.0%

Primary Keyword: Electrician
Related Keywords: Air 78.3%, Alarm 82.8%, Auto 81.7%, Automotive 80.6%, Cable 79.0%, Conditioning 80.8%, Diesel 84.6%, Electrical 77.9%, Electronic 79.4%, Electronics 81.3%, Engine 84.6%, Equipment 79.3%, Field 79.3%, Fire 81.6%, HVAC 84.3%, Heating 83.8%, Industrial 78.7%, Install 78.4%, Installation 78.9%, Machine 77.7%, Maintenance 79.1%, Mechanic 78.9%, Mechanical 78.7%, PLC 82.4%, Plumbing 80.3%, Refrigeration 83.3%, Repair 78.4%, Security 83.1%, Service 80.7%, Tech 79.8%, Technician 81.2%, Truck 79.2%

Primary Keyword: Electronics
Related Keywords: Air 77.8%, Alarm 81.2%, Auto 81.7%, Automotive 80.9%, Cable 80.6%, Conditioning 84.8%, Diesel 85.9%, Electric 78.5%, Electrical 78.6%, Electrician 81.3%, Engine 81.1%, Equipment 78.8%, Field 78.1%, Fire 84.9%, HVAC 85.2%, Heating 83.8%, Industrial 77.3%, Install 78.5%, Installation 79.2%, Installer 77.1%, Maintenance 80.4%, Mechanic 79.4%, Mechanical 80.2%, PLC 82.3%, Plumbing 80.8%, Refrigeration 83.1%, Repair 77.8%, Security 83.1%, Service 79.6%, Tech 77.3%, Technician 78.6%, Truck 78.2%

Primary Keyword: Engine
Related Keywords: Air 78.6%, Alarm 83.4%, Auto 79.6%, Cable 82.1%, Conditioning 81.7%, Diesel 80.6%, Electric 81.0%, Electrical 81.5%, Electrician 84.6%, Electronic 79.8%, Electronics 81.1%, Equipment 79.9%, Field 80.3%, Fire 84.2%, HVAC 84.3%, Heating 82.8%, Industrial 81.6%, Install 79.6%, Installation 80.4%, Installer 78.4%, Machine 78.4%, Machinist 84.1%, Maintenance 80.8%, Mechanic 79.1%, Mechanical 81.6%, PLC 84.8%, Plumbing 81.9%, Refrigeration 86.4%, Repair 78.6%, Security 84.6%, Service 80.1%, Tech 80.0%, Technician 81.1%, Truck 78.9%

Primary Keyword: Fire
Related Keywords: Air 81.3%, Auto 82.8%, Automotive 85.6%, Cable 81.2%, Conditioning 85.9%, Diesel 86.9%, Electric 81.7%, Electrical 82.7%, Electrician 81.6%, Electronic 83.2%, Electronics 84.9%, Engine 84.2%, Equipment 82.0%, Field 82.5%, HVAC 85.3%, Heating 83.4%, Industrial 84.0%, Install 81.0%, Installation 81.8%, Machine 82.4%, Maintenance 82.4%, Mechanic 82.5%, Mechanical 84.3%, PLC 84.3%, Plumbing 82.8%, Refrigeration 88.2%, Repair 81.5%, Security 82.2%, Service 82.8%, Tech 82.0%, Technician 83.7%, Truck 80.7%

Primary Keyword: HVAC
Related Keywords: Air 80.6%, Alarm 86.1%, Auto 82.2%, Automotive 81.7%, Cable 84.2%, Conditioning 80.7%, Diesel 86.9%, Electric 81.0%, Electrical 81.3%, Electrician 84.3%, Electronic 83.0%, Electronics 85.2%, Engine 84.3%, Equipment 81.7%, Field 81.2%, Fire 85.3%, Industrial 81.8%, Install 79.2%, Installation 81.0%, Machine 80.4%, Machinist 88.6%, Maintenance 80.9%, Mechanic 81.0%, Mechanical 82.4%, PLC 85.4%, Plumber 81.7%, Plumbing 81.0%, Refrigeration 83.6%, Repair 81.5%, Security 86.0%, Service 82.0%, Tech 81.2%, Technician 82.9%, Truck 80.1%

Primary Keyword: Machinist
Related Keywords: Air 81.6%, Auto 83.7%, Automotive 86.4%, Conditioning 88.8%, Diesel 89.0%, Electric 81.8%, Electrical 82.8%, Electronic 83.5%, Engine 84.1%, Equipment 81.2%, Field 80.3%, HVAC 88.6%, Install 81.6%, Installation 85.0%, Maintenance 81.2%, Mechanic 79.8%, Mechanical 82.8%, Plumbing 85.1%, Repair 81.8%, Security 84.9%, Service 84.4%, Tech 82.3%, Technician 83.8%, Truck 81.4%

Primary Keyword: Mechanical
Related Keywords: Air 77.2%, Alarm 80.7%, Auto 79.1%, Automotive 78.1%, Cable 81.3%, Conditioning 81.3%, Diesel 82.4%, Electric 77.8%, Electrical 78.3%, Electrician 78.7%, Electronic 77.0%, Electronics 80.2%, Engine 81.6%, Equipment 77.3%, Field 79.2%, Fire 84.3%, HVAC 82.4%, Heating 83.0%, Industrial 77.8%, Install 78.2%, Installation 79.7%, Machinist 82.8%, Maintenance 78.4%, PLC 82.2%, Plumber 80.0%, Plumbing 79.1%, Refrigeration 82.0%, Repair 77.2%, Security 83.1%, Service 80.2%, Tech 78.3%, Technician 79.7%, Truck 78.4%

Primary Keyword: PLC
Related Keywords: Air 81.7%, Auto 82.2%, Cable 85.0%, Conditioning 87.9%, Diesel 91.7%, Electrician 82.4%, Electronic 81.7%, Electronics 82.3%, Engine 84.8%, Equipment 81.4%, Field 82.6%, Fire 84.3%, HVAC 85.4%, Heating 87.2%, Install 82.2%, Installation 82.4%, Mechanic 82.1%, Mechanical 82.2%, Plumbing 82.7%, Refrigeration 85.9%, Repair 81.6%, Service 83.8%, Tech 81.9%, Technician 83.2%

Primary Keyword: Plumbing
Related Keywords: Air 77.4%, Alarm 83.8%, Auto 80.1%, Automotive 81.7%, Cable 80.0%, Conditioning 80.3%, Diesel 83.4%, Electric 76.7%, Electrical 77.1%, Electrician 80.3%, Electronic 78.9%, Electronics 80.8%, Engine 81.9%, Equipment 78.2%, Field 78.5%, Fire 82.8%, HVAC 81.0%, Heating 78.8%, Industrial 79.2%, Install 78.7%, Installation 79.8%, Installer 77.1%, Machine 77.3%, Machinist 85.1%, Maintenance 76.5%, Mechanic 78.0%, Mechanical 79.1%, PLC 82.7%, Refrigeration 83.0%, Repair 77.6%, Security 81.5%, Service 79.7%, Tech 79.6%, Technician 81.6%, Truck 78.2%

Primary Keyword: Refrigeration

Related Keywords: Alarm 88.1%, Auto 86.3%, Automotive 88.6%, Cable 85.5%, Diesel 88.4%, Electric 81.7%, Electrical 81.5%, Electrician 83.3%, Electronic 83.0%, Electronics 83.1%, Engine 86.4%, Equipment 83.3%, Field 81.8%, Fire 88.2%, HVAC 83.6%, Industrial 81.7%, Install 82.0%, Installation 82.2%, Machine 81.9%, Maintenance 82.6%, Mechanic 81.2%, Mechanical 82.0%, PLC 85.9%, Plumbing 83.0%, Repair 82.5%, Security 85.4%, Service 83.1%, Tech 82.4%, Technician 83.9%, Truck 82.9%

Primary Keyword: Security

Related Keywords: Air 80.0%, Alarm 81.3%, Auto 81.8%, Automotive 81.8%, Cable 81.7%, Conditioning 81.5%, Diesel 83.4%, Electric 81.7%, Electrical 82.6%, Electrician 83.1%, Electronic 82.1%, Electronics 83.1%, Engine 84.6%, Equipment 81.4%, Field 80.8%, Fire 82.2%, HVAC 86.0%, Heating 81.7%, Industrial 82.9%, Install 80.0%, Installation 81.6%, Machine 78.2%, Machinist 84.9%, Maintenance 81.1%, Mechanic 81.5%, Mechanical 83.1%, Plumbing 81.5%, Refrigeration 85.4%, Repair 80.1%, Service 80.5%, Tech 81.0%, Technician 82.4%, Telecommunications 79.0%

Production
SOC Major Occupational Group 51

Detailed Occupations and Education Level
In this report we make a distinction between job orders that come from private job banks and some large corporations (batch), and those which come from state Employment Service systems and AJB's online orders (nonbatch).

Nonbatch job orders are coded with more precision and generally have sufficient coding accuracy to be analyzed at the detailed occupational level (six-digit). In contrast, batch job orders are only analyzed at the major occupational group level (two-digit), and sometimes coding problems are discovered, with keyword analysis even at that level.

Over half of the *Production* (51) group's batch job orders, in both 2004 and 2006, came from just two large accounts. Between 2004 and 2006 the group's nonbatch job orders for grew by 16.0%, while batch job orders grew by 148.9%. Unfortunately, batch jobs were much more likely to include terms such as *Engineer;* which are associated with *Architecture and Engineering (17)* occupations.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Production* - Major Occupational Group 51

Code	Title	#	%
51-9199	Production Workers, All Other	5,857	9.8
51-9198	Helpers--Production Workers	5,677	9.5
51-4121	Welders, Cutters, Solderers, and Brazers	5,498	9.2
51-2099	Assemblers and Fabricators, All Other	4,554	7.6
51-4041	Machinists	4,419	7.4
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	4,082	6.8
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	3,093	5.2
	Total of occupations with less than 3.0% of group's job orders	26,674	44.6
	Total Nonbatch Job Orders	59,854	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		59.4

Table 2 – Percent of Resumes by Education Level in 2006
For *Production*
Major Occupational Group 51

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	13.4	36.9
High School Diploma or GED	51.3	49.1
Some College or Vocational	29.2	59.7
Bachelors Degree	5.1	62.1
Graduate Degree	0.9	64.8

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Production* - Major Occupational Group 51

Code	Title	College Degree	Some College or Voc	Other
51-9199	Production Workers, All Other	2.6	3.6	93.8
51-9198	Helpers--Production Workers	0.2	2.1	**97.7**
51-4121	Welders, Cutters, Solderers, and Brazers	0.3	6.7	93.0
51-2099	Assemblers and Fabricators, All Other	1.7	3.1	95.2
51-4041	Machinists	0.3	13.8	85.9
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	4.7	14.1	81.2
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	**24.1**	**15.0**	60.8

Keywords

Computer numerical control (*CNC*) is often used to control manufacturing equipment. *CNC* was the primary keyword with the highest percentage of resumes viewed by employers in both 2004 (74.4%) and 2006 (75.6%). Additionally, the primary/related keyword combination with the group's highest viewed percentage in 2006 was *CNC* and *Injection* (85.6%). Much of the training associated with *CNC* is probably learned on the job as less than 15 percent of nonbatch job orders specified education beyond high school.

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Production* - Major Occupational Group 51

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Brake	2,384	68.7	1,671	0.70
CNC	3,259	**75.6**	9,121	**2.80**
Engineer	4,107	74.7	7,672	1.87
Fabrication	2,126	72.4	3,755	1.77
Injection	1,467	67.9	1,229	0.84
Lathe	3,028	73.1	5,748	1.90
Machinist	2,977	70.9	7,368	2.47
Maintenance	11,563	67.3	9,318	0.81
Mechanic	7,498	67.7	14,123	1.88
Mechanical	4,450	70.8	12,310	2.77
MIG	2,752	69.7	3,820	1.39
Mill	4,891	72.3	7,525	1.54
Sheet	3,929	69.8	4,720	1.20
Technician	6,629	68.7	6,936	1.05
TIG	2,703	73.0	4,652	1.72
Major Group Total	75,958	51.7	100,826	1.33

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Production* - Major Occupational Group 51

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	*%*
Brake	51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	1,053	406	38.5
CNC	51-4041	Machinists	5,243	2,368	45.2
Engineer	51-1011	First-Line Supervisors/Managers of Production and Operating Workers	2,560	471	18.4
Fabrication	51-4121	Welders, Cutters, Solderers, and Brazers	2,223	676	30.4
Injection	51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	775	302	38.9
Lathe	51-4041	Machinists	3,175	1,786	56.2
Machinist	51-4041	Machinists	4,245	3,010	70.9
Maintenance	51-1011	First-Line Supervisors/Managers of Production and Operating Workers	4,048	544	13.4
Mechanic	51-2099	Assemblers and Fabricators, All Other	6,558	962	14.7
Mechanical	51-2099	Assemblers and Fabricators, All Other	6,042	919	15.2
MIG	51-4121	Welders, Cutters, Solderers, and Brazers	2,406	1,985	82.5
Mill	51-4041	Machinists	4,164	1,785	42.9
Sheet	51-4121	Welders, Cutters, Solderers, and Brazers	2,681	256	9.6
Technician	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	3,139	687	21.9
TIG	51-4121	Welders, Cutters, Solderers, and Brazers	2,167	1,305	60.2

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Brake
Related Keywords: CNC 78.4%, Die 76.8%, Electronic 79.9%, Engineer 80.9%, Fabrication 74.6%, Fabricator 73.3%, Forklift 70.5%, Lathe 77.0%, Machine 70.6%, Machinist 79.6%, Maintenance 75.0%, Manager 73.5%, Manufacturing 76.8%, Mechanic 72.5%, Mechanical 74.5%, Metal 73.8%, MIG 75.0%, Mill 77.7%, Press 72.3%, Production 70.2%, Quality 76.1%, Set 72.9%, Sheet 73.7%, Supervisor 73.3%, TIG 76.7%, Technician 79.4%, Tool 74.3%, Warehouse 71.0%, Welder 73.5%, Welding 73.3%

Primary Keyword: CNC
Related Keywords: Assembly 79.0%, Brake 78.4%, Die 80.2%, Electronic 80.9%, Engineer 82.4%, Fabrication 79.9%, Fabricator 80.7%, Forklift 78.2%, Injection 85.6%, Inspector 80.5%, Lathe 78.9%, Machinist 79.5%, Maintenance 80.7%, Maker 79.8%, Manager 80.8%, Manufacturing 81.7%, Mechanic 80.3%, Mechanical 81.0%, Metal 77.6%, MIG 82.4%, Mill 79.3%, Press 78.6%, Production 78.2%, Quality 80.0%, Receiving 80.9%, Set 78.9%, Sheet 80.4%, Shipping 79.1%, Supervisor 79.0%, TIG 83.0%, Technician 82.6%, Tool 79.2%, Warehouse 79.9%, Welder 80.1%, Welding 80.9%

Primary Keyword: Engineer
Related Keywords: Assembler 77.3%, Assembly 78.1%, Brake 80.9%, CNC 82.4%, Die 78.5%, Fabrication 78.9%, Forklift 78.6%, Injection 84.9%, Inspector 81.8%, Lathe 80.9%, Machine 77.3%, Machinist 81.0%, Maintenance 79.2%, Maker 79.0%, Manager 78.5%, Manufacturing 80.4%, Mechanic 80.3%, Mechanical 81.0%, Metal 80.6%, MIG 82.5%, Mill 82.4%, Operator 77.8%, Press 80.7%, Production 76.7%, Quality 79.3%, Receiving 80.2%, Set 78.6%, Sheet 82.1%, Shipping 78.9%, Supervisor 76.9%, TIG 83.6%, Technician 79.5%, Tool 78.0%, Warehouse 79.0%, Welder 78.7%, Welding 79.2%

Primary Keyword: Fabrication
Related Keywords: CNC 79.9%, Die 77.7%, Electronic 78.9%, Engineer 78.9%, Fabricator 77.9%, Injection 79.9%, Inspector 81.0%, Lathe 78.9%, Machine 74.1%, Machinist 79.2%, Maintenance 77.9%, Maker 78.4%, Manager 78.3%, Manufacturing 77.4%, Mechanic 76.1%, Mechanical 78.7%, Metal 74.8%, MIG 74.7%, Mill 78.6%, Press 74.9%, Production 74.4%, Quality 77.7%, Set 76.7%, Sheet 77.8%, Supervisor 76.3%, TIG 78.8%, Technician 78.6%, Tool 76.8%, Welder 75.2%

Primary Keyword: Injection
Related Keywords: Assembler 73.7%, Assembly 70.7%, CNC 85.6%, Die 74.9%, Electronic 76.3%, Engineer 84.9%, Fabrication 79.9%, Forklift 74.0%, Lathe 81.2%, Machinist 83.7%, Maintenance 75.0%, Maker 79.0%, Manager 78.1%, Manufacturing 78.3%, Mechanic 78.9%, Mechanical 83.0%, Metal 76.6%, Mill 84.1%, Press 72.2%, Production 72.8%, Quality 74.9%, Set 74.4%, Sheet 81.6%, Supervisor 75.3%, TIG 84.1%, Technician 75.9%, Tool 74.9%, Welding 75.9%

Primary Keyword: Lathe
Related Keywords: Brake 77.0%, CNC 78.9%, Die 75.3%, Electronic 78.9%, Engineer 80.9%, Fabrication 78.9%, Fabricator 77.8%, Forklift 75.0%, Injection 81.2%, Inspector 79.9%, Machine 74.1%, Machinist 78.5%, Maintenance 79.6%, Maker 76.4%, Manager 80.9%, Manufacturing 79.6%, Mechanic 78.3%, Mechanical 80.4%, MIG 79.1%, Mill 75.6%, Press 75.2%, Production 75.1%, Quality 79.7%, Set 76.6%, Sheet 78.4%, Shipping 75.0%, Supervisor 76.8%, TIG 82.1%, Technician 81.4%, Tool 76.4%, Welder 77.9%, Welding 78.3%

Primary Keyword: Machinist
Related Keywords: Assembly 76.2%, Brake 79.6%, CNC 79.5%, Die 76.3%, Electronic 83.3%, Engineer 81.0%, Fabrication 79.2%, Fabricator 78.4%, Forklift 77.1%, Injection 83.7%, Inspector 78.6%, Lathe 78.5%, Machine 73.3%, Maintenance 77.2%, Maker 78.3%, Manager 78.8%, Manufacturing 80.3%, Mechanic 77.2%, Mechanical 78.8%, Metal 74.5%, MIG 81.0%, Mill 78.8%, Operator 74.4%, Press 78.8%, Printing 82.4%, Production 75.4%, Quality 79.2%, Set 77.9%, Sheet 78.9%, Shipping 73.9%, Supervisor 76.6%, TIG 82.3%, Technician 80.1%, Tool 77.3%, Warehouse 74.9%, Welder 76.9%, Welding 78.8%

Primary Keyword: Maintenance
Related Keywords: Assembly 71.3%, Brake 75.0%, CNC 80.7%, Die 74.9%, Electronic 73.1%, Engineer 79.2%, Fabrication 77.9%, Fabricator 72.3%, Forklift 71.2%, Injection 75.0%, Inspector 77.7%, Lathe 79.6%, Machine 69.1%, Machinist 77.2%, Maker 73.3%, Manager 74.9%, Manufacturing 76.2%, Mechanic 73.6%, Mechanical 75.4%, Metal 77.8%, MIG 77.4%, Mill 77.8%, Operator 69.7%, Press 73.4%, Printing 72.4%, Production 69.9%, Quality 75.3%, Receiving 71.5%, Set 73.2%, Sheet 78.0%, Shipping 72.2%, Supervisor 73.6%, TIG 79.9%, Technician 76.9%, Tool 72.1%, Warehouse 69.5%, Welder 75.7%, Welding 73.8%

Primary Keyword: Mechanic
Related Keywords: Assembler 70.3%, Assembly 73.2%, Brake 72.5%, CNC 80.3%, Die 73.5%, Electronic 72.8%, Engineer 80.3%, Fabrication 76.1%, Fabricator 77.4%, Forklift 71.4%, Injection 78.9%, Inspector 76.5%, Lathe 78.3%, Machine 69.7%, Machinist 77.2%, Maintenance 73.6%, Maker 75.7%, Manager 75.3%, Manufacturing 77.6%, Mechanical 70.8%, Metal 76.7%, MIG 75.4%, Mill 77.8%, Operator 70.0%, Press 74.2%, Printing 72.4%, Production 71.4%, Quality 76.1%, Receiving 72.0%, Set 73.3%, Sheet 77.9%, Shipping 73.4%, Supervisor 74.4%, TIG 79.5%, Technician 76.7%, Tool 72.6%, Warehouse 73.0%, Welder 74.6%, Welding 73.4%

Primary Keyword: Mechanical
Related Keywords: Assembler 72.7%, Assembly 74.8%, Brake 74.5%, CNC 81.0%, Die 76.2%, Electronic 73.2%, Engineer 81.0%, Fabrication 78.7%, Fabricator 76.8%, Forklift 73.2%, Injection 83.0%, Inspector 77.6%, Lathe 80.4%, Machinist 78.8%, Maintenance 75.4%, Maker 76.6%, Manager 76.3%, Manufacturing 79.1%, Metal 79.4%, MIG 77.5%, Mill 80.4%, Operator 72.4%, Press 76.1%, Printing 74.4%, Production 74.2%, Quality 77.0%, Receiving 73.3%, Set 74.6%, Sheet 79.8%, Shipping 74.9%, Supervisor 75.4%, TIG 80.5%, Technician 77.8%, Tool 72.8%, Warehouse 73.8%, Welder 77.4%, Welding 77.3%

Primary Keyword: MIG
Related Keywords: Brake 75.0%, CNC 82.4%, Die 77.8%, Electronic 74.8%, Engineer 82.5%, Fabrication 74.7%, Fabricator 74.9%, Forklift 72.2%, Inspector 78.9%, Lathe 79.1%, Machine 73.4%, Machinist 81.0%, Maintenance 77.4%, Manager 79.0%, Manufacturing 77.2%, Mechanic 75.4%, Mechanical 77.5%, Metal 75.2%, Mill 77.3%, Operator 71.2%, Press 74.5%, Production 71.9%, Quality 75.6%, Set 75.9%, Sheet 77.7%, Shipping 73.6%, Supervisor 74.4%, TIG 74.9%, Technician 76.3%, Tool 76.4%, Warehouse 72.5%, Welder 72.0%, Welding 71.3%

Primary Keyword: Mill
Related Keywords: Assembly 75.4%, Brake 77.7%, CNC 79.3%, Die 76.2%, Electronic 78.0%, Engineer 82.4%, Fabrication 78.6%, Fabricator 77.1%, Injection 84.1%, Inspector 79.9%, Lathe 75.6%, Machine 73.6%, Machinist 78.8%, Maintenance 77.8%, Maker 75.9%, Manager 79.5%, Manufacturing 79.9%, Mechanic 77.8%, Mechanical 80.4%, Metal 75.3%, MIG 77.3%, Operator 73.4%, Press 74.5%, Production 75.0%, Quality 78.8%, Receiving 77.2%, Set 76.5%, Sheet 79.2%, Shipping 76.8%, Supervisor 76.8%, TIG 81.3%, Technician 81.6%, Tool 76.5%, Warehouse 75.1%, Welder 78.3%, Welding 76.8%

Primary Keyword: Sheet
Related Keywords: Assembly 73.7%, Brake 73.7%, CNC 80.4%, Die 74.5%, Electronic 76.2%, Engineer 82.1%, Fabrication 77.8%, Fabricator 75.2%, Forklift 72.1%, Injection 81.6%, Inspector 78.2%, Lathe 78.4%, Machine 72.5%, Machinist 78.9%, Maintenance 78.0%, Maker 75.2%, Manager 74.2%, Manufacturing 77.6%, Mechanic 77.9%, Mechanical 79.8%, Metal 73.3%, MIG 77.7%, Mill 79.2%, Operator 71.5%, Press 72.8%, Production 72.3%, Quality 76.0%, Receiving 72.5%, Set 73.2%, Shipping 73.1%, Supervisor 75.2%, TIG 78.2%, Technician 79.8%, Tool 75.7%, Warehouse 72.0%, Welder 78.2%, Welding 77.6%

Primary Keyword: TIG
Related Keywords: Brake 76.7%, CNC 83.0%, Die 80.5%, Electronic 79.7%, Engineer 83.6%, Fabrication 78.8%, Fabricator 76.6%, Forklift 75.8%, Injection 84.1%, Inspector 81.7%, Lathe 82.1%, Machine 75.6%, Machinist 82.3%, Maintenance 79.9%, Maker 78.4%, Manager 78.5%, Manufacturing 80.0%, Mechanic 79.5%, Mechanical 80.5%, Metal 77.4%, MIG 74.9%, Mill 81.3%, Operator 75.1%, Press 76.1%, Production 75.7%, Quality 79.1%, Set 77.5%, Sheet 78.2%, Supervisor 76.5%, Technician 81.6%, Tool 78.3%, Welder 76.5%, Welding 76.0%

Primary Keyword: Technician
Related Keywords: Assembler 72.3%, Assembly 74.1%, Brake 79.4%, CNC 82.6%, Die 75.5%, Electronic 72.9%, Engineer 79.5%, Fabrication 78.6%, Fabricator 74.0%, Forklift 73.2%, Injection 75.9%, Inspector 76.4%, Lathe 81.4%, Machine 72.8%, Machinist 80.1%, Maintenance 76.9%, Maker 73.8%, Manager 75.6%, Manufacturing 76.8%, Mechanic 76.7%, Mechanical 77.8%, Metal 78.8%, MIG 76.3%, Mill 81.6%, Operator 72.2%, Press 75.1%, Printing 72.6%, Production 72.3%, Quality 75.3%, Receiving 74.3%, Set 75.8%, Sheet 79.8%, Shipping 73.5%, Supervisor 75.4%, TIG 81.6%, Tool 76.4%, Warehouse 71.9%, Welder 76.8%, Welding 76.8%

Transportation and Material Moving
SOC Major Occupational Group 53

Detailed Occupations and Education Level

Nonbatch job orders for *Transportation and Material Moving* (53) occupations only increased by 1.9% between 2004 and 2006. In contrast, batch orders grew by 58.1% during this same period.

Overall, the percentage of resumes coded to this occupational group which were viewed by employers increased from 41.6% in 2004 to 48.5% in 2006. This gain was shared by resumes at each educational level.

College degrees were seldom required for jobs in this occupational group. One exception was that a degree was often required for logistics management positions with large companies.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Transportation and Material Moving* - Major Occupational Group 53

Code	Title	#	%
53-3032	Truck Drivers, Heavy and Tractor-Trailer	15,242	30.8
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	7,722	15.6
53-3033	Truck Drivers, Light or Delivery Services	6,336	12.8
53-3031	Driver/Sales Workers	2,987	6.0
53-7051	Industrial Truck and Tractor Operators	2,732	5.5
53-7199	Material Moving Workers, All Other	2,280	4.6
53-7064	Packers and Packagers, Hand	1,682	3.4
	Total of occupations with less than 3.0% of group's job orders	10,456	21.2
	Total Nonbatch Job Orders	49,437	100.0
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		66.6

Table 2 – Percent of Resumes by Education Level in 2006
For *Transportation and Material Moving*
Major Occupational Group 53

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	19.5	34.0
High School Diploma or GED	51.6	47.5
Some College or Vocational	24.5	59.3
Bachelors Degree	3.9	59.7
Graduate Degree	0.6	60.2

Table 3 – Percent Education Required on Nonbatch Job Orders
By Detailed SOC Code in 2006
For *Transportation and Material Moving* - Major Occupational Group 53

Code	Title	College Degree	Some College or Voc	Other
53-3032	Truck Drivers, Heavy and Tractor-Trailer	0.0	1.6	98.3
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	0.2	1.0	98.8
53-3033	Truck Drivers, Light or Delivery Services	0.1	1.7	98.3
53-3031	Driver/Sales Workers	0.1	1.5	98.4
53-7051	Industrial Truck and Tractor Operators	0.0	0.9	**99.0**
53-7199	Material Moving Workers, All Other	**1.9**	**1.9**	96.2
53-7064	Packers and Packagers, Hand	0.1	1.2	98.7

Keywords

Of the 23 major occupational groups, *Transportation and Material Moving* (53) was one of only three with less than half of the active resumes viewed by employers. Despite that, there were areas of strong labor demand.

In 2004 *Hazmat* was neither a primary keyword for this occupational group, nor even a related keyword. Yet in 2006 *Hazmat* was the group's primary keyword with the highest percentage of viewed resumes (70.6%). The primary/related keyword combination of *Hazmat* and *Transportation* had a viewed percentage of 81.5%.

Another area of relatively strong demand was for heavy truck drivers. Primary keywords associated with this occupation included:

- *CDL* – commercial drivers license

- *Class* – Class A CDL is required to drive the heaviest trucks

- *Drivers*

- *OTR* – Over the road, referring to longer intercity routes

- *Tractor* – On a tractor trailer rig, the front portion with the cab and drivetrain

- *Trailer* – The portion of a tractor trailer rig that carries the cargo

Table 4 – Average Quarterly Resumes and Job Orders
Containing Primary Keywords in 2006
For *Transportation and Material Moving* - Major Occupational Group 53

Primary Keyword	Resumes	% Viewed	Job Orders	Orders/ Resumes
Bus	8,165	59.8	7,873	0.96
CDL	8,056	64.9	22,346	2.77
Class	7,509	66.3	21,640	2.88
Delivery	8,605	63.3	12,662	1.47
Drivers	4,146	59.9	23,685	**5.71**
Forklift	16,078	60.0	8,333	0.52
Hazmat	1,581	**70.6**	2,318	1.47
Manager	8,330	65.7	3,057	0.37
Mechanic	4,712	64.9	2,462	0.52
OTR	1,283	69.8	3,764	2.93
Receiving	7,806	62.1	3,508	0.45
Shipping	9,581	61.9	3,860	0.40
Tractor	5,917	61.3	10,046	1.70
Trailer	5,520	64.7	10,160	1.84
Transportation	4,393	65.0	8,421	1.92
Major Group Total	70,434	48.5	74,206	1.05

Table 5 – Primary Keywords by Detailed SOC With the Most Nonbatch Job Orders in 2006
For *Transportation and Material Moving* - Major Occupational Group 53

Primary Keyword	Detailed SOC	Occupational Description	Average Quarterly Job Orders		
			Major Group	Detailed SOC	%
Bus	53-3032	Truck Drivers, Heavy and Tractor-Trailer	4,415	753	17.1
CDL	53-3032	Truck Drivers, Heavy and Tractor-Trailer	12,241	8,538	69.8
Class	53-3032	Truck Drivers, Heavy and Tractor-Trailer	12,488	8,151	65.3
Delivery	53-3033	Truck Drivers, Light or Delivery Services	8,129	3,440	42.3
Drivers	53-3032	Truck Drivers, Heavy and Tractor-Trailer	11,943	6,022	50.4
Forklift	53-7051	Industrial Truck and Tractor Operators	5,641	1,920	34.0
Hazmat	53-3032	Truck Drivers, Heavy and Tractor-Trailer	1,753	1,373	78.3
Manager	53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operat	1,393	202	14.5
Mechanic	53-3032	Truck Drivers, Heavy and Tractor-Trailer	1,535	319	20.8
OTR	53-3032	Truck Drivers, Heavy and Tractor-Trailer	2,507	2,385	95.1
Receiving	53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,049	755	36.9
Shipping	53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,290	740	32.3
Tractor	53-3032	Truck Drivers, Heavy and Tractor-Trailer	4,384	3,520	80.3
Trailer	53-3032	Truck Drivers, Heavy and Tractor-Trailer	5,467	4,169	76.3
Transportation	53-3032	Truck Drivers, Heavy and Tractor-Trailer	3,505	886	25.3

All primary and related keyword combinations for this major occupational group are shown below with their respective average quarterly percentage of resumes viewed by employers.

Primary Keyword: Bus
Related Keywords: CDL 66.4%, Class 69.9%, Delivery 70.4%, Drivers 63.2%, Forklift 69.8%, Hazmat 78.2%, Manager 71.1%, Mechanic 72.0%, OTR 72.1%, Operator 65.3%, Receiving 70.6%, Shipping 71.1%, Tractor 68.9%, Trailer 71.4%, Transportation 71.3%, Truck 67.4%, Warehouse 69.3%

Primary Keyword: CDL
Related Keywords: B 66.0%, Bus 66.4%, Class 66.9%, Delivery 70.1%, Driver 66.2%, Drivers 68.0%, Forklift 68.0%, Hazmat 70.5%, Manager 70.9%, Mechanic 71.7%, OTR 73.1%, Operator 68.1%, Receiving 70.4%, Shipping 70.0%, Tractor 68.3%, Trailer 69.8%, Transportation 71.7%, Truck 66.3%, Warehouse 68.6%

Primary Keyword: Class
Related Keywords: B 67.3%, Bus 69.9%, Delivery 71.3%, Driver 67.3%, Drivers 70.3%, Forklift 69.7%, Hazmat 71.8%, Manager 75.4%, Mechanic 74.2%, OTR 72.3%, Operator 69.6%, Receiving 72.4%, Shipping 72.2%, Tractor 70.4%, Trailer 71.3%, Transportation 74.6%, Truck 67.3%, Warehouse 71.5%

Primary Keyword: Delivery
Related Keywords: B 64.9%, Bus 70.4%, CDL 70.1%, Class 71.3%, Forklift 69.1%, Hazmat 75.5%, Manager 72.9%, Mechanic 70.4%, OTR 74.4%, Operator 68.2%, Receiving 71.1%, Shipping 71.5%, Tractor 69.9%, Trailer 70.5%, Transportation 72.7%, Truck 64.5%, Warehouse 69.9%
 B 61.2%, Bus 63.2%

Primary Keyword: Drivers
Related Keywords: B 61.2%, Bus 63.2%, CDL 68.0%, Class 70.3%, Forklift 70.7%, Hazmat 75.6%, Manager 73.1%, Mechanic 73.5%, OTR 77.2%, Operator 68.0%, Receiving 73.2%, Shipping 73.3%, Tractor 63.6%, Trailer 64.2%, Transportation 71.7%, Truck 61.2%, Warehouse 70.9%

Primary Keyword: Forklift
Related Keywords: B 61.7%, Bus 69.8%, CDL 68.0%, Class 69.7%, Delivery 69.1%, Driver 63.7%, Drivers 70.7%, Hazmat 73.7%, Manager 71.3%, Mechanic 70.1%, Receiving 65.3%, Shipping 64.9%, Tractor 63.3%, Trailer 67.9%, Transportation 73.1%, Truck 63.3%, Warehouse 63.1%

Primary Keyword: Hazmat
Related Keywords: Bus 78.2%, Delivery 75.5%, Drivers 75.6%, Forklift 73.7%, Manager 79.5%, Mechanic 79.2%, OTR 74.4%, Operator 73.6%, Receiving 77.2%, Shipping 75.5%, Tractor 73.9%, Transportation 81.5%, Warehouse 75.6%

Primary Keyword: Manager
Related Keywords: B 66.7%, Bus 71.1%, CDL 70.9%, Class 75.4%, Delivery 72.9%, Driver 69.2%, Drivers 73.1%, Forklift 71.3%, Hazmat 79.5%, Mechanic 74.6%, OTR 72.1%, Operator 70.0%, Receiving 71.3%, Shipping 71.1%, Tractor 75.1%, Trailer 74.1%, Transportation 72.3%, Truck 69.9%, Warehouse 70.4%

Primary Keyword: Mechanic
Related Keywords: B 65.9%, Bus 72.0%, CDL 71.7%, Class 74.2%, Delivery 70.4%, Driver 68.1%, Drivers 73.5%, Forklift 70.1%, Hazmat 79.2%, Manager 74.6%, OTR 71.8%, Operator 68.8%, Receiving 70.5%, Shipping 72.0%, Tractor 70.8%, Trailer 71.1%, Transportation 74.9%, Truck 67.8%, Warehouse 70.6%

Primary Keyword: OTR
Related Keywords: CDL 73.1%, Class 72.3%, Delivery 74.4%, Drivers 77.2%, Hazmat 74.4%, Shipping 75.6%, Tractor 72.7%, Trailer 73.0%, Transportation 77.1%

Primary Keyword: Receiving
Related Keywords: B 63.6%, Bus 70.6%, CDL 70.4%, Class 72.4%, Delivery 71.1%, Driver 67.5%, Drivers 73.2%, Forklift 65.3%, Hazmat 77.2%, Manager 71.3%, Mechanic 70.5%, Operator 64.5%, Shipping 63.2%, Tractor 69.7%, Trailer 72.0%, Transportation 72.8%, Truck 66.1%, Warehouse 65.7%

Primary Keyword: Shipping
Related Keywords: B 63.5%, Bus 71.1%, CDL 70.0%, Class 72.2%, Delivery 71.5%, Driver 67.4%, Drivers 73.3%, Forklift 64.9%, Hazmat 75.5%, Manager 71.1%, Mechanic 72.0%, OTR 75.6%, Operator 63.9%, Receiving 63.2%, Tractor 70.2%, Trailer 70.6%, Transportation 73.1%, Truck 65.9%, Warehouse 65.2%

Primary Keyword: Tractor
Related Keywords: B 62.8%, Bus 68.9%, CDL 68.3%, Class 70.4%, Delivery 69.9%, Driver 62.4%, Drivers 63.6%, Forklift 63.3%, Hazmat 73.9%, Manager 75.1%, Mechanic 70.8%, OTR 72.7%, Receiving 69.7%, Shipping 70.2%, Trailer 62.9%, Transportation 73.9%, Warehouse 67.2%

Primary Keyword: Trailer
Related Keywords: B 66.0%, Bus 71.4%, CDL 69.8%, Class 71.3%, Delivery 70.5%, Forklift 67.9%, Hazmat 71.9%, Manager 74.1%, Mechanic 71.1%, OTR 73.0%, Operator 67.6%, Receiving 72.0%, Shipping 70.6%, Transportation 74.3%, Warehouse 69.5%

Primary Keyword: Transportation
Related Keywords: B 66.2%, Bus 71.3%, CDL 71.7%, Class 74.6%, Delivery 72.7%, Driver 68.0%, Drivers 71.7%, Forklift 73.1%, Hazmat 81.5%, Manager 72.3%, Mechanic 74.9%, OTR 77.1%, Operator 69.9%, Receiving 72.8%, Shipping 73.1%%, Tractor 73.9%, Trailer 74.3%, Truck 70.2%, Warehouse 72.6%

Military Specific
SOC Major Occupational Group 55

Detailed Occupations and Education Level

There were no job orders in 2006 for *Military Specific* (55) occupations. However, there still were a few resumes coded to the group and the percentage of those resumes viewed by employers was the highest of any major occupational group.

Table 1 – Quarterly Average of Nonbatch Job Orders by Detailed SOC Codes in 2006
For *Military Specific* - Major Occupational Group 55

Code	Title	#	%
	Total of occupations with less than 3.0% of group's job orders	0	NA
	Total Nonbatch Job Orders	0	NA
	Nonbatch Job Orders as a Percent of Job Orders from all Sources		NA

Table 2 – Percent of Resumes by Education Level in 2006
For *Military Specific*
Major Occupational Group 55

Education Level	Percent of Resumes	Percent Viewed by Employers
Less Than High School	0.0	NA
High School Diploma or GED	30.2	70.7
Some College or Vocational	53.4	81.9
Bachelors Degree	13.5	79.0
Graduate Degree	2.8	70.6

Keywords

No primary or related keywords were identified for *Military Specific* occupations because no employers' resume search criteria, or job orders, were coded to this major occupational group in 2006. However, resumes are commonly coded to multiple occupations, so some job seekers coded to this major occupational group had their resumes viewed by employers.

Keyword Glossary
Acronyms and Special Terms Found in Job Orders and Resumes

Acronyms, and brand names, are treated as keywords if they meet keyword criteria. The following acronyms and special terms are provided with their meanings.

2000 – Most often, resumes and job orders used *2000* to refer to a Microsoft operating system.

Access – Most commonly references a Microsoft desktop database.

Adobe – A software company with products used extensively for graphics, Web technology, publishing, and photo processing.

ASP – Application Service Provider, as well as Active Server Pages

AutoCAD – A leading brand of computer assisted design software.

B – Part of B&B (bed and breakfast). Also short for business, as in B school or B to B.

B2B – Business to business

C – A programming language.

C# - Pronounced *see sharp* – Microsoft's version of the C programming language for their ".NET" environment

C++ - An enhanced version of the C programming language.

CAD – Computer Assisted Design

CCTV – Closed circuit television

CDL – Commercial Drivers License

CICS – Customer Information Control System, is an IBM online transaction processing program.

Cisco – A major networking company. References in job orders, and resumes, to *Cisco* could refer to either networking hardware or networking software.

CMM – Capability Maturity Model, a process to promote software improvements over time. Also used as acronyms for Coordinate Measuring Machine, Color Management Module, and Comprehensive Medical Management.

CNA – Certified Nursing Assistant

CNC – Computer Numerical Control – often used to control manufacturing equipment

COBOL – A programming language primarily used on mainframe computers for business applications.

CPA – Certified Public Accountant

CRM – Customer Relationship Management and the software used for that purpose

Crystal – Reports software that takes inputs from many different databases.

DB2 – IBM's database software

DBA – Database Administrator – also "Doing Business As" used with company names

Diesel – A high torque engine commonly used in heavy trucks. The term is also used to refer to those trucks, as well as to the fuel that they use.

Embedded – Most often refers to a computer system stored in ROM (read only memory) that is used to control a function or functions of a device, appliance, vehicle, or other machine.

EMS – Most commonly refers to emergency medical services. Also an acronym for environmental management systems

EJB – Enterprise JavaBeans

Excel – Microsoft's spreadsheet

FDA – Food and Drug Administration

GC – Gas Chromatography

GIS – Geographic Information System

Hazmat – Refers to hazardous materials and to the law and regulations which control their transportation. Those materials may be: explosive, radioactive, infectious, combustible, corrosive, or otherwise determined by the Department of Transportation to be hazardous.

HPLC – High Pressure Liquid Chromatography

HR – Human Resources

HTML – Hyper Text Markup Language – used to tag sections of Web documents for display with browser software.

HVAC – Heating, Ventilating and Air Conditioning

ICU – Intensive care unit

Illustrator – May refer to a graphic artist or to a software application by Adobe commonly used by them.

ISO – International Organization for Standardization, frequently job orders include experience with a specific ISO standard for production jobs.

J2EE – Java 2 Enterprise Edition

Java – This term is not an acronym. Java is a programming language, developed by SUN Microsystems, designed to work on multiple operating systems.

JavaScript – A client side scripting language supported by most Internet browsers. JavaScript code is often inserted into HTML pages to make them interactive.

JDE – Java Development Environment

JSP – Java Server Pages

LAN – Local Area Network

Linux – The major open-source operating system.

LPN – Licensed Practical Nurse

MCSE – Microsoft Certified Systems Engineer

MD – Most commonly refers to Doctor of Medicine (Latin – Medicinae Doctor). Also refers to Measured Depth (oil industry), Muscular Dystrophy, and Maryland.

MIG – Metal Inert Gas (welding)

MS – Microsoft, Mississippi, Multiple Sclerosis, or a term to replace Miss or Mrs. when a choice is made not to divulge marital status

Net – Sometimes *net* refers to the Internet. However, *".NET"* also refers to a collection of Microsoft software technologies which focus on connected applications. Utilities which delimit the keywords, in the free-form AJB text fields, strip away the leading period.

NC – Numerical Control, may also match North Carolina

NT – A Microsoft operating system aimed at businesses, predating Windows 2000 and Windows XP, which was originally referred to as New Technology

Oracle – A brand of database management, and related, software.

OTR – Over-The-Road – referencing long-haul truck driving

PC – Personal Computer

PCA – Principal Components Analysis

PE – Generally refers to a Professional Engineers license

PeopleSoft – A company that sells business intelligence software and related services. This company was acquired by Oracle in 2005.

Perl – A cross-platform programming language commonly used to develop Web applications.

Phlebotomist – Draws blood from patients for analysis by a medical laboratory.

PL – Procedural Language – nearly always used as part of PL/SQL a powerful query language

PLC – Programmable Logic Controller

QA – Quality Assurance

QuickBooks – A brand of accounting software

RF – Radio Frequency

RN – Registered Nurse

SAP – An international business intelligence company and their software products.

Sarbanes – Generally refers to the Sarbanes-Oxley Act, which requires financial and accounting disclosure information. The act was named for Senator Paul Sarbanes and Congressman Michael Oxley.

SAS – A software company featuring products for business intelligence and statistics.

SCI – Usually Security Clearance Investigation, but sometimes used as an abbreviation for science (e.g. computer sci).

Siebel – A leading CRM software company which was purchased by Oracle

Solaris – A Sun Microsystems operating system.

Sous = "Sous chef" is often specified on job orders when employers are looking for a kitchen manager.

SQL – Structured Query Language

Sybase - A brand of database management, and related, software.

TCP – Transmission Control Protocol used for communication between two hosts.

TIG – Tungsten Inert Gas (welding)

TS – Top Secret – frequently combined as TS/SCI a security clearance that requires a polygraph interview

UNIX – An operating system originally developed in 1969. Many versions have been released, often tailored for proprietary hardware.

VB – "Visual Basic", a Microsoft programming language.

Web – Web is often used to refer to the World Wide Web. The Web is the subset of the Internet accessed by a browser (as opposed to e-mail, file transfer protocol (FTP) or Telnet).

WebSphere – An IBM software platform for e-business.

XML – Extensible Markup Language, a text format used for electronic publishing and databases.

XP – Used to refer to various Microsoft current operating system editions including: Home, Professional, Media Center, and 64-bit Professional.