

# Industry Leader Interviews

## Bioscience

Docking Institute of Public Affairs

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## **Methods**

Docking Institute of Public Affairs personnel interviewed leaders from bioscience companies in the State of Kansas from June 24 to July 8, 2008. Bioscience companies were identified using North American Industrial Classification System (NAICS). The list of bioscience companies to contact for interviewing was obtained from the Kansas Department of Labor. Thirteen industry leaders were interviewed. The sample was not randomly drawn. Rather, the employers with the largest workforces were targeted for interviewing. The responses shown in this report are suggestive and not inferential – similar to that of a focus group.

With input from Wichita State University's Center for Economic and Business Research, the Docking Institute designed an interview schedule to assess industry leaders' perceptions of strengths and weaknesses of their cluster's workforce quality and supply in Kansas, types of training on basic and industry-specific skills most needed among new hires, and anticipated growth in cluster workforce needs over the next 10-15 years.

## Findings

The first few questions of the interview ask the respondent to estimate the number of workers that fall into each of these categories:

- Clerical workers and office support staff
- White-collar professionals like executives and sales (but not engineers, designers, etc...)
- Engineers, designers, and similar positions that require advanced degrees as entry level requirements
- High-skilled blue-collar workers that are specially trained or learned their current jobs through years of on-the-job-training
- Low-skilled and semi-skilled blue-collar workers

The percentages provided by each employer for each category were collected. Figure 1 shows the aggregation of the percentages for each job category. The figure shows that 40% of the employees of the bioscience companies interviewed are low- and semi-skilled blue-collar workers, and about a fifth (21%) are also high-skilled blue-collar workers. Clerical workers, white-collar professionals, and engineers/designers make up 12%, 8%, and 19% of the workers, respectively. Bioscience companies employ the highest percentage of engineers and designers than any other industry group analyzed.

**Figure 1: Aggregation of Percentages of Workers**

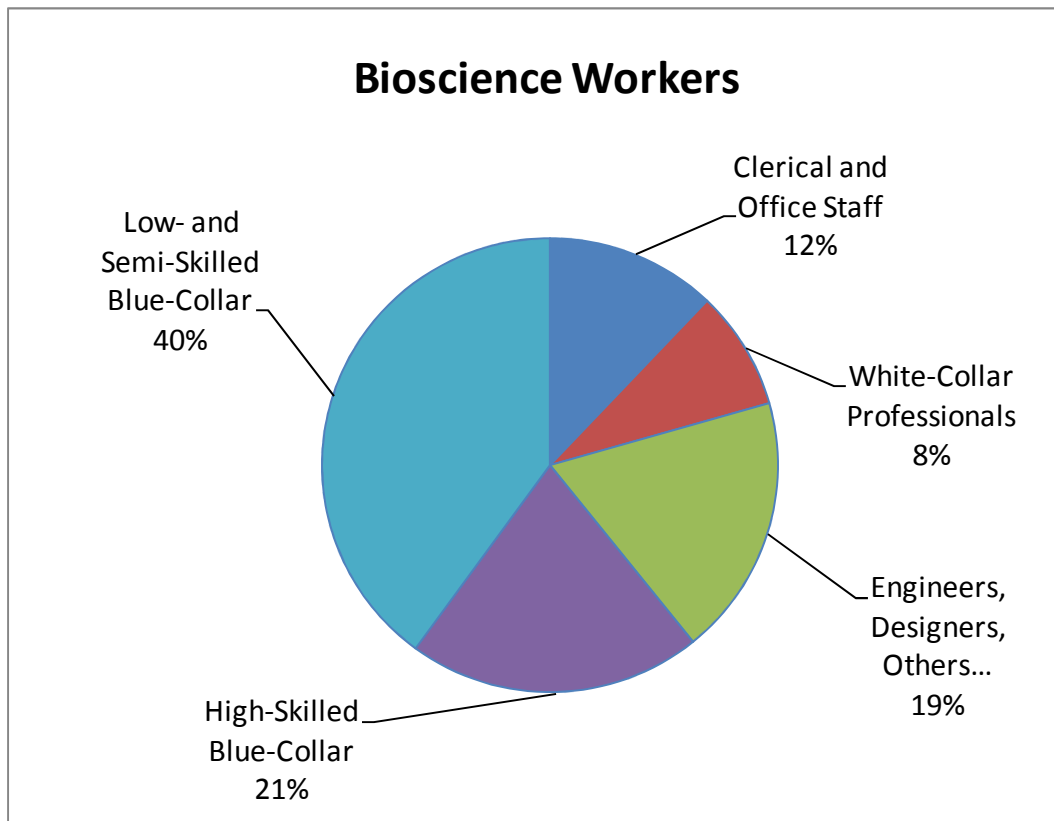


Figure 2 shows the responses to questions addressing the supply of workers available for hire. The answer options are shown in the legend in the right of the figure.

The figure shows that, of the employers interviewed, four suggest that there is an adequate supply of low- and semi-skilled blue collar workers and three suggest that there is a small shortage and a large shortage, each. One employer indicates that there is an abundant supply of these types of workers. A similar number of employers indicate the same for high-skilled blue-collar workers.

Four employers suggest that there is small shortage of engineers and designers. Three employers suggest that there is an adequate supply and one suggests there is an abundant supply. One employer also suggests that there is a large shortage these types of workers.

Five respondents suggest that there is an adequate supply of white-collar professions, while four indicate that there is a small shortage. One suggests a large shortage of these types of workers, while none indicate that there is an abundant supply.

Finally, six employers suggest that there is an adequate supply of clerical and office staff. Two employers each consider the supply of clerical and office staff to be abundant, a small shortage, and a large shortage.

**Figure 2: Supply of Workers**

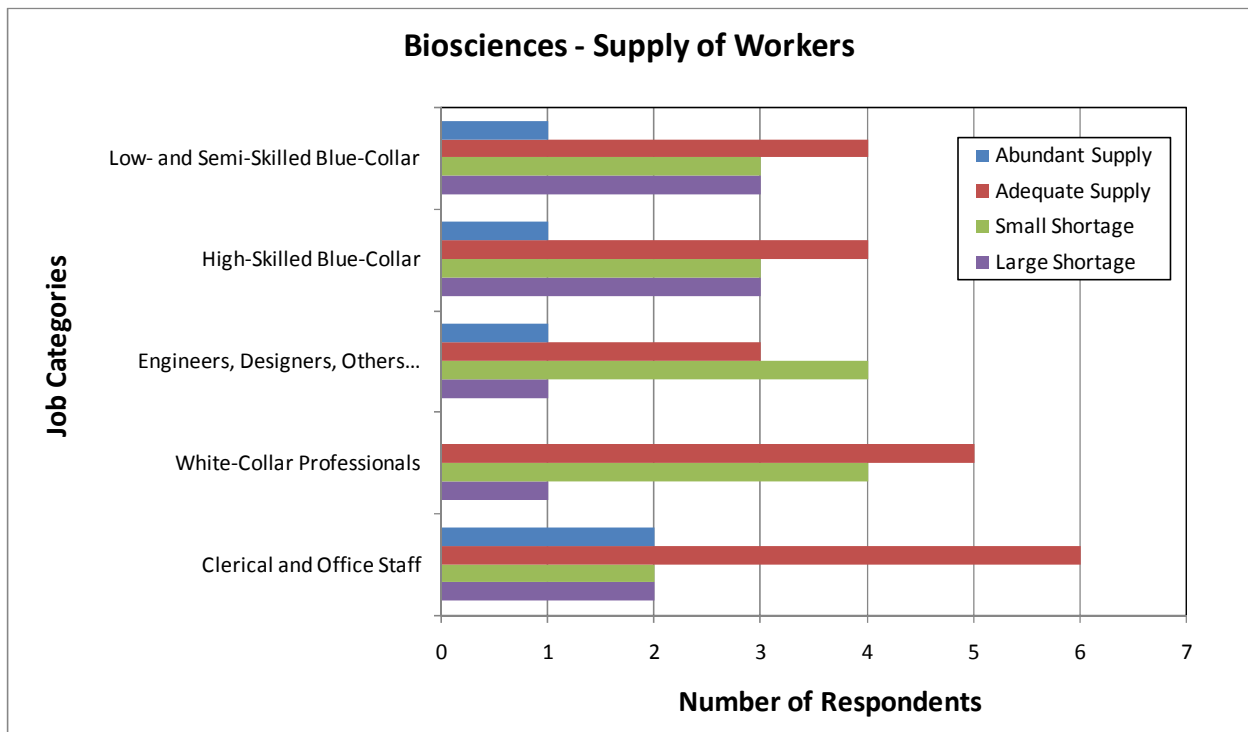


Figure 3 shows responses to questions addressing the ease of hiring workers today compared to five years ago. The figure suggests that employers perceive that it is generally more difficult to hire new good workers across the board for all types of workers.

Three bioscience employers suggest that it is easier now than in the past to hire good engineers and designers.

**Figure 3: Ease of Hiring New Workers**

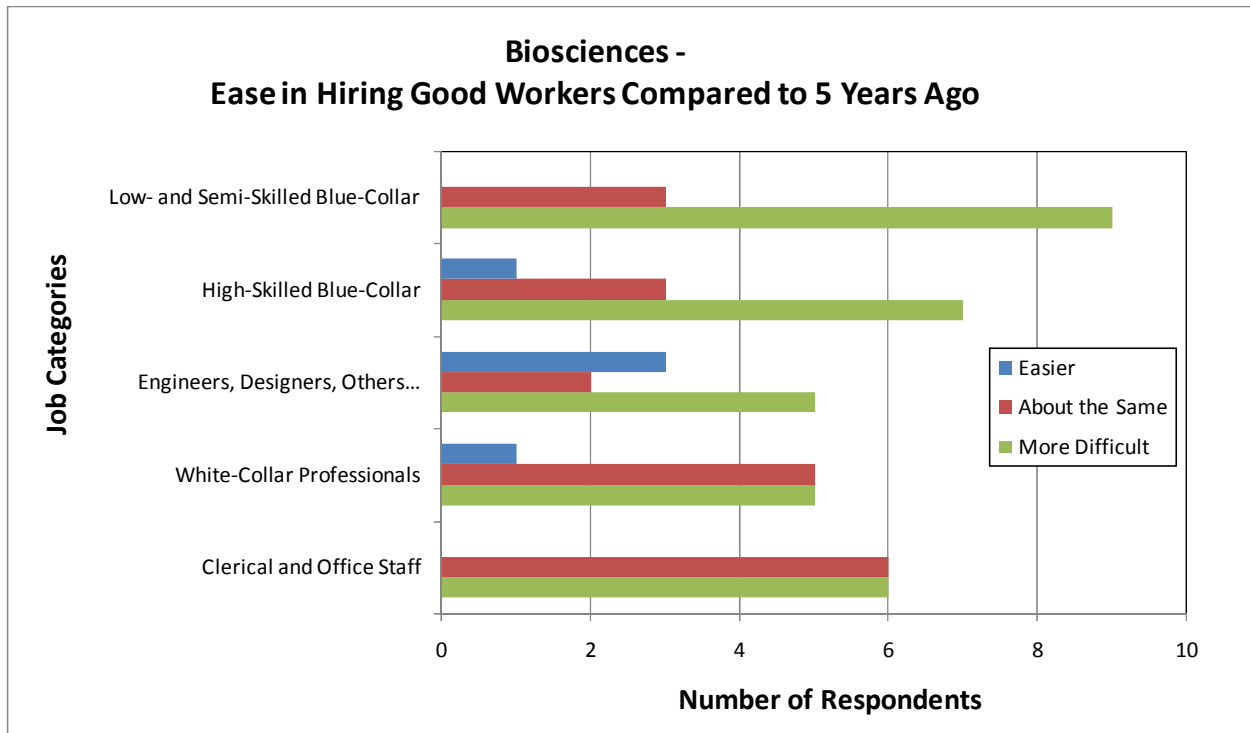
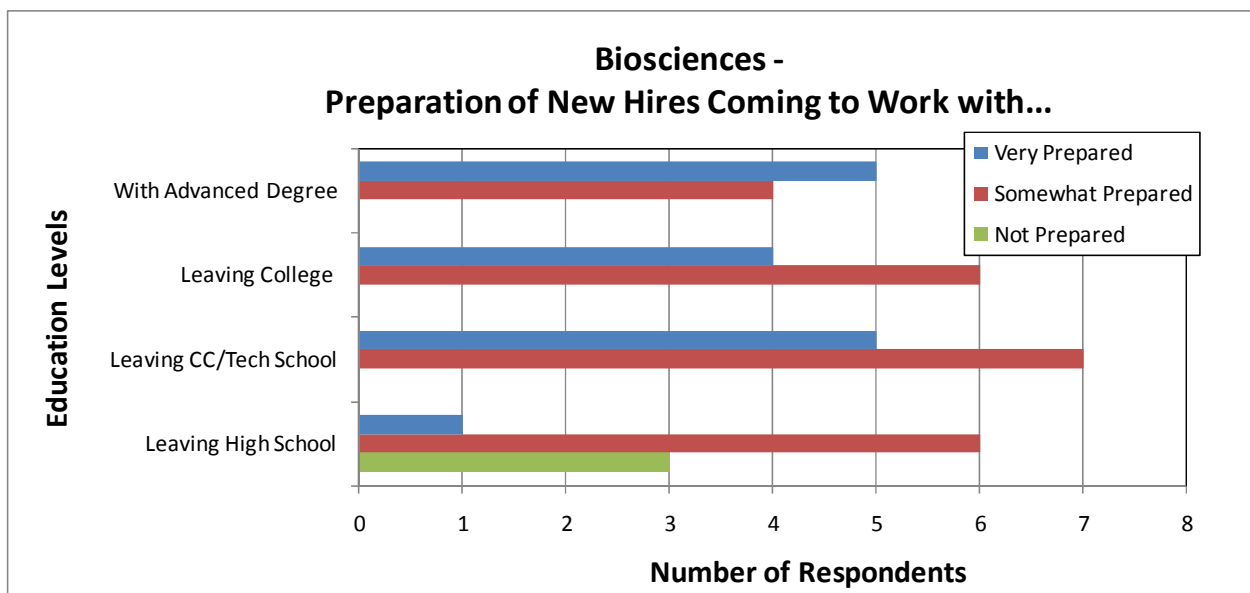


Figure 4 shows the responses to questions addressing the preparation of new hires that have recently graduated from high school, community college or tech school, or college. The figure also shows the preparedness level of employers with advanced degrees.

The figure shows that employers generally find employees with educations beyond the high school level as very prepared for employment. Employers also generally find all types of graduates somewhat prepared for employment.

Three employers find new high school graduates to not be prepared for employment in the bioscience industry.

**Figure 4: Preparation for New Hire**



Tables 1 thru 3 provide responses from “open-ended” questions. Each table includes the question(s) asked of respondents as well as the responses grouped into themes. The answers are ordered by most prevalent first.

Table 1 shows that reading and math skills are mentioned as areas needing improvement among high school graduates. Work ethics, motivation, and fundamental hand tool usage are three skill areas mentioned by employers of high school graduates. Bioscience companies that hire community college and technical school graduates focus on a basic understanding of science, work ethics, reading skills, and communication skills. Employers of college graduates see communications skills, interpersonal communications skills, work ethics, and a basic understanding of the manufacturing process as important areas needing improvement.

**Table 1: Skills and Skill Sets Lacking or Needing Improvement**

Thinking of skills or skill sets needed at the workplace, are there certain skills that _____ seem to lack or that could be improved upon?		
High School Graduates	Community College or Technical School Graduates	Four Year, Advanced, and Specialized Degree Holders
<ol style="list-style-type: none"> <li>1. Work Ethics/Punctuality/Remaining on the Job</li> <li>2. Motivation and Initiative</li> <li>3. Fundamental Tool Usage (e.g., reading a tape measure)</li> </ol>	<ol style="list-style-type: none"> <li>1. Basic Understanding of Science</li> <li>2. Work Ethic/Punctuality</li> <li>3. Reading Skills</li> <li>4. Communications Skills</li> </ol>	<ol style="list-style-type: none"> <li>1. Communications Skills (Written and Verbal)</li> <li>2. Interpersonal Communication Skills/Human Interaction Skills</li> <li>3. Work Ethics/Knowledge of Workplace Expectations</li> <li>4. Basic Understanding of Manufacturing Process</li> </ol>

Table 2 shows responses to a question asking about needed training for current and future workers that the public education system might appropriately address. Basic English skills, basic computer operation skills, fundamental tool usage, interpersonal communications, and operation, knowledge of the bioscience process and industry, and the ability to read invoices are areas that employers feel the public school system might address.

**Table 2: Training Needs that Public Education Might Address**

When thinking about new AND current workers, do you have industry-specific training needs that the public education system might appropriately address?
<ol style="list-style-type: none"> <li>1. Basic English Grammar Skills</li> <li>2. Basic Computer Skills</li> <li>3. Fundamental Tool Usage (e.g., reading a tape measure)</li> <li>4. Interpersonal Communication Skills/Human Interaction Skills</li> <li>5. Reading Invoices/Basic Financial Skills</li> </ol>

Table 3 shows the response to a question about training needs 10-15 years in the future. The table shows that employers suggest that employees will need training in basic computer operation skills, computer aided design, and reading, writing, and math.

Employers also regard hands-on training with basic hand tools and welding, as well as interpersonal communications and human interaction as areas in which employees will need training in the future.

**Table 3: Training Needs in 10-15 Years**

Thinking about your industry in the next 10-15 years, in what areas do you think future employees will need additional training or improvement?
1. Basic Computer Operation Skills
2. Computer Aided Design Skills
3. Reading, Writing, and Math
4. Hands-On Training with Basic Hand Tools and Welding
5. Interpersonal Communication Skills/Human Interaction Skills

Finally, Table 4 shows some quotations from the interviews.

**Table 4: Quotes from Interview Respondents**

Additional comments regarding workforce training.
"The real world is different from the academic world. Many new employees are not able to put all the knowledge and skills together in the workplace. Some sort of 'capstone' experience for students at all levels would be a good idea."
"Workers need a better understanding of small group and large group interaction. Not only so that they work better in groups, but so that they understand the fundamentals of human behavior. Both 'hard skills' and 'soft skills' are important."