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Emerging Industries: Looking Beyond the Usual Suspects: A Report to WIRED

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**Emerging Industries: Looking Beyond the Usual Suspects
A Report to WIRED**

Final Report

September, 2007

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September, 2007

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Executive Summary

This report breaks from the standard analysis of emerging industries. In fact, while we provide an analysis of the usual emerging industry suspects we do not identify any emerging industry targets. Moreover, we recommend that the WIRED economic stakeholders step away from this gambit. Instead, we recommend that the area focuses on assisting existing firms to evolve—take on new markets and products— instead of trying to predict what will be the new emerging industries. It is an approach that fits in well with WIRED’s focus on innovation, builds on the competencies of the area’s core industries, and exploits the region’s unique design assets.

The major findings of this analysis are the following:

- It is extremely difficult to predict the future with the necessary degree of accuracy required for a region to wisely invest its economic development assets on one or two emerging industries. Even if the regional stakeholders are right about the industry— alternative energy, life sciences or a host of others—they may still back the wrong horse, as new and unforeseen innovations in competing technologies are making it nearly impossible to identify the potential winner.
- For the greater Grand Rapids-Muskegon-Holland region to grow it must attract and/or grow new products and services to replace those that are forced by strong market forces to leave for less costly locations and those that will become obsolete due to technological change. This challenge is not unique to west Michigan, experts estimate that the life span of a typical product is less than six years. What is clear is that west Michigan will never be and should not want to be the low-cost site for any economic activity.
- According to the Bureau of Labor Statistics (BLS), from 2004 to 2014, U.S. employment is predicted to grow fastest in the following major industry sectors: health-related industries, education, professional & business services, and leisure and hospitality. As a group, these four industries are expected to grow by 2.3 percent annually, and their employment is expected to increase by nearly 12 million jobs. However, these industries have limited abilities to bring new monies into the region.
- The WIRED region’s major export firms are in industries facing sluggish, below-average national growth. The good news is that, on average, they are more competitive than their national rivals.

- One of the challenges facing the region is that it is still dependent on a manufacturing export base. While many manufacturers offer good-paying jobs and stable employment opportunities, few face growing markets. As long as the region depends on manufacturing for its economic base, it will experience below-average total employment growth.
- Growth in the WIRED region between 2007 and 2017 is expected to be modest, with regional employment performing slightly worse than the U.S. average and slightly better than the rest of Michigan. Total private nonfarm employment in the WIRED region is projected to increase at a 0.7 percent annual average rate, compared to a 0.4 percent rate for Michigan and 1.4 percent nationwide.
- The concept of an emerging industry may be a harmful illusion because it is not so much the industry, but an individual company's leadership and goals that are the catalysts for new products and services. Second, regional economists are in agreement that industrial clusters are the incubators for tomorrow's products and emerging industries. Keeping the region's existing industrial base – manufacturing and services—healthy and “young” may be the best option for the region's economic development community.
- The report makes the following recommendations:
 - **Do not create emerging industry targets.** At best, it is nothing short of gambling and trying to pick winners. At worst, it takes resources away from meaningful efforts to enhance the region's ability to become more innovative across its wide number of industries.
 - **Work to enhance and develop existing social clusters and build new ones that allow social networking opportunities that cross industry boundaries.** Innovation is a local activity which depends upon partnership and face-to-face interactions that can only survive in an atmosphere of trust. It is recommended that “third places” and invocation forums be created and enhanced to encourage the formation and strengthening of formal and informal networks. These networks can and should cut across industries.
 - **Development of a SWOT (Strengths, Weaknesses, Opportunities, and Threats) team of designers, engineers, and industry experts that provide new ideas for companies.** The WIRED region holds a wealth of design and manufacturing knowledge that is the envy of other regions. These resources should be used to advance the development of innovation among the region's existing firms. Innovation is a multi-step process from idea generation, production development and design, and marketing. Smaller firms cannot be expected to do it all. A SWOT team of designers, engineers and experts could help generate new ideas which could be the seeds for the development of new products for new markets.
 - **Work with area government units, non-profits, education institutions, and art associations to improve the attractiveness of the region to professional workers.** This final recommendation is as challenging as it is important. More and more research supports the observation that talent drives investment. Talented individuals increasingly call the shots and locate where they want; capital expenditures will follow. Regions, that maintain an atmosphere where ideas are in the air, are already ahead in the game; however, more is needed. The region's amenities also matter. The problem is that there is no clear description of

what it takes to have an attractive environment. It may come down to whether there is a “sense” that the area is open to new ideas and diversity.

Introduction

Michigan has lost more than 350,000 jobs since 2000. About half of these job losses occurred during the 2001 recession; however, during the current national expansion, from the first quarter of 2002 to the first quarter of 2007, employers in the state cut 178,000 jobs. Moreover, the short-term forecast for the state is bleak, especially with the national economy starting to slow. The University of Michigan is forecasting that the state's employment totals will continue to decline in 2007 and 2008.

It is not surprising that economic developers are searching for new emerging industries to replace the jobs that have been lost in its traditional industrial sectors, especially automotive. The Michigan Economic Development Corporation (MEDC) and other organizations have identified several reasonable emerging industry targets for the state to pursue; life sciences and alternative energies technologies head most lists. Not surprisingly, these promising industries have made the list in other states as well.

The report suggests an alternative approach: support evolving industries not emerging industries. Instead of taking on the risky game of trying to pick future winners in an increasingly dynamic technological environment, this report recommends the arduous task of encouraging existing industries to become young again—to take on new products and/or enter new markets.

The advantages of such an approach, if successful, are clear. First, it can prolong the employment of the firm's current workforce—it is feasible that a move from making tractor components to wind turbine blades or from the manufacturing of auto parts to medical instruments can be done by retraining existing workers. Second, it adds diversity since it would support the region's firms in determining their own new course, not just the few that have been deemed as the emerging industries for the region.

Emerging Industries—Do You Feel Lucky?

The term “emerging industries” brings to mind industry sectors that are both entirely new and quickly growing in terms of sales and employment. Moreover, emerging industries are often equated with “paradigm shifts.” Examples of this perhaps purest type of emerging industry include the automobile industry during the first decades of the 1900s and the personal computer software industry during the 1980s.

At the time, each of these industries was almost entirely new both in terms of the inputs used in the production process and the nature and use of the product in the marketplace. Additionally, these emerging industries brought significant growth, change, and economic prosperity to the locations that happened to be home to concentrations of these developing industries, making the goal of creating or capturing future emerging industries attractive to workers and political leaders.

The concept of emerging industries should be brought down to earth. Many emerging industries are small and/or do not result in substantial change to our environment. Digital cameras, for example, heighten the enjoyment and ability to take pictures and home

movies; however, it has not generated a significant change in our life styles. In sharp contrast, the internet has revolutionized and is still changing the environment of numerous sectors such as retail, finance, telecommunications, business services, medical services, and education.

The major emerging technologies are those that do not limit themselves to any one industry but instead can be adapted to increase performance and productivity in numerous traditional sectors. Although to a certain degree the introduction of the internet did bring about its own industry devoted to providing internet services (think of businesses such as AOL, Prodigy, and CompuServe), its direct impact has been modest in the long-run. Furthermore, industries that have long existed can make a shift to emergent growth due to changes in technology or shifts in demand. For example, the entry of Amazon.com into the book retail market in 1994 changed the way many of us buy books. More than that, it has forged the way in reshaping the retail sector, in that it now offers a wide and growing selection of goods to at-home consumers.

Emerging industries grow not only because of rapid technological change. They can also emerge due to demographic shifts. The growth of the nation's medical industry is due to a powerful combination of medical advancements, an aging population, personal income growth, and preference shifts in demand.

One of the major challenges and fears facing regions in regard to emerging industries is that most emerging industries come at the expense of existing industries and regions. Regions must avoid being identified with an industry that is not in the position to change. Flint, for example, is so identified with and impacted by the auto industry that it may take decades before it can grow or attract a new emerging industry of significant size. One of the more impressive qualities of Silicon Valley is that it was the birthplace of the radio transmission technologies in the 1920s, followed by computers and transistors in the 1950s, and then the dot.coms in the 1990s. It has recreated itself several times over; few other areas have been able to be so innovative and loose.

There are winners and losers in emerging industries as well. New drugs replace old, new procedures are advancements over previous methods. Lifecycles can be brief, and promising technologies can become history over night. The environment becomes even more threatening when technological advancement can cross established industry territories. For example, digital technologies seemingly came out of nowhere to radically change the photography and publishing industries.

It is extremely difficult to predict the future with the necessary degree of accuracy required for a region to wisely invest its economic development assets in one or two industries. Even if the region's stakeholders successfully call the industry, they would also have to be "dead on" regarding the technology, and then be able to provide the proper nurturing environment for the industry to expand. For example, it may be a safe bet that the home entertainment industry will continue to grow, but can anyone be secure in knowing what will be the winning technology among the competing systems?

Life science is the field on nearly everyone's short list (currently 32 states) of emerging industries, but there lies the problem. Why will one competing region win over the

others and what emerging sectors or discoveries will become scaleable? For example, a new cancer breakthrough could occur at any one of hundreds of separate medical research institutes. Such a breakthrough could radically change the course of research in the field, leaving some institutes and regions at a disadvantage. At the same time, there is no guarantee that the region making the discovery will capture all the economic gain

Existing industrial clusters, quality of life, and the presence of research universities have all been identified as important ingredients to the development of emerging industries. However, an actual formula of necessary ingredients will likely never be found. And, what will be the life cycle for this new process or instrument? In a matter of a few years, procedures and products are often eclipsed by something better. Finally, the world is full of new products that were the results of mistakes and accidents, for example, Post-it notes. Is it wise for a region to invest in the development of a new emerging industry when the risks and uncertainty are so high?

In short, do you feel lucky?

Regional Considerations for Emerging Industries

Many economists have stressed the importance of understanding the regional consequences of product cycles. In short, as a product proceeds through its lifecycle, its regional focus shifts. New and emerging industries and technologies tend to be born in larger metropolitan areas where knowledge is “in the air.” Urban areas that offer a diversity of industries, populations, and cultures, and that house major universities and provide desirable environments for professional workers, tend to generate environments for ideas that can cross established industry lines. While the importance of industrial clusters cannot be ignored, larger urban agglomeration factors may hold sway.

Once a new product or service emerges, the successful ones will experience a growth period. If the company and its new product or service is not purchased by an out-of-area firm, it is possible that it will expand in the region where it was founded. Fledgling companies are highly dependent on the established networks of financial resources, suppliers, mentors, and workforces cultivated during its birth.

In the third stage, competitors enter the market with similar products or services, driving down profits and forcing the company to look for more cost-effective locations. Traditionally, this has led the company to explore rural or international locations. The major urban area simply becomes too costly. It is also important to note that the company’s workforce also changes; research and development activities are replaced by marketing and production activities. In other words, once the product or service is moved due to cost considerations, it will likely also lose its capacity to develop new products or services. With the move, the company’s strategy becomes one of making a commodity and competing on price or quality.

In the final stage the product or service is becomes obsolete, and the company either closes, or merges with another company, or finds a new product or service.

The key implementation of product cycle theory is that for the greater Grand Rapids-Muskegon-Holland region to continue to thrive, it must attract or grow new products or services to replace those that are relocated to less costly locations, i.e. China or Mexico. In a global market, there will always be a cheaper location for an industry to produce commodity products or to deliver simple services.

For region stakeholders and economic developers, additional factors must enter into the equation when identifying possible emerging industry targets. First, will the industry provide employment opportunities for existing residents? If an industry attracts nearly all of its workers from outside the region, then it will provide few employment opportunities for existing unemployed and underemployed regional residents.¹

This is a major concern for industries that require highly skilled workers. Persky suggests that the best case scenario is one where the new industry generates a chain reaction in the region's labor market.² Workers in the region move up to take the higher-skilled, better-paid jobs generated by the new company. This opens their former positions to residents who in turn can move up from their current lower-paid positions. The process continues until an unemployed person takes the last job that is vacated. When, a person is hired from outside the region, the chain stops. Hence the opening for a skilled machinist may have a greater impact on the region's labor market than an opening for a research chemist. Of course "indirect and induced" jobs will be created in either case; however, these jobs tend to be low-paying customer service or retail jobs.

Second, an industry's growth does not ensure that it will bring new monies into the region. Health care is expected to be a high-growth sector for years to come due to an aging population, increased wealth, and new advancements in medical treatments and technologies. However, for regions even as large as the greater Grand Rapid-Muskegon-Holland area, much of this growth will be internally driven. New monies will not be attracted into the region as much as existing expenditure patterns will be reallocated as residents spend more and more on health care.³

¹ Tim Bartik has found that, on average, eight out of every ten jobs created in a region are filled by individuals moving into the region. *Who Benefits from State and Local Economic Development Policies* (W.E. Upjohn Institute, Kalamazoo MI 1991).

² Persky, Felsenstein and Carlson, *Economic Development Strategies and Job Chains in Local Labor* (W.E. Upjohn Institute, Kalamazoo MI 2004).

³ Nevertheless, it can be true that a growing health care sector can stop monies from leaving the area as local residents who would have gone elsewhere for treatment remain in the area.

So the challenge facing a region in selecting emerging industries is three-fold. It must identify

1. High-growth industries that will bring new monies into the region through the sales of their goods or services.
2. The winning technology, process, or system which is scalable and has a reasonable lifespan. Emerging industries will likely have competing technologies as well. In other words, you can bet in the right race but back the wrong horse.
3. Industries that offer job openings that will likely generate job chains which have the possibility of reaching the under-employed and unemployed.

The last challenge is of particular importance to WIRED as it is focused on creating jobs that are within reach of the region's workforce and on developing the resources to assist the region's workforce to meet the needs of possible emerging industries.

Identifying National and International Economic, Demographic and Technology Trends that Can and Will Impact Regional Growth

Forecasting future economic trends is an art as well as a science, and it is seldom correct. In fact, it is prudent to review the common errors that reoccur in long-term forecasts. First, advancements in technology are consistently underestimated. Past forecasts have underestimated the rate of adoption of new technologies such as the internet for financial and retail transitions and the continuous application of more advanced computer technologies to more and more fields. At the same time, forecasts tend to also underestimate the impact of demographic changes. Immigration and an aging population are two clear and well-established trends, and yet we continue to underestimate their social and economic impacts. Finally, we tend to overestimate the rate of change in the social and economic structure of our economy. Who is not disappointed by the persistence of poverty, the racial separation of our cities, and the growing inequality of income and wealth?

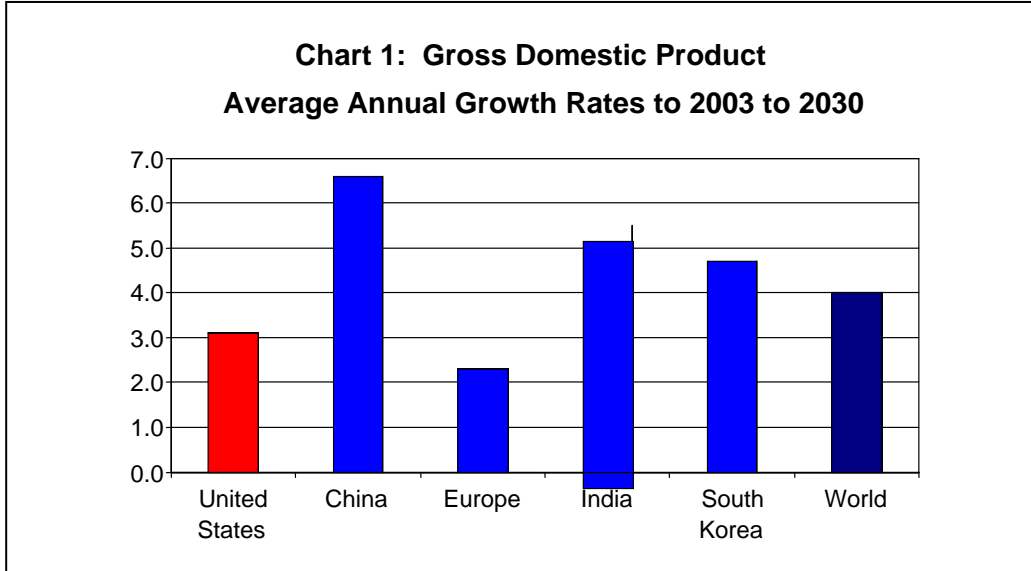
Looking into the future, there are already several economic and demographic trends that must be taken into consideration.

- **The population is growing older.** Not only are medical advances and better diets helping individuals live longer, but at the same time a large generational shift is occurring as the large "baby boomer" population approaches retirement. This shift to a citizenry that is top-heavy with elderly members will definitely have an effect; however, not all the implications are known. Demand for health care services, retirement housing, and leisure services will most definitely increase. Consumer goods will be modified to meet the needs of an aging population. Other factors that will be impacted are governmental tax and service structures, the real estate market, and, perhaps most importantly, the ability of businesses to find skilled replacement workers.
- **Communication technologies will continue to explode.** The power and reach of the internet is still unknown; however, the magnitude of the growth is truly amazing relative to other forms of communication. The time it took for the telephone system to reach 50 million people was more than 70 years; it took the internet only four years.

The market for e-commerce was \$2.6 billion in 1996; it grew to an estimate \$300 billion in 2002. Truly, the growth of the WIRED region may depend upon how wired it is.

- **The demand for clean, secure, and dependable energy will only grow.** Although at the time of this writing the price of crude oil has just dipped back below \$70 per barrel, the expectation is that energy costs will increase dramatically in the future. Multiple factors are behind this long-term assumption, including increased demand for oil and coal by developing nations such as China and India, continued political instability in major oil-producing nations, and growing consumer concern about environmental damage and reliance on imported oil. This could drive continued development of solar, ethanol, bio-fuel, and battery technologies.
- **Global warming and other environmental challenges will not go away.** If global warming continues unabated, there will be a growing market for green technologies for construction materials and energy generation. The Scientific Committee on Problems of the Environment of the International Council for Science surveyed 200 scientists in 50 countries regarding environmental issues that will arise in the 21st century. Climate change ranked first, followed by the quantity and quality of water resources, deforestation, and decertification.
- **The fastest growing areas will be outside the U.S.** According to long-term forecasts, the U.S. economy is expected to grow at a slower pace than the rest of the world, with China and India firmly in the lead (Chart 1). With the world's fastest growing markets elsewhere, it is likely that more and more production and administrative functions will move offshore as well. The U.S. will remain a command and control center, as well as a dominant research and development center; however production and administration functions may gravitate where the end product is sold. For example, it seems highly unlikely that at this time a car designed for the markets in China or India can be produced in the U.S.

Competition is increasing. The influence of other parts of the world (European Union and developing giants such as China and India) will continue to increase. Small consumer products are already produced primarily offshore. A large portion of the nation's production machinery is also made abroad.



Product cycle will continue to shrink. More players in the global market make it very likely that both product development and decline will grow at a more rapid pace. As hinted previously, this will likely shorten the life of any new emerging sector and limit its impact. It will not be the region’s current line of products or services that will determine its success, but its ability to innovate.

- **Partnership will continue to be a major avenue for entering emerging industries.** Whether it is exploring new geographies or new uses, the ability to find suitable partners will only grow. Regions that encourage partnering and networking opportunities should be at an advantage.

National Employment Forecasts

Before forecasting what is likely to occur in the Grand Rapids-Muskegon-Holland region it is important to look at what sectors of the national economy are predicted to experience strong growth in the coming years. Industries and occupations that have a good national outlook will always be of importance to the local market, even if the WIRED region does not have a particularly strong presence in the sector at this time. This is because the strength of these high-national-growth industries or occupations is generally not tied to the competitiveness of specific firms or specific regions, but more so to a large-scale shift in demand for the product or service provided by the sector in question.

According to the Bureau of Labor Statistics (BLS), between 2004 and 2014, U.S. employment is predicted to grow fastest in the following major industry sectors: health-related industries, education, professional & business services, and leisure & hospitality (Table 1). As a group, these four industries are expected to grow by 2.3 percent annually and their employment is expected to increase by nearly 12 million jobs. Although they represent approximately 35 percent of 2004 employment, together the BLS predicts that they will account for over 64 percent of total net employment gains over the ten-year

period. Moreover, their expected growth clearly reflects the demographic shifts discussed earlier. A growing segment of the nation's leisure and hospitality and education sectors will be meeting the demand generated by retirees. For example, the University of Michigan is already building residential units for retirees where the monthly rent payment will include class fees.

Table 1: BLS National Nonfarm Employment Forecast 2004 to 2014

Major industry division	Employment 2004	Projected employment 2014	Estimated employment size growth	Annual average growth rate
Total, all industries	132,191,700	150,876,900	18,685,200	1.3%
Goods-producing industries	21,817,300	21,787,300	-30,000	0.0%
Mining	523,200	477,400	-45,800	-0.9%
Construction	6,964,500	7,756,900	792,400	1.1%
Manufacturing	14,329,600	13,553,000	-776,600	-0.6%
Service-producing	110,374,400	129,089,600	18,715,200	1.6%
Utilities	570,100	562,600	-7,500	-0.1%
Wholesale	5,654,900	6,130,800	475,900	0.8%
Retail	15,034,500	16,683,200	1,648,700	1.0%
Transport & warehousing	4,250,000	4,755,900	505,900	1.1%
Information	3,138,300	3,502,100	363,800	1.1%
Financial activities	8,051,900	8,901,300	849,400	1.0%
Professional & business services	16,413,700	20,979,900	4,566,200	2.5%
Private education	2,766,400	3,664,500	898,100	2.9%
Healthcare	14,187,200	18,482,100	4,294,900	2.7%
Leisure & hospitality	12,479,100	14,693,800	2,214,700	1.6%
Other private services	6,209,900	6,943,400	733,500	1.1%
Federal government	2,727,500	2,770,900	43,400	0.2%
State and local government	18,890,900	21,019,100	2,128,200	1.1%

BLS (Nov. 2005). Summary of the projections. *Monthly Labor Review*.

Employment in manufacturing is expected to continue to decline during the next 10 years due to productivity growth and due to production being moved offshore to meet the growing demand in Asia and other markets as well as to take advantage of lower labor costs.

Of course, within these large, relatively generic industry classifications there exist a huge range of different tasks and skills that are required for workers to fulfill these new employment positions. Shifts in the way goods and services are produced will slowly alter the mix of occupations required for producing goods and services. In addition, uneven demand shifts will also impact the number and type of workers required in a given industry.

The BLS predicts that the biggest increase in share of overall occupations will occur in professional occupations and service occupations (Table 2). On the opposite end of the spectrum, production occupations, office and administrative positions, and sales occupations are predicted to experience the largest decreases in share of total employment during the 10-year period. Most other occupational categories are expected to retain a stable share of total employment.

Major occupational groups that are predicted to increase their share of overall employment are also expected to grow their total employment figures at a faster-than-average rate. As shown in Table 3, professional & related occupations and service occupations are also projected to grow at the fastest annual average rate between 2004 and 2014, 1.9 percent and 1.8 percent respectively. The occupation grouping with the third-largest projected growth rate is for management, business, financial occupations, which is expected to grow at a 1.4 percent annual average rate—just above the 1.3 percent rate for total employment, which is enough to nudge its predicted 2014 share of employment up 0.1 percent.

Table 2: Projected Occupational Share and Change 2004-2014

Major Occupation Group	Percent of total employment		Increase or decrease in share points
	Share 2004	Share projection 2014	
Management, business, financial	10.3%	10.4%	0.1%
Professional & related	19.6%	21.0%	1.4%
Service occupations	19.0%	20.0%	1.0%
Sales	10.5%	10.2%	-0.3%
Office and administrative	16.4%	15.4%	-1.0%
Farming, forestry, fishing	0.7%	0.6%	-0.1%
Construction and extraction	5.3%	5.3%	0.0%
Installation, maintenance, repair	3.9%	3.9%	-0.1%
Production	7.3%	6.4%	-0.9%
Transportation	6.9%	6.8%	-0.1%

BLS (Nov. 2005). Summary of the projections. *Monthly Labor Review*.

In the first part of this section, we touted the importance of national employment growth trends to the WIRED area, since they represent opportunities that are likely to be felt across the country, and they tend to be driven by changes in demand or technology.

Table 3: 2004-2014 Occupation Change Rate

Major occupation group	Annual average rate of change
Management, business, financial	1.4%
Professional & related	1.9%
Service occupations	1.8%
Sales	0.9%
Office and administrative	0.6%
Farming, forestry, fishing	-0.1%
Construction and extraction	1.1%
Installation, maintenance, repair	1.1%
Production	-0.1%
Transportation	1.1%

BLS (Nov. 2005). Summary of the projections. *Monthly Labor Review*.

However, it is important to remember that it is possible for industries and occupations that are not expected to experience significant national growth—indeed sometimes even for industries that are forecast to decline—to maintain a strong demand for workers. This

is the case if the area needs to replace retirees or persons leaving the field. Therefore, for workforce development planning purposes, it is essential to consider not just sectors that are projected to expand but also those that are forecast to have large demand for new workers who retire or leave to pursue different occupations. In fact between 2004 and 2014, various types of replacement openings are predicted to account for nearly two-thirds of all job openings that occur during the 10-year period (Table 4).

Table 4: U.S. Detailed Occupations with the Greatest Number of Replacement Openings Projected 2004-2014

Occupation Title	Thousands (000s) of Workers			
	Change due to new jobs	Openings due to replacements	Percent of openings that are replacements	Total openings
Retail sales workers	937	3,506	78.9%	4,444
Cashiers, except gaming	108	1,688	94.0%	1,796
Retail salespersons	736	1,547	67.8%	2,283
Information and record clerks	657	1,387	67.8%	2,045
Fast food and counter workers	448	1,235	73.4%	1,683
Other office and administrative support workers	157	1,221	88.6%	1,378
Waiters and waitresses	376	1,159	75.6%	1,534
Laborers and material movers, hand	339	1,146	77.2%	1,485
Cooks and food preparation workers	448	972	68.5%	1,419
Financial clerks	312	920	74.7%	1,232
Other management occupations	280	903	76.3%	1,183
Secretaries and administrative assistants	255	838	76.7%	1,093
Health diagnosing and treating practitioners	1,140	820	41.8%	1,960
Laborers and material movers, hand	248	794	76.2%	1,042
Other production occupations	10	765	98.7%	775
Building cleaning workers	608	752	55.3%	1,360
Office clerks, general	263	695	72.5%	958
Stock clerks and order fillers	-115	694	119.9%	579
Cooks	272	658	70.8%	930
Metal workers and plastic workers	-90	652	116.0%	562
Motor vehicle operators	629	627	49.9%	1,256
Other installation, maintenance, repair occupations	342	612	64.1%	955
Other personal care and service workers	604	611	50.3%	1,215
Assemblers and fabricators	78	538	87.3%	616
Registered nurses	703	501	41.6%	1,203
Sales representatives, wholesale and manufacturing	244	486	66.6%	730
Elementary and middle school teachers	351	464	56.9%	815
Vehicle mechanics and repairers	234	461	66.3%	695
Driver/sales workers and truck drivers	449	453	50.2%	902
Janitors and cleaners, ex maids & housekeeping	440	450	50.6%	890
Health technicians	592	446	43.0%	1,038
Financial specialists	444	443	49.9%	887
Other protective service workers	189	435	69.7%	624
Top executives	375	433	53.6%	808
Miscellaneous assemblers and fabricators	103	398	79.3%	502
Total, all occupations	18,928	35,752	65.4%	54,680

Source: BLS.

As shown in Table 4, these occupations offering a high number of replacement openings represent a variety of occupational areas. Many are low-skill, high-turnover jobs that are often considered entry level positions—such as retail sales workers, cashiers, and waiters & waitresses. However, some of these occupations represent traditional fields such as manufacturing production and office administration, which offer decent wages and benefits to workers without requiring a college degree. Additionally, several high-wage occupations in management and finance appear on this table as well, illustrating the strong opportunities that will exist for college-educated workers.

In summary, the national forecast calls for current well-identified trends to continue: health care and activities related to meeting the needs of an aging population will continue to grow. Manufacturing and low-skilled administrative functions will decline due to both productivity improvements and many of these activities being moved offshore.

The next question is where does the WIRED region fit in this changing national economy?

Economic Conditions in the WIRED Region

Regional economies are supported by “exporting” goods and services to customers located outside the region. The earnings from these export sales are then re-circulated through the region’s supplier chains and consumer purchases. Secondary ways that a community can grow are through public and private transfer payments such as retirement income or by import substitution (providing services or making products that were previously purchased from suppliers located outside the region).⁴

In this emerging industry analysis, we focus on identifying those new industries that have the potential of bringing new earnings into the area through their export activities. It is very possible that new entertainment venues, retailers, and consumer services will emerge in the coming years; however, these activities will not generate significant new growth for the region. Instead, their success will come at the expense of their local rivals.

An old adage in regional economics is “tell me your industries and I will tell you your future.” Regions which house firms in industries that are enjoying strong national and international growth have a much higher probability of achieving above-average growth than regions which have a significant share of their firms in slow-growing or declining industries. The competitiveness of a region’s firms can make a difference; however, a region burdened with industries facing stagnant national and international markets is clearly swimming against a strong negative current.

Unfortunately as shown in Table 5, the WIRED region’s major export firms are in industries facing sluggish national growth. The good news is that on average they are more competitive than their national rivals. In this analysis, we used location quotients to identify the region’s export industry. An industry’s location quotient is calculated by dividing the industry’s percent of the region’s total workforce by the same industry share of the nation’s workforce. If an industry’s location quotient is 1.0, the industry’s share in the region’s economy is the same as its share in the nation’s economy, and that it is likely not an industry whose product or service is sold outside the area. In this analysis, the region’s dominant export industries were identified as those having a location quotient of greater than 1.5.

⁴ For an analysis of the growth potential of an import substitution strategy for the region, see Erickcek and Watts. *Market Gap Analysis for the Greater Grand Rapids Area* (W.E. Upjohn Institute, 2007).

Table 5: Specialized Export-Based Industries for the Wired Region

Industry	Percent share of industry in area's employment	Location quotient of industry in area (=share in area divided by share in U.S.)	Percent employment growth of industry in area, 1998-2004	Percent employment growth of industry in U.S., 1998-2004	Average annual percent growth of area industry 1998-2004	Average annual percent growth of U.S. industry 1998-2004	BLS projected average annual percent growth of industry in U.S., 2004-2014
All industry	100.0	1.00	-1.2	6.2	-0.2	1.0	1.3
	Export industries						
Furniture mfg.	2.63	5.45	-44.2	-8.4	-7.2	-1.4	-0.2
Primary metal mfg.	1.43	3.66	-20.7	-30.8	-3.4	-5.0	-2.0
Machinery mfg.	3.08	3.26	-20.7	-28.2	-3.4	-4.6	-1.4
Plastics mfg.	2.31	2.92	0.1	-12.6	0.0	-2.1	-1.0
Transportation equip. mfg.	4.08	2.89	1.6	-16.1	0.3	-2.7	0.5
Leather mfg.	0.10	2.58	-8.2	-58.7	-1.4	-9.6	-2.7
Chemical mfg.	1.56	2.18	-34.7	-9.0	-5.7	-1.5	-0.1
Fabricated metals mfg.	2.59	1.97	-17.7	-18.1	-2.9	-3.0	-0.2
Beverage mfg.	0.22	1.67	130.0	-11.1	29.5	-1.8	-0.7

Furniture tops the list followed by other manufacturing activities. In fact, one of the more important findings in this analysis is that none of the region's export industries produce any type of services.⁵ The region's fast-growing health care industry has a location quotient of between 1.01 (hospitals) and 0.92 (ambulatory health care). One of the challenges facing the region is that it is still dependent on a manufacturing export base. While many manufacturers offer good-paying jobs and stable employment opportunities, few face growing markets. As long as the region depends on manufacturing for its economic base, it will experience below-average employment growth.

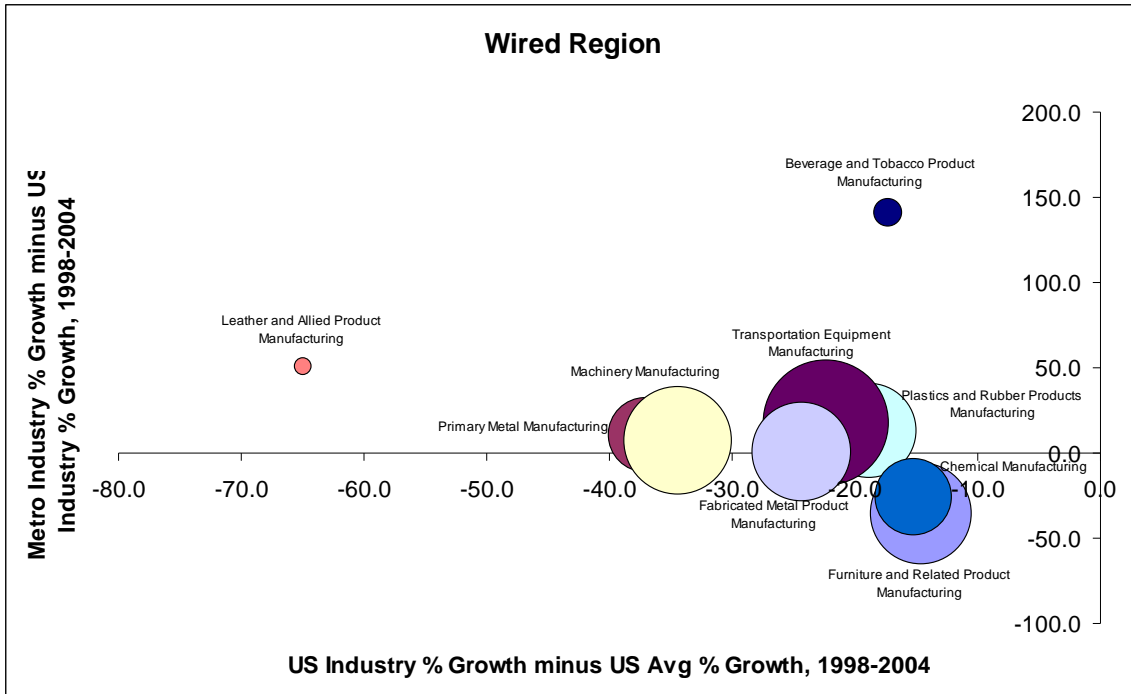
The fourth and fifth columns in Table 5 show the percent employment growth for the industry in the region and in the nation from 1998 to 2004. This was not a great period for these industries as it includes the 2001 recession and the ensuing weak recovery from 2002 to 2004. Of the nine major export industries, only three recorded employment growth during the period, led by the beverage industry where employment rose by 130 percent. Nationwide, all of the industries which contain the region's major exporters lost employment—again, it is extremely difficult for a region to grow when its major exporters are facing weak national markets.

The challenging situation facing the region is illustrated in Chart 2 below. The vertical axis shows the difference between the region's employment growth and that of its national rivals and is a measure of competitiveness. The horizontal axis measures the national employment growth of the region's industries relative to the U.S. average growth and is a measure of the robustness of the region's major export industries.

Ideally, a region would like to have highly competitive export firms—ones outperforming their national rivals—in industries facing strong national growth. None of the WIRED major export industry enjoys such an environment. All of them are facing sluggish national markets. However, regional firms in seven of the nine industries bettered their national rival however. Unfortunately, the region's furniture and chemical industries were unable to keep up with their rivals in terms of employment growth during the period.

⁵ Some may object that tourism is not included. Tourism does not have its own NAICS code so it cannot be included in the analysis. Nevertheless, all of the industries that are associated with tourism, accommodations, performing arts, eating and drinking places, and amusement and recreation all have location quotients of less than one, suggesting that tourism may not be a particularly strong export industry for the region.

Chart 2



NOTE: Top 9 industries, ranked by metro location quotient, for this region. Average U.S. growth is growth of all industries for U.S. over 1998-2004 time period, which was growth of 6.2%. Bubbles are drawn to be proportional to size of industry share in this region. The horizontal axis shows the percentage growth in the industry's employment in the U.S. compared to the growth of all U.S. industries. Industries to the right of the zero vertical line are growing faster in the U.S. than the average industry. The vertical axis shows the percentage growth in the industry's employment in the area compared to the industry's growth in the U.S. Industries above the zero horizontal line are growing faster in this area than nationally, and the area is gaining market share in these industries. The most attractive industries would be those in the NE quadrant (not shown), in which the area is gaining market share in an above-average national growth industry.

Finally as shown in the last column of the Table 5, all of the region's major export industries are forecasted by the Bureau of Labor Statistics (BLS) to experience sluggish if not negative employment growth from 2004 to 2014.

The previous analysis is not without its flaws. First, it is restricted to major industry groupings. Each of the nine major export industries identified can have subsectors that are doing very well. For example, the region's auto industry (transportation equipment manufacturing) is doing poorly; however, this sector includes Gentex which continues to add jobs and dominate the auto mirror industry. A more detailed analysis, if it were available, would likely show more individual companies and industry sub-sectors that are both highly competitive and facing strong markets. Second, the entire analysis is incomplete because it is restricted to the national economy. All of the region's sectors operate in a global environment. Unfortunately, the lack of a consistent international data base makes such a study impossible.

Michael Porter in his Cluster Mapping Project identified seven concentrated industrial clusters in the WIRED region as shown in Table 6. The cluster rankings were determined on the MSA level and identify those industrial clusters that achieved a national ranking

which was higher than the overall ranking of its MSA. In this analysis we used the ranking of the Grand Rapids-Wyoming MSA, 50th, as the cutoff point. Except for the welcomed introduction of biopharmaceuticals, the list once again points out the dependency of the region on traditional manufacturing activities.

Table 6: Traded Clusters, 2004

Automotive
Metal manufacturing
Plastics
Production technology
Biopharmaceuticals
Analytical instruments
Footwear

Source: Michael Porter Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School.

Finally, the above analysis can give the wrong impression that the WIRED region is dependent only upon a select few industries to attract new dollars into the region. Nothing could be further from the truth. First, almost all of the region's industries have an "export" component as shown in Table 7. Using our REMI model for the region, we estimate the number of employees by industry that is dependent upon the sales of their goods or services to out-of-the-region customers. It is not surprising that more than 80 percent of the employees in the region's furniture, motor vehicles, and machinery industries are dependent upon out-of-region sales. However, this analysis also estimates that more than 3,000 workers in each of the region's hospitals, ambulatory care health centers, retail trade, insurance carriers, and construction sectors are also dependent upon serving the needs of out-of-region customers.

Table 7: Regional Employment Dependent Upon "Exporting" Outside of the Region

Variable	National Exports	International Exports	Total Export Employment	% of Total employment
Oil, gas extraction	523	14	537	91.8%
Mining (except oil, gas)	314	47	361	89.4%
Transp. Equip. mfg.. exc. motor vehicles	770	425	1,195	89.1%
Furniture, related product. mfg..	13,783	531	14,314	85.2%
Support activities for mining	57	0	57	85.1%
Motor vehicle mfg.	14,438	2,810	17,248	83.9%
Scenic, sightseeing transp; supp.	976	323	1,299	81.2%
Pipeline transportation	185	4	189	80.8%
Machinery mfg.	9,474	4,023	13,497	80.3%
Electrical equip., appliance mfg.	637	201	838	79.4%
Computer, electronic product mfg.	2,764	1,587	4,351	76.2%
Petroleum, coal product. mfg.	20	2	22	75.9%
Textile product mills	384	26	410	75.0%
Textile mills	163	49	212	73.6%
Miscellaneous mfg.	2,132	635	2,767	72.2%
Wood product mfg.	1,649	81	1,730	71.8%
Food mfg.	5,841	398	6,239	70.9%
Nonmetallic mineral product mfg.	2,934	277	3,211	68.9%
Leather, allied product mfg.	378	128	506	68.6%
Air transportation	81	70	151	66.2%
Accommodations	2,137	1	2,138	63.7%
Rail transportation	262	58	320	62.1%
Chemical mfg.	3,165	1,038	4,203	60.6%
Primary metal mfg.	3,162	591	3,753	58.2%
Transit, ground pass. transp.	663	1	664	57.1%
Fabricated metal product mfg.	7,518	979	8,497	57.1%
Plastics, rubber product mfg.	4,367	586	4,953	55.5%
Truck transp., couriers, messengers	4,461	855	5,316	54.5%
Apparel mfg.	43	6	49	53.8%
Beverage, tobacco product mfg.	273	16	289	52.2%
Forestry et al.	295	80	375	52.2%
Warehousing, storage	524	19	543	50.7%
Insurance carriers, related activities	5,375	196	5,571	49.9%
Broadcasting, exc. Int; telecomm.	1,789	63	1,852	44.0%
Paper mfg.	1,007	223	1,230	42.1%
Educational services	6,615	52	6,667	41.3%
Printing, related support activities	1,142	62	1,204	35.2%
Rental, leasing services	65	748	813	27.6%
Sec, comm contracts, inv	1,573	255	1,828	26.8%
Administrative, support services	12,439	259	12,698	25.1%
Wholesale trade	4,377	2,876	7,253	24.1%
Waste mgmnt. Remed. services	388	1	389	22.5%
Motion picture, sound rec.	111	135	246	20.6%
Mgmt. of companies, enterprises	736	801	1,537	20.3%
Hospitals	3,327	3	3,330	16.5%
Publishing, exc. Internet	283	103	386	13.5%
Ambulatory health care services	3,398	2	3,400	12.0%
Membership assoc., organiz.	1,209	15	1,224	10.1%
Nursing, residential care facilities	1,299	0	1,299	10.1%
Professional, technical services	2,211	650	2,861	8.9%
Social assistance	1,052	0	1,052	8.4%
Amusement, gambling, recreation	622	1	623	8.4%
Utilities	164	8	172	7.4%
Museums, et al.	41	0	41	7.4%
Construction	3,171	6	3,177	7.2%
Monetary authorities, et al.	502	215	717	7.0%
Personal, laundry services	561	0	561	5.9%
Retail trade	4,730	80	4,810	5.8%
Real estate	1,010	11	1,021	5.3%
Performing arts, spectator sports	125	14	139	3.5%
Food services, drinking places	784	50	834	2.0%
Agriculture	29	7	36	1.8%
Repair, maintenance	147	3	150	1.5%
Internet service, data proc., other	5	4	9	1.3%

Source: W.E. Upjohn Institute

In conclusion, the standard analysis of the region's current situation is not promising. Its major exporters are competitive but are also facing stagnant national markets. In addition, cluster analysis suggests that the region's major industrial clusters including biopharmaceuticals are in manufacturing. Still, it would be wrong to focus on these traditional bulwarks of the region for future growth and moreover, it is incorrect and harmful to believe that regional earnings are only gained from a few industries. Export possibilities can emerge in almost all industries which draw into question the soundness of an emerging industries check list.

Regional Forecast

While national trends reviewed above are important to consider, the workforce development goals of WIRED are focused on the economy in the seven-county greater Grand Rapids region. Therefore, we have developed a custom employment forecast for the region from 2007 to 2017 using the Upjohn Institute REMI⁶ model. This forecasting model is based on macro economic growth trends, as well as the unique industrial and occupational mix that constitutes the region. The following assumptions were used in generating this forecast:

- The national economy (GDP) will grow at a 2.8 percent average annual rate during the period.
- The automotive sector will continue to decline in Michigan as Detroit-based companies and their suppliers continue to suffer market share losses.
- Overall growth (or decline) of all other industries will depend on national and international growth trends and the relative cost structure of local firms. In other words, all Michigan industries, with the exception of automotive, are presumed to follow macro trends based on their strength, cost structure, and productivity, and are not tied to locally-specific firm trends.

Growth in the WIRED region between 2007 and 2017 is expected to be modest, with regional employment performing slightly worse than the U.S. average and slightly better than the rest of Michigan. Total private nonfarm employment in the WIRED region is projected to increase at a 0.7 percent annual average rate, compared to a 0.4 percent rate for Michigan and 1.4 percent nationwide (Chart 3).

A look at regional growth within major industry sectors shows that total employment growth between 2007 and 2017 is expected to be concentrated in a few select sectors, while many industries maintain flat employment or even decline. The vast majority of new jobs—around 70 percent of the 43,500 total new jobs expected during the period—are forecast to be in the health care and social services industry (Table 8). Other industries adding a significant number of new jobs include administrative and waste services with 12 thousand new jobs, followed by private education services and the hospitality, recreation, and food service sectors. Offsetting these gains are the expected losses in manufacturing, wholesale, and retail, along with several other small sectors.

⁶ For more information on REMI see the Appendix A.

Chart 3: Forecast Regional Employment Growth and Assumed State and National Trends, 2007 to 2017

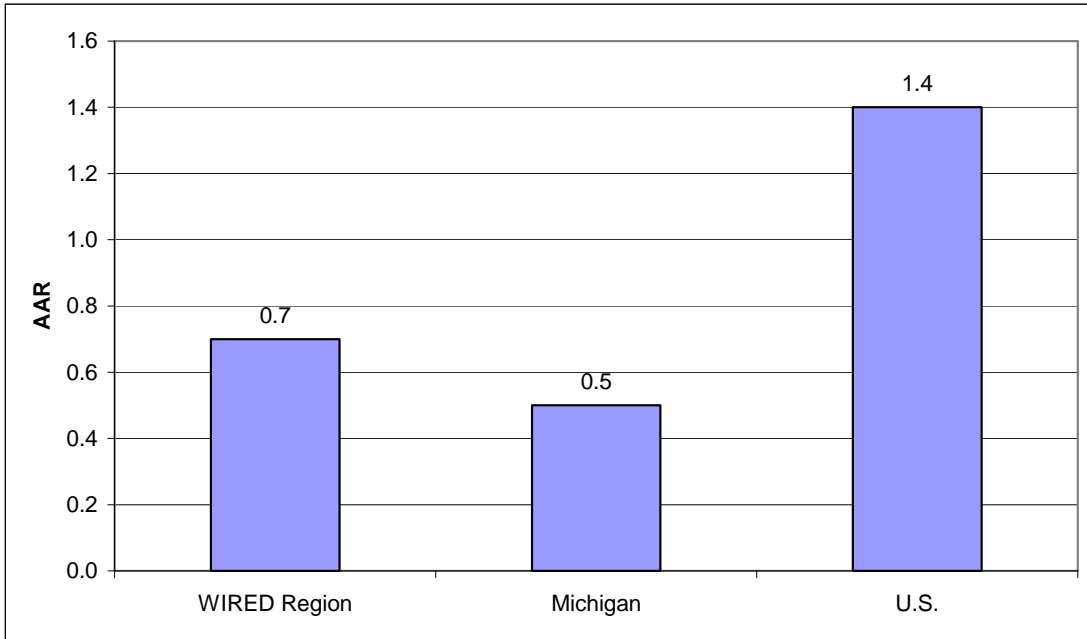


Table 8: WIRED Region Major Industry Employment Growth Forecast

Industry Sector	Thousands of Jobs		Change	Annual average growth rate
	2007 Estimate	2017 Forecast		
Total Private Non-farm	646	690	44	0.7%
Natural Resources	3	3	0	-1.1%
Utilities	2	2	0	-2.4%
Construction	43	47	4	0.9%
Manufacturing	125	112	-13	-1.1%
Wholesale	31	27	-4	-1.3%
Retail	85	84	-1	-0.1%
Transport & Warehouse	16	17	2	0.9%
Information	8	8	0	0.0%
Financial	49	51	2	0.4%
Professional & Business	40	43	2	0.5%
Administrative	51	63	12	2.1%
Private Education	16	21	5	2.6%
Health & Soc Svcs	80	111	30	3.2%
Hospitality & Recreation	60	64	5	0.8%
Other Services	37	38	1	0.2%

Taking a look at more detailed sector data reveals that most jobs will be created by sub-sectors of major industries that are also expected to experience significant growth. The following two tables list the top ten winners and losers in terms of sector job growth that is forecast to occur between 2007 and 2017 (Tables 9 and 10).

Table 9: Ten Biggest Growth Sectors in the Region

Detailed Sector	Projected change in employment 2007-2017
Ambulatory health care services	13,899
Administrative, support services	11,205
Nursing, residential care facilities	6,538
Hospitals	5,926
Private educational services	4,673
Construction	4,061
Social assistance	3,842
Food services, drinking places	2,967
Prof, tech services	2,746
Amusement, gambling, recreation	1,198

Table 10: Ten Regional Sectors Facing the Biggest Decline

Detailed Sector	Projected change in employment 2007-2017
Motor vehicle manufacturing	-4,463
Wholesale trade	-3,703
Machinery manufacturing	-2,299
Fabricated metal prod manufacturing	-2,263
Furniture, related prod manufacturing	-1,730
Chemical manufacturing	-819
Retail trade	-818
Primary metal manufacturing	-759
Repair, maintenance	-682
Management of companies, enterprises	-515

of course, each of these industries, whether growing or contracting, employs workers in a variety of tasks. The occupations expected to grow most in size over the next ten years are those closely associated with high-growth industry sectors (Table 11).

Table 11: Large Growth Regional Occupations

Detailed Sector	Projected change in employment 2007-2017
Health diagnosing and treating	6,808
Nursing & home health	4,088
Health technicians	3,801
Construction trades	3,135
Other healthcare support	2,903
Other personal care	2,698
Food and beverage serving	2,342
Information clerks	2,235
Postsecondary teachers	2,174
Computer specialists	2,009
Counselors, social workers	1,895
Building cleaning and pest control	1,637
Primary, secondary, and special ed	1,609
Business operations specialists	1,547
Other protective service workers	1,414
Other management occupations	1,178
Motor vehicle operators	1,171
Other teachers and instructors	1,003

Many other occupational groups are expected to grow in size over the next ten years, however at a slower pace (Table 12). This group of occupations is more diverse and contains positions that are less likely to be specifically associated with high-growth industries. Indeed, many of the positions in this category of growth consist of workers who serve multiple industries (such as top executives, marketing & advertising workers, or administrative assistants) or those who serve the general population (such as cooks, personal appearance workers, and retail sales).

The slowest growing occupations—those adding, on average, no more than a few new jobs to the region each year—can still represent an important group for workforce development. As shown in Table 13, some of these occupations are also population-driven service positions such as firefighting. However, many of these occupations posting small growth numbers are in fields that are highly specialized and/or require high levels of formal education such as a graduate degree. Despite growing by only a few jobs per year, many of these positions may actually be quite difficult to fill. Furthermore, because of the small base of workers currently in some of these occupations, the forecast rate of increase is actually quite high; for example, an increase of 78 life science workers represents an 8.5 percent increase, while 88 new life, physical, social science positions represents a 5.4 percent gain.

Table 12: Other Growing Regional Occupations

Detailed Sector	Projected change in employment 2007-2017
Grounds maintenance workers	810
Other education, training, library workers	789
Top executives	782
Cooks and food prep	766
Financial specialists	700
Other installation, maintenance, repair	682
Operations specialties managers	538
Personal appearance workers	446
Law enforcement workers	416
Other food preparation and serving	376
Advertising, marketing, promotions	350
Other healthcare workers	348
Occupational and physical therapist	337
Other sales and related workers	297
Supervisors, food prep & service	295
Retail sales workers	292
Entertainment attendants	279
Other construction trades	269
Entertainers and performers, sports	253
Supervisors, construction	239
All other counselors, social, and religious	238
Supervisors, sales workers	228
Social scientists	219
Helpers, construction trades	215
Lawyers, judges, and related	198
Media and communication occupations	173
Supervisors, building & grounds crews	168
Supervisors of personal care workers	157
Art and design occupations	133
Religious workers	132
Administrative assistants	130

Table 13: Slow-growing Regional Occupations

Detailed Sector	Projected change in employment 2007-2017
Life, physical, and social sci techs	88
Legal support workers	87
First-line supervisors, protective svcs	87
Fire fighting and prevention	81
Life scientists	78
Media & communication equip op	73
Animal care and service workers	67
Librarians, curators, archivists	67
Transportation, tourism, and lodging	39
Physical scientists	28
Other transportation workers	28
Funeral service workers	23
Supervisors of installation & repair workers	21
Extraction workers	20
Architects, surveyors, and cartographers	19
Sales representatives, services	14
Food processing occupations	14
Air transportation occupations	14
Printing occupations	14
Supervisors, office & administrative	12
Mathematical science occupations	5

Finally, there are always the unfortunate occupational categories that are forecast to decline in number throughout the region during the next ten years (Table 14). Most of these types of jobs are tied to either the troubled manufacturing sector or to other traditional shrinking industries such as agriculture and natural resources. Also, a few occupations such as communications equipment operators, electronic equipment operators, and other office and administrative positions may be shrinking due to continued technological advancements.

Table 14: Occupations Shrinking in the Region

Detailed Sector	Projected change in employment 2007-2017
Water transportation occupations	-1
Supervisors, transportation	-2
Financial clerks	-14
Supervisors, farming, fishing, forestry	-25
Fishing and hunting workers	-36
Rail transportation occupations	-43
Electrical and electronic equipment	-63
Drafters, engineering, and mapping	-94
Communications equipment operators	-112
Plant and system operators	-115
All other farming, fishing, forestry	-149
Textile, apparel, furnishings	-188
Sales representatives, wholesale	-206
Engineers	-210
Vehicle mechanics	-212
Other office and administrative	-213
Supervisors, production workers	-236
Woodworkers	-505
Other production occupations	-557
Material moving occupations	-723
Agricultural workers	-764
Material recording, scheduling, dis	-1,628
Metal workers and plastic workers	-2,805
Assemblers and fabricators	-3,204

One occupation that is forecast to decrease in size within the WIRED region that may surprise some readers is engineering. Although engineering occupations are doing well nationally, with the BLS predicting above-average 13.4 percent growth between 2004 and 2014, locally many engineering positions are tied to the automotive sector, which is forecast to continue struggling for the foreseeable future. Therefore, our modeling predicts that the number of engineers employed in the WIRED region is likely to decline by about 210 workers—2.9 percent—by 2017.

Emerging Industries, Potential Impacts

Key Characteristics of Favorable Emerging Industries

The identification of specific emerging industries is difficult and risky. Common and reasonable lists include life sciences, alternative energies including bio-fuels, solar, wind, and batteries. Nevertheless, they have common characteristics that most would agree a promising emerging industry should hold:

- **It is facing strong national and global marketplaces.** Services for retirees, medical products, and low-cost energy generation are all facing strong markets. It is important to note that none of these markets are “fad” markets that have little staying power.
- **It is sustainable.** Production of goods or services should not come at the expense of exhausting nonrenewable resources nor should it generate toxic byproducts.
- **It is a part of the region’s base economy.** The activity should bring new monies into the economy by selling to customers who are located outside the region, attracting customers into the region, or stopping dollars from leaving the region.
- **It builds upon the existing industrial strengths of the region.** Since Alfred Marshall in the 1880s, regional scientists have stressed the importance of agglomerative economies.⁷ Today the buzz is about industrial clusters and the new economic geography, but the concept is still the same. In general, activities tend to evolve from the region’s existing industrial structure.
- **It offers employment opportunities that are attainable to the region’s current workforce.** An often-stated fear is that the new knowledge-based economy will leave many behind because their skills and training will be obsolete. This does not need to be the case. The manufacturing of new products, wind turbines, bio-fuels and medical instruments will require many of the manufacturing skills already acquired by the region’s workforce. Second, many growing fields such as medical have positions open that are attainable by existing workers who are willing to attend one or two years of training.

Even if an activity has all of these attributes, there remains a severe danger in that the region could pick the right race but bet on the wrong horse. In a world of competing technologies, management approaches, cost structures, and simply luck, it is quite

⁷ Marshall, *Principles of Economics*, London Macmillan 1890. Marshall recognized more than 100 years ago that urban areas offer an “external” environment where ideas and knowledge could flow between firms and individuals.

possible that a region's stakeholders will identify the industries but be unsuccessful in nurturing a winner.

What Are Other States Doing?

Many states are targeting the same emerging industries. We have researched the economic development efforts of all 50 states and found that 62 percent of the states including Michigan have life sciences or biotechnology as a targeted industry (Table 15). Michigan is among the 23 states that are targeting advanced manufacturing activities and is one of 11 states that are seeking to attract energy-related activities.

While it is possible that each state has prepared careful economic analyses that support their chosen targets, it is also very likely that a bandwagon effect is in play. Regardless of how the industries were selected, it is clear that there is a crowded field. Regions will have an increasingly hard time in separating themselves from the pack.

Table 15: Targeted Industries by State

State	Lifescience/Bio-science/Biotech	Advanced Manufacturing	Information Technology	Aerospace	Professional Services	Energy	Logistics/Warehousing	Agriculture/Food	Electronics	Homeland Security/Defense	Automotive	Tourism	Film	Nanotechnology
Michigan	X	X				X				X	X			
Alabama		X									X			
Alaska				X										
Arizona	X	X		X	X				X					
Arkansas	X	X	X				X	X						
California	X	X	X	X	X	X	X	X		X	X	X	X	
Colorado	X		X	X					X					
Connecticut		X			X									
Delaware		X			X									
Florida	X	X	X	X	X					X				
Hawaii	X					X			X			X	X	
Idaho	X					X								X
Illinois	X									X				
Indiana	X	X	X				X	X					X	
Iowa	X	X	X											
Kansas	X	X		X			X							
Kentucky	X													X
Louisiana	X	X	X			X	X	X					X	
Maine	X	X	X		X			X						
Massachusetts	X	X										X		
Minnesota	X													
Mississippi			X	X			X			X	X			
Missouri		X												
Montana	X													
Nebraska	X		X				X	X				X		
Nevada	X													
New Hampshire		X												
New Jersey	X	X						X						
New Mexico	X	X		X		X		X	X				X	
New York														X
North Carolina		X					X	X						
North Dakota	X		X						X					
Oklahoma	X	X		X	X	X	X							
Oregon									X					
Pennsylvania	X	X			X	X			X					
Rhode Island	X	X	X		X					X		X		
South Dakota	X				X	X								
Tennessee	X						X	X			X			
Texas	X	X	X	X		X			X	X				
Utah	X	X	X	X	X	X	X			X				X
Virginia														X
West Virginia	X		X	X	X	X					X			
Wisconsin	X		X											
TOTALS	32	24	16	12	12	12	11	10	8	8	6	5	5	5
Percent	64%	48%	32%	24%	24%	24%	22%	20%	16%	16%	12%	10%	10%	10%

Source: W. E. Upjohn Institute

Potential Impact

The potential impact of an emerging industry depends on whether it successfully attracts new dollars into the region. As discussed previously, industries such as restaurants, which cater to our more hectic lifestyles or outpatient surgery centers may emerge as fast-growing sectors but will not significantly add to the growth of the region. As shown later, some of the region's faster-growing industries have very modest impacts on the area's overall growth.

To estimate this impact we used the Upjohn Institute's REMI economic model of the region to generate employment multiplier estimates. Employment multipliers are the ratio of the total employment impact of a business on the region and its direct impact—the number of persons it employs. For example, if the region's total employment increases by 200 due to the firm adding 100 workers, then the firm has a multiplier of 2.0. As shown below, multipliers can reveal a lot regarding how important an industry is to the growth of the region as well as how integrated it is.

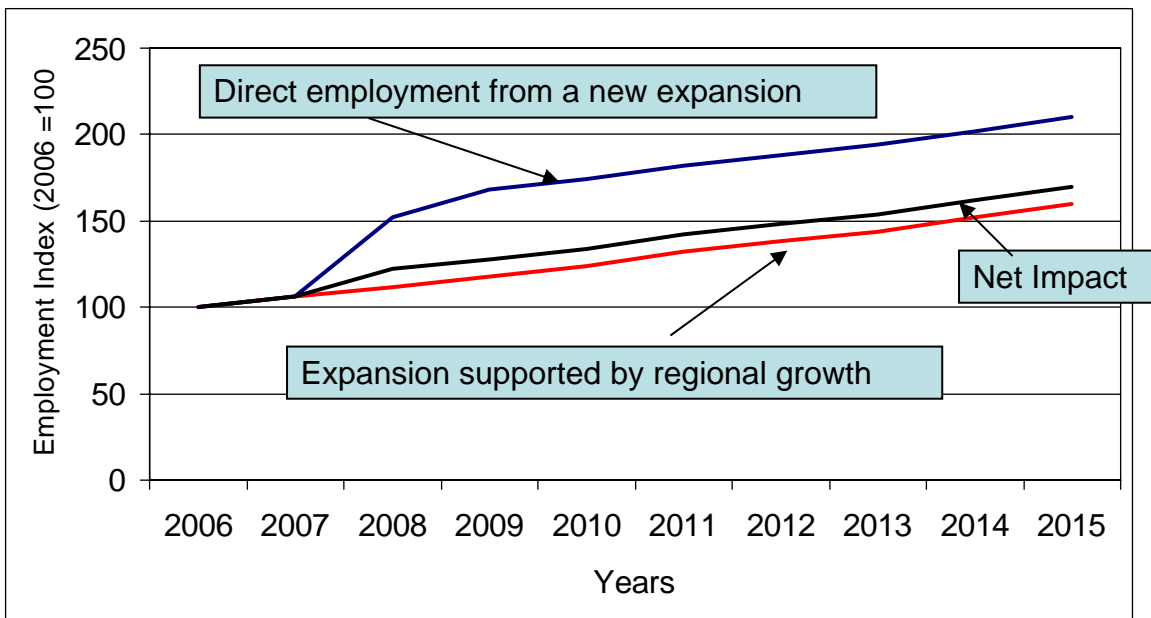
In Table 16 we present the estimated firm multipliers for several high-growth industries. The firm multiplier takes into account the possible displacement impacts of its growth on existing firms. For example, the success of a new restaurant will likely come at the expense of existing restaurants. Indeed, if a new large restaurant hires 100 additional workers, the net overall impact for the seven-county region is 15 jobs. The other 85 jobs will be offset by employment reductions at competing restaurants.

Table 16: Selected Firm Employment Multiplier

Industry Sector	Multiplier
Motor vehicles and parts	2.93
Furniture	1.75
Food products	2.05
Hospitals	0.56
Hospitality	0.44
Food services	0.15
Internet and data services	0.76
Performing arts and sport events	0.75
Private education services	1.07
Professional and technical services	0.93

Regarding hospitals, if a region's hospital adds 100 workers and everything remains the same, on net, only 56 additional jobs will be added to the regional economy due to other hospitals downsizing in response to the expansion. Now for hospitals, everything else is NOT holding constant; we are getting older and population growth is positive. If the expansion is in line with expected increase in demand, then the displacement effect will not be a factor. This is shown in Chart 4 below. Industry employment is forecast to grow during the time period of 2006 to 2015. An expansion that results in greater employment than can be supported by the expected growth will lead to only a modest overall impact in employment.

Chart 4: Employment Impact with Displacement



In considering what effect emerging industries could have on the WIRED region, it is important to understand that the overall impact relies both on the current industrial linkages in the region and the ability of a new emerging industry to succeed in the region. Another way of looking at the prospect of picking an emerging industry to champion—an approach we do not necessarily recommend—is to look at it from the perspective of gambling: the odds of success and the rewards of success are not equal across industries.

To illustrate this difference, we have developed REMI model estimates of the employment multiplier effect of job growth in several emerging industries that are frequently touted by government and business leaders as potential future sources of growth. Although truly emerging industries are extremely difficult to model, given the fact that they are too new as to have well-understood supplier linkages, much can still be said about the local industrial concentrations and typical wage structures of the general industrial categories in which many emerging industries reside. Indeed, for the most part emerging industries that have currently been identified must, by their very nature, exist in some form—usually as a new subset of an existing industry or as an established sector that is poised to experience significant change or growth.

Table 17: Estimated Employment Multiplier Effect of Select Industries in WIRED Region

Emergent Industry Classification	Employment Multiplier
Battery technology	3.3
Medical instruments	2.8
Pharmaceuticals	4.1
Electrical transformers and technology	2.6
Hospitals	2.0
Electromedical devices	3.1
Research and development	2.1

Of seven high-profile, high-tech industries that we were able to model (Table 17), the estimated employment multiplier is highest for pharmaceuticals, because of the combination of high-wage positions and the number of production inputs demanded from other businesses within the region. Battery technology, electro-medical devices (electrical medical instruments), and medical instruments (non-electrical and standard medical instruments) also have a strong regional impact due to their wages and/or locally derived production inputs.

Another perhaps more revealing way of thinking about industries that have high multiplier effects is to realize that this means they are part of a larger industrial cluster. Employment multipliers capture two linkages that an industry has with its area. The first represents the impact of consumer spending by its workers; this varies directly with the level of pay. The second is more relevant to the issue at hand in that it captures the industrial linkages the industry has with its local suppliers. In short, industries with large employment multipliers are in a more clustered environment. This is important as research findings show that industry clusters provide a comparative advantage.

The lowest multiplier effects are expected from jobs created in hospitals and research and development; both sectors that provide services and demand relatively fewer inputs. Additionally, hospital, medical instruments, and R&D services employ workers across a wide range of skill and wage levels. For example, although one may think of hospitals as being filled with highly compensated surgeons, in reality a large number of support workers such as nurse aides, administrative assistants, and custodians are required for their operation.

Finally, despite their struggles in recent years, both the automotive sector and office furniture industry continue to have a strong impact on the WIRED region. The multiplier effect of employment expansion in either autos or office furniture, 3.3 and 2.9 respectively, would have an impact that is equal to or greater than most of the long-shot emerging industries so far discussed. If local firms were able to capture additional market share or develop new products for the industry, the impact would be substantial.

**Table 18: Multiplier Effects of Existing
Local Specialties**

Existing Industry Sector	Employment Multiplier
Motor vehicle parts	3.3
Office furniture	2.9

Occupational Demand for a Select Number of Emerging Industries Candidates and Current Export Industries

One of the overriding goals of WIRED is to assist the region’s education providers in establishing the necessary training programs that will meet the needs of the area’s fast-growing, export industries. In this section, we present detailed occupational demand forecasts for the following export and high-growth industries:

- Pharmaceutical and medicine manufacturing (Table 19)
- Motor vehicle parts manufacturing (Table 20)
- Office furniture (including fixtures) manufacturing (Table 21)
- Medical equipment and supplies manufacturing (Table 22)
- Computer systems design and related services (Table 23)
- Management, scientific and technical consulting services (Table 24)
- Scientific research and development services (Table 25)
- Medical and diagnostics laboratories (Table 26)

In Appendix B, we provide a skills breakdown for the thirty occupations which are expected to experience the greater demand in each of these industries

Table 19: PHARMACEUTICAL AND MEDICINE MANUFACTURING

Occupation	2004	2014
Packaging and filling machine operators and tenders	77	67
Chemists	50	49
Medical scientists, except epidemiologists	36	40
Biological technicians	28	29
Mixing and blending machine setters, operators, and tenders	27	28
Chemical equipment operators and tenders	27	27
Business operation specialists, all other	23	26
First-line supervisors/managers of production and operating w	25	26
Inspectors, testers, sorters, samplers, and weighers	27	25
Sales representatives, wholesale and manufacturing, technica	21	21
Separating, filtering, clarifying, precipitating, and still machine	21	21
Maintenance and repair workers, general	20	21
Executive secretaries and administrative assistants	18	17
Managers, all other	17	17
Chemical technicians	16	17
Team assemblers	16	17
Natural sciences managers	16	17
Laborers and freight, stock, and material movers, hand	16	15
Secretaries, except legal, medical, and executive	17	15
Computer systems analysts	13	15
General and operations managers	13	13
Industrial production managers	13	13
Packers and packagers, hand	13	13
Biochemists and biophysicists	13	13
Industrial machinery mechanics	11	11
Microbiologists	11	11
Life, physical, and social science technicians, all other	10	10
Accountants and auditors	10	10
Production, planning, and expediting clerks	10	10
Shipping, receiving, and traffic clerks	11	10
Chemical plant and system operators	10	10

Table 20: MOTOR VEHICLE PARTS MANUFACTURING

Occupation	2004	2014
Team assemblers	165	172
First-line supervisors/managers of production and operating workers	34	35
Cutting, punching, and press machine setters, operators, and tenders, metal and	42	35
Inspectors, testers, sorters, samplers, and weighers	36	33
Machinists	32	33
Multiple machine tool setters, operators, and tenders, metal and plastic	26	27
Assemblers and fabricators, all other	28	27
Tool and die makers	25	26
Industrial truck and tractor operators	26	24
Welders, cutters, solderers, and brazers	22	23
Industrial engineers	18	21
Maintenance and repair workers, general	20	21
Molding, coremaking, and casting machine setters, operators, and tenders, metal	22	21
Computer-controlled machine tool operators, metal and plastic	19	20
Laborers and freight, stock, and material movers, hand	21	20
Production workers, all other	23	19
Engineers, all other	17	17
Welding, soldering, and brazing machine setters, operators, and tenders	15	15
Electricians	14	15
Engineering technicians, except drafters, all other	14	15
Industrial machinery mechanics	14	14
Lathe and turning machine tool setters, operators, and tenders, metal and plastics	15	14
Engine and other machine assemblers	13	13
Business operation specialists, all other	12	13
Electrical and electronic equipment assemblers	12	12
Mechanical engineers	12	12
Shipping, receiving, and traffic clerks	12	11
Helpers--Production workers	10	11
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders	11	10
Drilling and boring machine tool setters, operators, and tenders, metal and plastics	11	10

Table 21: OFFICE FURNITURE (INCLUDING FIXTURES) MANUFACTURING

Occupation	2000	2014
Team assemblers	120	128
Cabinetmakers and bench carpenters	96	94
First-line supervisors/managers of production and operating workers	43	45
Woodworking machine setters, operators, and tenders, except sawing	44	37
Cutting, punching, and press machine setters, operators, and tenders, metal and	37	31
Helpers--Production workers	27	29
Laborers and freight, stock, and material movers, hand	29	28
Welders, cutters, solderers, and brazers	26	27
Sales representatives, wholesale and manufacturing, except technical and scienti	23	24
Coating, painting, and spraying machine setters, operators, and tenders	19	18
Industrial truck and tractor operators	17	18
Carpenters	16	17
Shipping, receiving, and traffic clerks	18	17
General and operations managers	16	17
Assemblers and fabricators, all other	17	16
Molding, coremaking, and casting machine setters, operators, and tenders, metal	17	16
Maintenance and repair workers, general	14	15
Packers and packagers, hand	14	14
Customer service representatives	13	14
Furniture finishers	23	14
Office clerks, general	15	14
Upholsterers	16	13
Sawing machine setters, operators, and tenders, wood	15	13
Machinists	11	12
Bookkeeping, accounting, and auditing clerks	12	12
Multiple machine tool setters, operators, and tenders, metal and plastic	11	11
Industrial engineers	9	11
Industrial production managers	10	11
Production workers, all other	11	10
Production, planning, and expediting clerks	10	10

Table 22: MEDICAL EQUIPMENT AND SUPPLIES MANUFACTURING

Occupation	2000	2014
Dental laboratory technicians	117	120
Team assemblers	115	119
First-line supervisors/managers of production and operating workers	33	34
Inspectors, testers, sorters, samplers, and weighers	31	29
Ophthalmic laboratory technicians	26	27
Customer service representatives	21	22
Medical appliance technicians	21	21
Assemblers and fabricators, all other	21	20
Packers and packagers, hand	19	20
Shipping, receiving, and traffic clerks	19	18
Sewing machine operators	17	17
Machinists	17	17
General and operations managers	16	16
Sales representatives, wholesale and manufacturing, technical and scientific pro	15	15
Office clerks, general	15	14
Sales representatives, wholesale and manufacturing, except technical and scienti	13	14
Production, planning, and expediting clerks	13	14
Truck drivers, light or delivery services	13	13
Molding, coremaking, and casting machine setters, operators, and tenders, metal	14	13
Industrial engineers	12	13
Packaging and filling machine operators and tenders	14	13
Computer-controlled machine tool operators, metal and plastic	12	13
Bookkeeping, accounting, and auditing clerks	12	11
Multiple machine tool setters, operators, and tenders, metal and plastic	11	11
Mechanical engineers	11	11
Maintenance and repair workers, general	11	11
Laborers and freight, stock, and material movers, hand	12	11
Electrical and electronic equipment assemblers	10	10
Executive secretaries and administrative assistants	10	10
Helpers--Production workers	10	10
Industrial production managers	10	10

Table 23: COMPUTER SYSTEMS DESIGN AND RELATED SERVICES

Occupation	2000	2014
Computer software engineers, applications	117	136
Computer software engineers, systems software	76	88
Computer systems analysts	76	81
Computer programmers	98	78
Computer support specialists	73	71
Network and computer systems administrators	35	39
Network systems and data communications analysts	25	32
Computer and information systems managers	31	32
Customer service representatives	31	31
General and operations managers	29	28
Management analysts	21	21
Office clerks, general	21	18
Executive secretaries and administrative assistants	18	16
Sales representatives, services, all other	16	16
Sales representatives, wholesale and manufacturing, technical and scientific pro	20	15
Database administrators	12	13
Computer specialists, all other	13	13
Bookkeeping, accounting, and auditing clerks	14	12
Business operation specialists, all other	11	12
Accountants and auditors	11	10
Computer hardware engineers	10	10

Table 24: MANAGEMENT, SCIENTIFIC AND TECHNICAL CONSULTING SERVICES

Occupation	2000	2014
Management analysts	124	128
Office clerks, general	47	43
General and operations managers	37	37
Customer service representatives	35	37
Executive secretaries and administrative assistants	38	35
Business operation specialists, all other	23	27
Secretaries, except legal, medical, and executive	28	23
Employment, recruitment, and placement specialists	22	23
Computer software engineers, applications	18	23
Bookkeeping, accounting, and auditing clerks	24	22
Accountants and auditors	20	21
Computer systems analysts	16	19
Market research analysts	17	17
Sales representatives, services, all other	17	17
First-line supervisors/managers of office and administrative support workers	18	16
Telemarketers	17	14
Computer software engineers, systems software	11	14
Computer support specialists	12	12
Laborers and freight, stock, and material movers, hand	12	11
Environmental scientists and specialists, including health	15	11
Sales and related workers, all other	10	10
Computer programmers	12	10
Environmental engineers	10	10
Network systems and data communications analysts	7	10

Table 25: SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES

Occupation	2000	2014
Computer software engineers, systems software	17	20
Medical scientists, except epidemiologists	16	18
Executive secretaries and administrative assistants	15	15
Biological technicians	14	14
General and operations managers	12	12
Business operation specialists, all other	10	11
Computer software engineers, applications	9	11
Chemists	11	10
General and operations managers	10	10
Chemists	10	10
Computer software engineers, applications	8	10
Mechanical engineers	10	10
Business operation specialists, all other	9	10

Table 26: MEDICAL AND DIAGONOSTIC LABORTORIES

Occupation	2000	2014
Medical and clinical laboratory technologists	111	136
Medical and clinical laboratory technicians	105	106
Healthcare support workers, all other	103	103
Radiologic technologists and technicians	87	88
Customer service representatives	39	40
Couriers and messengers	40	32
Billing and posting clerks and machine operators	36	29
Receptionists and information clerks	28	27
Diagnostic medical sonographers	24	26
Office clerks, general	28	25
Medical assistants	23	24
Medical secretaries	26	23
First-line supervisors/managers of office and administrative support workers	21	19
Medical and health services managers	17	17
Data entry keyers	20	15
Physicians and surgeons	14	14
Bookkeeping, accounting, and auditing clerks	14	13
Medical transcriptionists	12	13
Sales representatives, services, all other	12	12
General and operations managers	12	12
Truck drivers, light or delivery services	10	10
Executive secretaries and administrative assistants	10	10
Bill and account collectors	10	10
Medical records and health information technicians	10	10

Occupational Commonalities in Emerging Industries

From the perspective of workforce development, it may be better to focus on common needs that are likely to arise regardless of what industries emerge as future growth drivers, than it is to pick the winner ahead of time. Indeed, there are a number of occupations that are likely to increase in demand if any of the emergent industries discussed so far actually do arise in the WIRED region. These may not be all high-growth occupations overall, as are the occupations discussed earlier in the *Regional Growth Forecast* section of this report. Instead, they represent occupations that will be necessary to support the growth of potential emerging industries (Table 27).

Table 27: Occupations Common to Select Emerging Industries

Assembly and production workers
Computer specialists
Material moving workers
Sales, finance, and executive positions
Engineers

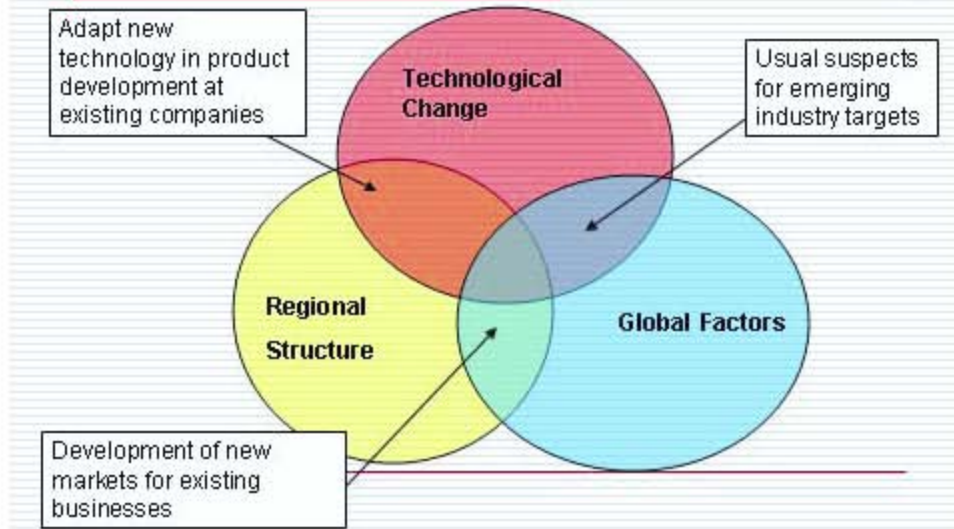
Occupations that are expected to be demanded regardless of what industry actually emerges represent the core of business and manufacturing operations. Of course, although there will likely need to be some specialization—e.g. production workers in a pharmaceutical facility may need different skills than those producing medical instruments—the important fact to acknowledge is that there will continue to be a significant demand for talented adaptable workers with general knowledge of business operations, technology, and production.

Conclusions and Recommendations

The success of the WIRED region will depend upon its ability to navigate the changing economic seas that are constantly being agitated by global factors, technological change, and the health of its regional structure. It is how these three forces interact that could reveal promising opportunities of innovations. There are three overlapping areas:

1. Usual suspects —overlap of technological change and global factors.
2. Development of new marketing opportunities for existing businesses
3. Adaptation of new technology in product development in existing companies.

Emerging Industry Opportunities



Can Emerging Industries Be Identified Successfully?

In terms of identifying specific industries that will experience explosive future growth, we believe the answer to this key question is “highly unlikely.” There are several major challenges to developing a list of emerging industry targets for the WIRED region. First, emerging industries are not the same as high-growth industries. As discussed above, many of the faster growing sectors such as health care are not good sources of new growth for the region, since much of the demand is population driven. A targeted emerging industry should have the potential to become a dynamic component of the region’s export base.

Second, even if the region targets the right emerging industries, such as alternative energy or biopharmaceuticals, it is very risky for it to back a particular technology or field. Emerging markets are highly dynamic arenas with competing technologies that can generate as many losers as winners. Batteries, wind turbines, bio-fuels compete today just as steam and the internal combustion engines battled it out in the early 1900s. Also, what about nuclear fusion and hydrogen? Someone will likely lose, but whom? Third, regions enter a crowded field when they decide to pursue life sciences, alternative energies, or the other usual, emerging-industry suspects (see Table 15). Many of these industries have already been widely recognized as having growth potential by states and metro areas across the nation, meaning the competition to attract activity is already fierce. This does not mean that an area cannot successfully compete for a piece of the action, however the costs may be large. The sad fact is that in the end not all regions will be winners, regardless of the intensity of their efforts.

Finally, there is a degree of randomness that cannot be ignored. Industries emerge due to the creativity of their founders who can reside almost anywhere. The regions that can attract and retain creative individuals, regardless of their field or interests, will have a better chance of becoming the birthplace of a new emerging industry simply because there are more “rolls of the dice” in terms of people and interactions that could bring about something new. Of course, this is the path set forth by Richard Florida and his focus on the importance of attracting the “creative class.”⁸ Nevertheless, even if a region does everything right and becomes a creative community, it only increases the probability that something could happen.

It is tempting to jump on the bandwagon and compete in the realm of known emerging industries. The Van Andel Institute and GVSU’s Michigan Alternative and Renewable Energy Center are outstanding facilities that do hold promise for the region. Nevertheless, we believe that the region must look beyond the usual suspects. Attention should be given to creating the resources and environment for west Michigan firms, regardless of industry, to become innovative, take risks and to introduce new products and services to new markets. The greatest gain from emerging industries will come if the Grand Rapids region is able to capture the growth of a new technology from day one, instead of attempting to attract activity long after the potential of a new industry has been recognized.

Importance of Social Clusters

While there are wonderful success stories of businesses entering and accelerating in new fields, recent economic development research suggests that new industries do not emerge, instead they evolve from the area’s existing economic clusters. In other words, the region’s industry clusters are its incubators for new products and services. *Your future partially rests on how well you build on the past.* No one would be surprised if the next best thing in office furniture systems is born in west Michigan. However, we would all be surprised if the next best computer software application is developed on the eastern shores of Lake Michigan. It is possible and would be exciting, but it runs counter to current economic development thinking.

Numerous books and articles have recently been published on the geography of innovation⁹ and most support Porter and Krugmann’s research that argues the importance of industrial clusters.¹⁰ As shown previously in Table 6, according to Porter, west Michigan’s industrial clusters include office furniture systems and automotive. However, they also include some lesser known clusters: plastics, biopharmaceuticals, analytical instruments, and footwear.

⁸ Florida, *The Rise of the Creative Class. And How It's Transforming Work, Leisure and Everyday Life.* Basic Books, 2002.

⁹ These include Sheshinski, Strom and Baumol ed., *Entrepreneurship, Innovation, and the Growth Mechanism of the Free-Enterprise Economy*, Princeton University Press, Princeton, NJ 2007; Breschi and Malerba ed. *Clusters, Networks and Innovation*, Oxford University Press, 2005; and Steiner ed *Clusters and regional specialization: On geography technology and networks.* Oxford University Press, 1998

¹⁰ Porter, *The Competitive Advantage of Nations*, Macmillan, London, 1990 and Krugman *Geography and trade*, MIT Press, Cambridge 1991.

There are two important ingredients for a dynamic industry cluster: physical assets and social assets. The physical assets are measured in efficiency and agglomeration. Social assets include networking and partnerships. Competing industries locate next to each other to build a mutually beneficial supplier base, attract a specialized labor supply and training resources, and to steal ideas, concepts and people from each other. These physical attractors are important, but they also can grow rigid. Pittsburgh's steelmakers became stuck in an obsolete method of steel production. The Big Three were blindsided by Toyota and other foreign competitors. In short, commodity producers, in their drive to remain lean and competitive, can develop strong physical clusters, but, they run the risk of diminishing the industry's social assets that are key to supporting innovation. These social assets include the networking and partnership opportunities which can generate Marshall's "air of ideas."

The social aspect of clusters is surprisingly strong. Although information can be shared on the internet anywhere in the world, physical space still matters. Theoretically, a person residing in Outer Mongolia can research and track the patent active of any U.S. company as long as there internet service is available. She can also collaborate with her colleague in Lima, Peru. However, research shows that this is not what happens. "The diffusion of information is a process embedded in location."¹¹ It is more likely that these two individuals will meet in one of the nation's major urban areas. Why else are individuals willing to pay outrageous rents to be in places like San Francisco, Boston, New York, or Seattle? In addition, why are employers willing to pay higher wages than they would if they were located in other parts of the country? The answer is that these areas seem to maintain an "air of ideas" which provides benefits for the individual and firm alike.

Social clusters are built on trust which, in many respects, is the ultimate gain from social capital. There are identified conditions for trust: First, ideas must flow both ways. In fact, networks are innovative only when new ideas flow in both directions. Second, new ideas seldom stick the first time around. They may have to be repeated several times before they are given their full due. This means that the networks must be open to repetition. New partners must be introduced into the network to keep the flow of ideas coming. *Most importantly, research suggests that the benefits of social clusters decline with the loss of innovativeness.* Two competing *commodity* producers do not have the incentive of entering a social cluster because they have little to gain from sharing.

Recommendations

Based on the findings of this analysis, we offer four recommendations for consideration.

A. Do not pick emerging industry targets.

For reasons cited throughout this report we cannot recommend the establishment of emerging industry targets. At best, it is nothing short of gambling and trying to pick

¹¹ Cowen. "Network Models of Innovation and Knowledge Diffusion," in Breschi and Malerba *Cluster, Networks and Innovation* Oxford University Press 2005 pg 31.

winners. At worst, it takes resources away from meaningful efforts to enhance the region so that it will become more innovative across its wide number of export industries.

B. Work to enhance and develop existing social clusters and build new ones that allow social networking opportunities that can cross industry boundaries.

IRN, in its excellent analysis, *Global Supply Chain Evolution Analysis*, highlights the challenges facing the WIRED region's export industries in keeping their existing clusters intact. Global pressures are forcing some firms to discontinue long-standing partnerships in order to gain cost reductions on commodities. This can inflict great long-term harm on the uniqueness of the region. Only if innovation is constantly injected into the process, can the region's existing clusters be maintained. If an industrial cluster becomes rigid or focused on standardized production, then its days in the region are limited and the likelihood of new product emergence declines.

The development of social clusters to serve as a conduit of new ideas and innovation is vital. However, these conduits depend upon the health, strength and reach of networks both formal and informal. The innovation process calls upon the tacit and noncodifiable nature of technology – the importance of experience and the cumulative nature of learning.

Because innovation highly depends on tacit knowledge it is site focused and will occur on a firm-to-firm basis. Innovation is product-specific, and it must be encouraged across a wide range of the region's firms for the region to remain competitive. In addition, it is a local game: spatial proximity encourages the creation and diffusion of knowledge, especially new knowledge which is unstructured and mostly tacit in nature and can be best transferred by personal contact.¹²

Of course, innovative ideas can be generated internally; however, the difference between innovative firms and innovative communities is the presence of a strong and functional social cluster. In spite of the near-zero cost of global communication, face-to-face interaction still holds value.

The development of learning economies consists of both forming partnerships and opportunities to have face-to-face interactions between firms. However, this communication will only achieve its maximum potential in an air of trust. In short, ideas can only float in an atmosphere of trust, for if the partners within the cluster can trust each other, this reduces the ever present fears of one member appropriating the new idea or innovation.

Addressing the issue of social clusters is not easy. The development of "third places" would be a step in right direction.¹³ Current programs such as the Right Place's Fourth Friday series and its ongoing manufacturing councils are very good beginnings. Nevertheless, we recommend a new initiative: *Grand Rapids Brain Storming*. It would

¹² Elsie L. Echeverri-Carroll and William Brennan, "Are Innovation Networks Bounded by Proximity" in Fischer et.al *Innovation, Networks and Localities*, Springer, Berlin, 1999 pgs. 28-49.

¹³ Third places are locations which are separate from home and the traditional workspace. They can include coffee bars, hotel lobbies, and outdoor sitting areas. They offer a neutral location where ideas and opinions can be shared.

host regular meetings of invited leaders of innovative firms across a wide range of industries. Participants would come together to hear and comment on new ideas that are generated by guest speakers or members of the group. It is a must that the new initiative be led by two to three “champions”—highly-regarded individuals representing innovative companies. If it isn’t, other potential participants may lose interest and be unwilling to make the time to attend the meetings. Efforts should be made to encourage and assure new blood is constantly injected into the group and that an air of trust is maintained. Even if this initiative is not adopted, it remains true that the region could benefit from additional efforts to foster interaction both across industries and from places traditionally outside the current west Michigan social structure. For example, bringing together individuals from different occupations, industries, and backgrounds could slowly begin to generate social networks not currently active in this region.

C. Development of a SWOT team of designers, engineers, and industry experts that provide new ideas for companies.

Again, it is our belief that most innovations occur on the product level and must be encouraged across as many industries as possible. Unfortunately, too many of the west Michigan businesses are busy struggling to keep their current production as lean as possible just to survive in today’s highly competitive environment.

In addition, smaller firms are at a disadvantage. “Firms, especially smaller firms, that lack appropriate in-house R&D facilities have to develop and enhance their absorption capacity by means of other sources, such as learning from customers and suppliers, by interacting with other firms and taking advantage of knowledge spillovers from other firms and industries.”¹⁴ The effectiveness of the region’s drive to promote and nurture innovation will rest on its ability to generate the means to increase innovation capacity.

We understand and appreciate the importance of operating as leanly as possible and the role of Michigan Manufacturing Technology Center-West (MMTC-W) is fundamental and should be supported. Nevertheless, if new innovation and design are not thrown into the mix, a sole focus on lean manufacturing can be a path that leads to making a strictly commodity grade product. The firm’s short-term survival is more ensured, but without product innovations, its long-term success is threatened.

Many researchers have focused their efforts on understanding innovation. We believe that Hansen and Birkinshaw’s supply chain concept is helpful in mapping WIRED potential.¹⁵ They suggest that the innovation process occurs in three steps: idea generation, product development, and marketing. Too many good ideas fail to be fully developed. Too many innovative products never reach their market potential. And finally, too many boring products do make it to market. A successful company, therefore, cannot focus solely on its core capabilities, but should address its weakest links in the innovation chain. Idea companies must focus on production and marketing.

¹⁴ Manfred M. Fischer, “The Innovation Process and Network Activities of Manufacturing Firms” in Fishcer, Suarez-Villa and Steiner (ed) *Innovation, Networks, and Localities*, Springer, Berlin 1999. pg 16.

¹⁵ Hansen and Birkinshaw, “The Innovation Value Chain” *Harvard Business Review*, June 2007 pp. 121 to 130.

Marketing companies must focus on product development. Finally, good product makers must partner or expand their marketing departments and idea generation capabilities.

This supply chain concept fits in well to Nambisan and Sawhney's concept of an innovation bazaar.¹⁶ Companies face a spectrum of opportunities in pursuing innovation. At the one end of the spectrum are the raw ideas that can be generated internally or externally. These ideas and concepts are not ready for product development or markets but may hold tremendous potential. At the other end, companies can purchase market-ready innovation from another company or simply partner with or purchase the innovative company. This is a low-risk, high-cost solution, while the former is a high-risk, low-cost approach. Of course, time is also a factor; if a company is in a high-pace industry, it may not be able to afford to wait for concepts to reach their potential. In these instances it is better to buy market-ready ideas and rely on your marketing and distribution systems. Worse yet, a company's executive team may believe that time allows for only cost-saving innovations for their existing product line.

The economic development community could make use of its unique mix of manufacturing and product designers and engineers and create a SWOT (Strengths, Weaknesses, Opportunities and Threats) team that would conduct a one- or two-day SWOT evaluation of a participating company's products or services and generate a report suggesting ideas on new products, new applications, and new markets. The report would be confidential and strict non-compete agreements would be followed. Of course, it would be the company's decision to pursue any of the ideas put forth in the evaluation. In our interviews with several company CEOs, we found interest in participating with such a program.

It is likely that the major challenge facing this proposed activity is getting the approval of the companies' management teams. In fact, Kanter has found that it can be the company's CEO who is the major barrier to innovation, as he may try to control idea generation.¹⁷ In short, "to get more successes, you have to be willing to risk more failures." No one likes risk and innovation is risky; however, a prudent act of cost and process control can, in fact, simply add to long-term risk. Communication, not control, is the key element to successful innovation. Informal networking, internally and externally, are important steps to innovation. Unfortunately, managers can feel threatened by new ideas and, therefore, nix the process.

D. Work with area government units, non-profits, education institutions, and art associations to improve the attractiveness of the region to professional workers.

This recommendation is clearly outside the mission of WIRED. Nevertheless, the Grand Rapids-Muskegon-Holland region is competing for talent. Human capital will only grow in importance relative to physical capital in the coming years. A region's urban landscape, willingness to accept diversity, and its overall sense of place will become more and more important as the region seeks to become a sticky place in an increasingly

¹⁶ Nambisan and Sawhney, "A Buyer's Guide to the Innovation Bazaar" Harvard Business Review, June 2007 pp 109 to 118.

¹⁷ Kanter, "Innovation: the Classic Traps," Harvard Business Review, November 2006 reprint RO611C.

slippery world. Talent can pick their location and in making a decision, the Grand Rapids region is likely to be compared, fairly or not, to locations such as Chicago and Ann Arbor. Moreover, it is clear when looking at the more successful metro areas that cost of living is a secondary consideration. To compete in the knowledge-based world, the quality of the urban, suburban, and rural environment matters greatly. The West Michigan Strategic Alliance (WMSA) Regional Indicators Efforts is a great first step in examining the issue but more needs to be done.

Last Words

Although the world is becoming flatter in terms of technology, it is also becoming more uneven in terms of opportunity and income. Thousands of workers in west Michigan have worked hard and productively in making furniture, auto parts, food products, and a host of other goods. Unfortunately, in today's global environment, their skills may become obsolete and their employment opportunities, outside of their current employer, dim. Creating an environment for the region's existing manufacturing firms to explore new markets and develop new products is, in short, assisting them to evolve into new industries. If successful, a firm's transition into a new industry would not only be reenergizing, it could increase its profitability. More importantly, it will likely enable them to retain their existing workforce. Of course, retraining will likely be required; however, this is a better outcome for its workers and community than an alternative approach which attracts new professionals while, at the same time, allows others to face a long spell of unemployment and a lifetime of low earnings.

Finally, addressing the future of the region is going to require changes to both the supply and demand sides of the workforce. On the demand side, economic and community development efforts should work to develop an environment for innovation and rapid adoption of new products, technologies, and ideas. We believe an economically thriving region is the best way to support a strong workforce. Additionally, this environment must recognize the importance of making itself socially open and physically attractive if the region is going to bring in the best and brightest new residents.

On the other side of the equation, workforce development efforts will struggle if the focus remains on only traditional job skill training and placement. The existing workforce may be best served by efforts to develop flexibility, adaptability, and general learning capabilities if they are to take advantage of employment opportunities associated with emerging industries. Simple productivity and efficiency training will not be enough to ensure employment in the long-term.

Appendix A

W.E. Upjohn Institute REMI Economic Model for the Greater Grand Rapids-Muskegon- Holland MSA

The W.E. Upjohn Institute maintains an economic computer model especially designed to estimate the economic impact of changes in the greater Grand Rapids area which includes the three metropolitan areas of Grand Rapids–Wyoming (Kent, Newaygo, Ionia, and Barry counties), Muskegon–Norton Shores (Muskegon County) and Holland–Grand Haven (Ottawa County). The model was constructed by Regional Economic Models Incorporated (REMI) and contains three separate components that together capture the resulting total impact on the local economy because of a change in employment. These components are:

- an input-output model that estimates the impact on the local economy of changes in inter-industry purchases. This component of the model captures the impact of an increase in orders to local suppliers of goods and services as well as the impact of households increasing their purchases of consumer goods and services.
- a relative wage component that estimates the impact of the expected changes in the area's cost structure due to changes in economic activity. For instance when a major employer moves into the area, it can cause wages to increase across almost all industries due to the increased demand for workers and other local resources. This boost in wages, while generating additional consumption expenditures, increases the cost of doing business in the area, making the area slightly less attractive to other industries.
- a forecasting and demographic component that forecasts the resulting changes in future employment and population levels due to a change in economic activity.

Appendix B

Motor Vehicle Parts Manufacturing

Team assemblers

<i>% Projected Employment</i> 17.2%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions and Events Inspecting Equipment, Structures or Material Getting Information
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Standing Face-to-Face Discussions Time Pressure Work With Work Group or Team Sounds, Noise Levels Are Distracting or Uncomfortable
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$11.60
	<i>Annual</i> \$24,120
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Industrial engineers

<i>% Projected Employment</i>	2.1%
<i>Skills</i>	Critical Thinking Active Listening Time Management Reading Comprehension Complex Problem Solving
<i>Abilities</i>	Oral Expression Deductive Reasoning Oral Comprehension Problem Solving Mathematical Reasoning Inductive Reasoning Speech Clarity
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interacting With Computers Getting Information Analyzing Data or Information Establishing and Maintaining Interpersonal Relationships Processing Information
<i>Work Context</i>	Face-to-Face Discussions Telephone Duration of Typical Work Week Importance of Being Exact or Accurate Electronic Mail Wear Common Protective or Safety Equipment Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Sounds, Noise Levels Are Distracting or Uncomfortable Structured versus Unstructured Work Freedom to Make Decisions
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Initiative Adaptability/Flexibility Integrity Persistence Cooperation Leadership Achievement/Effort Independence
<i>Work Values</i>	Achievement Independence
<i>Work Needs</i>	Ability Utilization Autonomy Creativity Responsibility Activity Authority Achievement Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$32.05 <i>Annual</i> \$66,670
<i>Projected Growth</i>	Average (10-20%)

Motor Vehicle Parts Manufacturing

First-line supervisors/managers of production and operating workers

% Projected Employment	3.5%	
Skills	Active Listening Reading Comprehension Management of Personnel Resources Instructing Monitoring Speaking Time Management Critical Thinking Judgement and Decision Making Coordination	
Abilities	Oral Expression Oral Comprehension Problem Sensitivity	
Work Activities	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Guiding, Directing, and Motivating Subordinates Getting Information Monitor Processes, Materials, or Surroundings Organizing, Planning, and Prioritizing Work Resolving Conflicts and Negotiating with Others Developing and Building Teams Scheduling Work and Activities Training and Teaching Others Coaching and Developing Others Judging the Qualities of Things, Services, or People Inspecting Equipment, Structures, or Material Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events	
Work Context	Face-to-Face Discussions Contact With Others Duration of Typical Work Week Responsible for Others' Health and Safety Responsibility for Outcomes and Results Wear Common Protective or Safety Equipment Time Pressure Work With Work Group or Team Telephone Freedom to Make Decisions Frequency of Decision Making Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Sounds, Noise Levels Are Distracting or Uncomfortable Electronic Mail Coordinate or Lead Others Pace Determined by Speed of Equipment	
Job Zone	3	
Work Styles	Dependability Leadership Self Control Attention to Detail Stress Tolerance Integrity Cooperation Adaptability/Flexibility	Initiative Persistence Analytical Thinking Concern for Others Independence Achievement/Effort Innovation
Work Values		
Work Needs	Authority Responsibility Autonomy Co-workers	
Median Wages	<i>Hourly</i>	\$22.18
	<i>Annual</i>	\$46,140
Projected Growth	Slower than average (0-9%)	

Motor Vehicle Parts Manufacturing

Machinists

<i>% Projected Employment</i>	3.3%
<i>Skills</i>	<ul style="list-style-type: none"> Operation and Control Operation Monitoring Mathematics Equipment Selection Troubleshooting Reading Comprehension Quality Control Analysis Equipment Maintenance
<i>Abilities</i>	<ul style="list-style-type: none"> Problem Solving Arm-Hand Steadiness Information Ordering Near Vision
<i>Work Activities</i>	<ul style="list-style-type: none"> Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	<ul style="list-style-type: none"> Wear Common Protective or Safety Equipment Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Face-to-Face Discussions Spend Time Standing Exposed to Hazardous Equipment Indoors, Not Environmentally Controlled Contact With Others Time Pressure Freedom to Make Decisions Frequency of Decision Making Duration of Typical Work Week Responsibility for Outcomes and Results
<i>Job Zone</i>	3
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Analytical Thinking Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$16.51
	<i>Annual</i> \$34,350
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Multiple machine tool setters, operators, and tenders, metal and plastic

<i>% Projected Employment</i>	2.7%
<i>Skills</i>	Quality Control Analysis Operation and Control Repairing Equipment Maintenance Operation Monitoring Troubleshooting Learning Strategies Critical Thinking Coordination
<i>Abilities</i>	Control Precision Information Ordering Manual Dexterity
<i>Work Activities</i>	Controlling Machines and Processes Repairing and Maintaining Mechanical Equipment Getting Information Handling and Moving Objects Inspecting Equipment, Structures, or Material
<i>Work Context</i>	Wear Common Protective or Safety Equipment Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Duration of Typical Work Week Exposed to Hazardous Equipment Face-to-Face Discussions Pace Determined by Speed of Equipment Importance of Being Exact or Accurate Spend Time Standing Time Pressure Work With Work Group or Team Contact With Others Exposed to Minor Burns, Cuts, Bites, or Stings
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Independence Initiative Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$14.32
	<i>Annual</i> \$29,780
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Tool and die makers

<i>% Projected Employment</i>	2.6%
<i>Skills</i>	Equipment Selection Mathematics Troubleshooting
<i>Abilities</i>	
<i>Work Activities</i>	Controlling Machines and Processes Getting Information
<i>Work Context</i>	Wear Common Protective or Safety Equipment Face-to-Face Discussions Importance of Being Exact or Accurate Exposed to Hazardous Equipment Exposed to Contaminants Structured versus Unstructured Work Freedom to Make Decisions Sounds, Noise Levels Are Distracting or Uncomfortable Duration of Typical Work Week Physical Proximity Time Pressure Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Frequency of Decision Making Telephone Contact With Others Spend Time Standing
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Dependability Initiative Independence Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$20.95 <i>Annual</i> \$43,580
<i>Projected Growth</i>	Much slower than average (negative growth)

Motor Vehicle Parts Manufacturing

Business operation specialists, all other

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Motor Vehicle Parts Manufacturing

Welders, cutters, solderers, and brazers

<i>% Projected Employment</i>	2.3%
<i>Skills</i>	Reading Comprehension Quality Control Analysis Learning Strategies
<i>Abilities</i>	Arm-Hand Steadiness
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Process Getting Information Performing General Physical Activities Inspecting Equipment, Structures, or Material Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Wear Common Protective or Safety Equipment Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Face-to-Face Discussions Exposed to Contaminants Importance of Being Exact or Accurate Indoors, Not Environmentally Controlled Spend Time Standing Contact With Others Time Pressure Work With Work Group or Team Physical Proximity
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Self Control Independence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$14.90 <i>Annual</i> \$30,990
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Maintenance and repair workers, general

<i>% Projected Employment</i>	2.1%
<i>Skills</i>	Equipment Maintenance Repairing Troubleshooting Active Listening Installation Equipment Selection
<i>Abilities</i>	Problem Sensitivity
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Performing General Physical Activities Repairing and Maintaining Mechanical Equipment
<i>Work Context</i>	Face-to-Face Discussions Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Freedom to Make Decisions Telephone Contact With Others Spend Time Standing Indoors, Environmentally Controlled Wear Common Protective or Safety Equipment Exposed to Minor Burns, Cuts, Bites, or Stings Structured versus Unstructured Work
<i>Job Zone</i>	3
<i>Work Styles</i>	Dependability Attention to Detail Cooperation Self Control Integrity Initiative Analytical Thinking Concern for Others
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$15.01 <i>Annual</i> \$31,210
<i>Projected Growth</i>	Average (10-20%)

Motor Vehicle Parts Manufacturing

Computer-controlled machine tool operators, metal and plastic

<i>% Projected Employment</i>	2.0%
<i>Skills</i>	Operation Monitoring Operation and Control Quality Control Analysis Active Listening
<i>Abilities</i>	Hearing Sensitivity Problem Sensitivity Reaction Time
<i>Work Activities</i>	Controlling Machines and Processes Inspecting Equipment, Structures, or Material Getting Information
<i>Work Context</i>	Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Spend Time Standing Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Time Pressure Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Repeating Same Tasks Exposed to Hazardous Equipment Work With Work Group or Team Face-to-Face Discussions Pace Determined by Speed of Equipment Duration of Typical Work Week Spend Time Making Repetitive Motions Freedom to Make Decisions
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Activity
<i>Median Wages</i>	<i>Hourly</i> \$14.91 <i>Annual</i> \$31,010
<i>Projected Growth</i>	Much slower than average (negative growth)

Motor Vehicle Parts Manufacturing

Engineers, all other

<i>% Projected Employment</i>	1.7%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$37.09
	<i>Annual</i> \$77,150
<i>Projected Growth</i>	Average (10-20%)

Motor Vehicle Parts Manufacturing

Engineering technicians, except drafters, all other

<i>% Projected Employment</i>	1.5%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$25.25
	<i>Annual</i> \$52,530
<i>Projected Growth</i>	Average (10-20%)

Motor Vehicle Parts Manufacturing

Welding, soldering, and brazing machine setters, operators, and tenders

<i>% Projected Employment</i>	1.5%				
<i>Skills</i>					
<i>Abilities</i>	Control Precision				
<i>Work Activities</i>					
<i>Work Context</i>	Wear Common Protective or Safety Equipment Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Spend Time Making Repetitive Motions Face-to-Face Discussions Exposed to Contaminants Indoors, Not Environmentally Controlled Time Pressure Importance of Being Exact or Accurate Spend Time Bending or Twisting the Body Contact With Others Frequency of Decision Making Pace Determined by Speed of Equipment Exposed to Minor Burns, Cuts, Bites, or Stings Duration of Typical Work Week				
<i>Job Zone</i>	2				
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Concern for Others				
<i>Work Values</i>					
<i>Work Needs</i>	Moral Values Independence				
<i>Median Wages</i>	<table style="border: none;"> <tr> <td style="border: none;"><i>Hourly</i></td> <td style="border: none;">\$14.63</td> </tr> <tr> <td style="border: none;"><i>Annual</i></td> <td style="border: none;">\$30,430</td> </tr> </table>	<i>Hourly</i>	\$14.63	<i>Annual</i>	\$30,430
<i>Hourly</i>	\$14.63				
<i>Annual</i>	\$30,430				
<i>Projected Growth</i>	Slower than average (0-9%)				

Motor Vehicle Parts Manufacturing

Electricians

<i>% Projected Employment</i>	1.5%	
<i>Skills</i>		
<i>Abilities</i>	<ul style="list-style-type: none"> Arm-Hand Steadiness Problem Sensitivity Finger Dexterity Near Vision Deductive Reasoning Extent Flexibility Manual Dexterity Trunk Strength 	
<i>Work Activities</i>	<ul style="list-style-type: none"> Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Performing General Physical Activities Organizing, Planning, and Prioritizing Work Updating and Using Relevant Knowledge Getting Information Evaluating Information to Determine Compliance with Standards Handling and Moving Objects 	
<i>Work Context</i>	<ul style="list-style-type: none"> Freedom to Make Decisions Spend Time Standing Structured versus Unstructured Work Contact With Others Importance of Being Exact or Accurate Telephone Face-to-Face Discussions Frequency of Decision Making Indoors, Not Environmentally Controlled Impact of Decisions on Co-workers or Company Results Work With Work Group or Team Time Pressure Spend Time Walking and Running Coordinate or Lead Others Responsible for Others' Health and Safety Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Outdoors, Exposed to Weather Sounds, Noise Levels Are Distracting or Uncomfortable 	
<i>Job Zone</i>	3	
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Dependability Initiative 	
<i>Work Values</i>		
<i>Work Needs</i>	<ul style="list-style-type: none"> Moral Values Ability Utilization 	
<i>Median Wages</i>	<i>Hourly</i>	\$20.57
	<i>Annual</i>	\$42,790
<i>Projected Growth</i>	Average (10-20%)	

Motor Vehicle Parts Manufacturing

Industrial machinery mechanics

% Projected Employment	1.4%
Skills	Repairing Troubleshooting Equipment Maintenance Equipment Selection Installation Critical Thinking Operation Monitoring Reading Comprehension
Abilities	Reaction Time Control Precision Manual Dexterity
Work Activities	Repairing and Maintaining Mechanical Equipment Inspecting Equipment, Structures, or Material Handling and Moving Objects Getting Information Performing General Physical Activities Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions, and Events Operating Vehicles, Mechanized Devices, or Equipment Making Decisions and Solving Problems Monitor Processes, Materials, or Surroundings
Work Context	Wear Common Protective or Safety Equipment Face-to-Face Discussions Exposed to Hazardous Equipment Duration of Typical Work Week Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Time Pressure Spend Time Standing Contact With Others Exposed to Hazardous Conditions Freedom to Make Decisions Frequency of Decision Making Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Not Environmentally Controlled Impact of Decisions on Co-workers or Company Results
Job Zone	3
Work Styles	Attention to Detail Dependability Independence Integrity Initiative Analytical Thinking Persistence Cooperation Stress Tolerance Achievement/Effort Adaptability/Flexibility Concern for Others Innovation Self Control
Work Values	
Work Needs	Moral Values
Median Wages	<i>Hourly</i> \$19.11 <i>Annual</i> \$39,740
Projected Growth	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Engine and other machine assemblers

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	Quality Control Analysis Operation Monitoring Installation Operation and Control Repairing Troubleshooting Equipment Maintenance Equipment Selection Technology Design
<i>Abilities</i>	Information Ordering Control Precision Manual Dexterity Visualization Written Comprehension Finger Dexterity Near Vision Problem Sensitivity Static Strength
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Processes Performing General Physical Activities Inspecting Equipment, Structures, or Material Repairing and Maintaining Mechanical Equipment
<i>Work Context</i>	Exposed to Hazardous Equipment Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Spend Time Standing
<i>Job Zone</i>	3
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$16.72 <i>Annual</i> \$34,770
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Mechanical engineers

% Projected Employment	1.2%	
Skills	<ul style="list-style-type: none"> Mathematics Complex Problem Solving Critical Thinking Reading Comprehension Science Active Listening Judgment and Decision Making Time Management Writing Speaking Operations Analysis Coordination Active Learning 	
Abilities	<ul style="list-style-type: none"> Oral Comprehension Problem Sensitivity Written Comprehension Deductive Reasoning Inductive Reasoning Information Ordering Near Vision Oral Expression 	
Work Activities	<ul style="list-style-type: none"> Making Decisions and Solving Problems Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates 	
Work Context	<ul style="list-style-type: none"> Indoors, Environmentally Controlled Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Telephone Work With Work Group or Team Contact With Others Duration of Typical Work Week Importance of Being Exact or Accurate Letters and Memos Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Frequency of Decision Making Time Pressure Coordinate or Lead Others 	
Job Zone	4	
Work Styles	<ul style="list-style-type: none"> Attention to Detail Cooperation Dependability Leadership Achievement/Effort Adaptability/Flexibility Analytical Thinking 	
Work Values	<ul style="list-style-type: none"> Independence Achievement 	
Work Needs	<ul style="list-style-type: none"> Autonomy Ability Utilization Creativity Responsibility Achievement Social Status Activity Working Conditions Security 	
Median Wages	<i>Hourly</i>	\$32.49
	<i>Annual</i>	\$67,590
Projected Growth	Average (10-20%)	

Motor Vehicle Parts Manufacturing

Electrical and electronic equipment assemblers

<i>% Projected Employment</i>	1.2%
<i>Skills</i>	Quality Control Analysis Troubleshooting Equipment Selection Instructing Time Management Reading Comprehension Learning Strategies Monitoring Active Learning
<i>Abilities</i>	Near Vision
<i>Work Activities</i>	Identifying Objects, Actions, and Events Handling and Moving Objects Evaluating Information to Determine Compliance with Standards Inspecting Equipment, Structures, or Material Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Performing General Physical Activities Controlling Machines and Processes Getting Information
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Contact With Others Work With Work Group or Team Face-to-Face Discussions Physical Proximity Time Pressure
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Independence Self Control
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$12.08
	<i>Annual</i> \$25,130
<i>Projected Growth</i>	Much slower than average (negative growth)

Motor Vehicle Parts Manufacturing

Helpers--Production workers

<i>% Projected Employment</i>	1.1%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Context</i>	Wear Common Protective or Safety Equipment Time Pressure Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Exposed to Contaminants Duration of Typical Work Week Sounds, Noise Levels Are Distracting or Uncomfortable Importance of Being Exact or Accurate Spend Time Bending or Twisting the Body Exposed to Minor Burns, Cuts, Bites, or Stings
<i>Job Zone</i>	1
<i>Work Styles</i>	Dependability Attention to Detail
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$9.80
	<i>Annual</i> \$20,390
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Millwrights

<i>% Projected Employment</i>	0.9%	
<i>Skills</i>	Equipment Selection Repairing Installation Troubleshooting Mathematics	
<i>Abilities</i>	Information Ordering Manual Dexterity Near Vision Visualization	
<i>Work Activities</i>	Repairing and Maintaining Mechanical Equipment Operating Vehicles, Mechanized Devices, or Equipment Getting Information Inspecting Equipment, Structures, or Material Making Decisions and Solving Problems Updating and Using Relevant Knowledge Handling and Moving Objects Performing General Physical Activities Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings	
<i>Work Context</i>	Wear Common Protective or Safety Equipment Face-to-Face Discussions Sounds, Noise Levels Are Distracting or Uncomfortable Very Hot or Cold Temperatures Exposed to Hazardous Equipment Indoors, Not Environmentally Controlled Freedom to Make Decisions Frequency of Decision Making Structured versus Unstructured Work Exposed to Contaminants Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Physical Proximity Extremely Bright or Inadequate Lighting Cramped Work Space, Awkward Positions Telephone Spend Time Standing Time Pressure Exposed to Hazardous Conditions Duration of Typical Work Week Impact of Decisions on Co-workers or Company Results Importance of Being Exact or Accurate Responsible for Others' Health and Safety Exposed to High Places Spend Time Bending or Twisting the Body Work With Work Group or Team Contact With Others Exposed to Minor Burns, Cuts, Bites, or Stings	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Attention to Detail Independence Dependability Analytical Thinking Concern for Others Innovation Cooperation Initiative Persistence Self Control	
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$21.53
	<i>Annual</i>	\$44,780
<i>Projected Growth</i>	Slower than average (0-9%)	

Motor Vehicle Parts Manufacturing

Assemblers and fabricators, all other

<i>% Projected Employment</i>	2.7%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$12.62
	<i>Annual</i> \$26,250
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Industrial production managers

% Projected Employment	0.8%	
Skills	Active Listening Judgment and Decision Making Critical Thinking Reading Comprehension Management of Personnel Resources Coordination Monitoring Time Management Complex Problem Solving Speaking Instructing	
Abilities	Oral Comprehension Oral Expression Inductive Reasoning Problem Sensitivity Written Comprehension Deductive Reasoning	
Work Activities	Getting Information Communicating with Supervisors, Peers, or Subordinates Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Organizing, Planning, and Prioritizing Work Scheduling Work and Activities Identifying Objects, Actions, and Events	
Work Context	Face-to-Face Discussions Telephone Freedom to Make Decisions Contact With Others Structured versus Unstructured Work Responsibility for Outcomes and Results Work With Work Group or Team Electronic Mail Indoors, Environmentally Controlled Coordinate or Lead Others Duration of Typical Work Week Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Importance of Being Exact or Accurate Responsibility for Others' Health and Safety Letters and Memos	
Job Zone	4	
Work Styles	Leadership Attention to Detail Adaptability/Flexibility Integrity Dependability Initiative Cooperation Self Control	Stress Tolerance Independence Achievement/Effort Persistence Analytical Thinking Concern for Others Innovation Social Orientation
Work Values	Independence	
Work Needs	Authority Autonomy Activity Responsibility Company Policies and Practices Compensation Creativity	
Median Wages	<i>Hourly</i>	\$36.34
	<i>Annual</i>	\$75,580
Projected Growth	Slower than average (0-9%)	

Motor Vehicle Parts Manufacturing

Packers and packagers, hand

<i>% Projected Employment</i>	0.7%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Context</i>	Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Contact With Others Face-to-Face Discussions Spend Time Making Repetitive Motions Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Cooperation Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$8.36 <i>Annual</i> \$17,390
<i>Projected Growth</i>	Average (10-20%)

Motor Vehicle Parts Manufacturing

Production, planning, and expediting clerks

<i>% Projected Employment</i>	0.8%
<i>Skills</i>	Active Listening Reading Comprehension Coordination Speaking
<i>Abilities</i>	Written Comprehension
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Organizing, Planning, and Prioritizing Work Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Scheduling Work and Activities Making Decisions and Solving Problems
<i>Work Context</i>	Face-to-Face Discussions Telephone Indoors, Environmentally Controlled Time Pressure Electronic Mail Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Structured versus Unstructured Work Importance of Repeating Same Tasks Responsibility for Outcomes and Results Deal With External Customers Exposed to Contaminants
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Stress Tolerance Independence Initiative Persistence Adaptability/Flexibility Self Control Achievement/Effort Integrity Analytical Thinking
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$18.07 <i>Annual</i> \$37,590
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Sewing machine operators

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Time Pressure Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Sitting Pace Determined by Speed of Equipment Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Activity Independence
<i>Median Wages</i>	<i>Hourly</i> \$8.82 <i>Annual</i> \$18,340
<i>Projected Growth</i>	Much slower than average (negative growth)

Motor Vehicle Parts Manufacturing

General and operations managers

<i>% Projected Employment</i>	0.7%
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Judgment and Decision Making Monitoring Reading Comprehension Speaking Management of Financial Resources Active Listening Persuasion
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Clarity Speech Recognition Written Comprehension Deductive Reasoning Inductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Contact With Others Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control Cooperation Concern for Others Analytical Thinking Independence Stress Tolerance Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$39.17 <i>Annual</i> \$81,480
<i>Projected Growth</i>	Average (10-20%)

Motor Vehicle Parts Manufacturing

Purchasing agents, except wholesale, retail, and farm products

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	Speaking Active Listening Critical Thinking Judgment and Decision Making
<i>Abilities</i>	Oral Expression Oral Comprehension Inductive Reasoning Deductive Reasoning Problem Sensitivity Speech Clarity Written Comprehension
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Getting Information Communicating with Persons Outside Organization Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Processing Information Monitor Processes, Materials, or Surroundings Performing Administrative Activities
<i>Work Context</i>	Telephone Importance of Being Exact or Accurate Structured versus Unstructured Work Contact With Others Electronic Mail Time Pressure Indoors, Environmentally Controlled Freedom to Make Decisions Work With Work Group or Team Face-to-Face Discussions Spend Time Sitting Frequency of Decision Making
<i>Job Zone</i>	3
<i>Work Styles</i>	Integrity Attention to Detail Dependability Cooperation Self Control Adaptability/Flexibility Initiative Analytical Thinking Concern for Others Independence Stress Tolerance Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$23.57 <i>Annual</i> \$49,030
<i>Projected Growth</i>	Slower than average (0-9%)

Motor Vehicle Parts Manufacturing

Engineering managers

% Projected Employment	0.5%	
Skills	Reading Comprehension Mathematics Active Listening Critical Thinking Complex Problem Solving	Active Learning Coordination Operations Analysis Judgment and Decision Making Time Management
Abilities	Oral Comprehension Written Comprehension Inductive Reasoning Oral Expression Speech Recognition Deductive Reasoning	Information Ordering Speech Clarity Near Vision Problem Sensitivity Written Expression
Work Activities	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Getting Information Communicating with Persons Outside Organization Updating and Using Relevant Knowledge Coordinating the Work and Activities of Others Establishing and Maintaining Interpersonal Relationships	
Work Context	Duration of Typical Work Week Telephone Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Frequency of Decision Making Indoors, Environmentally Controlled Contact With Others Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Indoors, Not Environmentally Controlled Coordinate or Lead Others Letters and Memos Responsible for Others' Health and Safety Time Pressure Work With Work Group or Team	
Job Zone	5	
Work Styles	Analytical Thinking Dependability Attention to Detail Integrity Achievement/Effort Stress Tolerance Self Control Persistence Adaptability/Flexibility Cooperation	
Work Values	Independence Achievement	
Work Needs	Autonomy Compensation Authority Ability Utilization Company Policies and Practices Working Conditions Achievement Activity Responsibility Security	
Median Wages	<i>Hourly</i>	\$48.44
	<i>Annual</i>	\$100,760
Projected Growth	Average (10-20%)	

Motor Vehicle Parts Manufacturing

Plumbers, pipefitters, and steamfitters

% Projected Employment	0.6%		
Skills	Installation Critical Thinking Instructing Active Learning Equipment Selection	Judgment and Decision Making Active Listening Mathematics Repairing	Troubleshooting Complex Problem Solving Reading Comprehension Time Management
Abilities	Information Ordering Near Vision Problem Sensitivity Arm-Hand Steadiness	Manual Dexterity Problem Sensitivity Static Strength	
Work Activities	Getting Information Inspecting Equipment, Structures, or Material Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Analyzing Data or Information Processing Information Repairing and Maintaining Mechanical Equipment Organizing, Planning, and Prioritizing Work Performing General Physical Activities Scheduling Work and Activities Handling and Moving Objects Updating and Using Relevant Knowledge Interacting With Computers Judging the Qualities of Things, Services, or People Developing Objectives and Strategies Interpreting the Meaning of Information for Others Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment Identifying Objects, Actions, and Events		
Work Context	Face-to-Face Discussions Duration of Typical Work Week Freedom to Make Decisions Contact With Others Frequency of Decision Making Impact of Decisions on Co-workers or Company Results Responsible for Others' Health and Safety Work With Work Group or Team Structured versus Unstructured Work Telephone Wear Common Protective or Safety Equipment Responsibility for Outcomes and Results Level of Competition Outdoors, Exposed to Weather Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Exposed to Minor Burns, Cuts, Bites, or Stings Importance of Being Exact or Accurate Indoors, Not Environmentally Controlled Telephone Exposed to Hazardous Equipment Cramped Work Space, Awkward Positions Exposed to Contaminants In an Enclosed Vehicle or Equipment Coordinate or Lead Others Very Hot or Cold Temperatures Spend Time Kneeling, Crouching, Stooping, or Crawling		
Job Zone	3		
Work Styles	Integrity Attention to Detail Dependability Self Control Cooperation Independence	Stress Tolerance Analytical Thinking Leadership Persistence Achievement/Effort	Initiative Innovation Adaptability/Flexibility Social Orientation Concern for Others
Work Values			
Work Needs	Moral Values		
Median Wages	<i>Hourly</i>	\$20.27	
	<i>Annual</i>	\$42,160	
Projected Growth	Average (10-20%)		Occup 29

Motor Vehicle Parts Manufacturing

Janitors and cleaners, except maids and housekeeping cleaners

<i>% Projected Employment</i>	0.6%				
<i>Skills</i>	Reading Comprehension				
<i>Abilities</i>					
<i>Work Activities</i>					
<i>Work Context</i>	Spend Time Standing Exposed to Contaminants Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Contact With Others Spend Time Walking and Running Spend Time Bending or Twisting the Body Wear Common Protective or Safety Equipment				
<i>Job Zone</i>	1				
<i>Work Styles</i>	Dependability Self Control Cooperation Attention to Detail Concern for Others Integrity Independence				
<i>Work Values</i>					
<i>Work Needs</i>	Moral Values				
<i>Median Wages</i>	<table border="0"> <tr> <td><i>Hourly</i></td> <td>\$9.32</td> </tr> <tr> <td><i>Annual</i></td> <td>\$19,390</td> </tr> </table>	<i>Hourly</i>	\$9.32	<i>Annual</i>	\$19,390
<i>Hourly</i>	\$9.32				
<i>Annual</i>	\$19,390				
<i>Projected Growth</i>	Average (10-20%)				

Computer Systems Design

Computer software engineers, applications

% Projected Employment 13.6%	
Skills	Programming Critical Thinking Complex Problem Solving Troubleshooting Active Learning Technology Design Judgment and Decision Making Reading Comprehension Operations Analysis Systems Analysis Quality Control Analysis Active Listening Speaking Time Management Coordination
Abilities	Oral Comprehension Deductive Reasoning Near Vision Inductive Reasoning Problem Sensitivity Speech Clarity Written Comprehension
Work Activities	Interacting With Computers Updating and Using Relevant Knowledge Getting Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Identifying Objects, Actions, and Events Analyzing Data or Information Processing Information
Work Context	Face-to-Face Discussions Electronic Mail Spend Time Sitting Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Importance of Being Exact or Accurate Coordinate or Lead Others
Job Zone	4
Work Styles	Analytical Thinking Attention to Detail Cooperation Dependability Achievement/Effort Innovation Persistence Adaptability/Flexibility Initiative
Work Values	Achievement Independence
Work Needs	Ability Utilization Working Conditions Responsibility Creativity Social Status Autonomy Achievement Activity Security
Median Wages	<i>Hourly</i> \$37.06
	<i>Annual</i> \$77,090
Projected Growth	Much faster than average (36+%)

Computer Systems Design

Computer software engineers, systems software

% Projected Employment 8.8%		
Skills	Complex Problem Solving Technology Design Troubleshooting Critical Thinking Active Learning Programming	Reading Comprehension Systems Analysis Mathematics Operations Analysis Active Listening
Abilities	Deductive Reasoning Inductive Reasoning	
Work Activities	Interacting With Computers Making Decisions and Solving Problems Analyzing Data or Information Updating and Using Relevant Knowledge Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Getting Information Evaluating Information to Determine Compliance with Standards Documenting/Recording Information Identifying Objects, Actions, and Events Processing Information Interpreting the Meaning of Information for Others Thinking Creatively Scheduling Work and Activities Establishing and Maintaining Interpersonal Relationships Provide Consultation and Advice to Others Developing Objectives and Strategies Monitor Processes, Materials, or Surroundings	
Work Context	Face-to-Face Discussions Electronic Mail Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Spend Time Sitting Structured versus Unstructured Work Freedom to Make Decisions Telephone Contact With Others Importance of Repeating Same Tasks Spend Time Making Repetitive Motions Time Pressure Duration of Typical Work Week	
Job Zone	4	
Work Styles	Analytical Thinking Attention to Detail Cooperation Initiative Achievement/Effort Integrity Innovation	Adaptability/Flexibility Dependability Persistence Stress Tolerance Leadership Independence
Work Values	Achievement Independence	
Work Needs	Ability Utilization Working Conditions Responsibility Creativity Social Status	Autonomy Achievement Activity Security
Median Wages	<i>Hourly</i>	\$39.48
	<i>Annual</i>	\$82,120
Projected Growth	Much faster than average (36+%)	

Computer Systems Design

Computer systems analysts

% Projected Employment 8.1%	
Skills	Active Learning Reading Comprehension Complex Problem Solving Critical Thinking Active Listening Troubleshooting Service Orientation Monitoring Time Management Quality Control Analysis Systems Analysis Coordination Technology Design Judgment and Decision Making Learning Strategies Equipment Selection
Abilities	Oral Comprehension Problem Sensitivity Inductive Reasoning Deductive Reasoning
Work Activities	Interacting With Computers Making Decisions and Solving Problems Processing Information Getting Information Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Analyzing Data or Information Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Interpreting the Meaning of Information for Others
Work Context	Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Telephone Spend Time Sitting Face-to-Face Discussions Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Contact With Others Duration of Typical Work Week
Job Zone	4
Work Styles	Adaptability/Flexibility Attention to Detail Analytical Thinking Persistence Dependability Initiative Integrity
Work Values	Independence Achievement
Work Needs	Company Policies and Practices Ability Utilization Security Autonomy Responsibility Creativity Compensation
Median Wages	<i>Hourly</i> \$32.84
	<i>Annual</i> \$68,300
Projected Growth	Faster than average (21-35%)

Computer Systems Design

Computer support specialists

% Projected Employment 7.1%		
<i>Skills</i>	Troubleshooting Reading Comprehension Critical Thinking Active Listening	Writing Speaking Learning Strategies Active Learning
<i>Abilities</i>	Inductive Reasoning Oral Expression Written Comprehension Oral Comprehension Deductive Reasoning	Problem Sensitivity Speech Recognition Information Ordering Speech Clarity Near Vision
<i>Work Activities</i>	Interacting With Computers Getting Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Interpreting the Meaning of Information for Others Documenting/Recording Information	
<i>Work Context</i>	Face-to-Face Discussions Indoors, Environmentally Controlled Telephone Contact With Others Electronic Mail Structured versus Unstructured Work	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Adaptability/Flexibility Cooperation Independence Integrity Persistence	Initiative Concern for Others Stress Tolerance Innovation Self Control Leadership Achievement/Effort Social Orientation
<i>Work Values</i>		
<i>Work Needs</i>	Autonomy Working Conditions Security Company Policies and Practices	
<i>Median Wages</i>	<i>Hourly</i>	\$19.52
	<i>Annual</i>	\$40,610
<i>Projected Growth</i>	Faster than average (21-35%)	

Computer Systems Design

Network systems and data communications analysts

% Projected Employment 3.2%		
<i>Skills</i>	Equipment Selection Troubleshooting Complex Problem Solving Active Listening Active Learning Critical Thinking Installation Reading Comprehension	Judgment and Decision Making Technology Design Coordination Systems Evaluation Operations Analysis Equipment Maintenance Systems Analysis Instructing
<i>Abilities</i>	Near Vision Written Comprehension Deductive Reasoning Problem Sensitivity	
<i>Work Activities</i>	Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Getting Information Thinking Creatively Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Organizing, Planning, and Prioritizing Work Making Decisions and Solving Problems Updating and Using Relevant Knowledge Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Evaluating Information to Determine Compliance with Standards Analyzing Data or Information Interpreting the Meaning of Information for Others Processing Information Documenting/Recording Information	
<i>Work Context</i>	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Structured versus Unstructured Work Duration of Typical Work Week Freedom to Make Decisions Work With Work Group or Team Contact With Others Spend Time Sitting	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Attention to Detail Dependability Analytical Thinking Stress Tolerance Initiative Adaptability/Flexibility	Persistence Achievement/Effort Self Control Cooperation Independence Integrity
<i>Work Values</i>	Achievement	
<i>Work Needs</i>	Ability Utilization Compensation Company Policies and Practices	Autonomy Working Conditions Security
<i>Median Wages</i>	<i>Hourly</i>	\$29.69
	<i>Annual</i>	\$61,750
<i>Projected Growth</i>	Much faster than average (36+%)	

Computer Systems Design

Network and computer systems administrators

% Projected Employment 3.9%	
<i>Skills</i>	Troubleshooting Reading Comprehension Active Listening Active Learning Complex Problem Solving Critical Thinking Service Orientation
<i>Abilities</i>	Near Vision Problem Sensitivity Inductive Reasoning Oral Comprehension Oral Expression Written Comprehension Information Ordering Deductive Reasoning Finger Dexterity
<i>Work Activities</i>	Interacting With Computers Updating and Using Relevant Knowledge Making Decisions and Solving Problems Getting Information Communicating with Supervisors, Peers, or Subordinates Processing Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Electronic Mail Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Contact With Others Structured versus Unstructured Work Importance of Being Exact or Accurate Freedom to Make Decisions Work With Work Group or Team Duration of Typical Work Week Spend Time Sitting Time Pressure
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Dependability Analytical Thinking Cooperation Initiative Stress Tolerance Adaptability/Flexibility Integrity Achievement/Effort Independence Persistence Innovation Self Control Leadership
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$28.81 <i>Annual</i> \$59,930
<i>Projected Growth</i>	Much faster than average (36+%)

Computer Systems Design

Computer and information systems managers

% Projected Employment 3.2%	
<i>Skills</i>	Reading Comprehension Active Learning Critical Thinking Negotiation Active Listening Management of Financial Resources Judgment and Decision Making Complex Problem Solving
<i>Abilities</i>	Problem Sensitivity Deductive Reasoning Oral Expression Near Vision Oral Comprehension Speech Clarity Written Comprehension Inductive Reasoning
<i>Work Activities</i>	Getting Information Interacting With Computers Identifying Objects, Actions, and Events Interpreting the Meaning of Information for Others Scheduling Work and Activities Making Decisions and Solving Problems Establishing and Maintaining Interpersonal Relationships Thinking Creatively
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Work With Work Group or Team Contact With Others Freedom to Make Decisions Spend Time Sitting Structured versus Unstructured Work Duration of Typical Work Week Indoors, Environmentally Controlled Importance of Being Exact or Accurate Letters and Memos Coordinate or Lead Others
<i>Job Zone</i>	5
<i>Work Styles</i>	Dependability Leadership Self Control Cooperation Integrity Attention to Detail Adaptability/Flexibility Initiative Persistence Stress Tolerance Independence Achievement/Effort Analytical Thinking Innovation
<i>Work Values</i>	Independence
<i>Work Needs</i>	Authority Security Working Conditions Autonomy Ability Utilization Compensation Responsibility
<i>Median Wages</i>	<i>Hourly</i> \$46.41 <i>Annual</i> \$96,520
<i>Projected Growth</i>	Faster than average (21-35%)

Computer Systems Design

Customer service representatives

<i>% Projected Employment</i>	3.1%	
<i>Skills</i>	Active Listening Reading Comprehension Monitoring Speaking	Time Management Service Orientation Active Learning
<i>Abilities</i>	Oral Comprehension Oral Expression Deductive Reasoning Problem Sensitivity Speech Clarity	Speech Recognition Inductive Reasoning Near Vision Written Comprehension
<i>Work Activities</i>	Interacting With Computers Getting Information Making Decisions and Solving Problems Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Processing Information	
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Sitting Time Pressure Work With Work Group or Team Electronic Mail Freedom to Make Decisions Deal With External Customers Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate	
	Importance of Repeating Same Tasks	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance Adaptability/Flexibility Initiative Concern for Others	Independence Persistence Integrity Social Orientation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$13.22
	<i>Annual</i>	\$27,490
<i>Projected Growth</i>	Faster than average (21-35%)	

Computer Systems Design

Computer programmers

% Projected Employment 7.8%		
Skills	Programming Critical Thinking Complex Problem Solving Active Learning Reading Comprehension	Learning Strategies Operations Analysis Active Listening Troubleshooting Technology Design
Abilities	Information Ordering Deductive Reasoning Near Vision Oral Comprehension	Written Expression Written Comprehension Oral Expression Inductive Reasoning
Work Activities	Interacting With Computers Organizing, Planning, and Prioritizing Work Making Decisions and Solving Problems Getting Information Updating and Using Relevant Knowledge Communicating with Supervisors, Peers, or Subordinates Analyzing Data or Information	
Work Context	Electronic Mail Face-to-Face Discussions Telephone Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Spend Time Sitting Freedom to Make Decisions Contact With Others Structured versus Unstructured Work Time Pressure	
Job Zone	4	
Work Styles	Analytical Thinking Attention to Detail Dependability Initiative Independence	Integrity Achievement/Effort Adaptability/Flexibility Persistence
Work Values	Achievement Independence	
Work Needs	Ability Utilization Creativity Security Autonomy	Company Policies and Practices Compensation Achievement Working Conditions
Median Wages	<i>Hourly</i>	\$30.49
	<i>Annual</i>	\$63,420
Projected Growth	Slower than average (0-9%)	

Computer Systems Design

General and operations managers

% Projected Employment 2.8%																	
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Judgment and Decision Making Monitoring Reading Comprehension Speaking Management of Financial Resources Active Listening Persuasion																
<i>Abilities</i>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Oral Expression</td> <td style="width: 50%;">Speech Recognition</td> </tr> <tr> <td>Oral Comprehension</td> <td>Written Comprehension</td> </tr> <tr> <td>Problem Sensitivity</td> <td>Deductive Reasoning</td> </tr> <tr> <td>Speech Clarity</td> <td>Inductive Reasoning</td> </tr> </table>	Oral Expression	Speech Recognition	Oral Comprehension	Written Comprehension	Problem Sensitivity	Deductive Reasoning	Speech Clarity	Inductive Reasoning								
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<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates																
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Contact With Others Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos																
<i>Job Zone</i>	4																
<i>Work Styles</i>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Dependability</td> <td style="width: 50%;">Analytical Thinking</td> </tr> <tr> <td>Leadership</td> <td>Independence</td> </tr> <tr> <td>Integrity</td> <td>Stress Tolerance</td> </tr> <tr> <td>Attention to Detail</td> <td>Social Orientation</td> </tr> <tr> <td>Initiative</td> <td>Adaptability/Flexibility</td> </tr> <tr> <td>Self Control</td> <td>Innovation</td> </tr> <tr> <td>Cooperation</td> <td>Persistence</td> </tr> <tr> <td>Concern for Others</td> <td>Achievement/Effort</td> </tr> </table>	Dependability	Analytical Thinking	Leadership	Independence	Integrity	Stress Tolerance	Attention to Detail	Social Orientation	Initiative	Adaptability/Flexibility	Self Control	Innovation	Cooperation	Persistence	Concern for Others	Achievement/Effort
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<i>Hourly</i>	\$39.17																
<i>Annual</i>	\$81,480																
<i>Projected Growth</i>	Average (10-20%)																

Computer Systems Design

Management analysts

% Projected Employment 2.1%			
Skills	Critical Thinking Judgment and Decision Making Coordination Time Management Active Listening Monitoring Instructing	Quality Control Analysis Reading Comprehension Operation and Control Learning Strategies Writing Troubleshooting Mathematics	Operations Analysis Service Orientation Systems Evaluation Installation Systems Analysis Active Learning
Abilities	Oral Comprehension Oral Expression Written Comprehension Inductive Reasoning	Written Expression Deductive Reasoning Problem Sensitivity	
Work Activities	Getting Information Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Analyzing Data or Information Organizing, Planning, and Prioritizing Work Evaluating Information to Determine Compliance with Standards Processing Information Documenting/Recording Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Communicating with Persons Outside Organization Developing Objectives and Strategies Resolving Conflicts and Negotiating with Others Interpreting the Meaning of Information for Others Interacting With Computers Judging the Qualities of Things, Services, or People Monitor Processes, Materials, or Surroundings Estimating the Quantifiable Characteristics of Products, Events, or Information		
Work Context	Telephone Electronic Mail Face-to-Face Discussions Indoors, Environmentally Controlled Contact With Others Structured versus Unstructured Work Freedom to Make Decisions Work With Work Group or Team Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Spend Time Sitting Letters and Memos Coordinate or Lead Others		
Job Zone	4		
Work Styles	Dependability Adaptability/Flexibility Cooperation Stress Tolerance Integrity Concern for Others Leadership Persistence	Analytical Thinking Initiative Attention to Detail Achievement/Effort Self Control Independence Social Orientation Innovation	
Work Values	Achievement Independence		
Work Needs	Creativity Achievement Working Conditions Autonomy	Compensation Ability Utilization Social Status	
Median Wages	<i>Hourly</i> \$31.91		
	<i>Annual</i> \$66,380		
Projected Growth	Average (10-20%)		

Computer Systems Design

Database administrators

% Projected Employment 1.3%	
Skills	Active Learning Troubleshooting Critical Thinking Coordination
Abilities	Problem Sensitivity Deductive Reasoning Information Ordering Inductive Reasoning Written Comprehension Near Vision Oral Expression Originality
Work Activities	Interacting With Computers Processing Information Analyzing Data or Information Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions, and Events Making Decisions and Solving Problems Thinking Creatively Getting Information Interpreting the Meaning of Information for Others Documenting/Recording Information Oral Comprehension
Work Context	Electronic Mail Spend Time Sitting Importance of Being Exact or Accurate Letters and Memos Telephone Duration of Typical Work Week Face-to-Face Discussions Time Pressure Freedom to Make Decisions Importance of Repeating Same Tasks Contact With Others Indoors, Environmentally Controlled Structured versus Unstructured Work
Job Zone	4
Work Styles	Analytical Thinking Attention to Detail Dependability Cooperation Integrity Adaptability/Flexibility Initiative Independence Self Control Stress Tolerance Innovation
Work Values	
Work Needs	Security Company Policies and Practices Compensation Ability Utilization Responsibility Working Conditions
Median Wages	<i>Hourly</i> \$30.41
	<i>Annual</i> \$63,250
Projected Growth	Much faster than average (36+%)

Computer Systems Design Sales representatives, services, all other

<i>% Projected Employment</i> 1.6%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$22.50
	<i>Annual</i> \$46,790
<i>Projected Growth</i>	Average (10-20%)

Computer Systems Design Business operation specialists, all other

<i>% Projected Employment</i> 1.2%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Computer Systems Design Computer specialists, all other

<i>% Projected Employment</i> 1.3%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$28.57
	<i>Annual</i> \$59,420
<i>Projected Growth</i>	Average (10-20%)

Computer Systems Design

Office clerks, general

<i>% Projected Employment</i>	1.8%	
<i>Skills</i>	Active Listening Reading Comprehension	
<i>Abilities</i>	Oral Comprehension Oral Expression	
<i>Work Activities</i>	Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates	
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Importance of Being Exact or Accurate Spend Time Sitting Importance of Repeating Same Tasks Indoors, Environmentally Controlled Structured versus Unstructured Work Electronic Mail Work With Work Group or Team Deal With External Customers Freedom to Make Decisions	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Cooperation Dependability Integrity Attention to Detail Concern for Others	Independence Self Control Stress Tolerance Initiative
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$11.09
	<i>Annual</i>	\$23,070
<i>Projected Growth</i>	Slower than average (0-9%)	

Computer Systems Design

Executive secretaries and administrative assistants

% Projected Employment 1.6%	
<i>Skills</i>	Active Listening Reading Comprehension Time Management Speaking
<i>Abilities</i>	Oral Comprehension Written Comprehension Written Expression Oral Expression Speech Clarity Near Vision
<i>Work Activities</i>	Performing Administrative Activities Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Documenting/Recording Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Electronic Mail Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Structured versus Unstructured Work Importance of Repeating Same Tasks Spend Time Sitting Freedom to Make Decisions Deal With External Customers Coordinate or Lead Others Indoors, Environmentally Controlled Time Pressure
<i>Job Zone</i>	3
<i>Work Styles</i>	Cooperation Attention to Detail Dependability Integrity Concern for Others Self Control Adaptability/Flexibility Stress Tolerance Independence Initiative Social Orientation Innovation Achievement/Effort Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$17.29 <i>Annual</i> \$35,960
<i>Projected Growth</i>	Average (10-20%)

Computer Systems Design

Accountants and auditors

% Projected Employment 1.0%		
Skills	Mathematics Active Listening Critical Thinking Monitoring Judgment and Decision Making	Time Management Active Learning Reading Comprehension Writing
Abilities	Problem Sensitivity Deductive Reasoning Information Ordering Oral Expression Written Expression Mathematical Reasoning Written Comprehension Inductive Reasoning	Near Vision Oral Comprehension Problem Sensitivity Number Facility Speech Clarity Speech Recognition Information Ordering
Work Activities	Interacting With Computers Analyzing Data or Information Processing Information Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interpreting the Meaning of Information for Others Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Updating and Using Relevant Knowledge	
Work Context	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Structured versus Unstructured Work Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Letters and Memos Contact With Others Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Importance of Repeating Same Tasks Consequence of Error	
Job Zone	4	
Work Styles	Attention to Detail Dependability Integrity Analytical Thinking Stress Tolerance Cooperation Achievement/Effort	Adaptability/Flexibility Independence Self Control Persistence Concern for Others Initiative Leadership
Work Values	Working Conditions	
Work Needs	Working Conditions Security Compensation	Activity Ability Utilization Social Status
Median Wages	<i>Hourly</i> \$25.10	
	<i>Annual</i> \$52,210	
Projected Growth	Faster than average (21-35%)	

Computer Systems Design

Computer hardware engineers

% Projected Employment 1.0%	
<i>Skills</i>	Complex Problem Solving Active Listening Critical Thinking Active Learning Reading Comprehension Time Management Judgment and Decision Making Troubleshooting Systems Evaluation Operations Analysis Equipment Selection Systems Analysis Learning Strategies
<i>Abilities</i>	Oral Comprehension Oral Expression Written Comprehension Deductive Reasoning Problem Sensitivity
<i>Work Activities</i>	Interacting With Computers Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions, and Events Getting Information
<i>Work Context</i>	Electronic Mail Contact With Others Indoors, Environmentally Controlled Telephone Coordinate or Lead Others Work With Work Group or Team Face-to-Face Discussions Freedom to Make Decisions Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Frequency of Decision Making Importance of Being Exact or Accurate Spend Time Sitting Deal With External Customers Physical Proximity
<i>Job Zone</i>	4
<i>Work Styles</i>	Persistence Analytical Thinking Initiative Attention to Detail Cooperation Integrity Independence Concern for Others Innovation Stress Tolerance Self Control Leadership Adaptability/Flexibility Dependability Achievement/Effort
<i>Work Values</i>	Achievement Independence
<i>Work Needs</i>	Ability Utilization Working Conditions Responsibility Creativity Social Status Autonomy Achievement Activity Security
<i>Median Wages</i>	<i>Hourly</i> \$40.59 <i>Annual</i> \$84,420
<i>Projected Growth</i>	Average (10-20%)

Computer Systems Design

Marketing managers

% Projected Employment 0.8%			
Skills	Critical Thinking Coordination Reading Comprehension Active Learning Speaking Writing Judgment and Decision Making Time Management Active Listening Persuasion Negotiation	Learning Strategies Management of Personnel Resources Monitoring Operations Analysis Management of Financial Resources Complex Problem Solving Instructing Social Perceptiveness Service Orientation Mathematics	
Abilities	Written Comprehension Oral Comprehension Oral Expression Speech Clarity	Deductive Reasoning Fluency of Ideas Inductive Reasoning	Speech Recognition Written Expression Problem Sensitivity
Work Activities	Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Interacting With Computers Getting Information Organizing, Planning, and Prioritizing Work Selling or Influencing Others Judging the Qualities of Things, Services, or People Processing Information Identifying Objects, Actions, and Events Updating and Using Relevant Knowledge Interpreting the Meaning of Information for Others Documenting/Recording Information Resolving Conflicts and Negotiating with Others Thinking Creatively Performing for or Working Directly with the Public		
Work Context	Telephone Electronic Mail Contact With Others Duration of Typical Work Week Deal With External Customers Structured versus Unstructured Work Face-to-Face Discussions Freedom to Make Decisions Spend Time Sitting Letters and Memos Work With Work Group or Team Impact of Decisions on Co-workers or Company Results Coordinate or Lead Others Indoors, Environmentally Controlled Frequency of Decision Making Importance of Being Exact or Accurate		
Job Zone	4		
Work Styles	Leadership Adaptability/Flexibility Initiative Integrity Persistence	Dependability Achievement/Effort Independence Cooperation Social Orientation	Innovation Stress Tolerance Attention to Detail Self Control Concern for Others
Work Values	Achievement Independence		
Work Needs	Working Conditions Ability Utilization Creativity	Autonomy Achievement	
Median Wages	<i>Hourly</i>	\$44.56	
	<i>Annual</i>	\$92,680	
Projected Growth	Faster than average (21-35%)		

Computer Systems Design

Sales managers

% Projected Employment 0.7%		
<i>Skills</i>	Active Listening Speaking Mathematics Time Management Service Orientation Persuasion	Social Perceptiveness Reading Comprehension Monitoring Negotiation Active Learning Judgment and Decision Making
<i>Abilities</i>	Oral Expression Speech Recognition Speech Clarity	Oral Comprehension Written Comprehension Problem Sensitivity
<i>Work Activities</i>	Organizing, Planning, and Prioritizing Work Communicating with Persons Outside Organization Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Establishing and Maintaining Interpersonal Relationships Updating and Using Relevant Knowledge Selling or Influencing Others Getting Information Identifying Objects, Actions, and Events Developing Objectives and Strategies Guiding, Directing, and Motivating Subordinates Analyzing Data or Information Performing for or Working Directly with the Public Processing Information Thinking Creatively Coordinating the Work and Activities of Others Staffing Organizational Units Scheduling Work and Activities Resolving Conflicts and Negotiating with Others	
<i>Work Context</i>	Telephone Contact With Others Electronic Mail Freedom to Make Decisions Duration of Typical Work Week Frequency of Decision Making Structured versus Unstructured Work Letters and Memos Work With Work Group or Team Coordinate or Lead Others Deal With External Customers Impact of Decisions on Co-workers or Company Results Indoors, Environmentally Controlled Level of Competition Time Pressure Importance of Being Exact or Accurate Responsibility for Outcomes and Results Face-to-Face Discussions In an Enclosed Vehicle or Equipment Frequency of Conflict Situations	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Attention to Detail Integrity Self Control Analytical Thinking Concern for Others	
<i>Work Values</i>		
<i>Work Needs</i>	Authority Compensation Activity	Autonomy Working Conditions
<i>Median Wages</i>	<i>Hourly</i>	\$42.11
	<i>Annual</i>	\$87,580
<i>Projected Growth</i>	Average (10-20%)	

Computer Systems Design Bookkeeping, accounting, and auditing clerks

<i>% Projected Employment</i> 1.2%													
<i>Skills</i>	Mathematics Reading Comprehension Time Management Active Listening												
<i>Abilities</i>	Near Vision Mathematical Reasoning Problem Sensitivity												
<i>Work Activities</i>	Interacting With Computers Getting Information Processing Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work												
<i>Work Context</i>	Telephone Electronic Mail Importance of Being Exact or Accurate Importance of Repeating Same Tasks Face-to-Face Discussions Contact With Others Spend Time Sitting Structured versus Unstructured Work Time Pressure Freedom to Make Decisions Duration of Typical Work Week Work With Work Group or Team Frequency of Decision Making												
<i>Job Zone</i>	3												
<i>Work Styles</i>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Attention to Detail</td> <td style="width: 50%;">Initiative</td> </tr> <tr> <td>Integrity</td> <td>Persistence</td> </tr> <tr> <td>Dependability</td> <td>Stress Tolerance</td> </tr> <tr> <td>Cooperation</td> <td>Adaptability/Flexibility</td> </tr> <tr> <td>Independence</td> <td>Concern for Others</td> </tr> <tr> <td>Self Control</td> <td></td> </tr> </table>	Attention to Detail	Initiative	Integrity	Persistence	Dependability	Stress Tolerance	Cooperation	Adaptability/Flexibility	Independence	Concern for Others	Self Control	
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Integrity	Persistence												
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Cooperation	Adaptability/Flexibility												
Independence	Concern for Others												
Self Control													
<i>Work Values</i>													
<i>Work Needs</i>	Working Conditions Independence												
<i>Median Wages</i>	<i>Hourly</i> \$14.18												
	<i>Annual</i> \$29,490												
<i>Projected Growth</i>	Slower than average (0-9%)												

Computer Systems Design

Financial managers

% Projected Employment 0.6%			
<i>Skills</i>	Mathematics Reading Comprehension Critical Thinking Active Listening Time Management Judgment and Decision Making	Writing Time Management Instructing Coordination Monitoring Service Orientation	Active Learning Speaking Learning Strategies Negotiation Social Perceptiveness Management of Personnel Resources
<i>Abilities</i>	Mathematics Oral Expression Problem Sensitivity Deductive Reasoning Speech Clarity	Persuasion Written Comprehension Oral Comprehension Written Expression	Management of Financial Resources Speech Recognition Near Vision Inductive Reasoning
<i>Work Activities</i>	Interacting With Computers Getting Information Processing Information Analyzing Data or Information Analyzing Data or Information Monitoring and Controlling Resources Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Updating and Using Relevant Knowledge Updating and Using Relevant Knowledge Evaluating Information to Determine Compliance with Standards Organizing, Planning, and Prioritizing Work Selling or Influencing Others Performing for or Working Directly with the Public Communicating with Persons Outside Organization Documenting/Recording Information Developing and Building Teams Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Interpreting the Meaning of Information for Others Provide Consultation and Advice to Others		
<i>Work Context</i>	Telephone Face-to-Face Discussions Electronic Mail Frequency of Decision Making Contact With Others Letters and Memos Spend Time Sitting Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Work With Work Group or Team Importance of Being Exact or Accurate Indoors, Environmentally Controlled Freedom to Make Decisions Duration of Typical Work Week Responsibility for Outcomes and Results Deal With External Customers	Importance of Repeating Same Tasks Consequence of Error Level of Competition Time Pressure Coordinate or Lead Others	
<i>Job Zone</i>	5	4	
<i>Work Styles</i>	Integrity Cooperation Analytical Thinking Dependability Attention to Detail	Independence Persistence Initiative Achievement/Effort Self Control	Innovation Leadership Social Orientation Stress Tolerance
<i>Work Values</i>	Achievement		
<i>Work Needs</i>	Authority Working Conditions Activity	Ability Utilization Company Policies and Practices	Responsibility Autonomy
<i>Median Wages</i>	<i>Hourly</i> \$41.48		
	<i>Annual</i> \$86,280		
<i>Projected Growth</i>	Average (10-20%)		

Computer Systems Design

Computer and information scientists, research

<i>% Projected Employment</i> 0.7%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$43.86
	<i>Annual</i> \$91,230
<i>Projected Growth</i>	Faster than average (21-35%)

Computer Systems Design

Technical writers

% Projected Employment 0.7%	
Skills	Reading Comprehension Writing Time Management Active Learning Active Listening Learning Strategies
Abilities	Written Comprehension Written Expression
Work Activities	Getting Information Interacting With Computers Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Updating and Using Relevant Knowledge
Work Context	Telephone Electronic Mail Face-to-Face Discussions Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Coordinate or Lead Others Contact With Others Spend Time Making Repetitive Motions Structured versus Unstructured Work Work With Work Group or Team Importance of Repeating Same Tasks Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week
Job Zone	4
Work Styles	Adaptability/Flexibility Attention to Detail Cooperation Dependability Persistence Stress Tolerance Innovation Analytical Thinking Independence Initiative
Work Values	Achievement Independence
Work Needs	Ability Utilization Achievement Responsibility Creativity Working Conditions
Median Wages	<i>Hourly</i> \$26.52 <i>Annual</i> \$55,160
Projected Growth	Faster than average (21-35%)

Computer Systems Design

Market research analysts

<i>% Projected Employment</i> 0.7%	
<i>Skills</i>	Reading Comprehension Time Management Writing Active Listening Coordination
<i>Abilities</i>	Written Comprehension Oral Comprehension Written Expression
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Documenting/Recording Information Updating and Using Relevant Knowledge Establishing and Maintaining Interpersonal Relationships Getting Information Processing Information Communicating with Persons Outside Organization Making Decisions and Solving Problems Developing Objectives and Strategies Analyzing Data or Information Interpreting the Meaning of Information for Others
<i>Work Context</i>	Telephone Electronic Mail Structured versus Unstructured Work Importance of Being Exact or Accurate Indoors, Environmentally Controlled Spend Time Sitting Freedom to Make Decisions Work With Work Group or Team Face-to-Face Discussions Contact With Others Time Pressure
<i>Job Zone</i>	4
<i>Work Styles</i>	Achievement/Effort Initiative Integrity Persistence Attention to Detail Dependability Innovation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$27.55 <i>Annual</i> \$57,300
<i>Projected Growth</i>	Average (10-20%)

Computer Systems Design

Chief executives

% Projected Employment 0.6%			
Skills	Judgment and Decision Making	Complex Problem Solving	Mathematics
	Negotiation	Reading Comprehension	Time Management
	Coordination	Speaking	Active Learning
	Critical Thinking	Learning Strategies	Systems Evaluation
	Active Listening	Writing	Management of Financial Resources
	Monitoring	Social Perceptiveness	Management of Personnel Resources
		Persuasion	Management of Material Resources
Abilities	Oral Comprehension	Speech Clarity	Problem Sensitivity
	Oral Expression	Deductive Reasoning	Fluency of Ideas
	Written Comprehension	Inductive Reasoning	Originality
	Written Expression	Number Facility	
Work Activities	Making Decisions and Solving Problems Getting Information Communicating with Supervisors, Peers, or Subordinates Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Developing Objectives and Strategies Developing and Building Teams Resolving Conflicts and Negotiating with Others Selling or Influencing Others Analyzing Data or Information Organizing, Planning, and Prioritizing Work Thinking Creatively Guiding, Directing, and Motivating Subordinates Coordinating the Work and Activities of Others Monitoring and Controlling Resources Judging the Qualities of Things, Services, or People Coaching and Developing Others		
Work Context	Telephone	Deal With External Customers	
	Electronic Mail	Indoors, Environmentally Controlled	
	Face-to-Face Discussions		
	Impact of Decisions on Co-workers or Company Results		
	Frequency of Decision Making		
	Freedom to Make Decisions		
	Importance of Being Exact or Accurate		
	Duration of Typical Work Week		
	Contact With Others		
	Letters and Memos		
	Structured versus Unstructured Work		
	Responsibility for Outcomes and Results		
	Time Pressure		
	Work With Work Group or Team		
	Coordinate or Lead Others		
	Responsible for Others' Health and Safety		
	Deal With Unpleasant or Angry People		
Job Zone	5		
Work Styles	Leadership	Independence	Self Control
	Integrity	Persistence	Innovation
	Initiative	Adaptability/Flexibility	Analytical Thinking
	Stress Tolerance	Cooperation	Social Orientation
	Achievement/Effort	Attention to Detail	Concern for Others
	Dependability		
Work Values	Independence	Working Conditions	
	Achievement	Recognition	
Work Needs	Authority	Responsibility	Achievement
	Working Conditions	Compensation	Security
	Autonomy	Ability Utilization	Variety
	Activity	Company Policies and Practices	Creativity
	Social Status		
Median Wages	<i>Hourly</i>	\$66.48	
	<i>Annual</i>	\$142,440	
Projected Growth	Average (10-20%)		

Computer Systems Design Training and development specialists

% Projected Employment 0.5%	
<i>Skills</i>	Active Listening Time Management Speaking Writing Reading Comprehension Critical Thinking Instructing Learning Strategies Active Learning Service Orientation
<i>Abilities</i>	Speech Clarity Deductive Reasoning Oral Expression Speech Recognition Oral Comprehension Originality Written Comprehension Written Expression
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Getting Information Training and Teaching Others Organizing, Planning, and Prioritizing Work Developing Objectives and Strategies Interacting With Computers Making Decisions and Solving Problems Updating and Using Relevant Knowledge Developing and Building Teams Establishing and Maintaining Interpersonal Relationships Performing for or Working Directly with the Public Evaluating Information to Determine Compliance with Standards Coaching and Developing Others Judging the Qualities of Things, Services, or People Thinking Creatively Processing Information Scheduling Work and Activities Coordinating the Work and Activities of Others Analyzing Data or Information
<i>Work Context</i>	Telephone Electronic Mail Freedom to Make Decisions Face-to-Face Discussions Indoors, Environmentally Controlled Deal With External Customers Coordinate or Lead Others Letters and Memos Importance of Being Exact or Accurate Contact With Others Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Public Speaking Structured versus Unstructured Work
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Adaptability/Flexibility Integrity Attention to Detail Cooperation Leadership Concern for Others Initiative Stress Tolerance Independence Social Orientation Analytical Thinking Self Control
<i>Work Values</i>	Independence
<i>Work Needs</i>	Working Conditions Company Policies and Practices Authority Achievement Co-workers Responsibility
<i>Median Wages</i>	<i>Hourly</i> \$22.05
	<i>Annual</i> \$45,870
<i>Projected Growth</i>	Faster than average (21-35%)

Computer Systems Design

Sales representatives, wholesale and manufacturing, except technical and scientific Products

<i>% Projected Employment</i> 0.6%															
<i>Skills</i>	Active Listening Speaking Time Management Reading Comprehension Persuasion Service Orientation														
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity														
<i>Work Activities</i>	Establishing and Maintaining Interpersonal Relationships Getting Information Selling or Influencing Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates														
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Deal With External Customers In an Enclosed Vehicle or Equipment Freedom to Make Decisions Structured versus Unstructured Work Electronic Mail Frequency of Decision Making Duration of Typical Work Week Work With Work Group or Team Physical Proximity Time Pressure Level of Competition Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results														
<i>Job Zone</i>	3														
<i>Work Styles</i>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Integrity</td> <td style="width: 50%;">Cooperation</td> </tr> <tr> <td>Dependability</td> <td>Analytical Thinking</td> </tr> <tr> <td>Initiative</td> <td>Independence</td> </tr> <tr> <td>Stress Tolerance</td> <td>Achievement/Effort</td> </tr> <tr> <td>Persistence</td> <td>Concern for Others</td> </tr> <tr> <td>Self Control</td> <td>Adaptability/Flexibility</td> </tr> <tr> <td>Attention to Detail</td> <td>Innovation</td> </tr> </table>	Integrity	Cooperation	Dependability	Analytical Thinking	Initiative	Independence	Stress Tolerance	Achievement/Effort	Persistence	Concern for Others	Self Control	Adaptability/Flexibility	Attention to Detail	Innovation
Integrity	Cooperation														
Dependability	Analytical Thinking														
Initiative	Independence														
Stress Tolerance	Achievement/Effort														
Persistence	Concern for Others														
Self Control	Adaptability/Flexibility														
Attention to Detail	Innovation														
<i>Work Values</i>															
<i>Work Needs</i>	Autonomy														
<i>Median Wages</i>	<i>Hourly</i> \$22.78														
	<i>Annual</i> \$47,380														
<i>Projected Growth</i>	Average (10-20%)														

Computer Systems Design

First-line supervisors/managers of office and administrative support workers

% Projected Employment 0.8%		
<i>Skills</i>	Active Listening Speaking Reading Comprehension Critical Thinking Monitoring	Time Management Management of Personnel Resources Judgment and Decision Making Instructing Social Perceptiveness
<i>Abilities</i>	Oral Expression Oral Comprehension Written Expression Near Vision	Written Comprehension Speech Clarity Number Facility
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Interacting With Computers Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Organizing, Planning, and Prioritizing Work Developing and Building Teams Communicating with Persons Outside Organization Identifying Objects, Actions, and Events Coordinating the Work and Activities of Others Coaching and Developing Others Processing Information Evaluating Information to Determine Compliance with Standards Updating and Using Relevant Knowledge Resolving Conflicts and Negotiating with Others Performing Administrative Activities Scheduling Work and Activities	
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Contact With Others Work With Work Group or Team Structured versus Unstructured Work Responsibility for Outcomes and Results Deal With External Customers Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Frequency of Decision Making Time Pressure Spend Time Sitting Duration of Typical Work Week Coordinate or Lead Others Letters and Memos Importance of Repeating Same Tasks Impact of Decisions on Co-workers or Company Results	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Integrity Dependability Attention to Detail Cooperation Stress Tolerance Initiative Concern for Others	Leadership Self Control Independence Adaptability/Flexibility Persistence Analytical Thinking Achievement/Effort
<i>Work Values</i>	Independence Achievement	
<i>Work Needs</i>	Authority Autonomy Activity	Working Conditions Responsibility Achievement
<i>Median Wages</i>	<i>Hourly</i>	\$20.38
	<i>Annual</i>	\$42,400
<i>Projected Growth</i>	Slower than average (0-9%)	

Medical Equipment Team assemblers

<i>% Projected Employment</i>	11.9%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions and Events Inspecting Equipment, Structures or Material Getting Information
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Standing Face-to-Face Discussions Time Pressure Work With Work Group or Team Sounds, Noise Levels Are Distracting or Uncomfortable
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$11.60
	<i>Annual</i> \$24,120
<i>Projected Growth</i>	Slower than average (0-9%)

Medical Equipment Dental laboratory technicians

<i>% Projected Employment</i>		12.0%
<i>Skills</i>	Reading Comprehension	Active Learning
	Time Management	Speaking
	Equipment Selection	
<i>Abilities</i>		
<i>Work Activities</i>	Getting Information	
	Organizing, Planning, and Prioritizing Work	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls	
	Time Pressure	
	Indoors, Environmentally Controlled	
	Importance of Being Exact or Accurate	
	Exposed to Contaminants	
	Face-to-Face Discussions	
	Wear Common Protective or Safety Equipment	
	Structured versus Unstructured Work	
	Freedom to Make Decisions	
	Spend Time Making Repetitive Motions	
	Spend Time Sitting	
	Work With Work Group or Team	
	Impact of Decisions on Co-workers or Company Results	
	Frequency of Decision Making	
	Contact With Others	
Sounds, Noise Levels Are Distracting or Uncomfortable		
<i>Job Zone</i>	2	
<i>Work Styles</i>	Attention to Detail	Stress Tolerance
	Dependability	Integrity
	Cooperation	Persistence
	Independence	Adaptability/Flexibility
	Achievement/Effort	
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
	Independence	
<i>Median Wages</i>	<i>Hourly</i>	\$15.50
	<i>Annual</i>	\$32,240
<i>Projected Growth</i>	Slower than average (0-9%)	

Medical Equipment Industrial engineers

<i>% Projected Employment</i>	1.3%		
<i>Skills</i>	Critical Thinking Active Listening Time Management	Reading Comprehension Complex Problem Solving	
<i>Abilities</i>	Oral Expression Deductive Reasoning Oral Comprehension Problem Solving	Mathematical Reasoning Inductive Reasoning Information Ordering Speech Clarity	
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interacting With Computers Getting Information Analyzing Data or Information Establishing and Maintaining Interpersonal Relationships Documenting/Recording Information Processing Information		
<i>Work Context</i>	Face-to-Face Discussions Telephone Duration of Typical Work Week Importance of Being Exact or Accurate Electronic Mail Wear Common Protective or Safety Equipment Indoors, Environmentally Controlled Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Sounds, Noise Levels Are Distracting or Uncomfortable Structured versus Unstructured Work Freedom to Make Decisions		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Initiative	Adaptability/Flexibility Integrity Innovation Persistence	Cooperation Leadership Achievement/Effort Independence
<i>Work Values</i>	Achievement Independence		
<i>Work Needs</i>	Ability Utilization Autonomy Creativity Responsibility Activity	Authority Social Status Achievement Working Conditions	
<i>Median Wages</i>	<i>Hourly</i>	\$32.05	
	<i>Annual</i>	\$66,670	
<i>Projected Growth</i>	Average (10-20%)		

Medical Equipment

First-line supervisors/managers of production and operating workers

<i>% Projected Employment</i>	3.4%		
<i>Skills</i>	Active Listening Reading Comprehension Management of Personnel Resources Instructing Monitoring Speaking Time Management Critical Thinking Judgement and Decision Making Coordination		
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity		
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Guiding, Directing, and Motivating Subordinates Getting Information Monitor Processes, Materials, or Surroundings Organizing, Planning, and Prioritizing Work Resolving Conflicts and Negotiating with Others Developing and Building Teams Scheduling Work and Activities Training and Teaching Others Coaching and Developing Others Judging the Qualities of Things, Services, or People Inspecting Equipment, Structures, or Material Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events		
<i>Work Context</i>	Face-to-Face Discussions Contact With Others Duration of Typical Work Week Responsible for Others' Health and Safety Responsibility for Outcomes and Results Wear Common Protective or Safety Equipment Time Pressure Work With Work Group or Team Telephone Freedom to Make Decisions Frequency of Decision Making Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Sounds, Noise Levels Are Distracting or Uncomfortable Electronic Mail Coordinate or Lead Others Pace Determined by Speed of Equipment		
<i>Job Zone</i>	3		
<i>Work Styles</i>	Dependability Leadership Self Control Attention to Detail Stress Tolerance	Integrity Cooperation Adaptability/Flexibility Initiative Persistence	Analytical Thinking Concern for Others Independence Achievement/Effort Innovation
<i>Work Values</i>			
<i>Work Needs</i>	Authority Responsibility Autonomy Co-workers		
<i>Median Wages</i>	<i>Hourly</i>	\$22.18	
	<i>Annual</i>	\$46,140	
<i>Projected Growth</i>	Slower than average (0-9%)		

Medical Equipment Customer service representatives

<i>% Projected Employment</i>	2.2%	
<i>Skills</i>	Active Listening Reading Comprehension Monitoring Speaking	Time Management Service Orientation Active Learning
<i>Abilities</i>	Oral Comprehension Oral Expression Deductive Reasoning Problem Sensitivity	Speech Recognition Inductive Reasoning Near Vision Written Comprehension
<i>Work Activities</i>	Speech Clarity Getting Information Making Decisions and Solving Problems Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Processing Information	
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Sitting Time Pressure Work With Work Group or Team Electronic Mail Freedom to Make Decisions Deal With External Customers Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Importance of Repeating Same Tasks	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance Adaptability/Flexibility Initiative Concern for Others	Independence Persistence Integrity Social Orientation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$13.22
	<i>Annual</i>	\$27,490
<i>Projected Growth</i>	Faster than average (21-35%)	

Medical Equipment Ophthalmic laboratory technicians

<i>% Projected Employment</i>	2.7%	
<i>Skills</i>	Active Listening Mathematics Reading Comprehension Instructing Coordination	Service Orientation Speaking Writing Repairing Time Management
<i>Abilities</i>	Arm-Hand Steadiness Manual Dexterity Finger Dexterity Near Vision	
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Getting Information Making Decisions and Solving Problems Controlling Machines and Processes Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Pace Determined by Speed of Equipment Spend Time Standing Time Pressure Contact With Others Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Making Repetitive Motions Work With Work Group or Team Importance of Repeating Same Tasks Wear Common Protective or Safety Equipment Sounds, Noise Levels Are Distracting or Uncomfortable	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Cooperation Attention to Detail Self Control Integrity	Dependability Independence Adaptability/Flexibility Stress Tolerance
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values Independence	
<i>Median Wages</i>	<i>Hourly</i>	\$11.89
	<i>Annual</i>	\$24,740
<i>Projected Growth</i>	Slower than average (0-9%)	

Medical Equipment Biomedical engineers

<i>% Projected Employment</i>	0.6%		
<i>Skills</i>	Science Speaking Reading Comprehension Time Management Judgment and Decision Making Active Listening	Technology Design Writing Quality Control Analysis Complex Problem Solving Troubleshooting	Critical Thinking Operations Analysis Learning Strategies Mathematics Active Learning
<i>Abilities</i>	Oral Expression Deductive Reasoning Written Comprehension Problem Sensitivity	Inductive Reasoning Visualization Oral Comprehension	
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Making Decisions and Solving Problems Getting Information Identifying Objects, Actions, and Events Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Documenting/Recording Information Updating and Using Relevant Knowledge Processing Information Organizing, Planning, and Prioritizing Work Thinking Creatively Estimating the Quantifiable Characteristics of Products, Events, or Information Analyzing Data or Information Communicating with Persons Outside Organization		
<i>Work Context</i>	Indoors, Environmentally Controlled Telephone Face-to-Face Discussions Freedom to Make Decisions Electronic Mail Importance of Being Exact or Accurate Structured versus Unstructured Work Contact With Others Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Impact of Decisions on Co-workers or Company Results Work With Work Group or Team Frequency of Decision Making Exposed to Disease or Infections Consequence of Error		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Dependability Attention to Detail Cooperation Analytical Thinking Adaptability/Flexibility	Stress Tolerance Achievement/Effort Initiative Self Control Integrity	
<i>Work Values</i>			
<i>Work Needs</i>			
<i>Median Wages</i>	<i>Hourly</i>	\$34.54	
	<i>Annual</i>	\$71,840	
<i>Projected Growth</i>	Faster than average (21-35%)		

Medical Equipment

Medical appliance technicians

<i>% Projected Employment</i>	2.1%	
<i>Skills</i>	Active Listening Reading Comprehension Active Learning	Learning Strategies Quality Control Analysis
<i>Abilities</i>	Problem Sensitivity Near Vision	
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Inspecting Equipment, Structures, or Material Handling and Moving Objects Thinking Creatively Scheduling Work and Activities Making Decisions and Solving Problems Assisting and Caring for Others Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment Organizing, Planning, and Prioritizing Work Monitor Processes, Materials, or Surroundings	
<i>Work Context</i>	Exposed to Contaminants Face-to-Face Discussions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Time Pressure Telephone Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Duration of Typical Work Week Physical Proximity Contact With Others Structured versus Unstructured Work Freedom to Make Decisions Work With Work Group or Team Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, Hard Hats, or Life Jackets Sounds, Noise Levels Are Distracting or Uncomfortable	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Attention to Detail Integrity Self Control Dependability Stress Tolerance Cooperation Initiative Concern for Others	Innovation Adaptability/Flexibility Persistence Social Orientation Achievement/Effort Leadership Independence Analytical Thinking
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values Independence Achievement	
<i>Median Wages</i>	<i>Hourly</i>	\$13.98
	<i>Annual</i>	\$29,080
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment Business operation specialists, all other

<i>% Projected Employment</i>	0.9%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Medical Equipment Engineering managers

<i>% Projected Employment</i>	0.7%	
<i>Skills</i>	Reading Comprehension Mathematics Active Listening Critical Thinking Complex Problem Solving	Active Learning Coordination Operations Analysis Judgment and Decision Making Time Management
<i>Abilities</i>	Oral Comprehension Written Comprehension Inductive Reasoning Oral Expression Speech Recognition Deductive Reasoning	Information Ordering Speech Clarity Near Vision Problem Sensitivity Written Expression
<i>Work Activities</i>	Making Decisions and Solving Problems Getting Information Communicating with Persons Outside Organization Updating and Using Relevant Knowledge Coordinating the Work and Activities of Others Establishing and Maintaining Interpersonal Relationships	
<i>Work Context</i>	Duration of Typical Work Week Telephone Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Frequency of Decision Making Indoors, Environmentally Controlled Contact With Others Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Indoors, Not Environmentally Controlled Coordinate or Lead Others Letters and Memos Responsible for Others' Health and Safety Time Pressure Work With Work Group or Team	
<i>Job Zone</i>	5	
<i>Work Styles</i>	Analytical Thinking Dependability Attention to Detail Integrity Achievement/Effort	Stress Tolerance Self Control Persistence Adaptability/Flexibility Cooperation
<i>Work Values</i>	Independence Achievement	
<i>Work Needs</i>	Autonomy Compensation Authority Ability Utilization Company Policies and Practices	Working Conditions Achievement Activity Responsibility Security
<i>Median Wages</i>	<i>Hourly</i>	\$48.44
	<i>Annual</i>	\$100,760
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment Packers and packagers, hand

<i>% Projected Employment</i>	2.0%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Context</i>	Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Face-to-Face Discussions Contact With Others Spend Time Making Repetitive Motions Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Cooperation Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$8.36
	<i>Annual</i> \$17,390
<i>Projected Growth</i>	Average (10-20%)

Medical Equipment Sewing machine operators

<i>% Projected Employment</i>	1.7%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Time Pressure Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Sitting Pace Determined by Speed of Equipment Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Activity Independence
<i>Median Wages</i>	<i>Hourly</i> \$8.82
	<i>Annual</i> \$18,340
<i>Projected Growth</i>	Much slower than average (negative growth)

Medical Equipment Machinists

<i>% Projected Employment</i>	1.7%
<i>Skills</i>	<ul style="list-style-type: none"> Operation Monitoring Operation and Control Mathematics Equipment Selection Troubleshooting Reading Comprehension Quality Control Analysis Equipment Maintenance
<i>Abilities</i>	<ul style="list-style-type: none"> Problem Sensitivity Arm-Hand Steadiness Information Ordering Near Vision
<i>Work Activities</i>	<ul style="list-style-type: none"> Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	<ul style="list-style-type: none"> Wear Common Protective or Safety Equipment Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Sounds, Noise Levels Are Distracting or Uncomfortable Importance of Being Exact or Accurate Spend Time Standing Face-to-Face Discussions Exposed to Hazardous Equipment Indoors, Not Environmentally Controlled Contact With Others Time Pressure Freedom to Make Decisions Frequency of Decision Making Responsibility for Outcomes and Results Duration of Typical Work Week
<i>Job Zone</i>	3
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Analytical Thinking Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$16.51
	<i>Annual</i> \$34,350
<i>Projected Growth</i>	Slower than average (0-9%)

Medical Equipment

Sales representatives, wholesale and manufacturing, technical and scientific products

<i>% Projected Employment</i>	1.5%	
<i>Skills</i>	Speaking Persuasion Active Listening Time Management Social Perceptiveness	Service Orientation Negotiation Reading Comprehension Critical Thinking Active Learning
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity Speech Recognition	
<i>Work Activities</i>	Selling or Influencing Others Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Getting Information	
<i>Work Context</i>	Telephone Contact With Others Duration of Typical Work Week Deal With External Customers Electronic Mail Face-to-Face Discussions Structured versus Unstructured Work Freedom to Make Decisions Impact of Decisions on Co-workers or Company Results Level of Competition Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Initiative Independence Achievement/Effort Persistence Dependability Attention to Detail	Stress Tolerance Adaptability/Flexibility Integrity Self Control Cooperation
<i>Work Values</i>		
<i>Work Needs</i>	Autonomy Achievement	
<i>Median Wages</i>	<i>Hourly</i>	\$29.21
	<i>Annual</i>	\$60,760
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment Computer software engineers, applications

<i>% Projected Employment</i>	0.3%	
<i>Skills</i>	Programming Critical Thinking Complex Problem Solving Troubleshooting Active Learning Technology Design Judgment and Decision Making Reading Comprehension	Operations Analysis Systems Analysis Quality Control Analysis Active Listening Speaking Time Management Coordination
<i>Abilities</i>	Oral Comprehension Deductive Reasoning Near Vision Inductive Reasoning	Problem Sensitivity Speech Clarity Written Comprehension
<i>Work Activities</i>	Autonomy Interacting With Computers Updating and Using Relevant Knowledge Getting Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Identifying Objects, Actions, and Events Analyzing Data or Information Processing Information	
<i>Work Context</i>	Face-to-Face Discussions Electronic Mail Spend Time Sitting Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Importance of Being Exact or Accurate Coordinate or Lead Others	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Analytical Thinking Attention to Detail Cooperation Dependability Achievement/Effort	Innovation Persistence Adaptability/Flexibility Initiative
<i>Work Values</i>	Achievement Independence	
<i>Work Needs</i>	Ability Utilization Working Conditions Responsibility Creativity Social Status	Autonomy Achievement Activity Security
<i>Median Wages</i>	<i>Hourly</i>	\$37.06
	<i>Annual</i>	\$77,090
<i>Projected Growth</i>	Much faster than average (36+%)	

Medical Equipment

Sales representatives, wholesale and manufacturing, except technical and scientific Products

<i>% Projected Employment</i>	1.4%	
<i>Skills</i>	Active Listening Speaking Time Management Reading Comprehension Persuasion Service Orientation	
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity	
<i>Work Activities</i>	Establishing and Maintaining Interpersonal Relationships Getting Information Selling or Influencing Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates	
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Deal With External Customers In an Enclosed Vehicle or Equipment Freedom to Make Decisions Structured versus Unstructured Work Electronic Mail Frequency of Decision Making Duration of Typical Work Week Work With Work Group or Team Physical Proximity Time Pressure Level of Competition Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Integrity Dependability Initiative Stress Tolerance Persistence Self Control Attention to Detail	Cooperation Analytical Thinking Independence Achievement/Effort Concern for Others Adaptability/Flexibility Innovation
<i>Work Values</i>		
<i>Work Needs</i>	Autonomy	
<i>Median Wages</i>	<i>Hourly</i>	\$22.78
	<i>Annual</i>	\$47,380
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment

Truck drivers, light or delivery services

<i>% Projected Employment</i>	1.3%	
<i>Skills</i>		
<i>Abilities</i>		
<i>Work Activities</i>	Operating Vehicles, Mechanized Devices, or Equipment Getting Information Handling and Moving Objects Performing for or Working Directly with the Public Performing General Physical Activities Communicating with Supervisors, Peers, or Subordinates	
<i>Work Context</i>	Outdoors, Exposed to Weather Contact With Others In an Enclosed Vehicle or Equipment Time Pressure Telephone Face-to-Face Discussions Deal With External Customers Importance of Being Exact or Accurate Duration of Typical Work Week Physical Proximity Responsible for Others' Health and Safety Exposed to Contaminants Work With Work Group or Team Very Hot or Cold Temperatures Freedom to Make Decisions Outdoors, Under Cover Wear Common Protective or Safety Equipment Letters and Memos	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Integrity Dependability Independence Attention to Detail	
<i>Work Values</i>		
<i>Work Needs</i>	Independence	
<i>Median Wages</i>	<i>Hourly</i>	\$11.92
	<i>Annual</i>	\$24,790
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment

Computer-controlled machine tool operators, metal and plastic

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	Operation Monitoring Operation and Control Quality Control Analysis Active Listening
<i>Abilities</i>	Hearing Sensitivity Problem Sensitivity Reaction Time
<i>Work Activities</i>	Controlling Machines and Processes Inspecting Equipment, Structures, or Material Getting Information
<i>Work Context</i>	Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Spend Time Standing Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Time Pressure Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Repeating Same Tasks Exposed to Hazardous Equipment Work With Work Group or Team Face-to-Face Discussions Pace Determined by Speed of Equipment Duration of Typical Work Week Spend Time Making Repetitive Motions Freedom to Make Decisions
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Activity
<i>Median Wages</i>	<i>Hourly</i> \$14.91
	<i>Annual</i> \$31,010
<i>Projected Growth</i>	Much slower than average (negative growth)

Medical Equipment General and operations managers

<i>% Projected Employment</i>	1.6%	
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Judgment and Decision Making Monitoring	Reading Comprehension Speaking Management of Financial Resources Active Listening Persuasion
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Clarity	Speech Recognition Written Comprehension Deductive Reasoning Inductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates	
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Contact With Others Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control Cooperation Concern for Others	Analytical Thinking Independence Stress Tolerance Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$39.17
	<i>Annual</i>	\$81,480
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment Mechanical engineers

<i>% Projected Employment</i>	1.1%		
<i>Skills</i>	Mathematics Complex Problem Solving Critical Thinking Reading Comprehension Science	Active Listening Judgment and Decision Making Time Management Writing	Speaking Operations Analysis Coordination Active Learning
<i>Abilities</i>	Oral Comprehension Problem Sensitivity Written Comprehension Deductive Reasoning	Inductive Reasoning Information Ordering Near Vision Oral Expression	
<i>Work Activities</i>	Making Decisions and Solving Problems Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates		
<i>Work Context</i>	Indoors, Environmentally Controlled Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Telephone Work With Work Group or Team Contact With Others Duration of Typical Work Week Importance of Being Exact or Accurate Letters and Memos Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Frequency of Decision Making Time Pressure Coordinate or Lead Others		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Attention to Detail Cooperation Dependability Leadership Achievement/Effort Adaptability/Flexibility Analytical Thinking		
<i>Work Values</i>	Independence Achievement		
<i>Work Needs</i>	Autonomy Ability Utilization Creativity Responsibility Achievement	Social Status Activity Working Conditions Security	
<i>Median Wages</i>	<i>Hourly</i>	\$32.49	
	<i>Annual</i>	\$67,590	
<i>Projected Growth</i>	Average (10-20%)		

Medical Equipment

Multiple machine tool setters, operators, and tenders, metal and plastic

<i>% Projected Employment</i>	1.1%
<i>Skills</i>	Quality Control Analysis Operation and Control Repairing Equipment Maintenance Operation Monitoring Troubleshooting Learning Strategies Critical Thinking Coordination
<i>Abilities</i>	Control Precision Information Ordering Manual Dexterity
<i>Work Activities</i>	Controlling Machines and Processes Repairing and Maintaining Mechanical Equipment Getting Information Handling and Moving Objects Inspecting Equipment, Structures, or Material
<i>Work Context</i>	Wear Common Protective or Safety Equipment Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Duration of Typical Work Week Exposed to Hazardous Equipment Face-to-Face Discussions Pace Determined by Speed of Equipment Importance of Being Exact or Accurate Spend Time Standing Time Pressure Work With Work Group or Team Contact With Others Exposed to Minor Burns, Cuts, Bites, or Stings
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Independence Initiative Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$14.32 <i>Annual</i> \$29,780
<i>Projected Growth</i>	Slower than average (0-9%)

Medical Equipment

Maintenance and repair workers, general

<i>% Projected Employment</i>	1.1%	
<i>Skills</i>	Equipment Maintenance	Active Listening
	Repairing	Installation
	Troubleshooting	Equipment Selection
<i>Abilities</i>	Problem Sensitivity	
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material	
	Performing General Physical Activities	
	Repairing and Maintaining Mechanical Equipment	
<i>Work Context</i>	Face-to-Face Discussions	
	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls	
	Freedom to Make Decisions	
	Telephone	
	Contact With Others	
	Spend Time Standing	
	Indoors, Environmentally Controlled	
	Wear Common Protective or Safety Equipment	
	Exposed to Minor Burns, Cuts, Bites, or Stings	
	Structured versus Unstructured Work	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Dependability	Integrity
	Attention to Detail	Initiative
	Cooperation	Analytical Thinking
	Self Control	Concern for Others
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$15.01
	<i>Annual</i>	\$31,210
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment Engineers, all other

<i>% Projected Employment</i>	0.4%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$37.09
	<i>Annual</i> \$77,150
<i>Projected Growth</i>	Average (10-20%)

Medical Equipment

Network and computer systems administrators

<i>% Projected Employment</i>	0.3%		
<i>Skills</i>	Troubleshooting Reading Comprehension Active Listening Active Learning	Complex Problem Solving Critical Thinking Service Orientation	
<i>Abilities</i>	Near Vision Problem Sensitivity Inductive Reasoning Oral Comprehension Oral Expression	Written Comprehension Information Ordering Deductive Reasoning Finger Dexterity	
<i>Work Activities</i>	Interacting With Computers Updating and Using Relevant Knowledge Making Decisions and Solving Problems Getting Information Communicating with Supervisors, Peers, or Subordinates Processing Information Identifying Objects, Actions, and Events		
<i>Work Context</i>	Electronic Mail Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Contact With Others	Structured versus Unstructured Work Importance of Being Exact or Accurate Freedom to Make Decisions Work With Work Group or Team Duration of Typical Work Week Spend Time Sitting Time Pressure	
<i>Job Zone</i>	4		
<i>Work Styles</i>	Attention to Detail Dependability Analytical Thinking Cooperation Initiative	Stress Tolerance Adaptability/Flexibility Integrity Achievement/Effort Independence	Persistence Innovation Self Control Leadership
<i>Work Values</i>			
<i>Work Needs</i>			
<i>Median Wages</i>	<i>Hourly</i>	\$28.81	
	<i>Annual</i>	\$59,930	
<i>Projected Growth</i>	Much faster than average (36+%)		

Medical Equipment

Production, planning, and expediting clerks

<i>% Projected Employment</i>	1.4%	
<i>Skills</i>	Active Listening Reading Comprehension Coordination Speaking	
<i>Abilities</i>	Written Comprehension	
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Organizing, Planning, and Prioritizing Work Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Scheduling Work and Activities Making Decisions and Solving Problems	
<i>Work Context</i>	Face-to-Face Discussions Telephone Indoors, Environmentally Controlled Time Pressure Electronic Mail Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Structured versus Unstructured Work Importance of Repeating Same Tasks Responsibility for Outcomes and Results Deal With External Customers Exposed to Contaminants	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Stress Tolerance Independence Initiative	Persistence Adaptability/Flexibility Self Control Achievement/Effort Integrity Analytical Thinking
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$18.07
	<i>Annual</i>	\$37,590
<i>Projected Growth</i>	Slower than average (0-9%)	

Medical Equipment

Electrical and electronic equipment assemblers

<i>% Projected Employment</i>	1.0%	
<i>Skills</i>	Quality Control Analysis Troubleshooting Equipment Selection Instructing Time Management	Reading Comprehension Learning Strategies Monitoring Active Learning
<i>Abilities</i>	Near Vision	
<i>Work Activities</i>	Identifying Objects, Actions, and Events Handling and Moving Objects Evaluating Information to Determine Compliance with Standards Inspecting Equipment, Structures, or Material Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Performing General Physical Activities Controlling Machines and Processes Getting Information	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Contact With Others Work With Work Group or Team Face-to-Face Discussions Physical Proximity Time Pressure	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Independence Self Control	
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$12.08
	<i>Annual</i>	\$25,130
<i>Projected Growth</i>	Much slower than average (negative growth)	

Medical Equipment Helpers--Production workers

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Context</i>	Wear Common Protective or Safety Equipment Time Pressure Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Exposed to Contaminants Duration of Typical Work Week Sounds, Noise Levels Are Distracting or Uncomfortable Importance of Being Exact or Accurate Spend Time Bending or Twisting the Body Exposed to Minor Burns, Cuts, Bites, or Stings
<i>Job Zone</i>	1
<i>Work Styles</i>	Dependability Attention to Detail
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$9.80
	<i>Annual</i> \$20,390
<i>Projected Growth</i>	Slower than average (0-9%)

Medical Equipment Industrial production managers

<i>% Projected Employment</i>	1.0%		
<i>Skills</i>	Active Listening Judgment and Decision Making Critical Thinking Reading Comprehension Management of Personnel Resources Coordination	Monitoring Time Management Complex Problem Solving Speaking Instructing	
<i>Abilities</i>	Oral Comprehension Oral Expression Inductive Reasoning	Problem Sensitivity Written Comprehension Deductive Reasoning	
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Organizing, Planning, and Prioritizing Work Scheduling Work and Activities Identifying Objects, Actions, and Events		
<i>Work Context</i>	Face-to-Face Discussions Telephone Freedom to Make Decisions Contact With Others Structured versus Unstructured Work Responsibility for Outcomes and Results Work With Work Group or Team Electronic Mail Indoors, Environmentally Controlled Coordinate or Lead Others Duration of Typical Work Week Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Importance of Being Exact or Accurate Responsibility for Others' Health and Safety Letters and Memos		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Leadership Attention to Detail Adaptability/Flexibility Integrity Dependability	Initiative Cooperation Self Control Stress Tolerance Independence	Persistence Analytical Thinking Concern for Others Innovation Social Orientation
<i>Work Values</i>	Independence	Achievement/Effort	
<i>Work Needs</i>	Authority Autonomy Activity Responsibility	Company Policies and Practices Compensation Creativity	
<i>Median Wages</i>	<i>Hourly</i>	\$36.34	
	<i>Annual</i>	\$75,580	
<i>Projected Growth</i>	Slower than average (0-9%)		

Medical Equipment Mechanical engineering technicians

<i>% Projected Employment</i>	0.3%	
<i>Skills</i>	Reading Comprehension Active Listening Coordination Judgment and Decision Making Mathematics	Complex Problem Solving Time Management Active Learning Troubleshooting
<i>Abilities</i>	Deductive Reasoning Written Comprehension Near Vision Oral Comprehension Problem Sensitivity	
<i>Work Activities</i>	Getting Information Interacting With Computers Communicating with Supervisors, Peers, or Subordinates	
<i>Work Context</i>	Face-to-Face Discussions Telephone Wear Common Protective or Safety Equipment Structured versus Unstructured Work Electronic Mail Freedom to Make Decisions Impact of Decisions on Co-workers or Company Results Contact With Others Responsible for Others' Health and Safety	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability	
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values Achievement Activity	
<i>Median Wages</i>	<i>Hourly</i>	\$21.55
	<i>Annual</i>	\$44,830
<i>Projected Growth</i>	Average (10-20%)	

Medical Equipment

Network systems and data communications analysts

<i>% Projected Employment</i>	0.1%		
<i>Skills</i>	Equipment Selection Troubleshooting Complex Problem Solving Active Listening Active Learning Critical Thinking	Installation Reading Comprehension Judgment and Decision Making Technology Design Coordination	Systems Evaluation Operations Analysis Equipment Maintenance Systems Analysis Instructing
<i>Abilities</i>	Near Vision Written Comprehension Deductive Reasoning Problem Sensitivity		
<i>Work Activities</i>	Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Getting Information Thinking Creatively Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Organizing, Planning, and Prioritizing Work Making Decisions and Solving Problems Updating and Using Relevant Knowledge Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Evaluating Information to Determine Compliance with Standards Analyzing Data or Information Interpreting the Meaning of Information for Others Processing Information Documenting/Recording Information		
<i>Work Context</i>	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Structured versus Unstructured Work Duration of Typical Work Week Freedom to Make Decisions Work With Work Group or Team Contact With Others Spend Time Sitting		
<i>Job Zone</i>	3		
<i>Work Styles</i>	Attention to Detail Dependability Analytical Thinking Stress Tolerance Initiative Adaptability/Flexibility	Persistence Achievement/Effort Self Control Cooperation Independence Integrity	
<i>Work Values</i>	Achievement		
<i>Work Needs</i>	Ability Utilization Compensation Company Policies and Practices	Autonomy Working Conditions Security	
<i>Median Wages</i>	<i>Hourly</i>	\$29.69	
	<i>Annual</i>	\$61,750	
<i>Projected Growth</i>	Much faster than average (36+%)		

Medical and Diagnostic Labs.
Medical and clinical laboratory technologists

<i>% Projected Employment</i>	13.6%	
<i>Skills</i>	Quality Control Analysis Equipment Maintenance Reading Comprehension Troubleshooting Operation and Control Operation Monitoring	Critical Thinking Science Active Listening Complex Problem Solving Monitoring Time Management
<i>Abilities</i>	Near Vision Problem Sensitivity Inductive Reasoning Oral Expression Written Comprehension Deductive Reasoning Information Ordering	
<i>Work Activities</i>	Making Decisions and Solving Problems Identifying Objects, Actions, and Events Documenting/Recording Information Evaluating Information to Determine Compliance with Standards Getting Information Organizing, Planning, and Prioritizing Work Processing Information Updating and Using Relevant Knowledge Establishing and Maintaining Interpersonal Relationships Inspecting Equipment, Structures, or Material Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Monitor Processes, Materials, or Surroundings	
<i>Work Context</i>	Face-to-Face Discussions Exposed to Disease or Infections Time Pressure Importance of Being Exact or Accurate Telephone Wear Common Protective or Safety Equipment Indoors, Environmentally Controlled Work With Work Group or Team Contact With Others Importance of Repeating Same Tasks Frequency of Decision Making Electronic Mail Freedom to Make Decisions Impact of Decisions on Co-workers or Company Results Exposed to Contaminants Consequence of Error Coordinate or Lead Others Spend Time Making Repetitive Motions Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Structured versus Unstructured Work Exposed to Hazardous Conditions Deal With External Customers	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Attention to Detail Analytical Thinking Independence Initiative Achievement/Effort Persistence	Dependability Integrity Stress Tolerance Adaptability/Flexibility Innovation
<i>Work Values</i>	Achievement	
<i>Work Needs</i>	Ability Utilization Activity	
<i>Median Wages</i>	<i>Hourly</i>	\$22.94
	<i>Annual</i>	\$47,710
<i>Projected Growth</i>	Faster than average (21-35%)	

Medical and Diagnostic Labs.
Medical and clinical laboratory technicians

<i>% Projected Employment</i>	10.6%
<i>Skills</i>	Reading Comprehension Active Listening Speaking Science Equipment Maintenance Instructing Time Management
<i>Abilities</i>	Near Vision Deductive Reasoning Inductive Reasoning Oral Comprehension Problem Sensitivity Arm-Hand Steadiness Information Ordering Visual Color Discrimination Written Comprehension
<i>Work Activities</i>	Documenting/Recording Information Getting Information Evaluating Information to Determine Compliance with Standards Inspecting Equipment, Structures, or Material Updating and Using Relevant Knowledge Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Processing Information
<i>Work Context</i>	Indoors, Environmentally Controlled Telephone Face-to-Face Discussions Contact With Others Importance of Being Exact or Accurate Exposed to Disease or Infections Wear Common Protective or Safety Equipment Consequence of Error Work With Work Group or Team Spend Time Standing Structured versus Unstructured Work Impact of Decisions on Co-workers or Company Results
<i>Job Zone</i>	2
<i>Work Styles</i>	Integrity Attention to Detail Dependability Concern for Others Stress Tolerance Cooperation Self Control Independence Initiative
<i>Work Values</i>	
<i>Work Needs</i>	Ability Utilization Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$15.24
	<i>Annual</i> \$31,700
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Healthcare support workers, all other**

<i>% Projected Employment</i>	10.3%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$12.51
	<i>Annual</i> \$26,020
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Radiologic technologists and technicians**

% Projected Employment 8.8%			
<i>Skills</i>	Active Listening Speaking Reading Comprehension Critical Thinking	Time Management Instructing Coordination Social Perceptiveness	Writing Learning Strategies Service Orientation
<i>Abilities</i>	Near Vision Problem Sensitivity Oral Comprehension Control Precision Oral Expression	Speech Clarity Written Comprehension Arm-Hand Steadiness Speech Recognition	
<i>Work Activities</i>	Assisting and Caring for Others Performing for or Working Directly with the Public Communicating with Supervisors, Peers, or Subordinates Documenting/Recording Information Interacting With Computers Handling and Moving Objects Identifying Objects, Actions, and Events Establishing and Maintaining Interpersonal Relationships Getting Information Performing General Physical Activities Updating and Using Relevant Knowledge Making Decisions and Solving Problems Monitor Processes, Materials, or Surroundings Controlling Machines and Processes Evaluating Information to Determine Compliance with Standards		
<i>Work Context</i>	Exposed to Disease or Infections Indoors, Environmentally Controlled Telephone Face-to-Face Discussions Contact With Others Deal With External Customers Work With Work Group or Team Freedom to Make Decisions Importance of Being Exact or Accurate Frequency of Decision Making Impact of Decisions on Co-workers or Company Results Physical Proximity Importance of Repeating Same Tasks Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Structured versus Unstructured Work Spend Time Standing Exposed to Radiation Spend Time Walking and Running Spend Time Bending or Twisting the Body Responsible for Others' Health and Safety Wear Specialized Protective or Safety Equipment Spend Time Making Repetitive Motions Coordinate or Lead Others		
<i>Job Zone</i>	3		
<i>Work Styles</i>	Attention to Detail Dependability Integrity Cooperation Self Control Concern for Others	Initiative Stress Tolerance Adaptability/Flexibility Persistence Social Orientation	Independence Innovation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>	Achievement		
<i>Work Needs</i>	Ability Utilization Security Moral Values		
<i>Median Wages</i>	<i>Hourly</i>	\$22.09	
	<i>Annual</i>	\$45,950	
<i>Projected Growth</i>	Faster than average (21-35%)		

**Medical and Diagnostic Labs.
Customer service representatives**

<i>% Projected Employment</i>	4.0%
<i>Skills</i>	Active Listening Reading Comprehension Monitoring Speaking Time Management Service Orientation
<i>Abilities</i>	Active Learning Oral Comprehension
	Oral Expression Deductive Reasoning Problem Sensitivity Speech Clarity Speech Recognition Inductive Reasoning Near Vision Written Comprehension
<i>Work Activities</i>	Interacting With Computers Getting Information Making Decisions and Solving Problems Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Processing Information
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Sitting Time Pressure Work With Work Group or Team Electronic Mail Freedom to Make Decisions Deal With External Customers Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Importance of Repeating Same Tasks
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance Adaptability/Flexibility Initiative Concern for Others Independence Persistence Integrity Social Orientation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$13.22 <i>Annual</i> \$27,490
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Diagnostic medical sonographers**

% Projected Employment 2.6%	
<i>Skills</i>	Active Listening Reading Comprehension Social Perceptiveness Speaking Critical Thinking Active Learning Learning Strategies Instructing
<i>Abilities</i>	Oral Expression Problem Sensitivity Oral Comprehension Near Vision Speech Clarity Speech Recognition Written Expression
<i>Work Activities</i>	Assisting and Caring for Others Documenting/Recording Information Getting Information Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Interacting With Computers
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Contact With Others Importance of Being Exact or Accurate Exposed to Disease or Infections Indoors, Environmentally Controlled Face-to-Face Discussions Physical Proximity Telephone Spend Time Making Repetitive Motions Frequency of Decision Making Time Pressure Work With Work Group or Team Structured versus Unstructured Work Impact of Decisions on Co-workers or Company Results Deal With External Customers Freedom to Make Decisions Importance of Repeating Same Tasks Deal With Unpleasant or Angry People Spend Time Bending or Twisting the Body Responsible for Others' Health and Safety Level of Competition Cramped Work Space, Awkward Positions Consequence of Error Spend Time Sitting Sounds, Noise Levels Are Distracting or Uncomfortable
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Integrity Concern for Others Dependability Self Control Analytical Thinking Independence Cooperation Initiative Persistence Stress Tolerance Achievement/Effort Adaptability/Flexibility
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.14 <i>Annual</i> \$54,370
<i>Projected Growth</i>	Faster than average (21-35%)

Medical and Diagnostic Labs.

Medical assistants

% Projected Employment 2.4%	
<i>Skills</i>	Active Listening Social Perceptiveness Speaking Instructing Reading Comprehension Active Learning Service Orientation
<i>Abilities</i>	Oral Comprehension Oral Expression Speech Clarity Near Vision
<i>Work Activities</i>	Assisting and Caring for Others Getting Information Communicating with Supervisors, Peers, or Subordinates Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Evaluating Information to Determine Compliance with Standards Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Documenting/Recording Information Interpreting the Meaning of Information for Others
<i>Work Context</i>	Indoors, Environmentally Controlled Physical Proximity Contact With Others Telephone Work With Work Group or Team Exposed to Disease or Infections Importance of Being Exact or Accurate Deal With External Customers Face-to-Face Discussions Wear Common Protective or Safety Equipment Deal With Unpleasant or Angry People Structured versus Unstructured Work
<i>Job Zone</i>	3
<i>Work Styles</i>	Concern for Others Integrity Cooperation Self Control Attention to Detail Dependability Social Orientation Initiative
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$12.19
	<i>Annual</i> \$25,350
<i>Projected Growth</i>	Much faster than average (36+%)

**Medical and Diagnostic Labs.
Receptionists and information clerks**

<i>% Projected Employment</i>	2.7%
<i>Skills</i>	Active Listening Speaking Reading Comprehension Writing
<i>Abilities</i>	Oral Comprehension Oral Expression Speech Recognition
<i>Work Activities</i>	Interacting With Computers Getting Information Performing Administrative Activities
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Structured versus Unstructured Work Importance of Being Exact or Accurate Spend Time Sitting Work With Work Group or Team Importance of Repeating Same Tasks Freedom to Make Decisions Indoors, Environmentally Controlled Letters and Memos Deal With External Customers
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Integrity Stress Tolerance Self Control Attention to Detail Concern for Others Independence Social Orientation Initiative
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$10.65 <i>Annual</i> \$22,150
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Medical and health services managers**

% Projected Employment 1.7%			
<i>Skills</i>	Active Listening Reading Comprehension Critical Thinking Speaking Monitoring Judgment and Decision Making	Time Management Service Orientation Active Learning Writing Coordination Management of Personnel Resources	Social Perceptiveness Learning Strategies Persuasion Instructing Complex Problem Solving
<i>Abilities</i>	Oral Comprehension Deductive Reasoning Inductive Reasoning	Oral Expression Problem Sensitivity Written Comprehension	Written Expression Information Ordering Speech Recognition
<i>Work Activities</i>	Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Monitor Processes, Materials, or Surroundings Communicating with Supervisors, Peers, or Subordinates Coordinating the Work and Activities of Others Evaluating Information to Determine Compliance with Standards Analyzing Data or Information Monitoring and Controlling Resources Resolving Conflicts and Negotiating with Others Updating and Using Relevant Knowledge Getting Information Guiding, Directing, and Motivating Subordinates Staffing Organizational Units Organizing, Planning, and Prioritizing Work Developing and Building Teams Documenting/Recording Information Interacting With Computers Processing Information Developing Objectives and Strategies Performing Administrative Activities Identifying Objects, Actions, and Events		
<i>Work Context</i>	Face-to-Face Discussions Telephone Contact With Others Structured versus Unstructured Work Frequency of Decision Making Indoors, Environmentally Controlled Coordinate or Lead Others Freedom to Make Decisions Work With Work Group or Team Impact of Decisions on Co-workers or Company Results Importance of Being Exact or Accurate Letters and Memos Responsibility for Outcomes and Results Time Pressure Deal With External Customers Deal With Unpleasant or Angry People Exposed to Disease or Infections		
<i>Job Zone</i>	5		
<i>Work Styles</i>	Attention to Detail Leadership Dependability Integrity Adaptability/Flexibility Cooperation	Concern for Others Self Control Independence Social Orientation Initiative	Persistence Stress Tolerance Achievement/Effort Innovation Analytical Thinking
<i>Work Values</i>	Independence		
<i>Work Needs</i>	Security Working Conditions Authority	Autonomy Responsibility	
<i>Median Wages</i>	<i>Hourly</i> \$33.51	<i>Annual</i> \$69,700	
<i>Projected Growth</i>	Faster than average (21-35%)		

**Medical and Diagnostic Labs.
Physicians and surgeons**

<i>% Projected Employment</i>	1.4%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i>
	<i>Annual</i>
<i>Projected Growth</i>	

**Medical and Diagnostic Labs.
Office clerks, general**

<i>% Projected Employment</i>	2.5%
<i>Skills</i>	Active Listening Reading Comprehension
<i>Abilities</i>	Oral Comprehension Oral Expression
<i>Work Activities</i>	Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Importance of Being Exact or Accurate Spend Time Sitting Importance of Repeating Same Tasks Indoors, Environmentally Controlled Structured versus Unstructured Work Electronic Mail Work With Work Group or Team Deal With External Customers Freedom to Make Decisions
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Integrity Attention to Detail Concern for Others Independence Self Control Stress Tolerance Initiative
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$11.09
	<i>Annual</i> \$23,070
<i>Projected Growth</i>	Slower than average (0-9%)

Medical and Diagnostic Labs.
Medical transcriptionists

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	Active Listening Reading Comprehension
<i>Abilities</i>	Oral Comprehension Written Comprehension
<i>Work Activities</i>	Documenting/Recording Information Interacting With Computers Updating and Using Relevant Knowledge Updating and Using Relevant Knowledge Getting Information Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates Processing Information
<i>Work Context</i>	Importance of Being Exact or Accurate Importance of Repeating Same Tasks Spend Time Sitting Spend Time Making Repetitive Motions Telephone Time Pressure Electronic Mail Impact of Decisions on Co-workers or Company Results Indoors, Environmentally Controlled Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Letters and Memos Freedom to Make Decisions
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Dependability Integrity Independence Cooperation Achievement/Effort Initiative Persistence Adaptability/Flexibility Stress Tolerance Concern for Others
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$13.98 <i>Annual</i> \$29,080
<i>Projected Growth</i>	Faster than average (21-35%)

Medical and Diagnostic Labs.

First-line supervisors/managers of office and administrative support workers

<i>% Projected Employment</i>	1.9%		
<i>Skills</i>	Active Listening Speaking Reading Comprehension Critical Thinking Monitoring	Time Management Management of Personnel Resources Judgment and Decision Making Instructing Social Perceptiveness	
<i>Abilities</i>	Oral Expression Oral Comprehension Written Expression Near Vision	Written Comprehension Speech Clarity Number Facility	
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Interacting With Computers Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Organizing, Planning, and Prioritizing Work Developing and Building Teams Communicating with Persons Outside Organization Identifying Objects, Actions, and Events Coordinating the Work and Activities of Others Coaching and Developing Others Processing Information Evaluating Information to Determine Compliance with Standards Updating and Using Relevant Knowledge Resolving Conflicts and Negotiating with Others Performing Administrative Activities Scheduling Work and Activities		
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Contact With Others Work With Work Group or Team Structured versus Unstructured Work Responsibility for Outcomes and Results Deal With External Customers Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Frequency of Decision Making Time Pressure Spend Time Sitting Duration of Typical Work Week Coordinate or Lead Others Letters and Memos Importance of Repeating Same Tasks Impact of Decisions on Co-workers or Company Results		
<i>Job Zone</i>	3		
<i>Work Styles</i>	Integrity Dependability Attention to Detail Cooperation Stress Tolerance	Initiative Concern for Others Leadership Self Control Independence	Adaptability/Flexibility Persistence Analytical Thinking Achievement/Effort
<i>Work Values</i>	Independence Achievement		
<i>Work Needs</i>	Authority Autonomy Activity	Working Conditions Responsibility Achievement	
<i>Median Wages</i>	<i>Hourly</i>	\$20.38	
	<i>Annual</i>	\$42,400	
<i>Projected Growth</i>	Slower than average (0-9%)		

**Medical and Diagnostic Labs.
Sales representatives, services, all other**

<i>% Projected Employment</i> 1.2%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$22.50
	<i>Annual</i> \$46,790
<i>Projected Growth</i>	Average (10-20%)

**Medical and Diagnostic Labs.
General and operations managers**

<i>% Projected Employment</i>	1.2%
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Monitoring Reading Comprehension Judgment and Decision Making Speaking Management of Financial Resources Persuasion Active Learning
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Recognition Written Comprehension Speech Clarity Inductive Reasoning Deductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Frequency of Decision Making Contact With Others Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control Cooperation Concern for Others Independence Analytical Thinking Stress Tolerance Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$39.17 <i>Annual</i> \$81,480
<i>Projected Growth</i>	Average (10-20%)

Medical and Diagnostic Labs.

Medical secretaries

<i>% Projected Employment</i>	2.3%
<i>Skills</i>	Active Listening Reading Comprehension Speaking Coordination
<i>Abilities</i>	Oral Comprehension Oral Expression Speech Clarity Near Vision Information Ordering
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Communicating with Persons Outside Organization Interacting With Computers Establishing and Maintaining Interpersonal Relationships Assisting and Caring for Others Documenting/Recording Information Organizing, Planning, and Prioritizing Work Performing Administrative Activities
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Work With Work Group or Team Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Structured versus Unstructured Work Importance of Being Exact or Accurate Frequency of Decision Making
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance Adaptability/Flexibility Integrity Independence Concern for Others Initiative Social Orientation Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Activity
<i>Median Wages</i>	<i>Hourly</i> \$13.13
	<i>Annual</i> \$27,320
<i>Projected Growth</i>	Average (10-20%)

**Medical and Diagnostic Labs.
Truck drivers, light or delivery services**

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Operating Vehicles, Mechanized Devices, or Equipment Getting Information Handling and Moving Objects Performing for or Working Directly with the Public Performing General Physical Activities Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Outdoors, Exposed to Weather Contact With Others In an Enclosed Vehicle or Equipment Time Pressure Telephone Face-to-Face Discussions Deal With External Customers Importance of Being Exact or Accurate Duration of Typical Work Week Physical Proximity Responsible for Others' Health and Safety Exposed to Contaminants Work With Work Group or Team Very Hot or Cold Temperatures Freedom to Make Decisions Outdoors, Under Cover Wear Common Protective or Safety Equipment Letters and Memos
<i>Job Zone</i>	2
<i>Work Styles</i>	Integrity Dependability Independence Attention to Detail
<i>Work Values</i>	
<i>Work Needs</i>	Independence
<i>Median Wages</i>	<i>Hourly</i> \$11.92 <i>Annual</i> \$24,790
<i>Projected Growth</i>	Average (10-20%)

**Medical and Diagnostic Labs.
Medical scientists, except epidemiologists**

% Projected Employment 0.8%			
<i>Skills</i>	Reading Comprehension Science Active Listening Active Learning Writing	Instructing Time Management Critical Thinking Judgment and Decision Making Complex Problem Solving	Speaking Monitoring Learning Strategies Coordination
<i>Abilities</i>	Oral Comprehension Inductive Reasoning Written Comprehension Oral Expression Deductive Reasoning	Problem Sensitivity Written Expression Near Vision Speech Clarity	
<i>Work Activities</i>	Getting Information Processing Information Making Decisions and Solving Problems Updating and Using Relevant Knowledge Interacting With Computers Documenting/Recording Information Analyzing Data or Information Identifying Objects, Actions, and Events Evaluating Information to Determine Compliance with Standards Interpreting the Meaning of Information for Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Judging the Qualities of Things, Services, or People Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Monitor Processes, Materials, or Surroundings		
<i>Work Context</i>	Indoors, Environmentally Controlled Face-to-Face Discussions Telephone Duration of Typical Work Week Electronic Mail Work With Work Group or Team Freedom to Make Decisions Responsibility for Outcomes and Results Structured versus Unstructured Work Coordinate or Lead Others Importance of Being Exact or Accurate Contact With Others Responsible for Others' Health and Safety Letters and Memos Deal With External Customers		
<i>Job Zone</i>	5		
<i>Work Styles</i>	Integrity Persistence Attention to Detail Analytical Thinking Achievement/Effort	Initiative Stress Tolerance Cooperation Dependability Self Control	Innovation Adaptability/Flexibility Leadership Independence Social Orientation
<i>Work Values</i>	Achievement Independence Working Conditions Recognition		
<i>Work Needs</i>	Achievement Social Status Ability Utilization Security Responsibility Autonomy	Compensation Activity Working Conditions Recognition Creativity Variety	
<i>Median Wages</i>	<i>Hourly</i>	\$29.68	
	<i>Annual</i>	\$61,730	
<i>Projected Growth</i>	Faster than average (21-35%)		

Medical and Diagnostic Labs.

Medical records and health information technicians

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	Active Listening Reading Comprehension Time Management Speaking Writing
<i>Abilities</i>	Oral Comprehension Written Comprehension Information Ordering Oral Expression
<i>Work Activities</i>	Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates Performing Administrative Activities Updating and Using Relevant Knowledge Evaluating Information to Determine Compliance with Standards Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Handling and Moving Objects
<i>Work Context</i>	Telephone Face-to-Face Discussions Contact With Others Importance of Being Exact or Accurate Indoors, Environmentally Controlled Letters and Memos Importance of Repeating Same Tasks Freedom to Make Decisions Structured versus Unstructured Work Physical Proximity Work With Work Group or Team Spend Time Sitting Frequency of Decision Making
<i>Job Zone</i>	3
<i>Work Styles</i>	Cooperation Stress Tolerance Integrity Dependability Attention to Detail Concern for Others Independence Adaptability/Flexibility Self Control Initiative Persistence Innovation Achievement/Effort Analytical Thinking Social Orientation
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$12.83
	<i>Annual</i> \$26,690
<i>Projected Growth</i>	Faster than average (21-35%)

Medical and Diagnostic Labs.

Registered nurses

% Projected Employment	0.9%		
Skills	Active Listening Reading Comprehension Critical Thinking Instructing Speaking	Time Management Service Orientation Social Perceptiveness Judgment and Decision Making Writing	Active Learning Coordination Monitoring Learning Strategies Science
Abilities	Problem Sensitivity Oral Expression Oral Comprehension Inductive Reasoning Speech Recognition Deductive Reasoning Speech Clarity Written Expression Written Comprehension		
Work Activities	Assisting and Caring for Others Documenting/Recording Information Getting Information Updating and Using Relevant Knowledge Organizing, Planning, and Prioritizing Work Identifying Objects, Actions, and Events Making Decisions and Solving Problems Performing for or Working Directly with the Public Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Monitor Processes, Materials, or Surroundings Interpreting the Meaning of Information for Others		
Work Context	Telephone Contact With Others Face-to-Face Discussions Exposed to Disease or Infections Physical Proximity Work With Work Group or Team Importance of Being Exact or Accurate Frequency of Decision Making Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Consequence of Error Wear Common Protective or Safety Equipment Deal With External Customers Freedom to Make Decisions Structured versus Unstructured Work Time Pressure Deal With Unpleasant or Angry People Coordinate or Lead Others Responsible for Others' Health and Safety		
Job Zone	3		
Work Styles	Integrity Dependability Self Control Concern for Others Cooperation Attention to Detail	Adaptability/Flexibility Stress Tolerance Initiative Independence Social Orientation	Analytical Thinking Achievement/Effort Leadership Persistence Innovation
Work Values	Achievement Relationships		
Work Needs	Social Service Co-workers Ability Utilization	Achievement Activity Security	
Median Wages	<i>Hourly</i>	\$26.28	
	<i>Annual</i>	\$54,670	
Projected Growth	Faster than average (21-35%)		

**Medical and Diagnostic Labs.
Health diagnosing and treating practitioners, all other**

<i>% Projected Employment</i>	0.9%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$27.64
	<i>Annual</i> \$57,480
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Bill and account collectors**

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	Active Listening Speaking Reading Comprehension Time Management Mathematics
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity
<i>Work Activities</i>	Interacting With Computers Getting Information Processing Information Making Decisions and Solving Problems Evaluating Information to Determine Compliance with Standards Organizing, Planning, and Prioritizing Work Documenting/Recording Information Communicating with Persons Outside Organization
<i>Work Context</i>	Telephone Contact With Others Importance of Being Exact or Accurate Indoors, Environmentally Controlled Importance of Repeating Same Tasks Frequency of Decision Making Spend Time Sitting Deal With Unpleasant or Angry People Deal With External Customers Time Pressure Work With Work Group or Team Letters and Memos Spend Time Making Repetitive Motions Impact of Decisions on Co-workers or Company Results Face-to-Face Discussions Frequency of Conflict Situations Freedom to Make Decisions Structured versus Unstructured Work
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Integrity Dependability Self Control Independence Cooperation Stress Tolerance Adaptability/Flexibility Persistence Initiative Concern for Others Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$13.54 <i>Annual</i> \$28,160
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Executive secretaries and administrative assistants**

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	Active Listening Reading Comprehension Time Management Speaking
<i>Abilities</i>	Oral Comprehension Written Comprehension Written Expression Oral Expression Speech Clarity Near Vision
<i>Work Activities</i>	Performing Administrative Activities Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Documenting/Recording Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Electronic Mail Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Structured versus Unstructured Work Importance of Repeating Same Tasks Spend Time Sitting Freedom to Make Decisions Deal With External Customers Coordinate or Lead Others Indoors, Environmentally Controlled Time Pressure
<i>Job Zone</i>	3
<i>Work Styles</i>	Cooperation Attention to Detail Dependability Integrity Concern for Others Self Control Adaptability/Flexibility Stress Tolerance Independence Initiative Social Orientation Innovation Achievement/Effort Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$17.29
	<i>Annual</i> \$35,960
<i>Projected Growth</i>	Average (10-20%)

**Medical and Diagnostic Labs.
Bookkeeping, accounting, and auditing clerks**

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	Mathematics Reading Comprehension Time Management Active Listening
<i>Abilities</i>	Near Vision Mathematical Reasoning Problem Sensitivity
<i>Work Activities</i>	Interacting With Computers Getting Information Processing Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work
<i>Work Context</i>	Telephone Electronic Mail Importance of Being Exact or Accurate Importance of Repeating Same Tasks Face-to-Face Discussions Contact With Others Spend Time Sitting Structured versus Unstructured Work Time Pressure Freedom to Make Decisions Duration of Typical Work Week Work With Work Group or Team Frequency of Decision Making
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Integrity Dependability Cooperation Independence Self Control Initiative Persistence Stress Tolerance Adaptability/Flexibility Concern for Others
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Independence
<i>Median Wages</i>	<i>Hourly</i> \$14.18 <i>Annual</i> \$29,490
<i>Projected Growth</i>	Slower than average (0-9%)

**Medical and Diagnostic Labs.
Healthcare practitioners and technical workers, all other**

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$16.12
	<i>Annual</i> \$33,520
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Medical equipment preparers**

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	Operation Monitoring Active Listening Instructing Reading Comprehension Speaking
<i>Abilities</i>	
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Monitor Processes, Materials, or Surroundings Handling and Moving Objects Updating and Using Relevant Knowledge
<i>Work Context</i>	Indoors, Environmentally Controlled Exposed to Disease or Infections Importance of Being Exact or Accurate Contact With Others Face-to-Face Discussions Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Spend Time Standing Telephone Work With Work Group or Team Physical Proximity Structured versus Unstructured Work Freedom to Make Decisions Exposed to Contaminants
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Cooperation Dependability Integrity Stress Tolerance Independence Achievement/Effort Self Control Concern for Others Initiative Adaptability/Flexibility Social Orientation Leadership
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Independence
<i>Median Wages</i>	<i>Hourly</i> \$11.96 <i>Annual</i> \$24,880
<i>Projected Growth</i>	Average (10-20%)

Medical and Diagnostic Labs. Accountants and auditors

% Projected Employment	0.6%		
Skills	Mathematics Active Listening Critical Thinking Monitoring Judgment and Decision Making	Time Management Active Learning Reading Comprehension Writing	
Abilities	Problem Sensitivity Deductive Reasoning Information Ordering Oral Expression Written Expression	Mathematical Reasoning Written Comprehension Inductive Reasoning Near Vision Oral Comprehension	Problem Sensitivity Number Facility Speech Clarity Speech Recognition Information Ordering
Work Activities	Interacting With Computers Analyzing Data or Information Processing Information Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interpreting the Meaning of Information for Others Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Updating and Using Relevant Knowledge		
Work Context	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Structured versus Unstructured Work Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Letters and Memos Contact With Others Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Importance of Repeating Same Tasks Consequence of Error		
Job Zone	4		
Work Styles	Attention to Detail Dependability Integrity Analytical Thinking Stress Tolerance Cooperation Achievement/Effort	Adaptability/Flexibility Independence Self Control Persistence Concern for Others Initiative Leadership	
Work Values	Working Conditions		
Work Needs	Working Conditions Security Compensation Activity Ability Utilization Social Status		
Median Wages	<i>Hourly</i>	\$25.10	
	<i>Annual</i>	\$52,210	
Projected Growth	Faster than average (21-35%)		

**Medical and Diagnostic Labs.
Business operation specialists, all other**

<i>% Projected Employment</i>	0.4%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Medical and Diagnostic Labs. Computer support specialists

<i>% Projected Employment</i>	0.5%
<i>Skills</i>	Troubleshooting Reading Comprehension Critical Thinking Active Listening Writing Speaking Learning Strategies Active Learning
<i>Abilities</i>	Inductive Reasoning Oral Expression Written Comprehension Oral Comprehension Deductive Reasoning Problem Sensitivity Speech Recognition Information Ordering Speech Clarity Near Vision
<i>Work Activities</i>	Interacting With Computers Getting Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Interpreting the Meaning of Information for Others Documenting/Recording Information
<i>Work Context</i>	Face-to-Face Discussions Indoors, Environmentally Controlled Telephone Contact With Others Electronic Mail Structured versus Unstructured Work
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Adaptability/Flexibility Cooperation Independence Integrity Persistence Initiative Concern for Others Stress Tolerance Innovation Self Control Leadership Achievement/Effort Social Orientation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy Working Conditions Security Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$19.52 <i>Annual</i> \$40,610
<i>Projected Growth</i>	Faster than average (21-35%)

**Medical and Diagnostic Labs.
Computer software engineers, applications**

% Projected Employment	0.3%	
Skills	Programming Critical Thinking Complex Problem Solving Troubleshooting Active Learning Technology Design Judgment and Decision Making Reading Comprehension Operations Analysis Systems Analysis Quality Control Analysis Active Listening Speaking Time Management Coordination	
Abilities	Oral Comprehension Deductive Reasoning Near Vision Inductive Reasoning Problem Sensitivity Speech Clarity Written Comprehension	
Work Activities	Interacting With Computers Updating and Using Relevant Knowledge Getting Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Identifying Objects, Actions, and Events Analyzing Data or Information Processing Information	
Work Context	Face-to-Face Discussions Electronic Mail Spend Time Sitting Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Importance of Being Exact or Accurate Coordinate or Lead Others	
Job Zone	4	
Work Styles	Analytical Thinking Attention to Detail Cooperation Dependability Achievement/Effort Innovation Persistence Adaptability/Flexibility Initiative	
Work Values	Achievement Independence	
Work Needs	Ability Utilization Working Conditions Responsibility Creativity Social Status	Autonomy Achievement Activity Security
Median Wages	<i>Hourly</i>	\$37.06
	<i>Annual</i>	\$77,090
Projected Growth	Much faster than average (36+%)	

Management, Technical and Scientific Consulting

Management analysts

% Projected Employment 12.8%	
<i>Skills</i>	<p>Critical Thinking Judgment and Decision Making Coordination Time Management Active Listening Monitoring Instructing</p> <p>Quality Control Analysis Reading Comprehension Operation and Control Learning Strategies Writing Troubleshooting Mathematics</p> <p>Operations Analysis Service Orientation Systems Evaluation Installation Systems Analysis Active Learning</p>
<i>Abilities</i>	<p>Oral Comprehension Oral Expression Written Comprehension Inductive Reasoning</p> <p>Written Expression Deductive Reasoning Problem Sensitivity</p>
<i>Work Activities</i>	<p>Getting Information Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Analyzing Data or Information Organizing, Planning, and Prioritizing Work Evaluating Information to Determine Compliance with Standards Processing Information Documenting/Recording Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Communicating with Persons Outside Organization Developing Objectives and Strategies Resolving Conflicts and Negotiating with Others Interpreting the Meaning of Information for Others Interacting With Computers Judging the Qualities of Things, Services, or People Monitor Processes, Materials, or Surroundings Estimating the Quantifiable Characteristics of Products, Events, or Information</p>
<i>Work Context</i>	<p>Telephone Electronic Mail Face-to-Face Discussions Indoors, Environmentally Controlled Contact With Others Structured versus Unstructured Work Freedom to Make Decisions Work With Work Group or Team Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Spend Time Sitting Letters and Memos Coordinate or Lead Others</p>
<i>Job Zone</i>	4
<i>Work Styles</i>	<p>Dependability Adaptability/Flexibility Cooperation Stress Tolerance Integrity Concern for Others Leadership Persistence</p> <p>Analytical Thinking Initiative Attention to Detail Achievement/Effort Self Control Independence Social Orientation Innovation</p>
<i>Work Values</i>	<p>Achievement Independence</p>
<i>Work Needs</i>	<p>Creativity Achievement Working Conditions Autonomy</p> <p>Compensation Ability Utilization Social Status</p>
<i>Median Wages</i>	<p><i>Hourly</i> \$31.91 <i>Annual</i> \$66,380</p>
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Customer service representatives

% Projected Employment 3.7%	
<i>Skills</i>	Active Listening Reading Comprehension Monitoring Speaking Time Management Service Orientation Active Learning
<i>Abilities</i>	Oral Comprehension Oral Expression Deductive Reasoning Problem Sensitivity Speech Clarity Speech Recognition Inductive Reasoning Near Vision Written Comprehension
<i>Work Activities</i>	Interacting With Computers Getting Information Making Decisions and Solving Problems Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Processing Information
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Sitting Time Pressure Work With Work Group or Team Electronic Mail Freedom to Make Decisions Deal With External Customers Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Importance of Repeating Same Tasks
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance Adaptability/Flexibility Initiative Concern for Others Independence Persistence Integrity Social Orientation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$13.22 <i>Annual</i> \$27,490
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

General and operations managers

<i>% Projected Employment</i> 3.7%	
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Judgment and Decision Making Monitoring Reading Comprehension Speaking Management of Financial Resources Active Listening Persuasion
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Clarity Speech Recognition Written Comprehension Deductive Reasoning Inductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Contact With Others Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control Cooperation Concern for Others Analytical Thinking Independence Stress Tolerance Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$39.17 <i>Annual</i> \$81,480
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Office clerks, general

<i>% Projected Employment</i>	4.3%
<i>Skills</i>	Active Listening Reading Comprehension
<i>Abilities</i>	Oral Comprehension Oral Expression
<i>Work Activities</i>	Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Importance of Being Exact or Accurate Spend Time Sitting Importance of Repeating Same Tasks Indoors, Environmentally Controlled Structured versus Unstructured Work Electronic Mail Work With Work Group or Team Deal With External Customers Freedom to Make Decisions
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Integrity Attention to Detail Concern for Others Independence Self Control Stress Tolerance Initiative
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$11.09
	<i>Annual</i> \$23,070
<i>Projected Growth</i>	Slower than average (0-9%)

Management, Technical and Scientific Consulting

Business operation specialists, all other

<i>% Projected Employment</i> 2.7%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Executive secretaries and administrative assistants

<i>% Projected Employment</i>	3.5%
<i>Skills</i>	Active Listening Reading Comprehension Time Management Speaking
<i>Abilities</i>	Oral Comprehension Written Comprehension Written Expression Oral Expression Speech Clarity Near Vision
<i>Work Activities</i>	Performing Administrative Activities Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Documenting/Recording Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Electronic Mail Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Structured versus Unstructured Work Importance of Repeating Same Tasks Spend Time Sitting Freedom to Make Decisions Deal With External Customers Coordinate or Lead Others Indoors, Environmentally Controlled Time Pressure
<i>Job Zone</i>	3
<i>Work Styles</i>	Cooperation Attention to Detail Dependability Integrity Concern for Others Self Control Adaptability/Flexibility Stress Tolerance Independence Initiative Social Orientation Innovation Achievement/Effort Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$17.29
	<i>Annual</i> \$35,960
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Computer software engineers, applications

% Projected Employment 2.3%											
<i>Skills</i>	Programming Critical Thinking Complex Problem Solving Troubleshooting Active Learning Technology Design Judgment and Decision Making Reading Comprehension Operations Analysis Systems Analysis Quality Control Analysis Active Listening Speaking Time Management Coordination										
<i>Abilities</i>	Oral Comprehension Deductive Reasoning Near Vision Inductive Reasoning Problem Sensitivity Speech Clarity Written Comprehension										
<i>Work Activities</i>	Interacting With Computers Updating and Using Relevant Knowledge Getting Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Identifying Objects, Actions, and Events Analyzing Data or Information Processing Information										
<i>Work Context</i>	Face-to-Face Discussions Electronic Mail Spend Time Sitting Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Importance of Being Exact or Accurate Coordinate or Lead Others										
<i>Job Zone</i>	4										
<i>Work Styles</i>	Analytical Thinking Attention to Detail Cooperation Dependability Achievement/Effort Innovation Persistence Adaptability/Flexibility Initiative										
<i>Work Values</i>	Achievement Independence										
<i>Work Needs</i>	<table border="0"> <tr> <td>Ability Utilization</td> <td>Autonomy</td> </tr> <tr> <td>Working Conditions</td> <td>Achievement</td> </tr> <tr> <td>Responsibility</td> <td>Activity</td> </tr> <tr> <td>Creativity</td> <td>Security</td> </tr> <tr> <td>Social Status</td> <td></td> </tr> </table>	Ability Utilization	Autonomy	Working Conditions	Achievement	Responsibility	Activity	Creativity	Security	Social Status	
Ability Utilization	Autonomy										
Working Conditions	Achievement										
Responsibility	Activity										
Creativity	Security										
Social Status											
<i>Median Wages</i>	<table border="0"> <tr> <td><i>Hourly</i></td> <td>\$37.06</td> </tr> <tr> <td><i>Annual</i></td> <td>\$77,090</td> </tr> </table>	<i>Hourly</i>	\$37.06	<i>Annual</i>	\$77,090						
<i>Hourly</i>	\$37.06										
<i>Annual</i>	\$77,090										
<i>Projected Growth</i>	Much faster than average (36+%)										

Management, Technical and Scientific Consulting

Employment, recruitment, and placement specialists

<i>% Projected Employment</i> 2.3%		
<i>Skills</i>	Reading Comprehension Service Orientation Speaking Active Listening Persuasion Writing Active Learning	Critical Thinking Social Perceptiveness Negotiation Time Management Judgment and Decision Making Persuasion Management of Personnel Resources
<i>Abilities</i>	Oral Comprehension Oral Expression Speech Clarity Speech Recognition	Written Comprehension Inductive Reasoning Problem Sensitivity
<i>Work Activities</i>	Interacting With Computers Performing for or Working Directly with the Public Getting Information Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Judging the Qualities of Things, Services, or People Performing Administrative Activities Communicating with Persons Outside Organization Developing and Building Teams Resolving Conflicts and Negotiating with Others Coaching and Developing Others Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Guiding, Directing, and Motivating Subordinates Processing Information Identifying Objects, Actions, and Events Analyzing Data or Information Assisting and Caring for Others Coordinating the Work and Activities of Others Scheduling Work and Activities Staffing Organizational Units Documenting/Recording Information Evaluating Information to Determine Compliance with Standards	
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Deal With External Customers Spend Time Sitting Letters and Memos Frequency of Decision Making Letters and Memos Coordinate or Lead Others	Indoors, Environmentally Controlled Importance of Being Exact or Accurate Electronic Mail Time Pressure Duration of Typical Work Week Structured versus Unstructured Work Freedom to Make Decisions Work With Work Group or Team
<i>Job Zone</i>	3	4
<i>Work Styles</i>	Attention to Detail Dependability Self Control Stress Tolerance Integrity Initiative Achievement/Effort	Cooperation Concern for Others Adaptability/Flexibility Independence Leadership Social Orientation Persistence
<i>Work Values</i>		
<i>Work Needs</i>	Working Conditions Company Policies and Practices Supervision, Human Relations	
<i>Median Wages</i>	<i>Hourly</i>	\$20.08
	<i>Annual</i>	\$41,780
<i>Projected Growth</i>	Faster than average (21-35%)	

Management, Technical and Scientific Consulting

Computer systems analysts

% Projected Employment 1.9%	
<i>Skills</i>	Active Learning Reading Comprehension Complex Problem Solving Critical Thinking Active Listening Troubleshooting Service Orientation Monitoring Time Management Quality Control Analysis Systems Analysis Coordination Technology Design Judgment and Decision Making Learning Strategies Equipment Selection
<i>Abilities</i>	Oral Comprehension Problem Sensitivity Inductive Reasoning Deductive Reasoning
<i>Work Activities</i>	Interacting With Computers Making Decisions and Solving Problems Processing Information Getting Information Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Analyzing Data or Information Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Interpreting the Meaning of Information for Others
<i>Work Context</i>	Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Telephone Spend Time Sitting Face-to-Face Discussions Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Contact With Others Duration of Typical Work Week
<i>Job Zone</i>	4
<i>Work Styles</i>	Adaptability/Flexibility Attention to Detail Analytical Thinking Persistence Dependability Initiative Integrity
<i>Work Values</i>	Independence Achievement
<i>Work Needs</i>	Company Policies and Practices Ability Utilization Security Autonomy Responsibility Creativity Compensation
<i>Median Wages</i>	<i>Hourly</i> \$32.84 <i>Annual</i> \$68,300
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Accountants and auditors

% Projected Employment 2.1%	
<i>Skills</i>	Mathematics Active Listening Critical Thinking Monitoring Judgment and Decision Making
	Time Management Active Learning Reading Comprehension Writing
<i>Abilities</i>	Problem Sensitivity Deductive Reasoning Information Ordering Oral Expression Written Expression Mathematical Reasoning Written Comprehension Inductive Reasoning
	Near Vision Oral Comprehension Problem Sensitivity Number Facility Speech Clarity Speech Recognition Information Ordering
<i>Work Activities</i>	Interacting With Computers Analyzing Data or Information Processing Information Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interpreting the Meaning of Information for Others Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Updating and Using Relevant Knowledge
<i>Work Context</i>	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Structured versus Unstructured Work Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Letters and Memos Contact With Others Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Importance of Repeating Same Tasks Consequence of Error
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Dependability Integrity Analytical Thinking Stress Tolerance Cooperation Achievement/Effort
	Adaptability/Flexibility Independence Self Control Persistence Concern for Others Initiative Leadership
<i>Work Values</i>	Working Conditions
<i>Work Needs</i>	Working Conditions Security Compensation
	Activity Ability Utilization Social Status
<i>Median Wages</i>	<i>Hourly</i> \$25.10 <i>Annual</i> \$52,210
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Bookkeeping, accounting, and auditing clerks

<i>% Projected Employment</i>	2.2%
<i>Skills</i>	Mathematics Reading Comprehension Time Management Active Listening
<i>Abilities</i>	Near Vision Mathematical Reasoning Problem Sensitivity
<i>Work Activities</i>	Interacting With Computers Getting Information Processing Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work
<i>Work Context</i>	Telephone Electronic Mail Importance of Being Exact or Accurate Importance of Repeating Same Tasks Face-to-Face Discussions Contact With Others Spend Time Sitting Structured versus Unstructured Work Time Pressure Freedom to Make Decisions Duration of Typical Work Week Work With Work Group or Team Frequency of Decision Making
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Integrity Dependability Cooperation Independence Self Control Initiative Persistence Stress Tolerance Adaptability/Flexibility Concern for Others
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Independence
<i>Median Wages</i>	<i>Hourly</i> \$14.18
	<i>Annual</i> \$29,490
<i>Projected Growth</i>	Slower than average (0-9%)

Management, Technical and Scientific Consulting

Market research analysts

<i>% Projected Employment</i>	1.7%
<i>Skills</i>	Reading Comprehension Time Management Writing Active Listening Coordination
<i>Abilities</i>	Written Comprehension Oral Comprehension Written Expression
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Documenting/Recording Information Updating and Using Relevant Knowledge Establishing and Maintaining Interpersonal Relationships Getting Information Processing Information Communicating with Persons Outside Organization Making Decisions and Solving Problems Developing Objectives and Strategies Analyzing Data or Information Interpreting the Meaning of Information for Others
<i>Work Context</i>	Telephone Electronic Mail Structured versus Unstructured Work Importance of Being Exact or Accurate Indoors, Environmentally Controlled Spend Time Sitting Freedom to Make Decisions Work With Work Group or Team Face-to-Face Discussions Contact With Others Time Pressure
<i>Job Zone</i>	4
<i>Work Styles</i>	Achievement/Effort Initiative Integrity Persistence Attention to Detail Dependability Innovation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$27.55
	<i>Annual</i> \$57,300
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Sales representatives, services, all other

<i>% Projected Employment</i> 1.7%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$22.50
	<i>Annual</i> \$46,790
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Computer software engineers, systems software

% Projected Employment 1.4%	
<i>Skills</i>	Complex Problem Solving Technology Design Troubleshooting Critical Thinking Active Learning Programming Reading Comprehension Systems Analysis Mathematics Operations Analysis Active Listening
<i>Abilities</i>	Deductive Reasoning Inductive Reasoning
<i>Work Activities</i>	Interacting With Computers Making Decisions and Solving Problems Analyzing Data or Information Updating and Using Relevant Knowledge Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Getting Information Evaluating Information to Determine Compliance with Standards Documenting/Recording Information Identifying Objects, Actions, and Events Processing Information Interpreting the Meaning of Information for Others Thinking Creatively Scheduling Work and Activities Establishing and Maintaining Interpersonal Relationships Provide Consultation and Advice to Others Developing Objectives and Strategies Monitor Processes, Materials, or Surroundings
<i>Work Context</i>	Face-to-Face Discussions Electronic Mail Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Spend Time Sitting Structured versus Unstructured Work Freedom to Make Decisions Telephone Contact With Others Importance of Repeating Same Tasks Spend Time Making Repetitive Motions Time Pressure Duration of Typical Work Week
<i>Job Zone</i>	4
<i>Work Styles</i>	Analytical Thinking Attention to Detail Cooperation Initiative Achievement/Effort Integrity Innovation Adaptability/Flexibility Dependability Persistence Stress Tolerance Leadership Independence
<i>Work Values</i>	Achievement Independence
<i>Work Needs</i>	Ability Utilization Working Conditions Responsibility Creativity Social Status Autonomy Achievement Activity Security
<i>Median Wages</i>	<i>Hourly</i> \$39.48 <i>Annual</i> \$82,120
<i>Projected Growth</i>	Much faster than average (36+%)

Management, Technical and Scientific Consulting

First-line supervisors/managers of office and administrative support workers

% Projected Employment 1.6%		
<i>Skills</i>	Active Listening Speaking Reading Comprehension Critical Thinking Monitoring	Time Management Management of Personnel Resources Judgment and Decision Making Instructing Social Perceptiveness
<i>Abilities</i>	Oral Expression Oral Comprehension Written Expression Near Vision	Written Comprehension Speech Clarity Number Facility
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Interacting With Computers Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Organizing, Planning, and Prioritizing Work Developing and Building Teams Communicating with Persons Outside Organization Identifying Objects, Actions, and Events Coordinating the Work and Activities of Others Coaching and Developing Others Processing Information Evaluating Information to Determine Compliance with Standards Updating and Using Relevant Knowledge Resolving Conflicts and Negotiating with Others Performing Administrative Activities Scheduling Work and Activities	
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Contact With Others Work With Work Group or Team Structured versus Unstructured Work Responsibility for Outcomes and Results Deal With External Customers Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Frequency of Decision Making Time Pressure Spend Time Sitting Duration of Typical Work Week Coordinate or Lead Others Letters and Memos Importance of Repeating Same Tasks Impact of Decisions on Co-workers or Company Results	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Integrity Dependability Attention to Detail Cooperation Stress Tolerance Initiative Concern for Others	Leadership Self Control Independence Adaptability/Flexibility Persistence Analytical Thinking Achievement/Effort
<i>Work Values</i>	Independence Achievement	
<i>Work Needs</i>	Authority Autonomy Activity	Working Conditions Responsibility Achievement
<i>Median Wages</i>	<i>Hourly</i>	\$20.38
	<i>Annual</i>	\$42,400
<i>Projected Growth</i>	Slower than average (0-9%)	

Management, Technical and Scientific Consulting Secretaries, except legal, medical, and executive

<i>% Projected Employment</i> 2.3%	
<i>Skills</i>	Active Listening Reading Comprehension Time Management Writing Speaking
<i>Abilities</i>	Oral Comprehension Oral Expression Written Comprehension Speech Clarity Speech Recognition Information Ordering
<i>Work Activities</i>	Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Performing Administrative Activities Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Processing Information Organizing, Planning, and Prioritizing Work Communicating with Persons Outside Organization
<i>Work Context</i>	Telephone Face-to-Face Discussions Contact With Others Structured versus Unstructured Work Indoors, Environmentally Controlled Spend Time Sitting Importance of Being Exact or Accurate Importance of Repeating Same Tasks Letters and Memos Electronic Mail Freedom to Make Decisions Work With Work Group or Team Deal With External Customers
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Integrity Self Control Independence Concern for Others Stress Tolerance Adaptability/Flexibility Achievement/Effort Initiative
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Working Conditions Activity
<i>Median Wages</i>	<i>Hourly</i> \$12.82
	<i>Annual</i> \$26,670
<i>Projected Growth</i>	Much slower than average (negative growth)

Management, Technical and Scientific Consulting

Network systems and data communications analysts

<i>% Projected Employment</i> 1.0%	
<i>Skills</i>	<ul style="list-style-type: none"> Equipment Selection Judgment and Decision Making Troubleshooting Technology Design Complex Problem Solving Coordination Active Listening Systems Evaluation Active Learning Operations Analysis Critical Thinking Equipment Maintenance Installation Systems Analysis Reading Comprehension Instructing
<i>Abilities</i>	<ul style="list-style-type: none"> Near Vision Deductive Reasoning Written Comprehension Problem Sensitivity
<i>Work Activities</i>	<ul style="list-style-type: none"> Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Getting Information Thinking Creatively Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Organizing, Planning, and Prioritizing Work Making Decisions and Solving Problems Updating and Using Relevant Knowledge Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Evaluating Information to Determine Compliance with Standards Analyzing Data or Information Interpreting the Meaning of Information for Others Processing Information Documenting/Recording Information
<i>Work Context</i>	<ul style="list-style-type: none"> Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Structured versus Unstructured Work Duration of Typical Work Week Freedom to Make Decisions Work With Work Group or Team Contact With Others Spend Time Sitting
<i>Job Zone</i>	3
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Dependability Analytical Thinking Stress Tolerance Initiative Adaptability/Flexibility Persistence Achievement/Effort Self Control Cooperation Independence Integrity
<i>Work Values</i>	Achievement
<i>Work Needs</i>	<ul style="list-style-type: none"> Ability Utilization Compensation Company Policies and Practices Autonomy Working Conditions Security
<i>Median Wages</i>	<ul style="list-style-type: none"> <i>Hourly</i> \$29.69 <i>Annual</i> \$61,750
<i>Projected Growth</i>	Much faster than average (36+%)

Management, Technical and Scientific Consulting

Computer support specialists

<i>% Projected Employment</i> 1.2%	
<i>Skills</i>	Troubleshooting Reading Comprehension Critical Thinking Active Listening Writing Speaking Learning Strategies Active Learning
<i>Abilities</i>	Inductive Reasoning Oral Expression Written Comprehension Oral Comprehension Deductive Reasoning Problem Sensitivity Speech Recognition Information Ordering Speech Clarity Near Vision
<i>Work Activities</i>	Interacting With Computers Getting Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Interpreting the Meaning of Information for Others Documenting/Recording Information
<i>Work Context</i>	Face-to-Face Discussions Indoors, Environmentally Controlled Telephone Contact With Others Electronic Mail Structured versus Unstructured Work
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Adaptability/Flexibility Cooperation Independence Integrity Persistence Initiative Concern for Others Stress Tolerance Innovation Self Control Leadership Achievement/Effort Social Orientation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy Working Conditions Security Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$19.52 <i>Annual</i> \$40,610
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Sales and related workers, all other

<i>% Projected Employment</i> 1.0%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$15.77
	<i>Annual</i> \$32,800
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting Environmental engineers

<i>% Projected Employment</i> 1.0%	
<i>Skills</i>	Reading Comprehension Active Listening Critical Thinking Science Writing Speaking Time Management
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Deductive Reasoning Inductive Reasoning Written Comprehension
<i>Work Activities</i>	Evaluating Information to Determine Compliance with Standards Getting Information Monitor Processes, Materials, or Surroundings Making Decisions and Solving Problems Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Communicating with Persons Outside Organization
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Contact With Others Letters and Memos Structured versus Unstructured Work Indoors, Environmentally Controlled Importance of Being Exact or Accurate Spend Time Sitting Freedom to Make Decisions Work With Work Group or Team Coordinate or Lead Others
<i>Job Zone</i>	5
<i>Work Styles</i>	Initiative Integrity Attention to Detail Persistence Achievement/Effort Independence Cooperation Dependability Analytical Thinking Self Control Leadership Stress Tolerance Adaptability/Flexibility Innovation
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$32.74
	<i>Annual</i> \$68,090
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Laborers and freight, stock, and material movers, hand

<i>% Projected Employment</i> 1.1%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Performing General Physical Activities Getting Information Inspecting Equipment, Structures, or Material Monitor Processes, Materials, or Surroundings Operating Vehicles, Mechanized Devices, or Equipment Handling and Moving Objects
<i>Work Context</i>	Time Pressure Contact With Others Face-to-Face Discussions Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Exposed to Contaminants Indoors, Not Environmentally Controlled Wear Common Protective or Safety Equipment Work With Work Group or Team Duration of Typical Work Week Sounds, Noise Levels Are Distracting or Uncomfortable Very Hot or Cold Temperatures
<i>Job Zone</i>	2
<i>Work Styles</i>	Dependability Attention to Detail Integrity Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$9.91
	<i>Annual</i> \$20,610
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Sales representatives, wholesale and manufacturing, except technical and scientific Products

<i>% Projected Employment</i>	0.9%
<i>Skills</i>	Active Listening Speaking Time Management Reading Comprehension Persuasion Service Orientation
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity
<i>Work Activities</i>	Establishing and Maintaining Interpersonal Relationships Getting Information Selling or Influencing Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Deal With External Customers In an Enclosed Vehicle or Equipment Freedom to Make Decisions Structured versus Unstructured Work Electronic Mail Frequency of Decision Making Duration of Typical Work Week Work With Work Group or Team Physical Proximity Time Pressure Level of Competition Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results
<i>Job Zone</i>	3
<i>Work Styles</i>	Integrity Dependability Initiative Stress Tolerance Persistence Self Control Attention to Detail Cooperation Analytical Thinking Independence Achievement/Effort Concern for Others Adaptability/Flexibility Innovation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy
<i>Median Wages</i>	<i>Hourly</i> \$22.78
	<i>Annual</i> \$47,380
<i>Projected Growth</i>	Average (10-20%)

Management, Technical and Scientific Consulting

Network and computer systems administrators

<i>% Projected Employment</i>	0.8%
<i>Skills</i>	Troubleshooting Reading Comprehension Active Listening Active Learning Complex Problem Solving Critical Thinking Service Orientation
<i>Abilities</i>	Near Vision Problem Sensitivity Inductive Reasoning Oral Comprehension Oral Expression Written Comprehension Information Ordering Deductive Reasoning Finger Dexterity
<i>Work Activities</i>	Interacting With Computers Updating and Using Relevant Knowledge Making Decisions and Solving Problems Getting Information Communicating with Supervisors, Peers, or Subordinates Processing Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Electronic Mail Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Contact With Others Structured versus Unstructured Work Importance of Being Exact or Accurate Freedom to Make Decisions Work With Work Group or Team Duration of Typical Work Week Spend Time Sitting Time Pressure
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Dependability Analytical Thinking Cooperation Initiative Stress Tolerance Adaptability/Flexibility Integrity Achievement/Effort Independence Persistence Innovation Self Control Leadership
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$28.81
	<i>Annual</i> \$59,930
<i>Projected Growth</i>	Much faster than average (36+%)

Management, Technical and Scientific Consulting

Chief executives

<i>% Projected Employment</i> 0.8%			
<i>Skills</i>	Judgment and Decision Making Mathematics Negotiation Coordination Critical Thinking Active Listening Monitoring	Complex Problem Solving Reading Comprehension Speaking Learning Strategies Writing Persuasion Management of Personnel Resources	Time Management Active Learning Systems Evaluation Social Perceptiveness Management of Financial Resources Management of Material Resources
<i>Abilities</i>	Oral Comprehension Oral Expression Written Comprehension Written Expression	Speech Clarity Deductive Reasoning Inductive Reasoning Number Facility	Problem Sensitivity Fluency of Ideas Originality
<i>Work Activities</i>	Making Decisions and Solving Problems Getting Information Communicating with Supervisors, Peers, or Subordinates Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Developing Objectives and Strategies Developing and Building Teams Resolving Conflicts and Negotiating with Others Selling or Influencing Others Analyzing Data or Information Organizing, Planning, and Prioritizing Work Thinking Creatively Guiding, Directing, and Motivating Subordinates Coordinating the Work and Activities of Others Monitoring and Controlling Resources Judging the Qualities of Things, Services, or People Coaching and Developing Others		
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Impact of Decisions on Co-workers or Company Results Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Duration of Typical Work Week Contact With Others Letters and Memos Structured versus Unstructured Work Responsibility for Outcomes and Results Time Pressure Work With Work Group or Team Coordinate or Lead Others Responsible for Others' Health and Safety Deal With Unpleasant or Angry People	Deal With External Customers Indoors, Environmentally Controlled	
<i>Job Zone</i>	5		
<i>Work Styles</i>	Leadership Integrity Initiative Stress Tolerance Achievement/Effort Dependability	Independence Persistence Adaptability/Flexibility Cooperation Attention to Detail Working Conditions	Self Control Innovation Analytical Thinking Social Orientation Concern for Others
<i>Work Values</i>	Independence Achievement	Recognition	
<i>Work Needs</i>	Authority Working Conditions Autonomy Activity Responsibility	Compensation Social Status Ability Utilization Achievement	Company Policies and Practices Security Variety Creativity
<i>Median Wages</i>	<i>Hourly</i>	\$66.48	
	<i>Annual</i>	\$142,440	
<i>Projected Growth</i>	Average (10-20%)		

Management, Technical and Scientific Consulting

Telemarketers

<i>% Projected Employment</i> 1.4%	
<i>Skills</i>	Active Listening Speaking Persuasion Reading Comprehension Time Management
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity
<i>Work Activities</i>	Selling or Influencing Others Interacting With Computers
<i>Work Context</i>	Telephone Contact With Others Spend Time Sitting Deal With Unpleasant or Angry People Face-to-Face Discussions Physical Proximity Indoors, Environmentally Controlled Importance of Being Exact or Accurate
<i>Job Zone</i>	2
<i>Work Styles</i>	Stress Tolerance Integrity Persistence Dependability Achievement/Effort Adaptability/Flexibility Self Control Attention to Detail Initiative Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$9.79
	<i>Annual</i> \$20,360
<i>Projected Growth</i>	Much slower than average (negative growth)

Management, Technical and Scientific Consulting

Receptionists and information clerks

<i>% Projected Employment</i>	0.9%
<i>Skills</i>	Active Listening Speaking Reading Comprehension Writing
<i>Abilities</i>	Oral Comprehension Oral Expression Speech Recognition
<i>Work Activities</i>	Interacting With Computers Getting Information Performing Administrative Activities
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Structured versus Unstructured Work Importance of Being Exact or Accurate Spend Time Sitting Work With Work Group or Team Importance of Repeating Same Tasks Freedom to Make Decisions Indoors, Environmentally Controlled Letters and Memos Deal With External Customers
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Integrity Stress Tolerance Self Control Attention to Detail Concern for Others Independence Social Orientation Initiative
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$10.65
	<i>Annual</i> \$22,150
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Training and development specialists

<i>% Projected Employment</i> 0.8%	
<i>Skills</i>	Active Listening Time Management Speaking Writing Reading Comprehension Critical Thinking Instructing Learning Strategies Active Learning Service Orientation
<i>Abilities</i>	Speech Clarity Oral Expression Oral Comprehension Written Comprehension Deductive Reasoning Speech Recognition Originality Written Expression
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Getting Information Training and Teaching Others Organizing, Planning, and Prioritizing Work Developing Objectives and Strategies Interacting With Computers Making Decisions and Solving Problems Updating and Using Relevant Knowledge Developing and Building Teams Establishing and Maintaining Interpersonal Relationships Performing for or Working Directly with the Public Evaluating Information to Determine Compliance with Standards Coaching and Developing Others Judging the Qualities of Things, Services, or People Processing Information Scheduling Work and Activities Coordinating the Work and Activities of Others Analyzing Data or Information Thinking Creatively
<i>Work Context</i>	Telephone Electronic Mail Freedom to Make Decisions Face-to-Face Discussions Indoors, Environmentally Controlled Deal With External Customers Coordinate or Lead Others Letters and Memos Importance of Being Exact or Accurate Contact With Others Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Public Speaking Structured versus Unstructured Work
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Integrity Cooperation Concern for Others Stress Tolerance Social Orientation Self Control Adaptability/Flexibility Attention to Detail Leadership Initiative Independence Analytical Thinking
<i>Work Values</i>	Independence
<i>Work Needs</i>	Working Conditions Authority Co-workers Company Policies and Practices Achievement Responsibility
<i>Median Wages</i>	<i>Hourly</i> \$22.05 <i>Annual</i> \$45,870
<i>Projected Growth</i>	Faster than average (21-35%)

Management, Technical and Scientific Consulting

Financial managers

<i>% Projected Employment</i> 0.8%			
<i>Skills</i>	Mathematics Reading Comprehension Critical Thinking Active Listening Time Management Judgment and Decision Making Coordination	Writing Time Management Instructing Persuasion Monitoring Service Orientation Mathematics	Active Learning Speaking Learning Strategies Negotiation Social Perceptiveness Management of Financial Resources Management of Personnel Resources
<i>Abilities</i>	Oral Expression Problem Sensitivity Deductive Reasoning Speech Clarity	Written Comprehension Oral Comprehension Written Expression	Speech Recognition Near Vision Inductive Reasoning
<i>Work Activities</i>	Interacting With Computers Getting Information Processing Information Analyzing Data or Information Analyzing Data or Information Monitoring and Controlling Resources Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Updating and Using Relevant Knowledge Updating and Using Relevant Knowledge Evaluating Information to Determine Compliance with Standards Organizing, Planning, and Prioritizing Work Selling or Influencing Others Performing for or Working Directly with the Public Communicating with Persons Outside Organization Documenting/Recording Information Developing and Building Teams Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Interpreting the Meaning of Information for Others Provide Consultation and Advice to Others		
<i>Work Context</i>	Telephone Face-to-Face Discussions Electronic Mail Frequency of Decision Making Contact With Others Letters and Memos Spend Time Sitting Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Work With Work Group or Team Importance of Being Exact or Accurate Indoors, Environmentally Controlled Freedom to Make Decisions Duration of Typical Work Week Responsibility for Outcomes and Results Importance of Repeating Same Tasks	Time Pressure Coordinate or Lead Others Deal With External Customers Consequence of Error Level of Competition	
<i>Job Zone</i>	5	4	
<i>Work Styles</i>	Integrity Cooperation Analytical Thinking Dependability Attention to Detail	Independence Persistence Initiative Achievement/Effort Self Control	Innovation Leadership Social Orientation Stress Tolerance
<i>Work Values</i>	Achievement		
<i>Work Needs</i>	Authority Working Conditions Activity	Ability Utilization Company Policies and Practices	Responsibility Autonomy
<i>Median Wages</i>	<i>Hourly</i> \$41.48		
	<i>Annual</i> \$86,280		
<i>Projected Growth</i>	Average (10-20%)		

Management, Technical and Scientific Consulting

Registered nurses

% Projected Employment		0.8%
Skills	Active Listening Reading Comprehension Critical Thinking Instructing Speaking Time Management Service Orientation Social Perceptiveness	Monitoring Writing Active Learning Coordination Judgment and Decision Making Learning Strategies Science
Abilities	Problem Sensitivity Oral Expression Oral Comprehension Inductive Reasoning Speech Recognition	Deductive Reasoning Speech Clarity Written Expression Written Comprehension
Work Activities	Assisting and Caring for Others Documenting/Recording Information Getting Information Updating and Using Relevant Knowledge Organizing, Planning, and Prioritizing Work Identifying Objects, Actions, and Events Making Decisions and Solving Problems Performing for or Working Directly with the Public Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Monitor Processes, Materials, or Surroundings Interpreting the Meaning of Information for Others	
Work Context	Telephone Contact With Others Face-to-Face Discussions Exposed to Disease or Infections Physical Proximity Work With Work Group or Team Importance of Being Exact or Accurate Frequency of Decision Making Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Consequence of Error Wear Common Protective or Safety Equipment Deal With External Customers Freedom to Make Decisions Structured versus Unstructured Work Time Pressure Deal With Unpleasant or Angry People Coordinate or Lead Others Responsible for Others' Health and Safety	
Job Zone	3	
Work Styles	Integrity Dependability Self Control Concern for Others Cooperation Attention to Detail Adaptability/Flexibility Stress Tolerance	Initiative Independence Social Orientation Analytical Thinking Achievement/Effort Leadership Persistence Innovation
Work Values	Achievement Relationships	
Work Needs	Social Service Co-workers Ability Utilization	Achievement Activity Security
Median Wages	<i>Hourly</i>	\$26.28
	<i>Annual</i>	\$54,670
Projected Growth	Faster than average (21-35%)	

Office Furniture

Team assemblers

<i>% Projected Employment</i>	12.8%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions and Events Inspecting Equipment, Structures or Material Getting Information
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Standing Face-to-Face Discussions Time Pressure Work With Work Group or Team Sounds, Noise Levels Are Distracting or Uncomfortable
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$11.60 <i>Annual</i> \$24,120
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

First-line supervisors/managers of production and operating workers

<i>% Projected Employment</i>	4.5%		
<i>Skills</i>	Active Listening Reading Comprehension Management of Personnel Resources Instructing Monitoring	Speaking Time Management Critical Thinking Judgement and Decision Making Coordination	
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity		
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Guiding, Directing, and Motivating Subordinates Getting Information Monitor Processes, Materials, or Surroundings Organizing, Planning, and Prioritizing Work Resolving Conflicts and Negotiating with Others Developing and Building Teams Scheduling Work and Activities Training and Teaching Others Coaching and Developing Others Judging the Qualities of Things, Services, or People Inspecting Equipment, Structures, or Material Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events		
<i>Work Context</i>	Face-to-Face Discussions Contact With Others Duration of Typical Work Week Responsible for Others' Health and Safety Responsibility for Outcomes and Results Wear Common Protective or Safety Equipment Time Pressure Work With Work Group or Team Telephone Freedom to Make Decisions Frequency of Decision Making Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Sounds, Noise Levels Are Distracting or Uncomfortable Electronic Mail Coordinate or Lead Others Pace Determined by Speed of Equipment		
<i>Job Zone</i>	3		
<i>Work Styles</i>	Dependability Leadership Self Control Attention to Detail Stress Tolerance	Integrity Cooperation Adaptability/Flexibility Initiative Persistence	Analytical Thinking Concern for Others Independence Achievement/Effort Innovation
<i>Work Values</i>			
<i>Work Needs</i>	Authority Responsibility Autonomy Co-workers		
<i>Median Wages</i>	<i>Hourly</i>	\$22.18	
	<i>Annual</i>	\$46,140	
<i>Projected Growth</i>	Slower than average (0-9%)		

Office Furniture Industrial engineers

<i>% Projected Employment</i>	1.1%	
<i>Skills</i>	Critical Thinking Active Listening Time Management Reading Comprehension Complex Problem Solving	
<i>Abilities</i>	Oral Expression Deductive Reasoning Oral Comprehension Problem Solving	Mathematical Reasoning Inductive Reasoning Information Ordering Speech Clarity
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interacting With Computers Getting Information Analyzing Data or Information Establishing and Maintaining Interpersonal Relationships Documenting/Recording Information Processing Information	
<i>Work Context</i>	Face-to-Face Discussions Telephone Duration of Typical Work Week Importance of Being Exact or Accurate Electronic Mail Wear Common Protective or Safety Equipment Indoors, Environmentally Controlled Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Sounds, Noise Levels Are Distracting or Uncomfortable Structured versus Unstructured Work Freedom to Make Decisions	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Initiative Adaptability/Flexibility Integrity	Innovation Persistence Cooperation Leadership Achievement/Effort Independence
<i>Work Values</i>	Achievement Independence	
<i>Work Needs</i>	Ability Utilization Autonomy Creativity Responsibility Activity	Authority Social Status Achievement Working Conditions
<i>Median Wages</i>	<i>Hourly</i>	\$32.05
	<i>Annual</i>	\$66,670
<i>Projected Growth</i>	Average (10-20%)	

Office Furniture Helpers--Production workers

<i>% Projected Employment</i>	2.9%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Context</i>	Wear Common Protective or Safety Equipment Time Pressure Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Exposed to Contaminants Duration of Typical Work Week Sounds, Noise Levels Are Distracting or Uncomfortable Importance of Being Exact or Accurate Spend Time Bending or Twisting the Body Exposed to Minor Burns, Cuts, Bites, or Stings
<i>Job Zone</i>	1
<i>Work Styles</i>	Dependability Attention to Detail
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$9.80
	<i>Annual</i> \$20,390
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

Welders, cutters, solderers, and brazers

<i>% Projected Employment</i>	2.7%
<i>Skills</i>	Reading Comprehension Quality Control Analysis Learning Strategies
<i>Abilities</i>	Arm-Hand Steadiness
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Processes Getting Information Performing General Physical Activities Inspecting Equipment, Structures, or Material Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Wear Common Protective or Safety Equipment Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Face-to-Face Discussions Exposed to Contaminants Spend Time Standing Importance of Being Exact or Accurate Indoors, Not Environmentally Controlled Time Pressure Contact With Others Indoors, Environmentally Controlled Work With Work Group or Team Physical Proximity
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Self Control Independence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$14.90
	<i>Annual</i> \$30,990
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

Sales representatives, wholesale and manufacturing, except technical and scientific Products

<i>% Projected Employment</i>	2.4%	
<i>Skills</i>	Active Listening Speaking Time Management	Reading Comprehension Persuasion Service Orientation
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity	
<i>Work Activities</i>	Establishing and Maintaining Interpersonal Relationships Getting Information Selling or Influencing Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates	
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Deal With External Customers In an Enclosed Vehicle or Equipment Freedom to Make Decisions Structured versus Unstructured Work Electronic Mail	Frequency of Decision Making Duration of Typical Work Week Work With Work Group or Team Physical Proximity Time Pressure Level of Competition Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results
<i>Job Zone</i>	3	
<i>Work Styles</i>	Integrity Dependability Initiative Stress Tolerance Persistence Self Control Attention to Detail	Cooperation Analytical Thinking Independence Achievement/Effort Concern for Others Adaptability/Flexibility Innovation
<i>Work Values</i>		
<i>Work Needs</i>	Autonomy	
<i>Median Wages</i>	<i>Hourly</i>	\$22.78
	<i>Annual</i>	\$47,380
<i>Projected Growth</i>	Average (10-20%)	

Office Furniture

Industrial engineering technicians

<i>% Projected Employment</i>	0.8%	
<i>Skills</i>	Active Listening Complex Problem Solving Critical Thinking	
<i>Abilities</i>		
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions, and Events Establishing and Maintaining Interpersonal Relationships Documenting/Recording Information Interacting With Computers Getting Information	
<i>Work Context</i>	Face-to-Face Discussions Contact With Others Work With Work Group or Team Telephone Wear Common Protective or Safety Equipment Letters and Memos Freedom to Make Decisions Duration of Typical Work Week Time Pressure Structured versus Unstructured Work Frequency of Decision Making Indoors, Environmentally Controlled Importance of Being Exact or Accurate Electronic Mail Impact of Decisions on Co-workers or Company Results Coordinate or Lead Others Physical Proximity Responsibility for Outcomes and Results Exposed to Contaminants	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Analytical Thinking Dependability Attention to Detail Integrity Achievement/Effort Initiative Persistence	Adaptability/Flexibility Stress Tolerance Innovation Cooperation Leadership Self Control
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values Supervision, Human Relations	
<i>Median Wages</i>	<i>Hourly</i>	\$21.77
	<i>Annual</i>	\$45,280
<i>Projected Growth</i>	Average (10-20%)	

Office Furniture

Customer service representatives

<i>% Projected Employment</i>	1.4%		
<i>Skills</i>	Active Listening Reading Comprehension Monitoring Speaking	Time Management Service Orientation Active Learning	
<i>Abilities</i>	Oral Comprehension	Speech Recognition	
	Oral Expression Deductive Reasoning Problem Sensitivity Speech Clarity	Inductive Reasoning Near Vision Written Comprehension	
<i>Work Activities</i>	Interacting With Computers Getting Information Making Decisions and Solving Problems Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Processing Information		
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Sitting Time Pressure Work With Work Group or Team Electronic Mail Freedom to Make Decisions Deal With External Customers Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Importance of Repeating Same Tasks		
<i>Job Zone</i>	2		
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance	Adaptability/Flexibility Initiative Concern for Others Independence Persistence	Integrity Social Orientation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>			
<i>Work Needs</i>			
<i>Median Wages</i>	<i>Hourly</i>	\$13.22	
	<i>Annual</i>	\$27,490	
<i>Projected Growth</i>	Faster than average (21-35%)		

Office Furniture

Industrial truck and tractor operators

<i>% Projected Employment</i>	1.8%	
<i>Skills</i>	Mathematics Active Listening Reading Comprehension Equipment Maintenance	
<i>Abilities</i>	Arm-Hand Steadiness Multilimb Coordination Depth Perception	Control Precision Static Strength Trunk Strength
<i>Work Activities</i>	Operating Vehicles, Mechanized Devices, or Equipment Handling and Moving Objects	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Time Pressure Indoors, Not Environmentally Controlled Sounds, Noise Levels Are Distracting or Uncomfortable Face-to-Face Discussions Work With Work Group or Team Contact With Others Freedom to Make Decisions Exposed to Contaminants Responsible for Others' Health and Safety Wear Common Protective or Safety Equipment In an Open Vehicle or Equipment Frequency of Decision Making	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Dependability Self Control Attention to Detail Independence Cooperation	Stress Tolerance Adaptability/Flexibility Initiative Integrity Persistence
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$13.02
	<i>Annual</i>	\$27,080
<i>Projected Growth</i>	Slower than average (0-9%)	

Office Furniture Carpenters

<i>% Projected Employment</i>	1.7%		
<i>Skills</i>	Mathematics Time Management Critical Thinking Active Listening Judgment and Decision Making Active Learning Management of Material Resources Quality Control Analysis Equipment Maintenance	Management of Financial Resources Installation Speaking Management of Personnel Resources Service Orientation Complex Problem Solving Monitoring Equipment Selection Instructing	
<i>Abilities</i>	Arm-Hand Steadiness Trunk Strength Multilimb Coordination Near Vision		
<i>Work Activities</i>	Controlling Machines and Processes Judging the Qualities of Things, Services, or People Monitor Processes, Materials, or Surroundings Communicating with Supervisors, Peers, or Subordinates Coordinating the Work and Activities of Others Performing General Physical Activities Getting Information Scheduling Work and Activities Communicating with Persons Outside Organization Making Decisions and Solving Problems Handling and Moving Objects Inspecting Equipment, Structures, or Material		
<i>Work Context</i>	Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Face-to-Face Discussions Exposed to Hazardous Equipment Sounds, Noise Levels Are Distracting or Uncomfortable Importance of Being Exact or Accurate Freedom to Make Decisions Outdoors, Exposed to Weather Telephone Work With Work Group or Team Structured versus Unstructured Work Contact With Others Very Hot or Cold Temperatures Responsible for Others' Health and Safety Exposed to Contaminants Responsibility for Outcomes and Results Physical Proximity Extremely Bright or Inadequate Lighting Duration of Typical Work Week Exposed to High Places Frequency of Decision Making		
<i>Job Zone</i>	3 2		
<i>Work Styles</i>	Attention to Detail Dependability Persistence Cooperation Integrity	Adaptability/Flexibility Analytical Thinking Initiative Innovation	Self Control Independence Stress Tolerance Leadership
<i>Work Values</i>			
<i>Work Needs</i>	Moral Values		
<i>Median Wages</i>	<i>Hourly</i>	\$17.11	
	<i>Annual</i>	\$35,580	
<i>Projected Growth</i>	Average (10-20%)		

Office Furniture

Maintenance and repair workers, general

<i>% Projected Employment</i>	1.5%	
<i>Skills</i>	Equipment Maintenance Repairing Troubleshooting	Active Listening Installation Equipment Selection
<i>Abilities</i>	Problem Sensitivity	
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Performing General Physical Activities Repairing and Maintaining Mechanical Equipment	
<i>Work Context</i>	Face-to-Face Discussions Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Freedom to Make Decisions Telephone Contact With Others Spend Time Standing Indoors, Environmentally Controlled Wear Common Protective or Safety Equipment Exposed to Minor Burns, Cuts, Bites, or Stings Structured versus Unstructured Work	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Dependability Attention to Detail Cooperation Self Control	Integrity Initiative Analytical Thinking Concern for Others
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$15.01
	<i>Annual</i>	\$31,210
<i>Projected Growth</i>	Average (10-20%)	

Office Furniture

General and operations managers

<i>% Projected Employment</i>	1.7%		
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Judgment and Decision Making Monitoring	Reading Comprehension Speaking Management of Financial Resources Active Listening Persuasion	
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Clarity	Speech Recognition Written Comprehension Deductive Reasoning Inductive Reasoning	
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates		
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Contact With Others Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control	Cooperation Concern for Others Analytical Thinking Independence Stress Tolerance	Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>			
<i>Work Needs</i>			
<i>Median Wages</i>	<i>Hourly</i>	\$39.17	
	<i>Annual</i>	\$81,480	
<i>Projected Growth</i>	Average (10-20%)		

Office Furniture Packers and packagers, hand

<i>% Projected Employment</i>	1.4%
<i>Skills</i>	
<i>Abilities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Activities</i>	
<i>Work Context</i>	Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Contact With Others Face-to-Face Discussions Spend Time Making Repetitive Motions Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Cooperation Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$8.36
	<i>Annual</i> \$17,390
<i>Projected Growth</i>	Average (10-20%)

Office Furniture

Machinists

<i>% Projected Employment</i>	1.2%
<i>Skills</i>	<ul style="list-style-type: none"> Operation and Control Operation Monitoring Mathematics Equipment Selection Troubleshooting Reading Comprehension Quality Control Analysis Equipment Maintenance
<i>Abilities</i>	<ul style="list-style-type: none"> Problem Solving Arm-Hand Steadiness Information Ordering Near Vision
<i>Work Activities</i>	<ul style="list-style-type: none"> Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	<ul style="list-style-type: none"> Wear Common Protective or Safety Equipment Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Face-to-Face Discussions Spend Time Standing Exposed to Hazardous Equipment Indoors, Not Environmentally Controlled Contact With Others Time Pressure Freedom to Make Decisions Frequency of Decision Making Duration of Typical Work Week Responsibility for Outcomes and Results
<i>Job Zone</i>	3
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Analytical Thinking Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$16.51
	<i>Annual</i> \$34,350
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

Business operation specialists, all other

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Office Furniture

Multiple machine tool setters, operators, and tenders, metal and plastic

<i>% Projected Employment</i>	1.1%	
<i>Skills</i>	Quality Control Analysis Operation and Control Repairing Equipment Maintenance Operation Monitoring	Troubleshooting Learning Strategies Critical Thinking Coordination
<i>Abilities</i>	Control Precision Information Ordering Manual Dexterity	
<i>Work Activities</i>	Controlling Machines and Processes Repairing and Maintaining Mechanical Equipment Getting Information Handling and Moving Objects Inspecting Equipment, Structures, or Material	
<i>Work Context</i>	Wear Common Protective or Safety Equipment Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Duration of Typical Work Week Exposed to Hazardous Equipment Face-to-Face Discussions Pace Determined by Speed of Equipment Importance of Being Exact or Accurate Spend Time Standing Time Pressure Work With Work Group or Team Contact With Others Exposed to Minor Burns, Cuts, Bites, or Stings	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Attention to Detail Dependability Independence Initiative Persistence	
<i>Work Values</i>		
<i>Work Needs</i>	Moral Values	
<i>Median Wages</i>	<i>Hourly</i>	\$14.32
	<i>Annual</i>	\$29,780
<i>Projected Growth</i>	Slower than average (0-9%)	

Office Furniture

Industrial production managers

<i>% Projected Employment</i>	1.1%		
<i>Skills</i>	Active Listening Judgment and Decision Making Critical Thinking Reading Comprehension Management of Personnel Resources Coordination	Monitoring Time Management Complex Problem Solving Speaking Instructing	
<i>Abilities</i>	Oral Comprehension Oral Expression Inductive Reasoning	Problem Sensitivity Written Comprehension Deductive Reasoning	
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Organizing, Planning, and Prioritizing Work Scheduling Work and Activities Identifying Objects, Actions, and Events		
<i>Work Context</i>	Face-to-Face Discussions Telephone Freedom to Make Decisions Contact With Others Structured versus Unstructured Work Responsibility for Outcomes and Results Work With Work Group or Team Electronic Mail Indoors, Environmentally Controlled Coordinate or Lead Others Duration of Typical Work Week Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Importance of Being Exact or Accurate Responsibility for Others' Health and Safety Letters and Memos		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Leadership Attention to Detail Adaptability/Flexibility Integrity Dependability Initiative	Cooperation Self Control Stress Tolerance Independence Achievement/Effort Achievement/Effort	Persistence Analytical Thinking Concern for Others Innovation Social Orientation
<i>Work Values</i>	Independence		
<i>Work Needs</i>	Authority Autonomy Activity Responsibility	Company Policies and Practices Compensation Creativity	
<i>Median Wages</i>	<i>Hourly</i>	\$36.34	
	<i>Annual</i>	\$75,580	
<i>Projected Growth</i>	Slower than average (0-9%)		

Office Furniture

Purchasing agents, except wholesale, retail, and farm products

<i>% Projected Employment</i>	0.9%	
<i>Skills</i>	Speaking Active Listening Critical Thinking Judgment and Decision Making	
<i>Abilities</i>	Oral Expression Oral Comprehension Inductive Reasoning Deductive Reasoning	Problem Sensitivity Speech Clarity Written Comprehension
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Getting Information Communicating with Persons Outside Organization Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Processing Information Monitor Processes, Materials, or Surroundings Performing Administrative Activities	
<i>Work Context</i>	Telephone Importance of Being Exact or Accurate Structured versus Unstructured Work Contact With Others Electronic Mail Time Pressure Indoors, Environmentally Controlled Freedom to Make Decisions Work With Work Group or Team Face-to-Face Discussions Spend Time Sitting Frequency of Decision Making	
<i>Job Zone</i>	3	
<i>Work Styles</i>	Integrity Attention to Detail Dependability Cooperation Self Control Adaptability/Flexibility	Initiative Analytical Thinking Concern for Others Independence Stress Tolerance Achievement/Effort
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$23.57
	<i>Annual</i>	\$49,030
<i>Projected Growth</i>	Slower than average (0-9%)	

Office Furniture Mechanical engineers

<i>% Projected Employment</i>	0.4%		
<i>Skills</i>	Mathematics Complex Problem Solving Critical Thinking Reading Comprehension Science	Active Listening Time Management Judgment and Decision Making Writing	Speaking Operations Analysis Coordination Active Learning
<i>Abilities</i>	Oral Comprehension Problem Sensitivity Written Comprehension Oral Expression	Near Vision Deductive Reasoning Inductive Reasoning Information Ordering	
<i>Work Activities</i>	Making Decisions and Solving Problems Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates		
<i>Work Context</i>	Indoors, Environmentally Controlled Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Work With Work Group or Team Telephone Contact With Others Importance of Being Exact or Accurate Duration of Typical Work Week Letters and Memos Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Frequency of Decision Making Time Pressure Coordinate or Lead Others		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Attention to Detail Cooperation Dependability Leadership	Achievement/Effort Adaptability/Flexibility Analytical Thinking	
<i>Work Values</i>	Independence Achievement		
<i>Work Needs</i>	Autonomy Ability Utilization Responsibility Creativity Achievement	Social Status Working Conditions Activity Security	
<i>Median Wages</i>	<i>Hourly</i>	\$32.49	
	<i>Annual</i>	\$67,590	
<i>Projected Growth</i>	Average (10-20%)		

Office Furniture

Painting, coating, and decorating workers

<i>% Projected Employment</i>	0.9%
<i>Skills</i>	Active Listening Speaking
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	Exposed to Contaminants Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Spend Time Standing Time Pressure Spend Time Making Repetitive Motions Importance of Being Exact or Accurate Contact With Others Sounds, Noise Levels Are Distracting or Uncomfortable Indoors, Not Environmentally Controlled Spend Time Bending or Twisting the Body Wear Common Protective or Safety Equipment Face-to-Face Discussions
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Adaptability/Flexibility Innovation Independence Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$10.89 <i>Annual</i> \$22,640
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

Production, planning, and expediting clerks

<i>% Projected Employment</i>	1.0%	
<i>Skills</i>	Active Listening Reading Comprehension Coordination Speaking	
<i>Abilities</i>	Written Comprehension	
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Organizing, Planning, and Prioritizing Work Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Scheduling Work and Activities Making Decisions and Solving Problems	
<i>Work Context</i>	Face-to-Face Discussions Telephone Indoors, Environmentally Controlled Time Pressure Electronic Mail Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Structured versus Unstructured Work Importance of Repeating Same Tasks Responsibility for Outcomes and Results Deal With External Customers Exposed to Contaminants	
<i>Job Zone</i>	2	
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Stress Tolerance Independence Initiative	Persistence Adaptability/Flexibility Self Control Achievement/Effort Integrity Analytical Thinking
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$18.07
	<i>Annual</i>	\$37,590
<i>Projected Growth</i>	Slower than average (0-9%)	

Office Furniture Engineering managers

<i>% Projected Employment</i>	0.4%	
<i>Skills</i>	Reading Comprehension Mathematics Active Listening Critical Thinking Complex Problem Solving	Active Learning Coordination Operations Analysis Judgment and Decision Making Time Management
<i>Abilities</i>	Oral Comprehension Written Comprehension Inductive Reasoning Oral Expression Speech Recognition Deductive Reasoning	Information Ordering Speech Clarity Near Vision Problem Sensitivity Written Expression
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Getting Information Communicating with Persons Outside Organization Updating and Using Relevant Knowledge Coordinating the Work and Activities of Others Establishing and Maintaining Interpersonal Relationships	
<i>Work Context</i>	Duration of Typical Work Week Telephone Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Frequency of Decision Making Indoors, Environmentally Controlled Contact With Others Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Indoors, Not Environmentally Controlled Coordinate or Lead Others Letters and Memos Responsible for Others' Health and Safety Time Pressure Work With Work Group or Team	
<i>Job Zone</i>	5	
<i>Work Styles</i>	Analytical Thinking Dependability Attention to Detail Integrity Achievement/Effort	Stress Tolerance Self Control Persistence Adaptability/Flexibility Cooperation
<i>Work Values</i>	Independence Achievement	
<i>Work Needs</i>	Autonomy Compensation Authority Ability Utilization Company Policies and Practices	Working Conditions Achievement Activity Responsibility Security
<i>Median Wages</i>	<i>Hourly</i>	\$48.44
	<i>Annual</i>	\$100,760
<i>Projected Growth</i>	Average (10-20%)	

Office Furniture

Welding, soldering, and brazing machine setters, operators, and tenders

<i>% Projected Employment</i>	0.8%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Control Precision
<i>Work Context</i>	Wear Common Protective or Safety Equipment Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Spend Time Making Repetitive Motions Face-to-Face Discussions Exposed to Contaminants Indoors, Not Environmentally Controlled Time Pressure Importance of Being Exact or Accurate Spend Time Bending or Twisting the Body Contact With Others Frequency of Decision Making Pace Determined by Speed of Equipment Exposed to Minor Burns, Cuts, Bites, or Stings Duration of Typical Work Week
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Cooperation Concern for Others
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Independence
<i>Median Wages</i>	<i>Hourly</i> \$14.63 <i>Annual</i> \$30,430
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

Truck drivers, light or delivery services

<i>% Projected Employment</i>	0.7%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Operating Vehicles, Mechanized Devices, or Equipment Getting Information Handling and Moving Objects Performing for or Working Directly with the Public Performing General Physical Activities Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Outdoors, Exposed to Weather Contact With Others In an Enclosed Vehicle or Equipment Time Pressure Telephone Face-to-Face Discussions Deal With External Customers Importance of Being Exact or Accurate Duration of Typical Work Week Physical Proximity Responsible for Others' Health and Safety Exposed to Contaminants Work With Work Group or Team Very Hot or Cold Temperatures Freedom to Make Decisions Outdoors, Under Cover Wear Common Protective or Safety Equipment Letters and Memos
<i>Job Zone</i>	2
<i>Work Styles</i>	Integrity Dependability Independence Attention to Detail
<i>Work Values</i>	
<i>Work Needs</i>	Independence
<i>Median Wages</i>	<i>Hourly</i> \$11.92
	<i>Annual</i> \$24,790
<i>Projected Growth</i>	Average (10-20%)

Office Furniture Cutters and trimmers, hand

<i>% Projected Employment</i>	0.3%
<i>Skills</i>	
<i>Abilities</i>	Manual Dexterity Visualization Wrist-Finger Speed
<i>Work Activities</i>	Handling and Moving Objects Controlling Machines and Processes Performing General Physical Activities
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Exposed to Hazardous Equipment Spend Time Standing
<i>Job Zone</i>	1
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Independence
<i>Median Wages</i>	<i>Hourly</i> \$10.50
	<i>Annual</i> \$21,840
<i>Projected Growth</i>	Slower than average (0-9%)

Office Furniture

Janitors and cleaners, except maids and housekeeping cleaners

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	Reading Comprehension
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	Spend Time Standing Exposed to Contaminants Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Contact With Others Spend Time Walking and Running Spend Time Bending or Twisting the Body Wear Common Protective or Safety Equipment
<i>Job Zone</i>	1
<i>Work Styles</i>	Dependability Self Control Cooperation Attention to Detail Concern for Others Integrity Independence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$9.32 <i>Annual</i> \$19,390
<i>Projected Growth</i>	Average (10-20%)

Office Furniture Accountants and auditors

<i>% Projected Employment</i>	0.6%		
<i>Skills</i>	Mathematics Active Listening Critical Thinking Monitoring Judgment and Decision Making	Time Management Active Learning Reading Comprehension Writing	
<i>Abilities</i>	Problem Sensitivity Deductive Reasoning Information Ordering Oral Expression Written Expression	Inductive Reasoning Mathematical Reasoning Written Comprehension Near Vision Oral Comprehension	Problem Sensitivity Number Facility Speech Clarity Speech Recognition Information Ordering
<i>Work Activities</i>	Interacting With Computers Analyzing Data or Information Processing Information Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interpreting the Meaning of Information for Others Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Updating and Using Relevant Knowledge		
<i>Work Context</i>	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Structured versus Unstructured Work Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Letters and Memos Contact With Others Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Importance of Repeating Same Tasks Consequence of Error		
<i>Job Zone</i>	4		
<i>Work Styles</i>	Attention to Detail Dependability Integrity Analytical Thinking Stress Tolerance Cooperation Achievement/Effort	Adaptability/Flexibility Independence Self Control Persistence Concern for Others Initiative Leadership	
<i>Work Values</i>	Working Conditions		
<i>Work Needs</i>	Working Conditions Security Compensation	Activity Ability Utilization Social Status	
<i>Median Wages</i>	<i>Hourly</i>	\$25.10	
	<i>Annual</i>	\$52,210	
<i>Projected Growth</i>	Faster than average (21-35%)		

Office Furniture

Cost estimators

<i>% Projected Employment</i>	0.7%
<i>Skills</i>	<ul style="list-style-type: none"> Active Listening Reading Comprehension Mathematics Time Management Writing Management of Personnel Resources Active Learning Speaking Critical Thinking Equipment Selection Complex Problem Solving Coordination
<i>Abilities</i>	<ul style="list-style-type: none"> Oral Comprehension Oral Expression Information Ordering
<i>Work Activities</i>	<ul style="list-style-type: none"> Scheduling Work and Activities Communicating with Persons Outside Organization Getting Information Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Estimating the Quantifiable Characteristics of Products, Events, or Information Performing for or Working Directly with the Public Making Decisions and Solving Problems Coordinating the Work and Activities of Others Organizing, Planning, and Prioritizing Work Resolving Conflicts and Negotiating with Others Selling or Influencing Others
<i>Work Context</i>	<ul style="list-style-type: none"> Telephone Face-to-Face Discussions Freedom to Make Decisions Structured versus Unstructured Work Impact of Decisions on Co-workers or Company Results Contact With Others Duration of Typical Work Week Work With Work Group or Team Importance of Being Exact or Accurate Frequency of Decision Making Time Pressure Deal With External Customers Indoors, Environmentally Controlled Coordinate or Lead Others Responsibility for Outcomes and Results Electronic Mail Letters and Memos Frequency of Conflict Situations
<i>Job Zone</i>	4
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Dependability Integrity Cooperation Concern for Others Independence
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$25.01
	<i>Annual</i> \$52,020
<i>Projected Growth</i>	Average (10-20%)

Office Furniture Sewing machine operators

<i>% Projected Employment</i>	0.5%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Time Pressure Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Sitting Pace Determined by Speed of Equipment Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Activity Independence
<i>Median Wages</i>	<i>Hourly</i> \$8.82
	<i>Annual</i> \$18,340
<i>Projected Growth</i>	Much slower than average (negative growth)

Office Furniture

Grinding, lapping, polishing, and buffing machine tool setters, operators, and t

<i>% Projected Employment</i>	0.5%
<i>Skills</i>	Quality Control Analysis
<i>Abilities</i>	Control Precision
<i>Work Activities</i>	Controlling Machines and Processes Handling and Moving Objects Monitor Processes, Materials, or Surroundings Inspecting Equipment, Structures, or Material Getting Information Making Decisions and Solving Problems
<i>Work Context</i>	Exposed to Contaminants Face-to-Face Discussions Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Exposed to Hazardous Equipment Indoors, Environmentally Controlled Work With Work Group or Team Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Contact With Others Sounds, Noise Levels Are Distracting or Uncomfortable Pace Determined by Speed of Equipment Time Pressure Spend Time Standing Structured versus Unstructured Work Freedom to Make Decisions Importance of Repeating Same Tasks
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Adaptability/Flexibility
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Independence Activity
<i>Median Wages</i>	<i>Hourly</i> \$13.34
	<i>Annual</i> \$27,740
<i>Projected Growth</i>	Much slower than average (negative growth)

Pharmaceuticals and Medicines

Medical scientists, except epidemiologists

<i>% Projected Employment</i>	4.0%		
<i>Skills</i>	Reading Comprehension Science Active Listening Active Learning Writing	Instructing Time Management Critical Thinking Judgment and Decision Making Complex Problem Solving	Speaking Monitoring Learning Strategies Coordination
<i>Abilities</i>	Oral Comprehension Inductive Reasoning Written Comprehension	Oral Expression Deductive Reasoning Problem Sensitivity	Written Expression Near Vision Speech Clarity
<i>Work Activities</i>	Getting Information Processing Information Making Decisions and Solving Problems Updating and Using Relevant Knowledge Interacting With Computers Documenting/Recording Information Analyzing Data or Information Identifying Objects, Actions, and Events Evaluating Information to Determine Compliance with Standards Interpreting the Meaning of Information for Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Judging the Qualities of Things, Services, or People Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Monitor Processes, Materials, or Surroundings		
<i>Work Context</i>	Indoors, Environmentally Controlled Face-to-Face Discussions Telephone Duration of Typical Work Week Electronic Mail Work With Work Group or Team Freedom to Make Decisions Responsibility for Outcomes and Results Structured versus Unstructured Work Coordinate or Lead Others Importance of Being Exact or Accurate Contact With Others Responsible for Others' Health and Safety Letters and Memos Deal With External Customers		
<i>Job Zone</i>	5		
<i>Work Styles</i>	Integrity Persistence Attention to Detail Analytical Thinking Achievement/Effort	Initiative Stress Tolerance Cooperation Dependability Self Control	Innovation Adaptability/Flexibility Leadership Independence Social Orientation
<i>Work Values</i>	Achievement Independence Working Conditions Recognition		
<i>Work Needs</i>	Achievement Social Status Ability Utilization Security Responsibility Autonomy	Compensation Activity Working Conditions Recognition Creativity Variety	
<i>Median Wages</i>	<i>Hourly</i>	\$29.68	
	<i>Annual</i>	\$61,730	
<i>Projected Growth</i>	Faster than average (21-35%)		

Pharmaceuticals and Medicines

Chemists

% Projected Employment	4.9%	
Skills	Science Complex Problem Solving Reading Comprehension Quality Control Analysis Writing Time Management Active Listening Active Learning	Critical Thinking Speaking Equipment Selection Troubleshooting Mathematics Judgment and Decision Making Coordination
Abilities	Inductive Reasoning Deductive Reasoning Oral Expression Oral Comprehension Information Ordering	
Work Activities	Interacting With Computers Getting Information Processing Information	
Work Context	Wear Common Protective or Safety Equipment Face-to-Face Discussions Freedom to Make Decisions Structured versus Unstructured Work Indoors, Environmentally Controlled Exposed to Hazardous Conditions Telephone Importance of Being Exact or Accurate Coordinate or Lead Others Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Electronic Mail Work With Work Group or Team Contact With Others Level of Competition Frequency of Decision Making Exposed to Contaminants	
Job Zone	4	
Work Styles	Integrity Dependability Attention to Detail Analytical Thinking Initiative Achievement/Effort Independence Cooperation Persistence Innovation Adaptability/Flexibility Stress Tolerance	
Work Values	Achievement Independence Working Conditions	
Work Needs	Ability Utilization Creativity Responsibility Autonomy Security Achievement	Moral Values Independence Company Policies and Practices Compensation Working Conditions
Median Wages	<i>Hourly</i>	\$27.83
	<i>Annual</i>	\$57,890
Projected Growth	Slower than average (0-9%)	

Pharmaceuticals and Medicines

Business operation specialists, all other

<i>% Projected Employment</i>	2.6%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Pharmaceuticals and Medicines

Biological technicians

<i>% Projected Employment</i>	2.9%
<i>Skills</i>	Science Reading Comprehension Instructing Active Learning
<i>Abilities</i>	Information Ordering Problem Sensitivity
<i>Work Activities</i>	Interacting With Computers Documenting/Recording Information Processing Information Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Getting Information Communicating with Supervisors, Peers, or Subordinates Evaluating Information to Determine Compliance with Standards
<i>Work Context</i>	Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Work With Work Group or Team Telephone Wear Common Protective or Safety Equipment Contact With Others Importance of Repeating Same Tasks Time Pressure Coordinate or Lead Others Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Dependability Integrity
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$16.47
	<i>Annual</i> \$34,270
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Mixing and blending machine setters, operators, and tenders

<i>% Projected Employment</i>	2.8%
<i>Skills</i>	<ul style="list-style-type: none"> Operation and Control Equipment Maintenance Operation Monitoring Active Listening Troubleshooting Active Learning Reading Comprehension Quality Control Analysis Equipment Selection
<i>Abilities</i>	
<i>Work Activities</i>	<ul style="list-style-type: none"> Inspecting Equipment, Structures, or Material Controlling Machines and Processes Documenting/Recording Information Handling and Moving Objects Getting Information
<i>Work Context</i>	<ul style="list-style-type: none"> Wear Common Protective or Safety Equipment Exposed to Contaminants Face-to-Face Discussions Responsible for Others' Health and Safety Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate In an Open Vehicle or Equipment Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Standing Exposed to Hazardous Conditions Contact With Others Work With Work Group or Team Time Pressure Duration of Typical Work Week
<i>Job Zone</i>	2
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Dependability Cooperation Integrity
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<ul style="list-style-type: none"> <i>Hourly</i> \$13.89 <i>Annual</i> \$28,890
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

Chemical equipment operators and tenders

<i>% Projected Employment</i> 2.7%	
<i>Skills</i>	Operation Monitoring Operation and Control Troubleshooting Instructing Active Listening Monitoring Reading Comprehension Equipment Maintenance Coordination Complex Problem Solving
<i>Abilities</i>	Oral Comprehension
<i>Work Activities</i>	Controlling Machines and Processes Performing General Physical Activities Interacting With Computers Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Inspecting Equipment, Structures, or Material Processing Information Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Operating Vehicles, Mechanized Devices, or Equipment Getting Information Analyzing Data or Information Monitor Processes, Materials, or Surroundings
<i>Work Context</i>	Wear Common Protective or Safety Equipment Face-to-Face Discussions Sounds, Noise Levels Are Distracting or Uncomfortable Exposed to Contaminants Impact of Decisions on Co-workers or Company Results Frequency of Decision Making Importance of Being Exact or Accurate Responsible for Others' Health and Safety Duration of Typical Work Week Contact With Others Telephone Work With Work Group or Team Freedom to Make Decisions Outdoors, Exposed to Weather Consequence of Error Exposed to Hazardous Conditions Electronic Mail
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Self Control Integrity Cooperation Stress Tolerance Concern for Others Adaptability/Flexibility
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$18.77
	<i>Annual</i> \$39,030
<i>Projected Growth</i>	Much slower than average (negative growth)

Pharmaceuticals and Medicines

Packaging and filling machine operators and tenders

<i>% Projected Employment</i> 6.7%	
<i>Skills</i>	
<i>Abilities</i>	Manual Dexterity Control Precision Near Vision Perceptual Speed Problem Sensitivity Selective Attention Static Strength Reaction Time Arm-Hand Steadiness Information Ordering
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Controlling Machines and Processes Inspecting Equipment, Structures, or Material Scheduling Work and Activities Making Decisions and Solving Problems Evaluating Information to Determine Compliance with Standards Handling and Moving Objects Repairing and Maintaining Mechanical Equipment Performing General Physical Activities Operating Vehicles, Mechanized Devices, or Equipment Updating and Using Relevant Knowledge Thinking Creatively Getting Information
<i>Work Context</i>	Face-to-Face Discussions Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Exposed to Hazardous Equipment Spend Time Standing Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Wear Common Protective or Safety Equipment Spend Time Making Repetitive Motions Exposed to Hazardous Conditions Freedom to Make Decisions Importance of Being Exact or Accurate Frequency of Decision Making
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Integrity Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$11.02
	<i>Annual</i> \$22,930
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

First-line supervisors/managers of production and operating workers

<i>% Projected Employment</i> 2.6%	
<i>Skills</i>	Active Listening Reading Comprehension Management of Personnel Resources Instructing Monitoring Speaking Time Management Critical Thinking Judgement and Decision Making Coordination
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Guiding, Directing, and Motivating Subordinates Getting Information Monitor Processes, Materials, or Surroundings Organizing, Planning, and Prioritizing Work Resolving Conflicts and Negotiating with Others Developing and Building Teams Scheduling Work and Activities Training and Teaching Others Coaching and Developing Others Judging the Qualities of Things, Services, or People Inspecting Equipment, Structures, or Material Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events
<i>Work Context</i>	Face-to-Face Discussions Contact With Others Duration of Typical Work Week Responsible for Others' Health and Safety Responsibility for Outcomes and Results Wear Common Protective or Safety Equipment Time Pressure Work With Work Group or Team Telephone Freedom to Make Decisions Frequency of Decision Making Importance of Being Exact or Accurate Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Sounds, Noise Levels Are Distracting or Uncomfortable Electronic Mail Coordinate or Lead Others Pace Determined by Speed of Equipment
<i>Job Zone</i>	3
<i>Work Styles</i>	Dependability Leadership Self Control Attention to Detail Stress Tolerance Integrity Cooperation Adaptability/Flexibility Initiative Persistence Analytical Thinking Concern for Others Independence Achievement/Effort Innovation
<i>Work Values</i>	
<i>Work Needs</i>	Authority Responsibility Autonomy Co-workers
<i>Median Wages</i>	<i>Hourly</i> \$22.18 <i>Annual</i> \$46,140
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

Sales representatives, wholesale and manufacturing, technical and scientific products

<i>% Projected Employment</i> 2.1%	
<i>Skills</i>	Speaking Persuasion Active Listening Time Management Social Perceptiveness Service Orientation Negotiation Reading Comprehension Critical Thinking Active Learning
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity Speech Recognition
<i>Work Activities</i>	Selling or Influencing Others Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Getting Information
<i>Work Context</i>	Telephone Contact With Others Duration of Typical Work Week Deal With External Customers Electronic Mail Face-to-Face Discussions Structured versus Unstructured Work Freedom to Make Decisions Impact of Decisions on Co-workers or Company Results Level of Competition Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled
<i>Job Zone</i>	4
<i>Work Styles</i>	Initiative Independence Achievement/Effort Persistence Dependability Attention to Detail Stress Tolerance Adaptability/Flexibility Integrity Self Control Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy Achievement
<i>Median Wages</i>	<i>Hourly</i> \$29.21
	<i>Annual</i> \$60,760
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders

<i>% Projected Employment</i> 2.1%	
<i>Skills</i>	Operation Monitoring Active Listening
<i>Abilities</i>	
<i>Work Activities</i>	Controlling Machines and Processes Monitor Processes, Materials, or Surroundings Inspecting Equipment, Structures, or Material Communicating with Supervisors, Peers, or Subordinates Getting Information Making Decisions and Solving Problems Identifying Objects, Actions, and Events
<i>Work Context</i>	Wear Common Protective or Safety Equipment Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Contact With Others Indoors, Not Environmentally Controlled Importance of Being Exact or Accurate Face-to-Face Discussions Duration of Typical Work Week Freedom to Make Decisions Time Pressure Exposed to Hazardous Equipment Responsible for Others' Health and Safety Pace Determined by Speed of Equipment Structured versus Unstructured Work Work With Work Group or Team Frequency of Decision Making Telephone Very Hot or Cold Temperatures Impact of Decisions on Co-workers or Company Results Exposed to High Places Exposed to Hazardous Conditions
<i>Job Zone</i>	2
<i>Work Styles</i>	Dependability Attention to Detail Cooperation Independence Adaptability/Flexibility
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$16.66
	<i>Annual</i> \$34,650
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

Maintenance and repair workers, general

<i>% Projected Employment</i>	2.1%
<i>Skills</i>	Equipment Maintenance Repairing Troubleshooting Active Listening Installation Equipment Selection
<i>Abilities</i>	Problem Sensitivity
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Performing General Physical Activities Repairing and Maintaining Mechanical Equipment
<i>Work Context</i>	Face-to-Face Discussions Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Freedom to Make Decisions Telephone Contact With Others Spend Time Standing Indoors, Environmentally Controlled Wear Common Protective or Safety Equipment Exposed to Minor Burns, Cuts, Bites, or Stings Structured versus Unstructured Work
<i>Job Zone</i>	3
<i>Work Styles</i>	Dependability Attention to Detail Cooperation Self Control Integrity Initiative Analytical Thinking Concern for Others
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$15.01 <i>Annual</i> \$31,210
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Computer systems analysts

<i>% Projected Employment</i>	1.5%
<i>Skills</i>	Active Learning Reading Comprehension Complex Problem Solving Critical Thinking Active Listening Troubleshooting Service Orientation Monitoring Time Management Quality Control Analysis Systems Analysis Coordination Technology Design Judgment and Decision Making Learning Strategies Equipment Selection
<i>Abilities</i>	Oral Comprehension Problem Sensitivity Inductive Reasoning Deductive Reasoning
<i>Work Activities</i>	Interacting With Computers Making Decisions and Solving Problems Processing Information Getting Information Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Analyzing Data or Information Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Interpreting the Meaning of Information for Others
<i>Work Context</i>	Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Telephone Spend Time Sitting Face-to-Face Discussions Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Contact With Others Duration of Typical Work Week
<i>Job Zone</i>	4
<i>Work Styles</i>	Adaptability/Flexibility Attention to Detail Analytical Thinking Persistence Dependability Initiative Integrity
<i>Work Values</i>	Independence Achievement
<i>Work Needs</i>	Company Policies and Practices Ability Utilization Security Autonomy Responsibility Creativity Compensation
<i>Median Wages</i>	<i>Hourly</i> \$32.84 <i>Annual</i> \$68,300
<i>Projected Growth</i>	Faster than average (21-35%)

Pharmaceuticals and Medicines

Managers, all other

<i>% Projected Employment</i>		1.7%
<i>Skills</i>		
<i>Abilities</i>		
<i>Work Activities</i>		
<i>Work Context</i>		
<i>Job Zone</i>		
<i>Work Styles</i>		
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$38.06
	<i>Annual</i>	\$79,170
<i>Projected Growth</i>	Slower than average (0-9%)	

Pharmaceuticals and Medicines

Chemical technicians

<i>% Projected Employment</i>	1.7%
<i>Skills</i>	Science Reading Comprehension Quality Control Analysis Mathematics Operation Monitoring Active Listening
<i>Abilities</i>	Near Vision Deductive Reasoning Information Ordering Written Comprehension Problem Sensitivity
<i>Work Activities</i>	Documenting/Recording Information Processing Information Getting Information Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Analyzing Data or Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Inspecting Equipment, Structures, or Material Organizing, Planning, and Prioritizing Work
<i>Work Context</i>	Wear Common Protective or Safety Equipment Indoors, Environmentally Controlled Importance of Being Exact or Accurate Telephone Electronic Mail Face-to-Face Discussions Time Pressure Exposed to Hazardous Conditions Freedom to Make Decisions Importance of Repeating Same Tasks Structured versus Unstructured Work Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Contact With Others
<i>Job Zone</i>	3
<i>Work Styles</i>	Integrity Attention to Detail Dependability Cooperation Independence Adaptability/Flexibility Analytical Thinking
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$18.51
	<i>Annual</i> \$38,500
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

Team assemblers

<i>% Projected Employment</i> 1.7%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	<ul style="list-style-type: none"> Handling and Moving Objects Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions and Events Inspecting Equipment, Structures or Material Getting Information
<i>Work Context</i>	<ul style="list-style-type: none"> Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Wear Common Protective or Safety Equipment Importance of Being Exact or Accurate Spend Time Making Repetitive Motions Spend Time Standing Face-to-Face Discussions Time Pressure Work With Work Group or Team Sounds, Noise Levels Are Distracting or Uncomfortable
<i>Job Zone</i>	2
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Dependability
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$11.60
	<i>Annual</i> \$24,120
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

Natural sciences managers

<i>% Projected Employment</i>	1.7%	
<i>Skills</i>	Science Critical Thinking Reading Comprehension Writing Active Learning Mathematics Time Management	
<i>Abilities</i>	Oral Comprehension Oral Expression Written Comprehension Speech Clarity Inductive Reasoning Speech Recognition Deductive Reasoning	
<i>Work Activities</i>	Analyzing Data or Information Getting Information Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interacting With Computers Documenting/Recording Information Processing Information Scheduling Work and Activities	
<i>Work Context</i>	Electronic Mail Face-to-Face Discussions Telephone Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Structured versus Unstructured Work Duration of Typical Work Week Coordinate or Lead Others Letters and Memos Contact With Others Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Frequency of Decision Making	
<i>Job Zone</i>	5	
<i>Work Styles</i>	Analytical Thinking Initiative Integrity Leadership Adaptability/Flexibility Persistence Dependability Cooperation Independence	
<i>Work Values</i>	Independence	
<i>Work Needs</i>	Working Conditions Autonomy Responsibility Authority Ability Utilization	
<i>Median Wages</i>	<i>Hourly</i>	\$44.75
	<i>Annual</i>	\$93,090
<i>Projected Growth</i>	Average (10-20%)	

Pharmaceuticals and Medicines

Inspectors, testers, sorters, samplers, and weighers

<i>% Projected Employment</i>	2.5%
<i>Skills</i>	Quality Control Analysis Active Listening Reading Comprehension
<i>Abilities</i>	
<i>Work Activities</i>	Documenting/Recording Information Getting Information Monitor Processes, Materials, or Surroundings Inspecting Equipment, Structures, or Material Communicating with Supervisors, Peers, or Subordinates Judging the Qualities of Things, Services, or People Identifying Objects, Actions, and Events Evaluating Information to Determine Compliance with Standards
<i>Work Context</i>	Face-to-Face Discussions Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Making Repetitive Motions Spend Time Standing Duration of Typical Work Week Contact With Others Physical Proximity Importance of Being Exact or Accurate
<i>Job Zone</i>	2
<i>Work Styles</i>	Attention to Detail Dependability Integrity Cooperation Independence
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$14.04 <i>Annual</i> \$29,200
<i>Projected Growth</i>	Much slower than average (negative growth)

Pharmaceuticals and Medicines

Executive secretaries and administrative assistants

<i>% Projected Employment</i>	1.7%
<i>Skills</i>	Active Listening Reading Comprehension Time Management Speaking
<i>Abilities</i>	Oral Comprehension Written Comprehension Written Expression Oral Expression Speech Clarity Near Vision
<i>Work Activities</i>	Performing Administrative Activities Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Documenting/Recording Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Electronic Mail Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Structured versus Unstructured Work Importance of Repeating Same Tasks Spend Time Sitting Freedom to Make Decisions Deal With External Customers Coordinate or Lead Others Indoors, Environmentally Controlled Time Pressure
<i>Job Zone</i>	3
<i>Work Styles</i>	Cooperation Attention to Detail Dependability Integrity Concern for Others Self Control Adaptability/Flexibility Stress Tolerance Independence Initiative Social Orientation Innovation Achievement/Effort Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$17.29
	<i>Annual</i> \$35,960
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Industrial production managers

<i>% Projected Employment</i>	1.3%	
<i>Skills</i>	Active Listening Judgment and Decision Making Critical Thinking Reading Comprehension Management of Personnel Resources Coordination	Monitoring Time Management Complex Problem Solving Speaking Instructing
<i>Abilities</i>	Oral Comprehension Oral Expression Inductive Reasoning	Problem Sensitivity Written Comprehension Deductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates Guiding, Directing, and Motivating Subordinates Making Decisions and Solving Problems Coordinating the Work and Activities of Others Organizing, Planning, and Prioritizing Work Scheduling Work and Activities Identifying Objects, Actions, and Events	
<i>Work Context</i>	Face-to-Face Discussions Telephone Freedom to Make Decisions Contact With Others Structured versus Unstructured Work Responsibility for Outcomes and Results Work With Work Group or Team Electronic Mail Indoors, Environmentally Controlled Coordinate or Lead Others Duration of Typical Work Week Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Importance of Being Exact or Accurate Responsibility for Others' Health and Safety Letters and Memos	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Leadership Attention to Detail Adaptability/Flexibility Integrity Dependability Initiative Cooperation Self Control Stress Tolerance Independence Achievement/Effort Persistence Analytical Thinking Concern for Others Innovation Social Orientation	
<i>Work Values</i>	Independence	
<i>Work Needs</i>	Authority Autonomy Activity Responsibility Company Policies and Practices Compensation Creativity	
<i>Median Wages</i>	<i>Hourly</i>	\$36.34
	<i>Annual</i>	\$75,580
<i>Projected Growth</i>	Slower than average (0-9%)	

Pharmaceuticals and Medicines

Packers and packagers, hand

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	Handling and Moving Objects Performing General Physical Activities
<i>Work Context</i>	Spend Time Standing Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Indoors, Environmentally Controlled Contact With Others Face-to-Face Discussions Spend Time Making Repetitive Motions Physical Proximity
<i>Job Zone</i>	1
<i>Work Styles</i>	Attention to Detail Cooperation Dependability
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$8.36 <i>Annual</i> \$17,390
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Biochemists and biophysicists

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	Science Reading Comprehension Mathematics Critical Thinking Writing Active Learning
<i>Abilities</i>	Inductive Reasoning Written Comprehension Deductive Reasoning Near Vision Information Ordering
<i>Work Activities</i>	Identifying Objects, Actions, and Events Getting Information Monitor Processes, Materials, or Surroundings Analyzing Data or Information Documenting/Recording Information Processing Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Controlling Machines and Processes Interpreting the Meaning of Information for Others
<i>Work Context</i>	Indoors, Environmentally Controlled Importance of Being Exact or Accurate Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls
<i>Job Zone</i>	5
<i>Work Styles</i>	
<i>Work Values</i>	Independence Achievement Working Conditions
<i>Work Needs</i>	Autonomy Ability Utilization Responsibility Independence Creativity Security Achievement Moral Values Social Status Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$34.14 <i>Annual</i> \$71,000
<i>Projected Growth</i>	Faster than average (21-35%)

Pharmaceuticals and Medicines

General and operations managers

<i>% Projected Employment</i> 1.3%	
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Judgment and Decision Making Monitoring Reading Comprehension Speaking Management of Financial Resources Active Listening Persuasion
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Clarity Speech Recognition Written Comprehension Deductive Reasoning Inductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Contact With Others Frequency of Decision Making Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control Cooperation Concern for Others Analytical Thinking Independence Stress Tolerance Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$39.17 <i>Annual</i> \$81,480
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Industrial machinery mechanics

<i>% Projected Employment</i>	1.1%
<i>Skills</i>	Repairing Troubleshooting Equipment Maintenance Equipment Selection Installation Critical Thinking Operation Monitoring Reading Comprehension
<i>Abilities</i>	Reaction Time Control Precision Manual Dexterity
<i>Work Activities</i>	Repairing and Maintaining Mechanical Equipment Inspecting Equipment, Structures, or Material Handling and Moving Objects Getting Information Performing General Physical Activities Controlling Machines and Processes Communicating with Supervisors, Peers, or Subordinates Identifying Objects, Actions, and Events Operating Vehicles, Mechanized Devices, or Equipment Making Decisions and Solving Problems Monitor Processes, Materials, or Surroundings
<i>Work Context</i>	Wear Common Protective or Safety Equipment Face-to-Face Discussions Exposed to Hazardous Equipment Duration of Typical Work Week Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Time Pressure Spend Time Standing Contact With Others Exposed to Hazardous Conditions Freedom to Make Decisions Frequency of Decision Making Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Not Environmentally Controlled Impact of Decisions on Co-workers or Company Results
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Dependability Independence Integrity Initiative Analytical Thinking Persistence Cooperation Stress Tolerance Achievement/Effort Adaptability/Flexibility Concern for Others Innovation Self Control
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$19.11 <i>Annual</i> \$39,740
<i>Projected Growth</i>	Slower than average (0-9%)

Pharmaceuticals and Medicines

Microbiologists

% Projected Employment		1.1%	
Skills	Science Reading Comprehension Instructing Active Listening Critical Thinking Writing	Active Learning Time Management Complex Problem Solving Troubleshooting Monitoring Judgment and Decision Making	Equipment Maintenance Mathematics Coordination Equipment Selection Operations Analysis Operation Monitoring
Abilities	Near Vision Inductive Reasoning Information Ordering	Problem Sensitivity Written Comprehension Category Flexibility	
Work Activities	Getting Information Documenting/Recording Information Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Updating and Using Relevant Knowledge Evaluating Information to Determine Compliance with Standards Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Analyzing Data or Information Interacting With Computers Training and Teaching Others Processing Information Interpreting the Meaning of Information for Others Estimating the Quantifiable Characteristics of Products, Events, or Information Judging the Qualities of Things, Services, or People Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work		
Work Context	Indoors, Environmentally Controlled Importance of Being Exact or Accurate Wear Common Protective or Safety Equipment Electronic Mail Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Face-to-Face Discussions Telephone Freedom to Make Decisions Exposed to Disease or Infections Responsible for Others' Health and Safety Contact With Others		
Job Zone	4		
Work Styles	Initiative Attention to Detail Dependability Persistence Integrity Achievement/Effort Analytical Thinking Cooperation Leadership Stress Tolerance Adaptability/Flexibility		
Work Values	Independence Achievement		
Work Needs	Autonomy Ability Utilization Independence Responsibility Creativity Working Conditions		
Median Wages	<i>Hourly</i>	\$27.34	
	<i>Annual</i>	\$56,870	
Projected Growth	Average (10-20%)		

Pharmaceuticals and Medicines

Computer and information systems managers

<i>% Projected Employment</i>		0.9%	
<i>Skills</i>	Reading Comprehension Critical Thinking Active Listening Judgment and Decision Making Active Learning Negotiation Management of Financial Resources Complex Problem Solving		
<i>Abilities</i>	Problem Sensitivity Oral Expression Oral Comprehension Written Comprehension Deductive Reasoning Near Vision Speech Clarity Inductive Reasoning		
<i>Work Activities</i>	Getting Information Interacting With Computers Identifying Objects, Actions, and Events Interpreting the Meaning of Information for Others Scheduling Work and Activities Making Decisions and Solving Problems Establishing and Maintaining Interpersonal Relationships Thinking Creatively		
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Work With Work Group or Team Contact With Others Freedom to Make Decisions Spend Time Sitting Structured versus Unstructured Work Duration of Typical Work Week Indoors, Environmentally Controlled Importance of Being Exact or Accurate Letters and Memos Coordinate or Lead Others		
<i>Job Zone</i>	5		
<i>Work Styles</i>	Dependability Self Control Integrity Adaptability/Flexibility Persistence Independence Analytical Thinking Leadership Cooperation Attention to Detail Initiative Stress Tolerance Achievement/Effort Innovation		
<i>Work Values</i>	Independence		
<i>Work Needs</i>	Authority Working Conditions Ability Utilization Responsibility	Security Autonomy Compensation	
<i>Median Wages</i>	<i>Hourly</i>	\$46.41	
	<i>Annual</i>	\$96,520	
<i>Projected Growth</i>	Faster than average (21-35%)		

Pharmaceuticals and Medicines

Life, physical, and social science technicians, all other

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$19.25
	<i>Annual</i> \$40,030
<i>Projected Growth</i>	Average (10-20%)

Pharmaceuticals and Medicines

Biomedical engineers

<i>% Projected Employment</i>	0.6%	
<i>Skills</i>	Science Speaking Reading Comprehension Time Management Judgment and Decision Making Active Listening Technology Design Writing Systems Analysis	Quality Control Analysis Complex Problem Solving Troubleshooting Critical Thinking Operations Analysis Learning Strategies Mathematics Active Learning
<i>Abilities</i>	Oral Expression Deductive Reasoning Written Comprehension Problem Sensitivity Inductive Reasoning Visualization Oral Comprehension	
<i>Work Activities</i>	Inspecting Equipment, Structures, or Material Making Decisions and Solving Problems Getting Information Identifying Objects, Actions, and Events Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Documenting/Recording Information Updating and Using Relevant Knowledge Processing Information Organizing, Planning, and Prioritizing Work Thinking Creatively Estimating the Quantifiable Characteristics of Products, Events, or Information Analyzing Data or Information Communicating with Persons Outside Organization	
<i>Work Context</i>	Indoors, Environmentally Controlled Telephone Face-to-Face Discussions Freedom to Make Decisions Electronic Mail Importance of Being Exact or Accurate Structured versus Unstructured Work Contact With Others Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Impact of Decisions on Co-workers or Company Results Work With Work Group or Team Frequency of Decision Making Exposed to Disease or Infections Consequence of Error	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Dependability Attention to Detail Cooperation Analytical Thinking Adaptability/Flexibility Stress Tolerance Achievement/Effort Initiative Self Control Integrity	
<i>Work Values</i>		
<i>Work Needs</i>		
<i>Median Wages</i>	<i>Hourly</i>	\$34.54
	<i>Annual</i>	\$71,840
<i>Projected Growth</i>	Faster than average (21-35%)	

Pharmaceuticals and Medicines

Customer service representatives

<i>% Projected Employment</i>	0.9%
<i>Skills</i>	Active Listening Reading Comprehension Monitoring Speaking Time Management Service Orientation Active Learning
<i>Abilities</i>	Oral Comprehension Oral Expression Deductive Reasoning Problem Sensitivity Speech Clarity Speech Recognition Inductive Reasoning Near Vision Written Comprehension
<i>Work Activities</i>	Interacting With Computers Getting Information Making Decisions and Solving Problems Documenting/Recording Information Communicating with Supervisors, Peers, or Subordinates Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Processing Information
<i>Work Context</i>	Contact With Others Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Sitting Time Pressure Work With Work Group or Team Electronic Mail Freedom to Make Decisions Deal With External Customers Frequency of Decision Making Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Importance of Being Exact or Accurate Importance of Repeating Same Tasks
<i>Job Zone</i>	2
<i>Work Styles</i>	Cooperation Dependability Attention to Detail Self Control Stress Tolerance Adaptability/Flexibility Initiative Concern for Others Independence Persistence Integrity Social Orientation Analytical Thinking Achievement/Effort Leadership
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$13.22 <i>Annual</i> \$27,490
<i>Projected Growth</i>	Faster than average (21-35%)

Pharmaceuticals and Medicines

Accountants and auditors

<i>% Projected Employment</i>		1.0%
<i>Skills</i>	Mathematics Active Listening Critical Thinking Monitoring Judgment and Decision Making	Time Management Active Learning Reading Comprehension Writing
<i>Abilities</i>	Problem Sensitivity Deductive Reasoning Information Ordering Oral Expression Written Expression Mathematical Reasoning Written Comprehension Inductive Reasoning	Near Vision Oral Comprehension Problem Sensitivity Number Facility Speech Clarity Speech Recognition Information Ordering
<i>Work Activities</i>	Interacting With Computers Analyzing Data or Information Processing Information Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interpreting the Meaning of Information for Others Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Updating and Using Relevant Knowledge	
<i>Work Context</i>	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Structured versus Unstructured Work Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Letters and Memos Contact With Others Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Importance of Repeating Same Tasks Consequence of Error	
<i>Job Zone</i>	4	
<i>Work Styles</i>	Attention to Detail Dependability Integrity Analytical Thinking Stress Tolerance Cooperation Achievement/Effort	Adaptability/Flexibility Independence Self Control Persistence Concern for Others Initiative Leadership
<i>Work Values</i>	Working Conditions	
<i>Work Needs</i>	Working Conditions Security Compensation	Activity Ability Utilization Social Status
<i>Median Wages</i>	<i>Hourly</i>	\$25.10
	<i>Annual</i>	\$52,210
<i>Projected Growth</i>	Faster than average (21-35%)	

Pharmaceuticals and Medicines

Marketing managers

% Projected Employment 0.8%			
Skills	Critical Thinking Coordination Reading Comprehension Active Learning Speaking Writing Judgment and Decision Making	Time Management Active Listening Persuasion Negotiation Learning Strategies Mathematics Monitoring	Operations Analysis Service Orientation Complex Problem Solving Instructing Social Perceptiveness Management of Financial Resources Management of Personnel Resources
Abilities	Written Comprehension Oral Comprehension Oral Expression Speech Clarity Deductive Reasoning	Fluency of Ideas Inductive Reasoning Speech Recognition Written Expression Problem Sensitivity	
Work Activities	Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Establishing and Maintaining Interpersonal Relationships Making Decisions and Solving Problems Interacting With Computers Getting Information Organizing, Planning, and Prioritizing Work Selling or Influencing Others Judging the Qualities of Things, Services, or People Processing Information Identifying Objects, Actions, and Events Updating and Using Relevant Knowledge Interpreting the Meaning of Information for Others Documenting/Recording Information Resolving Conflicts and Negotiating with Others Thinking Creatively Performing for or Working Directly with the Public		
Work Context	Telephone Electronic Mail Contact With Others Duration of Typical Work Week Deal With External Customers Structured versus Unstructured Work Face-to-Face Discussions Freedom to Make Decisions Spend Time Sitting Letters and Memos Work With Work Group or Team Impact of Decisions on Co-workers or Company Results Coordinate or Lead Others Indoors, Environmentally Controlled Frequency of Decision Making Importance of Being Exact or Accurate		
Job Zone	4		
Work Styles	Leadership Adaptability/Flexibility Initiative Integrity Persistence	Dependability Achievement/Effort Independence Cooperation Social Orientation	Innovation Stress Tolerance Attention to Detail Self Control Concern for Others
Work Values	Achievement Independence		
Work Needs	Working Conditions Ability Utilization Creativity Autonomy Achievement		
Median Wages	<i>Hourly</i>	\$44.56	
	<i>Annual</i>	\$92,680	
Projected Growth	Faster than average (21-35%)		

Scientific Research and Development

Computer software engineers, systems software

% Projected Employment	2.0%	
Skills	Complex Problem Solving Technology Design Troubleshooting Critical Thinking Active Learning Programming	Reading Comprehension Systems Analysis Mathematics Operations Analysis Active Listening
Abilities	Deductive Reasoning Inductive Reasoning	
Work Activities	Interacting With Computers Making Decisions and Solving Problems Analyzing Data or Information Updating and Using Relevant Knowledge Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Getting Information Evaluating Information to Determine Compliance with Standards Documenting/Recording Information Identifying Objects, Actions, and Events Processing Information Interpreting the Meaning of Information for Others Thinking Creatively Scheduling Work and Activities Establishing and Maintaining Interpersonal Relationships Provide Consultation and Advice to Others Developing Objectives and Strategies Monitor Processes, Materials, or Surroundings	
Work Context	Face-to-Face Discussions Electronic Mail Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Spend Time Sitting Structured versus Unstructured Work Freedom to Make Decisions Telephone Contact With Others Importance of Repeating Same Tasks Spend Time Making Repetitive Motions Time Pressure Duration of Typical Work Week	
Job Zone	4	
Work Styles	Analytical Thinking Attention to Detail Cooperation Initiative Achievement/Effort Integrity Innovation	Adaptability/Flexibility Dependability Persistence Stress Tolerance Leadership Independence
Work Values	Achievement Independence	
Work Needs	Ability Utilization Working Conditions Responsibility Creativity Social Status Autonomy Achievement Activity Security	
Median Wages	<i>Hourly</i>	\$39.48
	<i>Annual</i>	\$82,120
Projected Growth	Much faster than average (36+%)	

Scientific Research and Development

Medical scientists, except epidemiologists

% Projected Employment	2.0%		
Skills	Reading Comprehension Science Active Listening Active Learning Writing	Instructing Time Management Critical Thinking Judgment and Decision Making Complex Problem Solving	Speaking Monitoring Learning Strategies Coordination
Abilities	Oral Comprehension Inductive Reasoning Written Comprehension	Oral Expression Deductive Reasoning Problem Sensitivity	Written Expression Near Vision Speech Clarity
Work Activities	Getting Information Processing Information Making Decisions and Solving Problems Updating and Using Relevant Knowledge Interacting With Computers Documenting/Recording Information Analyzing Data or Information Identifying Objects, Actions, and Events Evaluating Information to Determine Compliance with Standards Interpreting the Meaning of Information for Others Communicating with Persons Outside Organization Communicating with Supervisors, Peers, or Subordinates Judging the Qualities of Things, Services, or People Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Monitor Processes, Materials, or Surroundings		
Work Context	Indoors, Environmentally Controlled Face-to-Face Discussions Telephone Duration of Typical Work Week Electronic Mail Work With Work Group or Team Freedom to Make Decisions Responsibility for Outcomes and Results Structured versus Unstructured Work Coordinate or Lead Others Importance of Being Exact or Accurate Contact With Others Responsible for Others' Health and Safety Letters and Memos Deal With External Customers		
Job Zone	5		
Work Styles	Integrity Persistence Attention to Detail Analytical Thinking Achievement/Effort	Initiative Stress Tolerance Cooperation Dependability Self Control	Innovation Adaptability/Flexibility Leadership Independence Social Orientation
Work Values	Achievement Independence Working Conditions Recognition		
Work Needs	Achievement Social Status Ability Utilization Security Responsibility Autonomy	Compensation Activity Working Conditions Recognition Creativity Variety	
Median Wages	<i>Hourly</i>	\$29.68	
	<i>Annual</i>	\$61,730	
Projected Growth	Faster than average (21-35%)		

Scientific Research and Development

Computer software engineers, applications

% Projected Employment	1.8%	
Skills	Programming Critical Thinking Complex Problem Solving Troubleshooting Active Learning Technology Design Judgment and Decision Making Reading Comprehension	Operations Analysis Systems Analysis Quality Control Analysis Active Listening Speaking Time Management Coordination
Abilities	Oral Comprehension Deductive Reasoning Near Vision Inductive Reasoning Problem Sensitivity Speech Clarity Written Comprehension	
Work Activities	Interacting With Computers Updating and Using Relevant Knowledge Getting Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Identifying Objects, Actions, and Events Analyzing Data or Information Processing Information	
Work Context	Face-to-Face Discussions Electronic Mail Spend Time Sitting Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Importance of Being Exact or Accurate Coordinate or Lead Others	
Job Zone	4	
Work Styles	Analytical Thinking Attention to Detail Cooperation Dependability Achievement/Effort Innovation Persistence Adaptability/Flexibility Initiative	
Work Values	Achievement Independence	
Work Needs	Ability Utilization Working Conditions Responsibility Creativity Social Status Autonomy Achievement Activity Security	
Median Wages	<i>Hourly</i>	\$37.06
	<i>Annual</i>	\$77,090
Projected Growth	Much faster than average (36+%)	

Scientific Research and Development

Business operation specialists, all other

<i>% Projected Employment</i> 1.8%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$26.22
	<i>Annual</i> \$54,550
<i>Projected Growth</i>	Faster than average (21-35%)

Scientific Research and Development

Executive secretaries and administrative assistants

<i>% Projected Employment</i>	1.1%
<i>Skills</i>	Active Listening Reading Comprehension Time Management Speaking
<i>Abilities</i>	Oral Comprehension Written Comprehension Written Expression Oral Expression Speech Clarity Near Vision
<i>Work Activities</i>	Performing Administrative Activities Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates Organizing, Planning, and Prioritizing Work Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Documenting/Recording Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Telephone Contact With Others Face-to-Face Discussions Electronic Mail Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Structured versus Unstructured Work Importance of Repeating Same Tasks Spend Time Sitting Freedom to Make Decisions Deal With External Customers Coordinate or Lead Others Indoors, Environmentally Controlled Time Pressure
<i>Job Zone</i>	3
<i>Work Styles</i>	Cooperation Attention to Detail Dependability Integrity Concern for Others Self Control Adaptability/Flexibility Stress Tolerance Independence Initiative Social Orientation Innovation Achievement/Effort Persistence
<i>Work Values</i>	
<i>Work Needs</i>	Working Conditions Company Policies and Practices
<i>Median Wages</i>	<i>Hourly</i> \$17.29 <i>Annual</i> \$35,960
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Network systems and data communications analysts

% Projected Employment	1.0%	
Skills	Equipment Selection Troubleshooting Complex Problem Solving Active Listening Active Learning Critical Thinking Installation Reading Comprehension	Judgment and Decision Making Technology Design Coordination Systems Evaluation Operations Analysis Equipment Maintenance Systems Analysis Instructing
Abilities	Near Vision Written Comprehension	Deductive Reasoning Problem Sensitivity
Work Activities	Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Getting Information Thinking Creatively Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Organizing, Planning, and Prioritizing Work Making Decisions and Solving Problems Updating and Using Relevant Knowledge Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Evaluating Information to Determine Compliance with Standards Analyzing Data or Information Interpreting the Meaning of Information for Others Processing Information Documenting/Recording Information	
Work Context	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Structured versus Unstructured Work Duration of Typical Work Week Freedom to Make Decisions Work With Work Group or Team Contact With Others Spend Time Sitting	
Job Zone	3	
Work Styles	Attention to Detail Dependability Analytical Thinking Stress Tolerance Initiative Adaptability/Flexibility Persistence Achievement/Effort Self Control Cooperation Independence Integrity	
Work Values	Achievement	
Work Needs	Ability Utilization Compensation Company Policies and Practices Autonomy Working Conditions Security	
Median Wages	<i>Hourly</i>	\$29.69
	<i>Annual</i>	\$61,750
Projected Growth	Much faster than average (36+%)	

Scientific Research and Development

Biological technicians

<i>% Projected Employment</i>	1.1%
<i>Skills</i>	Science Reading Comprehension Instructing Active Learning
<i>Abilities</i>	Information Ordering Problem Sensitivity
<i>Work Activities</i>	Interacting With Computers Documenting/Recording Information Processing Information Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Getting Information Communicating with Supervisors, Peers, or Subordinates Evaluating Information to Determine Compliance with Standards
<i>Work Context</i>	Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Work With Work Group or Team Telephone Wear Common Protective or Safety Equipment Contact With Others Importance of Repeating Same Tasks Time Pressure Coordinate or Lead Others Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Dependability Integrity
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$16.47
	<i>Annual</i> \$34,270
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Biochemists and biophysicists

<i>% Projected Employment</i>	1.8%
<i>Skills</i>	Science Reading Comprehension Mathematics Critical Thinking Writing Active Learning
<i>Abilities</i>	Inductive Reasoning Written Comprehension Deductive Reasoning Near Vision Information Ordering
<i>Work Activities</i>	Identifying Objects, Actions, and Events Getting Information Monitor Processes, Materials, or Surroundings Analyzing Data or Information Documenting/Recording Information Processing Information Updating and Using Relevant Knowledge Making Decisions and Solving Problems Controlling Machines and Processes Interpreting the Meaning of Information for Others
<i>Work Context</i>	Indoors, Environmentally Controlled Importance of Being Exact or Accurate Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls
<i>Job Zone</i>	5
<i>Work Styles</i>	
<i>Work Values</i>	Independence Achievement Working Conditions
<i>Work Needs</i>	Autonomy Ability Utilization Responsibility Independence Creativity Security Achievement Moral Values Social Status Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$34.14 <i>Annual</i> \$71,000
<i>Projected Growth</i>	Faster than average (21-35%)

Scientific Research and Development

Network systems and data communications analysts

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	<ul style="list-style-type: none"> Equipment Selection Judgment and Decision Making Troubleshooting Technology Design Complex Problem Solving Coordination Active Listening Systems Evaluation Active Learning Operations Analysis Critical Thinking Equipment Maintenance Installation Systems Analysis Reading Comprehension Instructing
<i>Abilities</i>	<ul style="list-style-type: none"> Near Vision Deductive Reasoning Written Comprehension Problem Sensitivity
<i>Work Activities</i>	<ul style="list-style-type: none"> Interacting With Computers Communicating with Supervisors, Peers, or Subordinates Getting Information Thinking Creatively Communicating with Persons Outside Organization Establishing and Maintaining Interpersonal Relationships Identifying Objects, Actions, and Events Organizing, Planning, and Prioritizing Work Making Decisions and Solving Problems Updating and Using Relevant Knowledge Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Evaluating Information to Determine Compliance with Standards Analyzing Data or Information Interpreting the Meaning of Information for Others Processing Information Documenting/Recording Information
<i>Work Context</i>	<ul style="list-style-type: none"> Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Importance of Being Exact or Accurate Structured versus Unstructured Work Duration of Typical Work Week Freedom to Make Decisions Work With Work Group or Team Contact With Others Spend Time Sitting
<i>Job Zone</i>	3
<i>Work Styles</i>	<ul style="list-style-type: none"> Attention to Detail Dependability Analytical Thinking Stress Tolerance Initiative Adaptability/Flexibility Persistence Achievement/Effort Self Control Cooperation Independence Integrity
<i>Work Values</i>	Achievement
<i>Work Needs</i>	<ul style="list-style-type: none"> Ability Utilization Compensation Company Policies and Practices Autonomy Working Conditions Security
<i>Median Wages</i>	<ul style="list-style-type: none"> <i>Hourly</i> \$29.69 <i>Annual</i> \$61,750
<i>Projected Growth</i>	Much faster than average (36+%)

Scientific Research and Development

Mechanical engineers

% Projected Employment	1.5%
Skills	Mathematics Complex Problem Solving Critical Thinking Reading Comprehension Science Active Listening Time Management Judgment and Decision Making Writing Speaking Operations Analysis Coordination Active Learning
Abilities	Oral Comprehension Problem Sensitivity Written Comprehension Oral Expression Near Vision Deductive Reasoning Inductive Reasoning Information Ordering
Work Activities	Making Decisions and Solving Problems Interacting With Computers Getting Information Communicating with Supervisors, Peers, or Subordinates
Work Context	Indoors, Environmentally Controlled Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Work With Work Group or Team Telephone Contact With Others Importance of Being Exact or Accurate Duration of Typical Work Week Letters and Memos Impact of Decisions on Co-workers or Company Results Structured versus Unstructured Work Frequency of Decision Making Time Pressure Coordinate or Lead Others
Job Zone	4
Work Styles	Attention to Detail Cooperation Dependability Leadership Achievement/Effort Adaptability/Flexibility Analytical Thinking
Work Values	Independence Achievement
Work Needs	Autonomy Ability Utilization Responsibility Creativity Achievement Social Status Working Conditions Activity Security
Median Wages	<i>Hourly</i> \$32.49 <i>Annual</i> \$67,590
Projected Growth	Average (10-20%)

Scientific Research and Development

Computer systems analysts

% Projected Employment	0.4%
Skills	Active Learning Reading Comprehension Complex Problem Solving Critical Thinking Active Listening Troubleshooting Service Orientation Monitoring Time Management Quality Control Analysis Systems Analysis Coordination Technology Design Judgment and Decision Making Learning Strategies Equipment Selection
Abilities	Oral Comprehension Problem Sensitivity Inductive Reasoning Deductive Reasoning
Work Activities	Interacting With Computers Making Decisions and Solving Problems Processing Information Getting Information Updating and Using Relevant Knowledge Identifying Objects, Actions, and Events Analyzing Data or Information Communicating with Supervisors, Peers, or Subordinates Thinking Creatively Interpreting the Meaning of Information for Others
Work Context	Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Telephone Spend Time Sitting Face-to-Face Discussions Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Contact With Others Duration of Typical Work Week
Job Zone	4
Work Styles	Adaptability/Flexibility Attention to Detail Analytical Thinking Persistence Dependability Initiative Integrity
Work Values	Independence Achievement
Work Needs	Company Policies and Practices Ability Utilization Security Autonomy Responsibility Creativity Compensation
Median Wages	<i>Hourly</i> \$32.84 <i>Annual</i> \$68,300
Projected Growth	Faster than average (21-35%)

Scientific Research and Development

General and operations managers

<i>% Projected Employment</i>	1.4%
<i>Skills</i>	Active Listening Management of Personnel Resources Time Management Monitoring Reading Comprehension Judgment and Decision Making Speaking Management of Financial Resources Persuasion Active Learning
<i>Abilities</i>	Oral Expression Oral Comprehension Problem Sensitivity Speech Recognition Written Comprehension Speech Clarity Inductive Reasoning Deductive Reasoning
<i>Work Activities</i>	Getting Information Communicating with Supervisors, Peers, or Subordinates
<i>Work Context</i>	Telephone Duration of Typical Work Week Work With Work Group or Team Face-to-Face Discussions Frequency of Decision Making Contact With Others Freedom to Make Decisions Importance of Being Exact or Accurate Indoors, Environmentally Controlled Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Structured versus Unstructured Work Coordinate or Lead Others Time Pressure Electronic Mail Responsible for Others' Health and Safety Deal With Unpleasant or Angry People Letters and Memos
<i>Job Zone</i>	4
<i>Work Styles</i>	Dependability Leadership Integrity Attention to Detail Initiative Self Control Cooperation Concern for Others Independence Analytical Thinking Stress Tolerance Social Orientation Adaptability/Flexibility Innovation Persistence Achievement/Effort
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$39.17 <i>Annual</i> \$81,480
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Network and computer systems administrators

<i>% Projected Employment</i>	1.3%
<i>Skills</i>	Troubleshooting Reading Comprehension Active Listening Active Learning Complex Problem Solving Critical Thinking Service Orientation
<i>Abilities</i>	Near Vision Problem Sensitivity Inductive Reasoning Oral Comprehension Oral Expression Written Comprehension Information Ordering Deductive Reasoning Finger Dexterity
<i>Work Activities</i>	Interacting With Computers Updating and Using Relevant Knowledge Making Decisions and Solving Problems Getting Information Communicating with Supervisors, Peers, or Subordinates Processing Information Identifying Objects, Actions, and Events
<i>Work Context</i>	Electronic Mail Telephone Face-to-Face Discussions Indoors, Environmentally Controlled Contact With Others Structured versus Unstructured Work Importance of Being Exact or Accurate Freedom to Make Decisions Work With Work Group or Team Duration of Typical Work Week Spend Time Sitting Time Pressure
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Dependability Analytical Thinking Cooperation Initiative Stress Tolerance Adaptability/Flexibility Integrity Achievement/Effort Independence Persistence Innovation Self Control Leadership
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$28.81 <i>Annual</i> \$59,930
<i>Projected Growth</i>	Much faster than average (36+%)

Scientific Research and Development

Engineers, all other

<i>% Projected Employment</i> 0.7%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$37.09
	<i>Annual</i> \$77,150
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Computer specialists, all other

<i>% Projected Employment</i> 0.4%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$28.57
	<i>Annual</i> \$59,420
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Electronics engineers, except computer

% Projected Employment	0.7%
Skills	Reading Comprehension Complex Problem Solving Troubleshooting Equipment Selection Active Learning Critical Thinking Mathematics Coordination Active Listening Judgment and Decision Making Writing Science Operations Analysis
Abilities	
Work Activities	Interacting With Computers Getting Information Identifying Objects, Actions, and Events
Work Context	Electronic Mail Face-to-Face Discussions Indoors, Environmentally Controlled Telephone Structured versus Unstructured Work Freedom to Make Decisions Spend Time Sitting Work With Work Group or Team Importance of Being Exact or Accurate Contact With Others Coordinate or Lead Others
Job Zone	4
Work Styles	Attention to Detail Dependability Integrity Initiative Innovation Analytical Thinking Stress Tolerance Cooperation Independence Persistence Achievement/Effort Adaptability/Flexibility
Work Values	Work Value Achievement Independence
Work Needs	Ability Utilization Responsibility Creativity Autonomy Working Conditions Social Status Achievement
Median Wages	<i>Hourly</i> \$37.52 <i>Annual</i> \$78,030
Projected Growth	Average (10-20%)

Scientific Research and Development

Chemical engineers

% Projected Employment	1.0%
Skills	Science Critical Thinking Complex Problem Solving Active Listening Reading Comprehension Technology Design Active Learning Troubleshooting Mathematics Writing Speaking Judgment and Decision Making Equipment Selection
Abilities	Problem Sensitivity Deductive Reasoning Information Ordering
Work Activities	Interacting With Computers Analyzing Data or Information Processing Information Making Decisions and Solving Problems Getting Information Monitor Processes, Materials, or Surroundings Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates Updating and Using Relevant Knowledge Organizing, Planning, and Prioritizing Work Documenting/Recording Information Evaluating Information to Determine Compliance with Standards Thinking Creatively
Job Zone	4
Work Styles	Analytical Thinking Innovation Integrity Persistence Leadership Dependability Initiative Independence Achievement/Effort Adaptability/Flexibility Cooperation Attention to Detail
Work Values	Achievement Independence
Work Needs	Ability Utilization Creativity Responsibility Social Status Autonomy Security Achievement Working Conditions Activity
Median Wages	<i>Hourly</i> \$37.09 <i>Annual</i> \$77,140
Projected Growth	Average (10-20%)

Scientific Research and Development

Engineering managers

% Projected Employment	1.0%	
Skills	Reading Comprehension Mathematics Active Listening Critical Thinking Complex Problem Solving	Coordination Active Learning Operations Analysis Judgment and Decision Making Time Management
Abilities	Oral Comprehension Written Comprehension Oral Expression Speech Recognition Inductive Reasoning Speech Clarity	Information Ordering Deductive Reasoning Near Vision Written Expression Problem Sensitivity
Work Activities	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Getting Information Communicating with Persons Outside Organization Updating and Using Relevant Knowledge Coordinating the Work and Activities of Others Establishing and Maintaining Interpersonal Relationships	
Work Context	Duration of Typical Work Week Telephone Face-to-Face Discussions Electronic Mail Freedom to Make Decisions Structured versus Unstructured Work Frequency of Decision Making Indoors, Environmentally Controlled Importance of Being Exact or Accurate Contact With Others Impact of Decisions on Co-workers or Company Results Indoors, Not Environmentally Controlled Responsibility for Outcomes and Results Coordinate or Lead Others Letters and Memos Time Pressure Responsible for Others' Health and Safety Work With Work Group or Team	
Job Zone	5	
Work Styles	Analytical Thinking Dependability Integrity Attention to Detail Stress Tolerance Achievement/Effort Self Control Persistence Cooperation Adaptability/Flexibility	
Work Values	Independence Achievement	
Work Needs	Autonomy Compensation Authority Ability Utilization Company Policies and Practices Working Conditions Achievement Responsibility Activity Security	
Median Wages	<i>Hourly</i>	\$48.44
	<i>Annual</i>	\$100,760
Projected Growth	Average (10-20%)	

Scientific Research and Development

Industrial engineers

<i>% Projected Employment</i>	0.6%
<i>Skills</i>	Critical Thinking Time Management Active Listening Reading Comprehension Complex Problem Solving
<i>Abilities</i>	Oral Expression Deductive Reasoning Problem Sensitivity Oral Comprehension Mathematical Reasoning Information Ordering Inductive Reasoning Speech Clarity
<i>Work Activities</i>	Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interacting With Computers Getting Information Analyzing Data or Information Establishing and Maintaining Interpersonal Relationships Documenting/Recording Information Processing Information
<i>Work Context</i>	Face-to-Face Discussions Telephone Duration of Typical Work Week Importance of Being Exact or Accurate Electronic Mail Wear Common Protective or Safety Equipment Indoors, Environmentally Controlled Work With Work Group or Team Contact With Others Impact of Decisions on Co-workers or Company Results Sounds, Noise Levels Are Distracting or Uncomfortable Structured versus Unstructured Work Freedom to Make Decisions
<i>Job Zone</i>	4
<i>Work Styles</i>	Attention to Detail Analytical Thinking Dependability Initiative Integrity Adaptability/Flexibility Persistence Innovation Cooperation Leadership Achievement/Effort Independence
<i>Work Values</i>	Independence Achievement
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$32.05 <i>Annual</i> \$66,670
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Computer and information systems managers

<i>% Projected Employment</i>	1.2%	
<i>Skills</i>	Reading Comprehension Critical Thinking Active Listening Judgment and Decision Making Active Learning Negotiation Management of Financial Resources Complex Problem Solving	
<i>Abilities</i>	Problem Sensitivity Oral Expression Oral Comprehension Written Comprehension Deductive Reasoning Near Vision Speech Clarity Inductive Reasoning	
<i>Work Activities</i>	Getting Information Interacting With Computers Identifying Objects, Actions, and Events Interpreting the Meaning of Information for Others Scheduling Work and Activities Making Decisions and Solving Problems Establishing and Maintaining Interpersonal Relationships Thinking Creatively	
<i>Work Context</i>	Telephone Electronic Mail Face-to-Face Discussions Work With Work Group or Team Contact With Others Freedom to Make Decisions Spend Time Sitting Structured versus Unstructured Work Duration of Typical Work Week Indoors, Environmentally Controlled Importance of Being Exact or Accurate Letters and Memos Coordinate or Lead Others	
<i>Job Zone</i>	5	
<i>Work Styles</i>	Dependability Self Control Integrity Adaptability/Flexibility Persistence Independence Analytical Thinking Leadership Cooperation Attention to Detail Initiative Stress Tolerance Achievement/Effort Innovation	
<i>Work Values</i>	Independence	
<i>Work Needs</i>	Authority Working Conditions Ability Utilization Responsibility	Security Autonomy Compensation
<i>Median Wages</i>	<i>Hourly</i>	\$46.41
	<i>Annual</i>	\$96,520
<i>Projected Growth</i>	Faster than average (21-35%)	

Scientific Research and Development

Electrical engineers

% Projected Employment	0.5%
Skills	Active Listening Troubleshooting Critical Thinking Reading Comprehension Technology Design Complex Problem Solving Active Learning Systems Analysis Judgment and Decision Making Time Management Coordination
Abilities	Deductive Reasoning Near Vision
Work Activities	Interacting With Computers Organizing, Planning, and Prioritizing Work Getting Information Making Decisions and Solving Problems Updating and Using Relevant Knowledge Analyzing Data or Information Thinking Creatively Communicating with Supervisors, Peers, or Subordinates Documenting/Recording Information Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events
Work Context	Indoors, Environmentally Controlled Electronic Mail Structured versus Unstructured Work Freedom to Make Decisions Face-to-Face Discussions Importance of Being Exact or Accurate Spend Time Sitting Telephone Work With Work Group or Team
Job Zone	4
Work Styles	Attention to Detail Analytical Thinking Integrity Dependability Self Control Initiative Stress Tolerance Cooperation Achievement/Effort Adaptability/Flexibility Persistence
Work Values	Achievement Independence
Work Needs	Ability Utilization Responsibility Creativity Social Status Autonomy Security Working Conditions Achievement
Median Wages	<i>Hourly</i> \$35.34 <i>Annual</i> \$73,510
Projected Growth	Average (10-20%)

Scientific Research and Development

Natural sciences managers

% Projected Employment	0.4%	
Skills	<ul style="list-style-type: none"> Science Critical Thinking Reading Comprehension Writing Active Learning Mathematics Time Management 	
Abilities	<ul style="list-style-type: none"> Oral Comprehension Oral Expression Written Comprehension Speech Clarity Inductive Reasoning Speech Recognition Deductive Reasoning 	
Work Activities	<ul style="list-style-type: none"> Analyzing Data or Information Getting Information Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interacting With Computers Documenting/Recording Information Processing Information Scheduling Work and Activities 	
Work Context	<ul style="list-style-type: none"> Electronic Mail Face-to-Face Discussions Telephone Work With Work Group or Team Indoors, Environmentally Controlled Freedom to Make Decisions Structured versus Unstructured Work Duration of Typical Work Week Coordinate or Lead Others Letters and Memos Contact With Others Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Deal With External Customers Frequency of Decision Making 	
Job Zone	5	
Work Styles	<ul style="list-style-type: none"> Analytical Thinking Initiative Integrity Leadership Adaptability/Flexibility Persistence Dependability Cooperation Independence 	
Work Values	Independence	
Work Needs	<ul style="list-style-type: none"> Working Conditions Autonomy Responsibility Authority Ability Utilization 	
Median Wages	<i>Hourly</i>	\$44.75
	<i>Annual</i>	\$93,090
Projected Growth	Average (10-20%)	

Scientific Research and Development

Electrical and electronic engineering technicians

<i>% Projected Employment</i>	1.0%
<i>Skills</i>	Troubleshooting Repairing Equipment Maintenance Equipment Selection Time Management Mathematics Critical Thinking Reading Comprehension Active Learning Active Listening
<i>Abilities</i>	
<i>Work Activities</i>	Interacting With Computers Repairing and Maintaining Electronic Equipment Inspecting Equipment, Structures, or Material Identifying Objects, Actions, and Events Communicating with Supervisors, Peers, or Subordinates Processing Information Updating and Using Relevant Knowledge
<i>Work Context</i>	Face-to-Face Discussions Indoors, Environmentally Controlled Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls Freedom to Make Decisions Importance of Being Exact or Accurate Time Pressure Structured versus Unstructured Work Contact With Others Duration of Typical Work Week Electronic Mail Telephone Impact of Decisions on Co-workers or Company Results Work With Work Group or Team Coordinate or Lead Others
<i>Job Zone</i>	3
<i>Work Styles</i>	Attention to Detail Integrity Dependability Cooperation Concern for Others Independence Initiative Self Control Analytical Thinking Stress Tolerance Persistence Adaptability/Flexibility
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values Working Conditions
<i>Median Wages</i>	<i>Hourly</i> \$23.10
	<i>Annual</i> \$48,040
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Physical scientists, all other

<i>% Projected Employment</i> 0.8%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$40.05
	<i>Annual</i> \$83,300
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Managers, all other

<i>% Projected Employment</i> 0.4%	
<i>Skills</i>	
<i>Abilities</i>	
<i>Work Activities</i>	
<i>Work Context</i>	
<i>Job Zone</i>	
<i>Work Styles</i>	
<i>Work Values</i>	
<i>Work Needs</i>	
<i>Median Wages</i>	<i>Hourly</i> \$38.06
	<i>Annual</i> \$79,170
<i>Projected Growth</i>	Slower than average (0-9%)

Scientific Research and Development

Chemists

% Projected Employment	0.8%	
Skills	Science Complex Problem Solving Reading Comprehension Quality Control Analysis Writing Time Management Active Listening Active Learning	Critical Thinking Speaking Equipment Selection Troubleshooting Mathematics Judgment and Decision Making Coordination
Abilities	Inductive Reasoning Deductive Reasoning Oral Expression	Oral Comprehension Information Ordering
Work Activities	Interacting With Computers Getting Information Processing Information	
Work Context	Wear Common Protective or Safety Equipment Face-to-Face Discussions Freedom to Make Decisions Structured versus Unstructured Work Indoors, Environmentally Controlled Exposed to Hazardous Conditions Telephone Importance of Being Exact or Accurate Coordinate or Lead Others Impact of Decisions on Co-workers or Company Results Responsibility for Outcomes and Results Electronic Mail Work With Work Group or Team Contact With Others Level of Competition Frequency of Decision Making Exposed to Contaminants	
Job Zone	4	
Work Styles	Integrity Dependability Attention to Detail Analytical Thinking Initiative Achievement/Effort Independence Cooperation Persistence Innovation Adaptability/Flexibility Stress Tolerance	
Work Values	Achievement Independence Working Conditions	
Work Needs	Ability Utilization Creativity Responsibility Autonomy Security Achievement Moral Values Independence Company Policies and Practices Compensation Working Conditions	
Median Wages	<i>Hourly</i>	\$27.83
	<i>Annual</i>	\$57,890
Projected Growth	Slower than average (0-9%)	

Scientific Research and Development

Accountants and auditors

% Projected Employment	0.8%		
Skills	Mathematics Active Listening Critical Thinking Monitoring Judgment and Decision Making	Time Management Active Learning Reading Comprehension Writing	
Abilities	Problem Sensitivity Deductive Reasoning Information Ordering Oral Expression Written Expression	Mathematical Reasoning Written Comprehension Inductive Reasoning Near Vision Oral Comprehension	Problem Sensitivity Number Facility Speech Clarity Speech Recognition Information Ordering
Work Activities	Interacting With Computers Analyzing Data or Information Processing Information Getting Information Documenting/Recording Information Establishing and Maintaining Interpersonal Relationships Organizing, Planning, and Prioritizing Work Communicating with Supervisors, Peers, or Subordinates Making Decisions and Solving Problems Interpreting the Meaning of Information for Others Evaluating Information to Determine Compliance with Standards Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Judging the Qualities of Things, Services, or People Updating and Using Relevant Knowledge		
Work Context	Telephone Electronic Mail Indoors, Environmentally Controlled Face-to-Face Discussions Structured versus Unstructured Work Spend Time Sitting Freedom to Make Decisions Importance of Being Exact or Accurate Work With Work Group or Team Letters and Memos Contact With Others Frequency of Decision Making Time Pressure Impact of Decisions on Co-workers or Company Results Duration of Typical Work Week Importance of Repeating Same Tasks Consequence of Error		
Job Zone	4		
Work Styles	Attention to Detail Dependability Integrity Analytical Thinking Stress Tolerance Cooperation Achievement/Effort	Adaptability/Flexibility Independence Self Control Persistence Concern for Others Initiative Leadership	
Work Values	Working Conditions		
Work Needs	Working Conditions Security Compensation Activity Ability Utilization Social Status		
Median Wages	<i>Hourly</i>	\$25.10	
	<i>Annual</i>	\$52,210	
Projected Growth	Faster than average (21-35%)		

Scientific Research and Development

Sales representatives, wholesale and manufacturing, technical and scientific products

% Projected Employment	0.7%
<i>Skills</i>	Speaking Persuasion Active Listening Time Management Social Perceptiveness Service Orientation Negotiation Reading Comprehension Critical Thinking Active Learning
<i>Abilities</i>	Oral Expression Oral Comprehension Speech Clarity Speech Recognition
<i>Work Activities</i>	Selling or Influencing Others Establishing and Maintaining Interpersonal Relationships Communicating with Persons Outside Organization Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Getting Information
<i>Work Context</i>	Telephone Contact With Others Duration of Typical Work Week Deal With External Customers Electronic Mail Face-to-Face Discussions Structured versus Unstructured Work Freedom to Make Decisions Impact of Decisions on Co-workers or Company Results Level of Competition Letters and Memos Importance of Being Exact or Accurate Work With Work Group or Team Indoors, Environmentally Controlled
<i>Job Zone</i>	4
<i>Work Styles</i>	Initiative Independence Achievement/Effort Persistence Dependability Attention to Detail Stress Tolerance Adaptability/Flexibility Integrity Self Control Cooperation
<i>Work Values</i>	
<i>Work Needs</i>	Autonomy Achievement
<i>Median Wages</i>	<i>Hourly</i> \$29.21 <i>Annual</i> \$60,760
<i>Projected Growth</i>	Average (10-20%)

Scientific Research and Development

Social science research assistants

% Projected Employment 0.7%	
Skills	
Abilities	
Work Activities	
Work Context	
Job Zone	
Work Styles	
Work Values	
Work Needs	
Median Wages	Hourly \$16.32
	Annual \$33,950
Projected Growth	Average (10-20%)

Scientific Research and Development

Chemical technicians

<i>% Projected Employment</i>	0.4%
<i>Skills</i>	Science Reading Comprehension Quality Control Analysis Mathematics Operation Monitoring Active Listening
<i>Abilities</i>	Near Vision Deductive Reasoning Information Ordering Written Comprehension Problem Sensitivity
<i>Work Activities</i>	Documenting/Recording Information Processing Information Getting Information Identifying Objects, Actions, and Events Monitor Processes, Materials, or Surroundings Analyzing Data or Information Making Decisions and Solving Problems Communicating with Supervisors, Peers, or Subordinates Interacting With Computers Inspecting Equipment, Structures, or Material Organizing, Planning, and Prioritizing Work
<i>Work Context</i>	Wear Common Protective or Safety Equipment Indoors, Environmentally Controlled Importance of Being Exact or Accurate Telephone Electronic Mail Face-to-Face Discussions Time Pressure Exposed to Hazardous Conditions Freedom to Make Decisions Importance of Repeating Same Tasks Structured versus Unstructured Work Exposed to Contaminants Sounds, Noise Levels Are Distracting or Uncomfortable Contact With Others
<i>Job Zone</i>	3
<i>Work Styles</i>	Integrity Attention to Detail Dependability Cooperation Independence Adaptability/Flexibility Analytical Thinking
<i>Work Values</i>	
<i>Work Needs</i>	Moral Values
<i>Median Wages</i>	<i>Hourly</i> \$18.51 <i>Annual</i> \$38,500
<i>Projected Growth</i>	Slower than average (0-9%)