In-Demand

JOBS

THE OCCUPATIONAL OUTLOOK IN SAN DIEGO COUNTY

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INTRODUCTION
San Diego is a diverse and constantly evolving economy, and there are countless metrics and perspectives to be considered when reviewing occupations. With this in mind, the 2016 In-Demand Jobs report offers a snapshot of the best available occupational data from secondary sources (such as the U.S. Bureau of Labor Statistics) with findings from the San Diego Workforce Partnership’s (SDWP) employer survey to present multiple views of the In-Demand Jobs in San Diego County. The report has four main parts:

1. **Quantitative research findings**
   At the beginning of 2016 SDWP used insights from employer interactions and secondary data to compile a list of potentially in-demand occupations for further research. Of the original 69, 55 were ultimately determined to be “in-demand,” and findings from employer surveys about these occupations are presented.

2. **Qualitative research findings**
   This section presents findings from in-person employer interviews that focus on In-Demand Jobs for priority populations, specifically the previously incarcerated, Veterans, individuals with physically disabilities, mature workers and younger workers. It also includes industry profiles that are broader than the five priority sectors that are the main focus of SDWP’s research.

3. **Job profiles**
   It can often be difficult for job seekers to navigate the array of career options available, trying to match their personal interests with a sustainable and rewarding career pathway. These 55 job profiles are meant to help narrow their scope. Knowing that every occupation in this report is growing, job seekers can pursue training and employment in these areas with the knowledge that they will have long-term job security. The profiles provide high-level snapshots of careers in a variety of industries, with a range of experience and educational expectations, with the hope that any job seeker can use this tool as a starting point on the way to a successful career.

4. **In-Demand Jobs List**
   While 55 jobs are highlighted in profiles, SDWP’s methodology identified a total of 154 in-demand occupations in San Diego County. All of these occupations are listed on the full In-Demand Jobs List (Appendix D), along with a few key pieces of information relevant to job seekers. Even though it was not possible to create profiles for every occupation, it is important that job seekers have this information at their disposal.

**QUANTITATIVE RESEARCH FINDINGS**
SDWP commissioned BW Research Partnership, Inc. (BW Research) to conduct web and phone surveys and employer interviews to gather on-the-ground information about the 55 In-Demand Jobs. 407 San Diego employers participated in the survey, representing 96,515 of the workers currently employed in the 55 occupations.

The majority of these occupations can be found in at least one of San Diego’s five Priority Sectors: Advanced Manufacturing, Health Care, Life Sciences, Information and Communication Technologies (ICT), and Clean Energy. Figure 1 demonstrates how the 55 In-Demand Jobs represent San Diego’s five Priority Sectors.
While 20 of the occupations can be found in all five of San Diego’s Priority Sectors, nine of them are primarily categorized as ICT. They represent a particularly flexible set of jobs, since companies in every industry rely on IT professionals to help their company run efficiently. The other 11 are mainly legal, marketing and administrative positions, which are also relevant to every industry.

On the other end of the spectrum, 21 of the occupations are only found in one Priority Sector, with the majority (16) representing Health Care. This is to be expected, as many Health Care occupations are highly specialized, and the industry is experiencing constant growth due to an aging baby-boomer population.

The seven occupations that fall into two Priority Sectors represent just two pairings: Life Sciences/Health Care and Advanced Manufacturing/Clean Energy. The recurrence of these pairings suggests that many occupations could build skills that are transferrable to the other sector.

**Employer Expectations**

When asked to predict how their part- and full-time employment needs would be changing over the next 12 months, most employers said that they did not expect the number of positions at their firm to change. However, one-fifth of employers expected to have more full-time positions, and about one-eighth expected more part-time positions. A small proportion of respondents expected their workforce needs to decline (Figure 2).
When considering the actual magnitude of their expected workforce change, the average expected full-time growth rate is 3.2 percent; the average expected part-time growth rate is 6.5 percent.

Employers who will need to hire in the next 12 months face a number of reported challenges in finding what they need in the workforce. The most common hiring difficulty faced by employers is finding workers with relevant work experience (Figure 3). Unsurprisingly, 88 percent of employers are looking for candidates with relevant work experience. It is, however, worth noting that most employers (59 percent) are open to applicants with experience in a related position rather than the same exact position they are applying for. This means that there is generally room for experienced job seekers to transition into new positions, even when their past experience does not match up perfectly.

Figure 3: Employer Hiring Difficulties and Expected Experience from Applicants
Occupations were only included on the In-Demand Jobs list if they typically required at least a high school diploma for entry-level employment. According to employers, 44 percent of the profiled jobs require less than a bachelor’s degree, and would thus be well-suited for job seekers who are not interested in a four-year degree program or beyond (Figure 4).

Employers were also asked to indicate special requirements for 55 profiled occupations (Figure 5). In this prompt, about a third to a half of employers stated that jobs put physical demands on employees, either relating to visual stamina or the rest of the body. Employers also indicated whether or not veteran status or security clearances were preferred or required. More than 30 percent of employers either required or preferred security clearances for the In-Demand Jobs. These findings speak to the high density of military-related jobs and defense contractors in San Diego County, and to the benefit for job seekers of having prior exposure to these industries.
QUALITATIVE RESEARCH FINDINGS: PRIORITY POPULATIONS

The following qualitative research findings are based on 31 interviews with employers across San Diego County. The discussions focused on employment opportunities for priority populations. These interviews were conducted in addition to the quantitative occupational profiles to better understand both the technical and non-technical skills and personality traits employers would like to see in their new hires. The interviews provided insight into employer sentiments with regards to hiring priority populations—the previously incarcerated, Veterans, individuals with physical disabilities, older and younger workers.

Interviews were primarily conducted with upper level management—operations, human resources, and office managers. Several other individuals who were interviewed include administrators, customer service representatives, and senior recruiters. The majority of executive interviews were conducted with medium-sized firms—45 percent of companies have between 20 and 49 employees and another 23 percent have 50 to 99 workers—while the remaining third of firms have 100 employees or more. Figure 6 shows the breakdown of industries represented by these interviews.

Figure 6: Industries Represented by Employer Interviews

Key Skills and Abilities

Non-technical skills are the main deficiency amongst job applicants. Employers across both service and non-service-related industries report that they expect their new hires to have good communication and customer service skills, in addition to other non-technical skills such as initiative, work ethic, responsibility, self-awareness and creativity. The sentiment is shared across not only retail, hospitality and administrative services, but also firms that employ machine operators, accountants and technical support. Employers note that their job applicants are mostly deficient in social skills; a couple employers report a particular lack of engagement with regards to cell phone use among younger workers. Several employers also note that interest and enthusiasm in the subject matter or position is a plus.
“We like them to be friendly, approachable and knowledgeable. Punctuality is looked at from previous jobs.”

 “[They] need to be responsible with their time and not distracted by social media… willing to learn new responsibilities and have initiative to improve and move forward. Show that you are a problem-solver.”

 “It’s kind of a bonus if they have a drive to advance in the company.”

 Employers are willing to provide on-site training for technical skills, but would like their applicants to exhibit basic non-technical skills upon hire. In addition to experience, certification and degrees for high-level positions such as lawyers and software engineers, employers mention that they would like their job applicants to exhibit some “basic common knowledge of customer service.” For technical occupations, basic software literacy is expected for Microsoft Office programs, but for more advanced positions there is typically on-site job training.

 “Come in with a positive attitude. I tend to overlook technical skills. I can teach those. More non-technical [skills] are required.”

 “[Employees] that I hire for front of the house have a great smile and know how to hold a conversation. Those are skills I cannot teach.”

 “Word is easy to learn, Excel is teachable. It is just attention to detail that really can’t be taught in class.”

 Communication skills and work experience are key for high school and college students. Employers recommend that students hone their social and communication skills, particularly in developing professional networks. Mirroring the quantitative findings, several employers also note the importance of experience, frequently in the form of internships for younger job seekers.

 “If somebody came in with a four year education, management would be a possibility [but] communication skills are a must.”

 [In response to potential training programs] “A restaurant management program, but experience is king. If you have experience, you are in.”

 Priority Populations

 Previously Incarcerated

 Employment opportunity for the previously incarcerated is largely dependent on past crimes and current skillsets, though some employers worry that past actions may affect current work habits. Many employers note that these individuals will have the same opportunities as other applicants to advance in the company, given ample drive, motivation, and the ability to market their current skillsets. However, it ultimately depends on the nature of the offense and level of rehabilitation; background checks are often required, but minor offenses are typically overlooked, and employers appreciate honesty during the job interview. Employers are most concerned that past actions may be indicative of
current work habits, and one employer mentioned the stigma around hiring formerly incarcerated individuals. Nevertheless, others mention that they have had positive, long-term experiences with previously incarcerated workers as cashiers, painters, electricians, automotive technicians, drivers and chefs. When questioned about what occupations these individuals would most likely qualify for, hospitality positions were at the top of the list—food and beverage or housekeeping.

“They can apply for] any position they have the skills for.”

“We look more into a person and his attitude rather than his background. I don’t think anything would stop them as long as they were fully rehabilitated.”

“They have an uphill battle. They basically need to sell themselves.”

Veterans
Veterans are likely to face the same employment opportunity as other qualified applicants, but they are particularly well-poised for leadership positions. Employers report that any position is viable if applicants possess the qualifications, and one employer mentioned that leadership experience in the military qualifies. In fact, some companies are more likely to provide opportunities for those that have served their country, but most note that Veterans are generally not treated differently in terms of employment opportunity and hiring requirements. Employers have hired Veterans for a wide variety of occupations—from retail stockers, salespeople and cashiers to engineers, electricians and emergency medical technicians. Several employers note that experience in the military provided the necessary medical or technical training to go into either the healthcare or automotive industries.

Individuals with Disabilities
Employment opportunities for individuals with physical disabilities varies based on occupation. While many employers note that any position is available given the right non-technical skills, this is not the case for more technical jobs. Emergency medical technicians, food preparation and service, or other occupations that work with heavy equipment may be unavailable to these individuals depending on their level of disability. However, if applicants exhibit a good personality and strong interpersonal skills, they may find growing opportunity in customer service-related industries.

Mature Job Seekers
Job applicants over the age of 50 are at an advantage with their level of experience. The key for mature workers is to showcase previous work experience and areas of strength. Mature workers are especially likely to find opportunity in professional service occupations to offer experience in finance or legal services, depending on their educational and employment background. Another key theme was that mature or experienced job applicants must be willing to learn new skills and technologies in order to overcome any potential technological barriers; several employers mentioned the stereotype regarding the aversion mature workers may have to new technologies. However according to employers, the main limitations for mature workers were concerns of physical aptitude—employment in jobs that require heavy lifting or outdoor work such as the construction industry are likely to be more limited. A few employers also expressed concern that experienced job applicants are only seeking part-time work—especially in the retail industry—and expect to discuss both personal and work-related goals within the company during the job interview. Nevertheless, employers have hired workers over the age of 50 for automotive repair, sales, event coordination, hospitality (food and
beverage), personal training, financial services (dependent upon experience) and administrative support. Of the employers interviewed, none mentioned a specific occupation that these individuals would not be suitable for.

“Experience is valuable in this case—anyone with previous experience in management, production, sales, and marketing.”

Younger Job Seekers
Younger workers, on the other hand, must overcome obstacles related to lack of experience as well as the generational stigma regarding work habits and social media. Young workers between the ages of 16 and 21 face several barriers to employment opportunity. In addition to laws and regulations regarding the sale of alcohol and driving, these individuals are not likely to land highly technical positions such as engineering without education and experience. Furthermore, because younger workers are often still in school, they are less likely to be available for full-time positions. While employers express some reluctance given lack of experience—and perhaps maturity—many are also willing to train young employees to help them advance in the company. Ultimately, employers expect younger job applicants to possess the same level of non-technical communication and customer service skills, but do recommend that these individuals go to school and hone their skills in order to find an industry they are passionate about. Given these reservations, surveyed employers have mostly hired younger workers as cashiers and stockers, front desk support, food and beverage positions and administrative assistants. Others note that they have hired young workers for construction or automotive service and repair, but these positions entail training.

“They have to be 18, but it really depends on the person and their maturity.”

“Go to school, get a degree. Find out what [they] are passionate about and get the skills needed to succeed.”

“They need to be able to communicate and engage people.”

Selected Industry Profiles
Hospitality
Hospitality firms that participated in interviews were mostly medium-sized establishments with either 20 to 49 employees or 100 to 249 employees at each location. Three out of the eight employers interviewed expect to increase their payroll by as many as 24 workers over the next 12 months, while the remaining report employment will likely remain the same; no employer projected a decline in the workforce.

Employers report that they are largely seeking customer service support for food, beverage and restaurant management as well as greens keeping and housekeeping services. These firms are more likely to hire sociable individuals with good customer service skills, a solid work ethic and hourly availability. One employer specifically noted that their employees must be able to work on their feet all day and lift at least 15 pounds. Because hospitality is customer-oriented, employers expect their workers to be energetic and enthusiastic, especially when greeting customers or assisting clients. Thus, applicants who are friendly, talkative, outgoing and positive will likely land a position at one of these firms. Employers are particular to note that communication and social skills cannot be taught and as such are valuable for applicants seeking to work in hospitality-related industries.
However, when questioned about the greatest deficiency employers are seeing in their applicants, social skills top the list. One firm mentioned that technology and social media has contributed to a lack of engagement and eye contact, particularly among younger workers. Because of this, employers suggest that high school students work towards honing their communication and networking skills—volunteering and becoming active in the community illustrates not only people skills, but also initiative. In general, hospitality firms report that they would like to see more hospitality and restaurant management certificate and degree programs across the county.

The industry is more likely to hire younger workers with no experience—bussers, hostesses, valets, pool attendants, front desk support—as they will benefit from on-the-job training and eventually move up in the company. Individuals with disabilities also see potential with employment opportunity in hospitality-related industries because large facets of the work are interpersonal and less focused on physical demands.

Construction and Automotive Maintenance

Construction and automotive maintenance establishments that participated in qualitative interviews were evenly split in business size—20 to 49, 50 to 99, and 100 to 249. Two of the six expected to increase employment by 10 workers each, while the remaining projected employment to remain the same over the next 12 months; no employer projected a decline in employment.

Current in-demand occupations for this industry include painters, electricians, design engineers and vehicle detailers, as well as finance professionals to support accounting and payroll services. Some employers also mentioned customer service and sales employees. As with the hospitality industry, these employers emphasized that customer service is a key skill they would like their applicants and current workers to possess. One employer noted that his workers must be personable and knowledgeable about the product. The construction industry in particular expects their workers to have painting, prepping, patching and woodwork abilities. According to employers, persons with disabilities are less likely to find employment opportunities in this industry, depending on their disability.

These firms are open to hiring younger workers despite their minimal experience because most offer on-the-job training opportunities. While construction and automotive maintenance employers reported that the greatest skills deficiency is a lack of proper etiquette—dress and communication—employer recommendations for high school students are mostly related to technical skills. Students interested in electrical work should look into joining a union, while those seeking to enter the construction trades should learn the details of painting, woodwork and stucco patching. One employer suggested a degree in construction management or a summer internship with their firm. It is important to note, however, that management positions will require some level of accounting skills. Employers are currently satisfied with the county’s prevalence of construction and project management degrees as well as the continuing education courses that are offered, though some did mention that they would like to see the reestablishment of automotive workshops in high school. At the end of the day, employers noted that applicants who have a high school diploma, basic math, people skills and a solid work ethic will eventually move up in the company.
Retail Trade
Surveyed retail employers work at small to large establishments—20 to 49, 50 to 99, and 250 to 499. Nearly all projected employment to remain the same at their location, though one noted that they would increase employment by 20 workers over the coming 12 months.

Employers reported that they are always seeking individuals with customer service skills—particularly sales associates, cashiers, stockers and brand representatives—as well as individuals who are willing to learn. Though the industry is always taking applications, one employer mentioned that this is peak hiring season (these are likely around the holidays and seasonal sales).

Individuals seeking to work in the retail trades must be well-versed at client interaction and have the ability to multitask; employers noted that they would like their workers to be friendly, approachable, and knowledgeable about their product. Successful applicants will also exhibit their ability to work in a team environment, and one employer particularly mentioned the idea of “coachability”—they want workers who are willing to learn and adapt quickly. The main deficiency among current workers and new hires is their lack of drive. Individuals that can illustrate that they are goal-oriented and have a desire to work will likely succeed in a sales-driven environment.

There are few academic requirements beyond a high school diploma, unless an applicant was looking to enter into a management position. Employers highlighted retail as a good stepping stone for high school students who are seeking to go into business management and retail as future careers.

According to surveyed employers, previously incarcerated individuals are well-accepted in the retail industry as long as they were indicted for non-violent crimes. One employer hired a formerly incarcerated individual who worked in the retail industry as a cashier before incarceration. For Veterans, their leadership experience in the military is a key skill. Veterans are welcome to apply for entry-level to management positions, but the only concern employers report is that they may request holidays and weekends off, as these are peak hours in the retail industry. Nearly all employers reported experiencing hiring an individual who is physically disabled who worked as either a cashier or stocker with minimal experience upon hire. One employer mentioned that while this individual had no experience in the retail industry, they had a great attitude and therefore made an excellent employee. The experience requirements are the same for mature workers—they do not need experience to work as cashiers or stockers. Younger workers are usually hired as cashiers, sales associates and stockers. These individuals typically require no experience as well, though those that worked for the company in previous seasons are usually rehired. Younger workers in the retail industry have a lot of potential to move into management positions as they become knowledgeable with a particular department. An employer noted that if they have this goal, the firm will provide the necessary training. However, young adults must demonstrate in their interview that they have ambitions and some sort of short- or long-term goal.

Healthcare, Wellness and Rehabilitation
Employers interviewed from the Health Care and wellness industry cluster work at small to medium-sized business with 20 to 49 or 50 to 99 employees. Two out of the three expected employment to stay the same, but one employer projected an increase in total employment of 100 workers over the next 12 months.
Ambulatory services are currently seeking EMTs, but health and fitness centers report demand for front desk assistants, sales representatives and personal fitness trainers. The key skills and abilities for individuals seeking to work in this industry are customer service and communication. Education and experience in kinesiology, sales, business and service are a plus, and EMTs must have finished schooling and be nationally and state certified.

Employers reported seeking ambitious, enthusiastic, upbeat, prompt, professional and responsible candidates to fill their fitness training positions, while EMTs must be willing to work long shifts. As with nearly all other industries, employers recommend that high school students hone their public communication skills—these are very important in the world of work for nearly all industries.

One employer noted that their firm hired a Veterans as an EMT because of the medical training received in the military. Positions in ambulatory services would prove challenging for individuals with physical disabilities, but these individuals could work in administrative and customer service support at fitness centers as long as they possess communication and interpersonal skills. Similarly, younger workers are typically hired for front desk support. Employers reported that they have hired older workers for a range of positions from personal trainers and nutrition experts to janitors and administrative support. Individuals who filled training positions had previous experience working in the physical education department at high schools. The only concern with mature workers in personal training position are related to potential physical limitations.

**Finance, Insurance, Legal and Real Estate**

Professional service firms that participated in interviews ranged from small to medium-sized establishments—between 20 to 99 workers. Two out of three employers expected to increase employment by three to four workers over the next 12 months; the third employer projected employment to remain the same.

These professional service firms are seeking individuals to work in operations, administrative, marketing and legal services. Real estate firms in particular reported demand for administrative and marketing support, but they are having trouble finding individuals who already have experience in the real estate sector. One employer noted that the ideal new hires would already have three to five years of experience in an administrative or marketing role, preferably in real estate.

General skills and abilities required include basic computer experience—mostly the Microsoft Office Suite, though Adobe Creative Suite and Tamarac were also mentioned—investment and marketing strategies and accounting skills. Individuals seeking to work in the real estate sector will likely receive on-the-job training for specific software and programs. Individuals seeking employment as lawyers must have their law degree. With regards to non-technical skills, attention to detail was mentioned by two employers, in addition to critical thinking, team work, creativity and professionalism.

Professional service firms recommend that high school students seeking to enter finance and accounting obtain Certified Financial Planner (CFP) certification, and those interested in the administrative side should learn how to multi-task—obtain college education and learn how to efficiently balance workloads. Young adults seeking to go into law should get their law degree—preferably from a top tier school as one employer noted—and do their best to participate in as many internships as possible.
There is no mention of the formerly incarcerated as no employers have had experience hiring these individuals at their firm. Veterans are likely to have the same opportunities as other applicants, as long as they have the required credentials, especially for legal work. There are ample career options in professional services for individuals with physical disabilities. Mature workers are particularly well-positioned for professional services as they could offer many years of experience. One employer mentioned that he hired a worker over the age of 50 as a senior wealth advisor because the individual had over 20 years of experience in the finance industry. Though there is not much opportunity for full-time work for younger workers, they are likely to gain valuable experience and network exposure from internships. In fact, one employer hired a younger worker as a full-time clerk following a part-time internship.

RECOMMENDATIONS FOR JOB SEEKERS

Two major themes emerged from the employer surveys and interviews:

1. Work experience, especially experience in a related position, is a key hiring consideration for employers.

2. Consistent with findings in SDWP’s previous labor market reports, the importance of soft skills cannot be overemphasized for those seeking employment.

Job seekers of all ages can take the following steps to gain and highlight work experience, as well as build soft skills and work-readiness skills:

- **Thoroughly research a job before applying.** Know the key skills and responsibilities of the position, and use résumé sections to strategically emphasize prior experience in these areas.

- **Look for registered apprenticeships that train for various occupations.** Apprenticeships provide on-the-job training, so participants gain work experience while being prepared for a career. Earn-while-you-learn models also provide an income during training. Traditionally, many apprenticeships can be found in construction-related occupations, but they are also now available in biotech and other industries. The In-Demand Job profiles (Appendix A) indicate whether or not apprenticeships are available in each occupation.

- **Pursue internships and volunteer opportunities that develop skills that are directly related to career goals.** This will build the work experience that employers are struggling to find in the current labor market. These types of experiences can also build soft skills like communication and problem-solving—competencies that employers often find lacking in job applicants.
APPENDIX A: OCCUPATIONAL PROFILES

The In-Demand Job profiles provide job seekers with basic information to help them make decisions about potential careers. They provide an overview of job responsibilities and skill sets, projected job growth, wages and educational attainment. The following information can help job seekers to use the information on the profiles as fluently as possible.

Priority Sectors
In 2014 SDWP identified five sectors that are the most important for the region. This section uses icons to indicate the priority sectors where each occupation can be found.

- Advanced Manufacturing
- Life Sciences
- Clean Energy
- Information and Communication Technologies
- Health Care

Top Hiring Difficulties
This information comes from SDWP’s employer survey. It tells job seekers which characteristics employers for each occupation will be most eager to see in applicants.

Typical Entry-Level Education
These groupings give an idea of the education range for each occupation. Some of these groups are broken down in more detail in the full In-Demand Jobs list.

Top Skills and Competencies
See Appendix B for more information on what each of these entails.

Using the Profiles

Job Seekers
As you review the profiles, it may be useful to make a list of occupations that you find appealing and record information that is important to you. This will help you to compare occupations with each other without having to flip between pages. You can quickly make a table like this one on a sheet of paper:

<table>
<thead>
<tr>
<th>Job title</th>
<th>Why this is interesting to me</th>
<th>Entry-level wage</th>
<th>Entry-level education</th>
<th>(Whatever else is important to you)</th>
<th>etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Career Counselors, Educators, Case Workers, Employers
Use the profiles to spread information about occupations you want to promote to job seekers. The report can be downloaded at workforce.org/research, and individual profile pages can be printed to distribute as flyers.
### Profiles at a Glance

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2015 Jobs</th>
<th>5-year growth</th>
<th>Median Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Services Managers (11-3011)</td>
<td>3,686</td>
<td>7%</td>
<td>$41.47</td>
</tr>
<tr>
<td>Biochemists and Biophysicists (19-1021)</td>
<td>1,201</td>
<td>17%</td>
<td>$41.37</td>
</tr>
<tr>
<td>Biological Technicians (19-4021)</td>
<td>2,870</td>
<td>11%</td>
<td>$22.51</td>
</tr>
<tr>
<td>Bus Drivers, School or Special Client (53-3022)</td>
<td>2,426</td>
<td>15%</td>
<td>$18.44</td>
</tr>
<tr>
<td>Business Operations Specialists, all other (13-1199)</td>
<td>13,964</td>
<td>5%</td>
<td>$35.39</td>
</tr>
<tr>
<td>Chemists (19-2031)</td>
<td>1,394</td>
<td>16%</td>
<td>$34.54</td>
</tr>
<tr>
<td>Civil Engineers (17-2051)</td>
<td>5,216</td>
<td>11%</td>
<td>$30.05</td>
</tr>
<tr>
<td>Compliance Officers (13-1041)</td>
<td>4,031</td>
<td>5%</td>
<td>$37.33</td>
</tr>
<tr>
<td>Computer and Information Systems Managers (11-3021)</td>
<td>4,321</td>
<td>9%</td>
<td>$71.45</td>
</tr>
<tr>
<td>Computer Network Support Specialists (15-1152)</td>
<td>2,342</td>
<td>7%</td>
<td>$34.16</td>
</tr>
<tr>
<td>Computer Systems Analysts (15-1121)</td>
<td>5,873</td>
<td>14%</td>
<td>$43.39</td>
</tr>
<tr>
<td>Computer User Support Specialists (15-1151)</td>
<td>6,400</td>
<td>9%</td>
<td>$26.59</td>
</tr>
<tr>
<td>Customer Service Representatives (43-4051)</td>
<td>19,108</td>
<td>9%</td>
<td>$17.81</td>
</tr>
<tr>
<td>Database Administrators (15-1141)</td>
<td>1,100</td>
<td>9%</td>
<td>$45.98</td>
</tr>
<tr>
<td>Driver/Sales Workers (53-3031)</td>
<td>2,839</td>
<td>13%</td>
<td>$13.28</td>
</tr>
<tr>
<td>Electricians (47-2111)</td>
<td>6,195</td>
<td>9%</td>
<td>$28.24</td>
</tr>
<tr>
<td>Healthcare Social Workers (21-1022)</td>
<td>1,180</td>
<td>19%</td>
<td>$34.37</td>
</tr>
<tr>
<td>Heating, Air Conditioning, and Refrigeration Mechanics and Installers (49-9021)</td>
<td>2,289</td>
<td>18%</td>
<td>$24.49</td>
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<td>Insurance Sales Agents (41-3021)</td>
<td>4,902</td>
<td>10%</td>
<td>$23.42</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses (29-2061)</td>
<td>5,176</td>
<td>16%</td>
<td>$25.78</td>
</tr>
<tr>
<td>Machinists (51-4041)</td>
<td>3,663</td>
<td>7%</td>
<td>$24.01</td>
</tr>
<tr>
<td>Management Analysts (13-1111)</td>
<td>11,185</td>
<td>10%</td>
<td>$37.05</td>
</tr>
<tr>
<td>Market Research Analysts and Marketing Specialists (13-1161)</td>
<td>7,312</td>
<td>11%</td>
<td>$30.97</td>
</tr>
<tr>
<td>Marketing Managers (11-2021)</td>
<td>2,941</td>
<td>7%</td>
<td>$65.08</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technicians (29-2012)</td>
<td>2,368</td>
<td>16%</td>
<td>$22.52</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technologists (29-2011)</td>
<td>1,129</td>
<td>23%</td>
<td>$37.10</td>
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<tr>
<td>Medical and Health Services Managers (11-9111)</td>
<td>2,595</td>
<td>14%</td>
<td>$22.22</td>
</tr>
<tr>
<td>Medical Assistants (31-9092)</td>
<td>7,140</td>
<td>18%</td>
<td>$17.06</td>
</tr>
<tr>
<td>Medical Records and Health Information Technicians (29-2071)</td>
<td>2,009</td>
<td>12%</td>
<td>$19.08</td>
</tr>
<tr>
<td>Medical Scientists, Except Epidemiologists (19-1042)</td>
<td>3,145</td>
<td>15%</td>
<td>$48.70</td>
</tr>
<tr>
<td>Medical Secretaries (43-6013)</td>
<td>7,594</td>
<td>13%</td>
<td>$17.66</td>
</tr>
<tr>
<td>Network and Computer Systems Administrators (15-1142)</td>
<td>3,713</td>
<td>8%</td>
<td>$38.76</td>
</tr>
<tr>
<td>Nursing Assistants (31-1014)</td>
<td>9,184</td>
<td>19%</td>
<td>$13.88</td>
</tr>
<tr>
<td>Occupational Therapy Assistants (31-2011)</td>
<td>426</td>
<td>24%</td>
<td>$33.84</td>
</tr>
<tr>
<td>Occupation</td>
<td>2015 Jobs</td>
<td>5-year growth</td>
<td>Median Wage</td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Paralegals and Legal Assistants (23-2011)</td>
<td>3,010</td>
<td>6%</td>
<td>$27.74</td>
</tr>
<tr>
<td>Pharmacy Technicians (29-2052)</td>
<td>2,808</td>
<td>7%</td>
<td>$17.42</td>
</tr>
<tr>
<td>Physical Therapists (29-1123)</td>
<td>1,984</td>
<td>20%</td>
<td>$43.14</td>
</tr>
<tr>
<td>Physician Assistants (29-1071)</td>
<td>1,277</td>
<td>22%</td>
<td>$50.73</td>
</tr>
<tr>
<td>Physicians and Surgeons (29-1061, 62, 63, 67, 69)</td>
<td>6,643</td>
<td>13%</td>
<td>$98.04</td>
</tr>
<tr>
<td>Police and Sheriff's Patrol Officers (33-3051)</td>
<td>6,173</td>
<td>5%</td>
<td>$36.54</td>
</tr>
<tr>
<td>Postsecondary Teachers (25-1000 to 25-1199)</td>
<td>18,571</td>
<td>13%</td>
<td>$34.61</td>
</tr>
<tr>
<td>Production, Planning, and Expediting Clerks (43-5061)</td>
<td>3,809</td>
<td>5%</td>
<td>$22.28</td>
</tr>
<tr>
<td>Receptionists and Information Clerks (43-4171)</td>
<td>8,511</td>
<td>13%</td>
<td>$14.72</td>
</tr>
<tr>
<td>Registered Nurses (29-1141)</td>
<td>22,872</td>
<td>10%</td>
<td>$40.92</td>
</tr>
<tr>
<td>Respiratory Therapists (29-1126)</td>
<td>1,368</td>
<td>8%</td>
<td>$35.18</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)</td>
<td>10,383</td>
<td>7%</td>
<td>$24.70</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)</td>
<td>4,085</td>
<td>6%</td>
<td>$31.64</td>
</tr>
<tr>
<td>Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (43-6014)</td>
<td>22,238</td>
<td>6%</td>
<td>$18.28</td>
</tr>
<tr>
<td>Social and Human Service Assistants (21-1093)</td>
<td>3,190</td>
<td>10%</td>
<td>$15.89</td>
</tr>
<tr>
<td>Software Developers, Applications (15-1132)</td>
<td>10,050</td>
<td>9%</td>
<td>$48.57</td>
</tr>
<tr>
<td>Software Developers, Systems Software (15-1133)</td>
<td>7,486</td>
<td>7%</td>
<td>$55.00</td>
</tr>
<tr>
<td>Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022)</td>
<td>2,441</td>
<td>13%</td>
<td>$26.72</td>
</tr>
<tr>
<td>Telecommunications Line Installers and Repairers (49-9052)</td>
<td>878</td>
<td>14%</td>
<td>$30.92</td>
</tr>
<tr>
<td>Training and Development Specialists (13-1151)</td>
<td>2,335</td>
<td>7%</td>
<td>$30.90</td>
</tr>
<tr>
<td>Web Developers (15-1134)</td>
<td>2,397</td>
<td>12%</td>
<td>$30.05</td>
</tr>
</tbody>
</table>
Plan, direct or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations and other office support services.

**OTHER JOB TITLES**  
ADMINISTRATIVE ASSISTANT  //  ADMINISTRATIVE COORDINATOR  //  BUSINESS MANAGER

**OCCUPATIONAL TASKS**
- Direct or coordinate the supportive services department of a business, agency or organization
- Prepare and review operational reports and schedules to ensure accuracy and efficiency
- Set goals and deadlines for the department
- Acquire, distribute and store supplies
- Analyze internal processes and recommend and implement procedural or policy changes to improve operations, such as supply changes or the disposal of records

**TECHNOLOGY**
- Accounting software
- Database user interface and query software
- Desktop publishing software
- Email software
- Enterprise resource planning (ERP) software

**NON-TECHNICAL**
- Speaking
- Active listening
- Coordination
- Reading comprehension
- Time management

**EMPLOYMENT GROWTH**
- **CURRENT EMPLOYMENT [2015]** 3,686
- **PROJECTED EMPLOYMENT [2020]** 3,939
- **TOTAL OPENINGS [2015–2020]** 123

**HOURLY PAY RANGE**
- **ENTRY-LEVEL** $22.47
- **MEDIAN** $41.47
- **EXPERIENCED** $57.08

**TOP HIRING DIFFICULTIES**
1. Technical skills specific to the position
2. Education level
3. Relevant work experience
4. Interpersonal and social skills (non-technical)

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CURRENT EMPLOYMENT [2015]**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**PROJECTED EMPLOYMENT [2020]**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**AVERAGE ANNUAL OPENINGS [2015–2020]**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**GROWTH RATE [2015–2020]**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree
BIOCHEMISTS AND BIOPHYSICISTS
STANDARD OCCUPATIONAL CODE: 19-1021

Study the chemical composition or physical principles of living cells and organisms, their electrical and mechanical energy and related phenomena. May conduct research to further understanding of the complex chemical combinations and reactions involved in metabolism, reproduction, growth and heredity. May determine the effects of foods, drugs, serums, hormones and other substances on tissues and vital processes of living organisms.

OTHER JOB TITLES

SCIENTIST // LABORATORY DIRECTOR // ANALYTICAL RESEARCH CHEMIST

OCCUPATIONAL TASKS

- Study physical principles of living cells or organisms and their electrical or mechanical energy, applying methods and knowledge of mathematics, physics, chemistry or biology
- Share research findings by writing scientific articles or by making presentations at scientific conferences
- Prepare reports or recommendations, based upon research outcomes
- Teach or advise undergraduate or graduate students or supervise their research
- Manage laboratory teams or monitor the quality of a team’s work

EMPLOYMENT GROWTH

CURRENT EMPLOYMENT [2015] 1,201
PROJECTED EMPLOYMENT [2020] 1,408

AVERAGE ANNUAL OPENINGS [2015–2020] 77
GROWTH RATE [2015–2020] 17%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $22.37
MEDIAN $41.37
EXPERIENCED $53.68

TOP HIRING DIFFICULTIES

1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Analytical or scientific software
- Computer aided design (CAD) software
- Database user interface and query software
- Graphics or photo imaging software
- Object or component oriented development software

NON-TECHNICAL
- Science
- Critical thinking
- Reading comprehension
- Active learning
- Active listening
BIOLOGICAL TECHNICIANS
STANDARD OCCUPATIONAL CODE: 19-4021

Assist biological and medical scientists in laboratories. Set up, operate and maintain laboratory instruments and equipment, monitor experiments, make observations and calculate and record results. May analyze organic substances, such as blood, food and drugs.

OTHER JOB TITLES
LABORATORY TECHNICIAN // RESEARCH TECHNICIAN // BIOLOGICAL TECHNICIAN

OCCUPATIONAL TASKS
- Conduct research or assist in the conduct of research, including the collection of information and samples, such as blood, water, soil, plants and animals
- Analyze experimental data and interpret results to write reports and summaries of findings
- Keep detailed logs of all work-related activities
- Use computers, computer-interfaced equipment, robotics or high-technology industrial applications to perform work duties
- Clean, maintain and prepare supplies and work areas

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 2,870
PROJECTED EMPLOYMENT [2020] 3,172

AVERAGE ANNUAL OPENINGS [2015–2020]
145

GROWTH RATE [2015–2020] 11%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $13.21
MEDIAN $22.51
EXPERIENCED $30.15

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Analytical or scientific software
- Database user interface and query software
- Graphics or photo imaging software
- Spreadsheet software
- Word processing software

NON-TECHNICAL
- Reading comprehension
- Active listening
- Critical thinking
- Science
- Complex problem solving

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE
BUS DRIVERS, SCHOOL OR SPECIAL CLIENT
STANDARD OCCUPATIONAL CODE: 53-3022

Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.

OTHER JOB TITLES  
BUS MONITOR  //  SCHOOL BUS DRIVER  //  SHUTTLE BUS DRIVER

OCCUPATIONAL TASKS
- Follow safety rules as students board and exit buses or cross streets near bus stops
- Comply with traffic regulations to operate vehicles in a safe and courteous manner
- Maintain order among pupils during trips to ensure safety
- Check the condition of a vehicle’s tires, brakes, windshield wipers, lights, oil, fuel, water and safety equipment to ensure that everything is in working order
- Escort small children across roads and highways

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015] 2,426
- PROJECTED EMPLOYMENT [2020] 2,800
- AVERAGE ANNUAL OPENINGS [2015–2020] 110
- GROWTH RATE [2015–2020] 15%

HOURLY PAY RANGE [SAN DIEGO]
- $11.66 ENTRY-LEVEL
- $18.44 MEDIAN
- $23.31 EXPERIENCED

TOP HIRING DIFFICULTIES
1. Interpersonal and social skills (non-technical)
2. Technical skills specific to the position
3. Relevant work experience
4. Education level

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Internet browser software
- Map creation software
- Operating system software

NON-TECHNICAL
- Operation and control
- Social perceptiveness
- Active listening
- Operation monitoring
- Critical thinking
BASICS: BUSINESS OPERATIONS SPECIALISTS
ALL OTHER
STANDARD OCCUPATIONAL CODE: 13-1199

Improve the operations of a company so that is more effective, efficient and compliant with laws and industry regulations. The specific duties of the specialist vary depending on the size of the company and the particular industry. This code includes energy auditors, security management specialists, customs brokers, business continuity planners, sustainability specialists and online merchants.

OTHER JOB TITLES
AUDITOR // DIRECTOR OF OPERATIONS // COMPLIANCE SPECIALIST

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT EMPLOYMENT [2015]</td>
<td>PROJECTED EMPLOYMENT [2020]</td>
<td></td>
</tr>
<tr>
<td>13,964</td>
<td>14,689</td>
<td>317</td>
</tr>
</tbody>
</table>

HOURLY PAY RANGE [SAN DIEGO]

- $17.94 ENTRY-LEVEL
- $35.39 MEDIAN
- $46.91 EXPERIENCED

TOP SKILLS AND COMPETENCIES

**TECHNOLOGY**
- Database user interface and query software
- Enterprise resource planning (ERP) software
- Operating system software
- Analytical or scientific software
- Email software

**NON-TECHNICAL**
- Critical thinking
- Active listening
- Reading comprehension
- Speaking
- Judgment and decision making

**OCCUPATIONAL TASKS**
- Analyzes customer needs and determines how operations can be altered to improve service to customers and better meet their needs
- Evaluates all company operations to make sure they are compliant with safety standards and other rules and regulations of the industry
- Maintain records, reports, files, listings or logs
- Audits legal documents that can impact the company
- Handles purchasing and logistics

**TOP HIRING DIFFICULTIES**
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**PRIORITY SECTOR**

- Bachelor’s degree
- Graduate degree
- High school diploma or equivalent
- Some college, associate degree or certification

**TYPICAL ENTRY-LEVEL EDUCATION**
Conduct qualitative and quantitative chemical analyses or experiments in laboratories for quality or process control or to develop new products or knowledge.

**OTHER JOB TITLES**
- SCIENTIST // RESEARCH CHEMIST // CHEMICAL LABORATORY SCIENTIST

**OCCUPATIONAL TASKS**
- Analyze organic or inorganic compounds to determine chemical or physical properties, composition, structure, relationships or reactions, using chromatography, spectroscopy or spectrophotometry techniques
- Conduct quality control tests
- Maintain laboratory instruments to ensure proper working order and troubleshoot malfunctions when needed
- Prepare test solutions, compounds or reagents for laboratory personnel to conduct tests
- Induce changes in composition of substances by introducing heat, light, energy or chemical catalysts for quantitative or qualitative analysis

**EMPLOYMENT GROWTH**
- **CURRENT EMPLOYMENT [2015]**: 1,394
- **PROJECTED EMPLOYMENT [2020]**: 1,613
- **AVERAGE ANNUAL OPENINGS [2015–2020]**: 77
- **GROWTH RATE [2015–2020]**: 16%

**HOURLY PAY RANGE**
- **ENTRY-LEVEL**: $21.66
- **MEDIAN**: $34.54
- **EXPERIENCED**: $47.53

**TOP HIRING DIFFICULTIES**
1. Technical skills specific to the position
2. Relevant work experience
3. Education level
4. Interpersonal and social skills (non-technical)

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Analytical or scientific software
- Computer aided design (CAD) software
- Database user interface and query software
- Graphics or photo imaging software
- Office suite software

**NON-TECHNICAL**
- Science
- Critical thinking
- Reading comprehension
- Active listening
- Mathematics
CIVIL ENGINEERS
STANDARD OCCUPATIONAL CODE: 17-2051

Perform engineering duties in planning, designing and overseeing construction and maintenance of building structures and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants and water and sewage systems.

OTHER JOB TITLES
CITY ENGINEER // STRUCTURAL ENGINEER // RAILROAD DESIGN CONSULTANT

EMPLOYMENT GROWTH [2015-2020]
CURRENT EMPLOYMENT [2015]
5,216
PROJECTED EMPLOYMENT [2020]
5,810
AVERAGE ANNUAL OPENINGS [2015-2020]
285
GROWTH RATE [2015-2020]
11%

OCCUPATIONAL TASKS
- Inspect project sites to monitor progress and ensure conformance to design specifications and safety or sanitation standards
- Compute load and grade requirements, water flow rates or material stress factors to determine design specifications
- Provide technical advice to industrial or managerial personnel regarding design, construction or program modifications or structural repairs
- Test soils or materials to determine the adequacy and strength of foundations, concrete, asphalt or steel
- Manage and direct the construction, operations or maintenance activities at project site

TOP HIRING DIFFICULTIES
1. Education level
2. Relevant work experience
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Analytical or scientific software
- Computer aided design (CAD) software
- Graphics or photo imaging software
- Map creation software
- Project management software

NON-TECHNICAL
- Critical thinking
- Reading comprehension
- Active listening
- Complex problem solving
- Mathematics

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL
$30.09
MEDIAN
$42.05
EXPERIENCED
$51.01
COMPLIANCE OFFICERS
STANDARD OCCUPATIONAL CODE: 13-1041

Examine, evaluate and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and perform other compliance and enforcement inspection and analysis activities.

OTHER JOB TITLES
ENVIRONMENTAL COMPLIANCE INSPECTOR // REGULATORY AFFAIRS SPECIALIST // LICENSING EXAMINER AND INSPECTOR

OCCUPATIONAL TASKS
- Coordinate, prepare or review regulatory submissions for domestic or international projects
- Provide technical review of data or reports that will be incorporated into regulatory submissions to assure scientific rigor, accuracy and clarity of presentation
- Review product promotional materials, labeling, batch records, specification sheets or test methods for compliance with applicable regulations and policies
- Maintain current knowledge base of existing and emerging regulations, standards or guidance documents
- Interpret regulatory rules or rule changes and ensure that they are communicated through corporate policies and procedures

EMPLOYMENT GROWTH [2015-2020]
CURRENT EMPLOYMENT [2015] 4,031
PROJECTED EMPLOYMENT [2020] 4,234

AVERAGE ANNUAL OPENINGS [2015-2020] 99
GROWTH RATE [2015-2020] 5%

HOURLY PAY RANGE [SAN DIEGO]
$21.71 ENTRY-LEVEL
$37.33 MEDIAN
$41.56 EXPERIENCED

TOP HIRING DIFFICULTIES
1 Relevant work experience
2 Technical skills specific to the position
3 Interpersonal and social skills (non-technical)
4 Education level

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Analytical or scientific software
- Business intelligence and data analysis software
- Database user interface and query software
- Document management software
- Medical software

NON-TECHNICAL
- Reading comprehension
- Critical thinking
- Writing
- Speaking
- Active listening
Plan, direct or coordinate activities in such fields as electronic data processing, information systems, systems analysis and computer programming.

**OTHER JOB TITLES**
- Computing Services Director
- Information Technology (IT) Manager
- Data Processing Manager

**OCCUPATIONAL TASKS**
- Direct daily operations of department, analyzing workflow, establishing priorities, developing standards and setting deadlines
- Meet with department heads, managers, supervisors, vendors and others, to solicit cooperation and resolve problems
- Review project plans to plan and coordinate project activity
- Assign and review the work of systems analysts, programmers and other computer-related workers
- Provide users with technical support for computer problems

**EMPLOYMENT GROWTH**
- **CURRENT EMPLOYMENT [2015]**
  - 4,321
- **PROJECTED EMPLOYMENT [2020]**
  - 4,727
- **PROJECTED OPENINGS [2015–2020]**
  - 136
- **GROWTH RATE [2015–2020]**
  - 9%

**HOURLY PAY RANGE**
- **ENTRY-LEVEL**
  - $44.38
- **MEDIAN**
  - $71.45
- **EXPERIENCED**
  - $92.35

**TOP HIRING DIFFICULTIES**
1. Technical skills specific to the position
2. Education level
3. Relevant work experience
4. Interpersonal and social skills (non-technical)

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Database management system software
- Development environment software
- Enterprise resource planning (ERP) software
- Object or component oriented development software
- Web platform development software

**NON-TECHNICAL**
- Critical thinking
- Active listening
- Reading comprehension
- Judgment and decision making
- Monitoring
COMPUTER NETWORK SUPPORT SPECIALISTS
STANDARD OCCUPATIONAL CODE: 15-1152

Analyze, test, troubleshoot and evaluate existing network systems, such as local area network (LAN), wide area network (WAN) and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption.

OTHER JOB TITLES
INFORMATION TECHNOLOGY (IT) CONSULTANT // NETWORK TECHNICIAN // SYSTEMS SPECIALIST

OCCUPATIONAL TASKS
- Back up network data
- Configure security settings or access permissions for groups or individuals
- Analyze and report computer network security breaches or attempted breaches
- Identify the causes of networking problems, using diagnostic testing software and equipment
- Configure wide area network (WAN) or local area network (LAN) routers or related equipment

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 2,342
PROJECTED EMPLOYMENT [2020] 2,507

AVERAGE ANNUAL OPENINGS [2015–2020] 65
GROWTH RATE [2015–2020] 7%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $21.43
MEDIAN $34.16
EXPERIENCED $43.35

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Interpersonal and social skills (non-technical)
4. Education level

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Administration software
- Network monitoring software
- Virtual private network (VPN) management software
- Operating system software
- Transaction security and virus protection software

NON-TECHNICAL
- Critical thinking
- Active listening
- Judgment and decision making
- Reading comprehension
- Active listening
Analyze science, engineering, business and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures and problems to automate or improve existing systems and review computer system capabilities, workflow and scheduling limitations. May analyze or recommend commercially available software.

**OTHER JOB TITLES**  APPLICATIONS ANALYST // BUSINESS ANALYST // BUSINESS SYSTEMS ANALYST

**EMPLOYMENT GROWTH [2015–2020]**

<table>
<thead>
<tr>
<th>CURRENT EMPLOYMENT [2015]</th>
<th>PROJECTED EMPLOYMENT [2020]</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,873</td>
<td>6,672</td>
</tr>
</tbody>
</table>

**AVERAGE ANNUAL OPENINGS [2015–2020]**  242

**GROWTH RATE [2015–2020]**  14%

**HOURLY PAY RANGE [SAN DIEGO]**

- Entry-Level: $26.81
- Median: $43.39
- Experienced: $54.52

**TOP HIRING DIFFICULTIES**

1. Education level
2. Relevant work experience
3. Interpersonal and social skills (non-technical)
4. Technical skills specific to the position

**TYPICAL ENTRY-LEVEL EDUCATION**

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**

- Configuration management software
- Database management system software
- Development environment software
- Object or component oriented development software
- Program testing software
- Web platform development software

**NON-TECHNICAL**

- Critical thinking
- Active listening
- Reading comprehension
- Speaking
- Systems analysis

**OCCUPATIONAL TASKS**

- Expand or modify system to serve new purposes or improve work flow
- Test, maintain and monitor computer programs and systems, including coordinating the installation of computer programs and systems
- Develop, document and revise system design procedures, test procedures and quality standards
- Provide staff and users with assistance solving computer-related problems, such as malfunctions and program problems
- Review and analyze computer printouts and performance indicators to locate code problems and correct errors by correcting codes
COMPUTER USER SUPPORT SPECIALISTS
STANDARD OCCUPATIONAL CODE: 15-1151

Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail and operating systems.

OTHER JOB TITLES
HELP DESK ANALYST // TECHNICAL SUPPORT SPECIALIST // INFORMATION TECHNOLOGY (IT) SPECIALIST

OCCUPATIONAL TASKS
- Oversee the daily performance of computer systems
- Answer user inquiries regarding computer software or hardware operation to resolve problems
- Enter commands and observe system functioning to verify correct operations and detect errors
- Set up equipment for employee use, performing or ensuring proper installation of cables, operating systems or appropriate software
- Install and perform minor repairs to hardware, software or peripheral equipment, following design or installation specifications

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 6,400
PROJECTED EMPLOYMENT [2020] 6,944

AVERAGE ANNUAL OPENINGS [2015–2020] 196
GROWTH RATE [2015–2020] 9%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $17.13
MEDIAN $26.59
EXPERIENCED $33.11

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Database user interface and query software
- Development environment software
- Object or component oriented development software
- Operating system software
- Web platform development software

NON-TECHNICAL
- Active listening
- Speaking
- Reading comprehension
- Critical thinking
- Writing

DIRECT HIRING DIFFICULTIES
1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

PRIORITY SECTOR
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
CUSTOMER SERVICE REPRESENTATIVES
STANDARD OCCUPATIONAL CODE: 43-4051

Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.

OTHER JOB TITLES
ACCOUNT MANAGER // CALL CENTER REPRESENTATIVE // CLIENT/MEMBER SERVICES REPRESENTATIVE

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 19,108
PROJECTED EMPLOYMENT [2020] 20,824

AVERAGE ANNUAL OPENINGS [2015–2020] 842
GROWTH RATE [2015–2020] 9%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $11.72
MEDIAN $17.81
EXPERIENCED $22.38

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Customer relationship management (CRM) software
- Database user interface and query software
- Enterprise resource planning (ERP) software
- Medical software
- Network conferencing software

NON-TECHNICAL
- Active listening
- Speaking
- Service orientation
- Reading comprehension
- Critical thinking

OCCUPATIONAL TASKS
- Confer with customers by telephone or in person to provide information about products or services, take or enter orders, cancel accounts or obtain details of complaints
- Check to ensure that appropriate changes were made to resolve customers’ problems
- Keep records of customer interactions or transactions, recording details of inquiries, complaints or comments, as well as actions taken
- Resolve customers’ service or billing complaints by performing activities such as exchanging merchandise, refunding money or adjusting bills
- Complete contract forms, prepare change of address records or issue service discontinuance orders, using computers
Administer, test and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate and implement security measures to safeguard computer databases.

**OTHER JOB TITLES**  
- DATA ARCHITECT
- DATABASE DEVELOPER
- DATABASE ADMINISTRATOR (DBA)

**OCCUPATIONAL TASKS**
- Test programs or databases, correct errors and make necessary modifications
- Plan, coordinate and implement security measures to safeguard information in computer files against accidental or unauthorized damage, modification or disclosure
- Modify existing databases and database management systems or direct programmers and analysts to make changes
- Specify users and user access levels for each segment of database
- Write and code logical and physical database descriptions and specify identifiers of database to management system or direct others in coding descriptions

**EMPLOYMENT GROWTH [2015–2020]**
- CURRENT EMPLOYMENT [2015] 1,100
- PROJECTED EMPLOYMENT [2020] 1,201
- AVERAGE ANNUAL OPENINGS [2015–2020] 46
- GROWTH RATE [2015–2020] 9%

**HOURLY PAY RANGE [SAN DIEGO]**
- ENTRY-LEVEL $24.48
- MEDIAN $45.98
- EXPERIENCED $56.70

**TOP HIRING DIFFICULTIES**
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Database management system software
- Development environment software
- Object or component oriented development software
- Operating system software
- Web platform development software

**NON-TECHNICAL**
- Critical thinking
- Complex problem solving
- Active learning
- Active listening
- Judgment and decision making

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor's degree
- Graduate degree
**DRIVER/SALES WORKERS**

**STANDARD OCCUPATIONAL CODE: 53-3031**

Drive truck or other vehicle over established routes or within an established territory and sell or deliver goods, such as food products, including restaurant take-out items, or pick up or deliver items such as commercial laundry. May also take orders, collect payment or stock merchandise at point of delivery.

**OTHER JOB TITLES**
- DELIVERY DRIVER
- ROUTE DRIVER
- SALES ROUTE DRIVER

**OCCUPATIONAL TASKS**
- Collect money from customers, make change and record transactions on customer receipts
- Drive trucks to deliver such items as food, medical supplies or newspapers
- Write customer orders and sales contracts according to company guidelines
- Inform regular customers of new products or services and price changes
- Listen to and resolve customers’ complaints regarding products or services

**EMPLOYMENT GROWTH**
- **CURRENT EMPLOYMENT [2015]**
  - 2,839
- **PROJECTED EMPLOYMENT [2020]**
  - 3,196
- **GROWTH RATE [2015–2020]**
  - 13%
- **AVERAGE ANNUAL OPENINGS [2015–2020]**
  - 126

**HOURLY PAY RANGE [SAN DIEGO]**
- $9.36 ENTRY-LEVEL
- $13.28 MEDIAN
- $17.68 EXPERIENCED

**TOP HIRING DIFFICULTIES**
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Communications server software
- Database user interface and query software
- Map creation software
- Office suite software
- Project management software

**NON-TECHNICAL**
- Active listening
- Speaking
- Service orientation
- Critical thinking
- Social perceptiveness
ELECTRICIANS
STANDARD OCCUPATIONAL CODE: 47-2111

Install, maintain and repair electrical wiring, equipment and fixtures. Ensure that work is in accordance with relevant codes.

May install or service street lights, intercom systems or electrical control systems.

OTHER JOB TITLES
CONTROL ELECTRICIAN // INDUSTRIAL ELECTRICIAN // INSIDE WIREMAN

OCCUPATIONAL TASKS
- Plan layout and installation of electrical wiring, equipment or fixtures, based on job specifications and local codes
- Connect wires to circuit breakers, transformers or other components
- Test electrical systems or continuity of circuits in electrical wiring, equipment or fixtures, using testing devices, such as ohmmeters, voltmeters or oscilloscopes, to ensure compatibility and safety of system
- Use a variety of tools or equipment, such as power construction equipment, measuring devices, power tools and testing equipment
- Inspect electrical systems, equipment or components to identify hazards, defects or the need for adjustment or repair and to ensure compliance with codes

EMPLOYMENT GROWTH [2015–2020]

<table>
<thead>
<tr>
<th>CURRENT EMPLOYMENT [2015]</th>
<th>PROJECTED EMPLOYMENT [2020]</th>
</tr>
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<tbody>
<tr>
<td>6,195</td>
<td>6,747</td>
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AVERAGE ANNUAL OPENINGS [2015–2020]

212

GROWTH RATE [2015–2020]

9%

HOURLY PAY RANGE [SAN DIEGO]

- $18.94 ENTRY-LEVEL
- $28.24 MEDIAN
- $40.01 EXPERIENCED

TOP HIRING DIFFICULTIES
1. Technical skills specific to the position
2. Relevant work experience
3. Interpersonal and social skills (non-technical)
4. Education level

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Analytical or scientific software
- Computer aided design (CAD) software
- Database user interface and query software
- Spreadsheet software
- Word processing software

NON-TECHNICAL
- Troubleshooting
- Repairing
- Active listening
- Critical thinking
- Judgment and decision making
HEALTHCARE SOCIAL WORKERS
STANDARD OCCUPATIONAL CODE: 21-1022

Provide individuals, families and groups with the psychosocial support needed to cope with chronic, acute or terminal illnesses. Services include advising family caregivers, providing patient education and counseling and making referrals for other services. May also provide care and case management or interventions designed to promote health, prevent disease and address barriers to access to healthcare.

OTHER JOB TITLES

CLINICAL SOCIAL WORKER // SOCIAL WORK CASE MANAGER // MEDICAL SOCIAL WORKER

OCCUPATIONAL TASKS

- Collaborate with other professionals to evaluate patients’ medical or physical condition and to assess client needs
- Advocate for clients or patients to resolve crises
- Refer patient, client or family to community resources to assist in recovery from mental or physical illness and to provide access to services such as financial assistance, legal aid, housing, job placement or education
- Investigate child abuse or neglect cases and take authorized protective action when necessary
- Counsel clients and patients in individual and group sessions to help them overcome dependencies, recover from illness and adjust to life

EMPLOYMENT GROWTH [2015–2020]

CURRENT EMPLOYMENT [2015]
1,180

PROJECTED EMPLOYMENT [2020]
1,404

AVERAGE ANNUAL OPENINGS [2015–2020]
78

GROWTH RATE [2015–2020]
19%

HOURLY PAY RANGE [SAN DIEGO]

ENTRY-LEVEL
$21.42

MEDIAN
$34.37

EXPERIENCED
$42.47

TOP HIRING DIFFICULTIES

1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

TYPICAL ENTRY-LEVEL EDUCATION

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Database user interface and query software
- Desktop publishing software
- Email software
- Medical software
- Presentation software

NON-TECHNICAL
- Active listening
- Social perceptiveness
- Speaking
- Critical thinking
- Coordination
Install or repair heating, central air conditioning or refrigeration systems, including oil burners, hot-air furnaces and heating stoves.

**OTHER JOB TITLES**
- HVAC/R INSTALLER
- HVAC/R TECHNICIAN
- HVAC/R SERVICE TECHNICIAN

**OCCUPATIONAL TASKS**
- Dismantle malfunctioning systems and test components, using electrical, mechanical and pneumatic testing equipment
- Repair or service heating, ventilating and air conditioning (HVAC) systems to improve efficiency, such as by changing filters, cleaning ducts or refilling non-toxic refrigerants
- Discuss heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions
- Connect heating or air conditioning equipment to fuel, water or refrigerant source to form complete circuit
- Braze or solder parts to repair defective joints and leaks

**EMPLOYMENT GROWTH [ 2015–2020 ]**
- CURRENT EMPLOYMENT [ 2015 ]: 2,289
- PROJECTED EMPLOYMENT [ 2020 ]: 2,707

**AVERAGE ANNUAL OPENINGS [ 2015–2020 ]**: 124

**GROWTH RATE [ 2015–2020 ]**: 18%

**HOURLY PAY RANGE [ SAN DIEGO ]**
- ENTRY-LEVEL: $14.50
- MEDIAN: $24.49
- EXPERIENCED: $28.00

**TOP HIRING DIFFICULTIES**
1. Technical skills specific to the position
2. Relevant work experience
3. Education level
4. Interpersonal and social skills (non-technical)

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Customer relationship management (CRM) software
- Database user interface and query software
- Graphics or photo imaging software
- Spreadsheet software
- Word processing software

**NON-TECHNICAL**
- Equipment maintenance
- Installation
- Troubleshooting
- Operation monitoring
- Quality control analysis
INSURANCE SALES AGENTS
STANDARD OCCUPATIONAL CODE: 41-3021

Sell life, property, casualty, health, automotive or other types of insurance. May refer clients to independent brokers, work as an independent broker or be employed by an insurance company.

OTHER JOB TITLES
INSURANCE BROKER // UNDERWRITING SALES REPRESENTATIVE // ACCOUNT MANAGER

OCCUPATIONAL TASKS
- Sell various types of insurance policies to businesses and individuals on behalf of insurance companies, including automobile, fire, life, property, medical and dental insurance or specialized policies
- Interview prospective clients to obtain data about resources and needs and the person or property to be insured
- Call on policyholders to deliver and explain policy, to analyze insurance program and suggest additions or changes
- Seek out new clients and develop clientele by networking to find new customers and generate lists of prospective clients
- Ensure that policy requirements are fulfilled, including any necessary medical examinations and the completion of appropriate forms

EMPLOYMENT GROWTH [2015-2020]
CURRENT EMPLOYMENT [2015]
4,902
PROJECTED EMPLOYMENT [2020]
5,414
AVERAGE ANNUAL OPENINGS [2015-2020]
248
GROWTH RATE [2015-2020]
10%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL
$16.11
MEDIAN
$23.42
EXPERIENCED
$34.98

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Customer relationship management (CRM) software
- Enterprise resource planning (ERP) software
- Financial analysis software
- Medical software
- Web page creation and editing software

NON-TECHNICAL
- Active listening
- Reading comprehension
- Speaking
- Writing
- Critical thinking

CERTIFIED APPRENTICESHIPS AVAILABLE
LICENSED PRACTICAL AND LICENSED VOCATIONAL NURSES
STANDARD OCCUPATIONAL CODE: 29-2061

Care for ill, injured or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes and similar institutions. May work under the supervision of a registered nurse. Licensing required.

OTHER JOB TITLES L LICENSED PRACTICAL NURSE (LPN) // L LICENSED VOCATIONAL NURSE (LVN) // CHARGE NURSE

OCCUPATIONAL TASKS
- Administer prescribed medications or start intravenous fluids, noting times and amounts on patients’ charts
- Observe patients, charting and reporting changes in patients’ conditions, such as adverse reactions to medication or treatment, and taking any necessary action
- Answer patients’ calls and determine how to assist them
- Measure and record patients’ vital signs, such as height, weight, temperature, blood pressure, pulse and respiration
- Provide basic patient care or treatments, such as taking temperatures or blood pressures, dressing wounds, treating bedsores, giving enemas or douches, rubbing with alcohol, massaging or performing catheterizations

EMployment Growth [2015–2020]

Current Employment [2015] 5,176
Projected Employment [2020] 6,020

Average Annual Openings [2015–2020] 335
Growth Rate [2015–2020] 16%

Hourly Pay Range [San Diego]
- Entry-Level $19.55
- Median $25.78
- Experienced $28.99

Top Hiring Difficulties
1. Education level
2. Relevant work experience
3. Interpersonal and social skills (non-technical)
4. Technical skills specific to the position

Typical Entry-Level Education
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

Certified Apprenticeships Available

Top Skills and Competencies

Technology
- Categorization or classification software
- Medical software
- Office suite software
- Spreadsheet software
- Word processing software

Non-Technical
- Service orientation
- Active listening
- Coordination
- Monitoring
- Reading comprehension
Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout and machining procedures.

OTHER JOB TITLES
MACHINE OPERATOR // PRODUCTION MACHINIST // TOOL ROOM MACHINIST

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015]: 3,663
- PROJECTED EMPLOYMENT [2020]: 3,934
- AVERAGE ANNUAL OPENINGS [2015–2020]: 169
- GROWTH RATE [2015–2020]: 7%

HOURLY PAY RANGE [SAN DIEGO]
- ENTRY-LEVEL: $13.23
- MEDIAN: $24.01
- EXPERIENCED: $27.87

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

OCCUPATIONAL TASKS
- Calculate dimensions or tolerances, using instruments such as micrometers or vernier calipers
- Machine parts to specifications, using machine tools, such as lathes, milling machines, shapers or grinders
- Set up, adjust or operate basic or specialized machine tools used to perform precision machining operations
- Align and secure holding fixtures, cutting tools, attachments, accessories or materials onto machines
- Measure, examine or test completed units to check for defects and ensure conformance to specifications, using precision instruments, such as micrometers

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Analytical or scientific software
- Computer aided manufacturing (CAM) software
- Email software
- Enterprise resource planning (ERP) software
- Spreadsheet software

NON-TECHNICAL
- Operation monitoring
- Critical thinking
- Operation and control
- Active listening
- Coordination
MANAGEMENT ANALYSTS
STANDARD OCCUPATIONAL CODE: 13-1111

Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies and prepare operations and procedures manuals to assist management in operating more efficiently and effectively.

OTHER JOB TITLES
PROGRAM ANALYST // MANAGEMENT CONSULTANT // ADMINISTRATIVE ANALYST

OCCUPATIONAL TASKS
- Document findings of study and prepare recommendations for implementation of new systems, procedures or organizational changes
- Interview personnel and conduct on-site observation to ascertain unit functions, work performed and methods, equipment and personnel used
- Analyze data gathered and develop solutions or alternative methods of proceeding
- Plan study of work problems and procedures, such as organizational change, communications, information flow, integrated production methods, inventory control or cost analysis
- Confer with personnel concerned to ensure successful functioning of newly implemented systems or procedures

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 11,185
PROJECTED EMPLOYMENT [2020] 12,313

AVERAGE ANNUAL OPENINGS [2015–2020] 391
GROWTH RATE [2015–2020] 10%

HOURLY PAY RANGE [SAN DIEGO]
$23.81 ENTRY-LEVEL
$37.05 MEDIAN
$48.38 EXPERIENCED

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Interpersonal and social skills (non-technical)
4. Education level

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Database management system software
- Development environment software
- Enterprise resource planning (ERP) software
- Object or component oriented development software
- Web platform development software

NON-TECHNICAL
- Active listening
- Critical thinking
- Reading comprehension
- Judgment and decision making
- Speaking
Research market conditions in local, regional or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales and methods of marketing and distribution.

**OTHER JOB TITLES**
- BUSINESS DEVELOPMENT SPECIALIST
- COMMUNICATIONS SPECIALIST
- MARKET RESEARCH CONSULTANT

**OCCUPATIONAL TASKS**
- Prepare reports of findings, illustrating data graphically and translating complex findings into written text
- Seek and provide information to help companies determine their position in the marketplace
- Gather data on competitors and analyze their prices, sales and method of marketing and distribution
- Collect and analyze data on customer demographics, preferences, needs and buying habits to identify potential markets and factors affecting product demand
- Devise and evaluate methods and procedures for collecting data, such as surveys, opinion polls or questionnaires, or arrange to obtain existing data

**EMPLOYMENT GROWTH**
- CURRENT EMPLOYMENT [2015]: 7,312
- PROJECTED EMPLOYMENT [2020]: 8,134
- AVERAGE ANNUAL OPENINGS [2015–2020]: 257
- GROWTH RATE [2015–2020]: 11%

**HOURLY PAY RANGE**
- [SAN DIEGO]
  - ENTRY-LEVEL: $15.55
  - MEDIAN: $30.97
  - EXPERIENCED: $44.75

**TOP HIRING DIFFICULTIES**
1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Analytical or scientific software
- Business intelligence and data analysis software
- Customer relationship management (CRM) software
- Database user interface and query software
- Enterprise resource planning (ERP) software

**NON-TECHNICAL**
- Reading comprehension
- Active Listening
- Complex problem solving
- Critical thinking
- Judgment and decision making

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree
Plan, direct or coordinate marketing policies and programs, such as determining the demand for products and services offered by a firm and its competitors, and identify potential customers. Develop pricing strategies with the goal of maximizing the firm’s profits or share of the market while ensuring the firm’s customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.

OTHER JOB TITLES
BRAND MANAGER // BUSINESS DEVELOPMENT MANAGER // PRODUCT MANAGER

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015]
2,941
PROJECTED EMPLOYMENT [2020]
3,159
AVERAGE ANNUAL OPENINGS [2015–2020]
116
GROWTH RATE [2015–2020]
7%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $32.24
MIDIAN $65.08
EXPERIENCED $84.35

TOP HIRING DIFFICULTIES
1 Interpersonal and social skills (non-technical)
2 Technical skills specific to the position
3 Relevant work experience
4 Education level

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
Analytical or scientific software
Business intelligence and data analysis software
Customer relationship management (CRM) software
Database user interface and query software
Enterprise resource planning (ERP) software

NON-TECHNICAL
Active learning
Active listening
Critical thinking
Reading comprehension
Social perceptiveness

OCCUPATIONAL TASKS
- Identify, develop or evaluate marketing strategy, based on knowledge of establishment objectives, market characteristics and cost and markup factors
- Formulate, direct or coordinate marketing activities or policies to promote products or services, working with advertising or promotion managers
- Evaluate the financial aspects of product development, such as budgets, expenditures, research and development appropriations, or return-on-investment and profit-loss projections
- Develop pricing strategies, balancing firm objectives and customer satisfaction
- Compile lists describing product or service offerings
MEDICAL AND CLINICAL LABORATORY TECHNICIANS
STANDARD OCCUPATIONAL CODE: 29-2012

Perform routine medical laboratory tests for the diagnosis, treatment and prevention of disease.
May work under the supervision of a medical technologist.

OTHER JOB TITLES    LABORATORY TECHNICIAN // MEDICAL LABORATORY TECHNICIAN (MLT) // CERTIFIED CLINICAL LABORATORY TECHNICIAN

EMPLOYMENT GROWTH [ 2015–2020 ]
CURRENT EMPLOYMENT [ 2015 ] 2,368
PROJECTED EMPLOYMENT [ 2020 ] 2,757

AVERAGE ANNUAL OPENINGS [ 2015–2020 ] 140
GROWTH RATE [ 2015–2020 ] 16%

HOURLY PAY RANGE [ SAN DIEGO ]
ENTRY-LEVEL $13.21
MEDIAN $22.52
EXPERIENCED $27.84

TOP HIRING DIFFICULTIES
1 Technical skills specific to the position
2 Education level
3 Interpersonal and social skills (non-technical)
4 Relevant work experience

PRIORITY SECTOR
CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor's degree
Graduate degree

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Accounting software
- Database user interface
- Query software
- Email software
- Medical software
- Spreadsheet software

NON-TECHNICAL
- Active listening
- Reading Comprehension
- Critical thinking
- Speaking
- Science

OCCUPATIONAL TASKS
- Conduct chemical analyses of body fluids, such as blood or urine, using microscope or automatic analyzer to detect abnormalities or diseases and enter findings into computer
- Analyze the results of tests or experiments to ensure conformity to specifications, using special mechanical or electrical devices
- Set up, maintain, calibrate, clean and test sterility of medical laboratory equipment
- Prepare standard volumetric solutions or reagents to be combined with samples, following standardized formulas or experimental procedures
- Collect blood or tissue samples from patients, observing principles of asepsis to obtain blood sample
MEDICAL AND CLINICAL LABORATORY TECHNOLOGISTS
STANDARD OCCUPATIONAL CODE: 29-2011

Perform complex medical laboratory tests for diagnosis, treatment and prevention of disease.

May train or supervise staff.

OTHER JOB TITLES

CLINICAL LABORATORY SCIENTIST (CLS) // MEDICAL TECHNOLOGIST (MT) // RESEARCH ASSISTANT

OCCUPATIONAL TASKS

- Conduct chemical analysis of body fluids, including blood, urine or spinal fluid, to determine presence of normal or abnormal components
- Analyze laboratory findings to check the accuracy of the results
- Operate, calibrate or maintain equipment used in quantitative or qualitative analysis, such as spectrophotometers, calorimeters, flame photometers or computer-controlled analyzers
- Collect and study blood samples to determine the number of cells, their morphology or their blood group, blood type or compatibility for transfusion purposes, using microscopic techniques
- Enter data from analysis of medical tests or clinical results into computer for storage

HOURLY PAY RANGE [SAN DIEGO]

- $22.65 entry-level
- $37.10 median
- $44.24 experienced

TOP HIRING DIFFICULTIES

1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

EMPLOYMENT GROWTH [2015–2020]

- CURRENT EMPLOYMENT [2015]: 1,129
- PROJECTED EMPLOYMENT [2020]: 1,387
- GROWTH RATE [2015–2020]: 23%

AVERAGE ANNUAL OPENINGS [2015–2020]: 83

TYPICAL ENTRY-LEVEL EDUCATION

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY

- Email software
- Medical software
- Office suite software
- Spreadsheet software
- Word processing software

NON-TECHNICAL

- Active listening
- Critical thinking
- Reading comprehension
- Science
- Operation monitoring
Plan, direct or coordinate medical and health services in hospitals, clinics, managed care organizations, public health agencies or similar organizations.

OTHER JOB TITLES

CLINICAL DIRECTOR // HEALTH INFORMATION MANAGEMENT DIRECTOR // PRACTICE ADMINISTRATOR

**MEDICAL AND HEALTH SERVICES MANAGERS**

**STANDARD OCCUPATIONAL CODE: 11-9111**

**EMPLOYMENT GROWTH**

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<thead>
<tr>
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<tbody>
<tr>
<td>2,595</td>
<td>2,951</td>
<td>143</td>
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**HOURLY PAY RANGE**

<table>
<thead>
<tr>
<th>SAN DIEGO</th>
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</thead>
<tbody>
<tr>
<td>$25.68 ENTRY-LEVEL</td>
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<tr>
<td>$52.22 MEDIAN</td>
</tr>
<tr>
<td>$65.15 EXPERIENCED</td>
</tr>
</tbody>
</table>

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**

- Analytical or scientific software
- Categorization or classification software
- Database user interface and query software
- Document management software
- Enterprise resource planning (ERP) software

**NON-TECHNICAL**

- Speaking
- Critical thinking
- Active listening
- Coordination
- Judgment and decision making

**OCCUPATIONAL TASKS**

- Develop and maintain computerized record management systems to store and process data such as personnel activities and information, and to produce reports
- Direct, supervise and evaluate work activities of medical, nursing, technical, clerical, service, maintenance and other personnel
- Direct or conduct recruitment, hiring and training of personnel
- Develop and implement organizational policies and procedures for the facility or medical unit
- Conduct and administer fiscal operations, including accounting, planning budgets, authorizing expenditures, establishing rates for services and coordinating financial reporting

**TOP HIRING DIFFICULTIES**

1. Relevant work experience
2. Education level
3. Interpersonal and social skills (non-technical)
4. Technical skills specific to the position

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TYPICAL ENTRY-LEVEL EDUCATION**

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree
MEDICAL ASSISTANTS
STANDARD OCCUPATIONAL CODE: 31-9092

Perform administrative and certain clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing and coding information for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood and administering medications as directed by physician.

OTHER JOB TITLES
CERTIFIED MEDICAL ASSISTANT (CMA) // CLINICAL ASSISTANT // REGISTERED MEDICAL ASSISTANT (RMA)

OCCUPATIONAL TASKS
- Record patients’ medical history, vital statistics or information such as test results in medical records
- Prepare treatment rooms for patient examinations, keeping the rooms neat and clean
- Interview patients to obtain medical information and measure their vital signs, weight and height
- Show patients to examination rooms and prepare them for the physician
- Prepare and administer medications as directed by a physician

EMPLOYMENT GROWTH
CURRENT EMPLOYMENT [2015] 7,140
PROJECTED EMPLOYMENT [2020] 8,425

AVERAGE ANNUAL OPENINGS [2015–2020] 427
GROWTH RATE [2015–2020] 18%

HOURLY PAY RANGE [SAN DIEGO]
$12.83 ENTRY-LEVEL
$17.06 MEDIAN
$19.48 EXPERIENCED

TOP HIRING DIFFICULTIES
1. Education level
2. Relevant work experience
3. Interpersonal and social skills (non-technical)
4. Technical skills specific to the position

PRIORITY SECTOR
CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Accounting software
- Email software
- Medical software
- Office suite software
- Operating system software

NON-TECHNICAL
- Speaking
- Active listening
- Reading comprehension
- Social perceptiveness
- Monitoring
MEDICAL RECORDS AND HEALTH INFORMATION TECHNICIANS
STANDARD OCCUPATIONAL CODE: 29-2071

Compile, process and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal and regulatory requirements of the health care system. Process, maintain, compile and report patient information for health requirements and standards in a manner consistent with the healthcare industry’s numerical coding system.

OTHER JOB TITLES
- CODER
- MEDICAL RECORDS/HEALTH INFORMATION CLERK
- REGISTERED HEALTH INFORMATION TECHNICIAN (RHIT)

OCCUPATIONAL TASKS
- Protect the security of medical records to ensure that confidentiality is maintained
- Review records for completeness, accuracy and compliance with regulations
- Retrieve patient medical records for physicians, technicians or other medical personnel
- Assign the patient to diagnosis-related groups (DRGs), using appropriate computer software
- Process patient admission or discharge documents

EMPLOYMENT GROWTH [2015–2020]

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</thead>
<tbody>
<tr>
<td>2,009</td>
<td>2,251</td>
<td>97</td>
<td>12%</td>
</tr>
</tbody>
</table>

HOURLY PAY RANGE [SAN DIEGO]

| ENTRY-LEVEL | $12.56 |
| MEDIAN      | $19.08 |
| EXPERIENCED | $26.45 |

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Accounting software
- Categorization or classification software
- Database user interface and query software
- Document management software
- Medical software

NON-TECHNICAL
- Reading comprehension
- Active listening
- Critical thinking
- Speaking
- Writing
MEDICAL SCIENTISTS, EXCEPT EPIDEMIOLOGISTS
STANDARD OCCUPATIONAL CODE: 19-1042

Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation, research and development or other related activities. Includes physicians, dentists, public health specialists, pharmacologists and medical pathologists who primarily conduct research.

OTHER JOB TITLES
DIRECTOR, EXPERIMENTAL MEDICINE // CLINICAL LABORATORY SCIENTIST // RESEARCH SCIENTIST

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 3,145
PROJECTED EMPLOYMENT [2020] 3,607

AVG. ANNUAL OPENINGS [2015–2020] 200
GROWTH RATE [2015–2020] 15%

HOURLY PAY RANGE [SAN DIEGO]
$31.24 ENTRY-LEVEL
$48.70 MEDIAN
$68.28 EXPERIENCED

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

OCCUPATIONAL TASKS
- Plan and direct studies to investigate human or animal disease, preventive methods and treatments for disease
- Conduct research to develop methodologies, instrumentation and procedures for medical application, analyzing data and presenting findings to the scientific audience and general public
- Study animal and human health and physiological processes
- Follow strict safety procedures when handling toxic materials to avoid contamination
- Write and publish articles in scientific journals

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Analytical or scientific software
- Database user interface and query software
- Development environment software
- Map creation software
- Object or component oriented development software

NON-TECHNICAL
- Critical thinking
- Science
- Active listening
- Reading comprehension
- Writing
MEDICAL SECRETARIES
STANDARD OCCUPATIONAL CODE: 43-6013

Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic or laboratory procedures. Duties may include scheduling appointments, billing patients and compiling and recording medical charts, reports and correspondence.

OTHER JOB TITLES
- ADMISSIONS COORDINATOR
- BILLING COORDINATOR
- MEDICAL OFFICE SPECIALIST

OCCUPATIONAL TASKS
- Answer telephones and direct calls to appropriate staff
- Schedule and confirm patient diagnostic appointments, surgeries or medical consultations
- Operate office equipment, such as voice mail messaging systems, and use word processing, spreadsheet or other software applications to prepare reports, invoices, financial statements, letters, case histories or medical records
- Maintain medical records, technical library or correspondence files
- Greet visitors, ascertain purpose of visit and direct them to appropriate staff

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015]: 7,594
- PROJECTED EMPLOYMENT [2020]: 8,596

AVERAGE ANNUAL OPENINGS [2015–2020]: 288

GROWTH RATE [2015–2020]: 13%

HOURLY PAY RANGE [SAN DIEGO]
- ENTRY-LEVEL: $12.59
- MEDIAN: $17.66
- EXPERIENCED: $21.58

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Interpersonal and social skills (non-technical)
3. Education level
4. Technical skills specific to the position

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Accounting software
- Database user interface and query software
- Email software
- Medical software
- Word processing software

NON-TECHNICAL
- Speaking
- Active listening
- Service orientation
- Reading comprehension
- Coordination
NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS
STANDARD OCCUPATIONAL CODE: 15-1142

Install, configure and support an organization’s local area network (LAN), wide area network (WAN) and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test website performance to ensure websites operate correctly. May assist in network modeling, analysis, planning and coordination between network and data communications hardware and software.

OTHER JOB TITLES
- INFORMATION TECHNOLOGY (IT) MANAGER
- LOCAL AREA NETWORK (LAN) ADMINISTRATOR
- NETWORK MANAGER

OCCUPATIONAL TASKS
- Maintain and administer computer networks and related computing environments including computer hardware, systems software, applications software and all configurations
- Perform data backups and disaster recovery operations
- Diagnose, troubleshoot and resolve hardware, software or other network and system problems, and replace defective components when necessary
- Plan, coordinate and implement network security measures to protect data, software and hardware
- Configure, monitor and maintain email applications or virus protection software

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015]
  - 3,713
- PROJECTED EMPLOYMENT [2020]
  - 4,006

AVERAGE ANNUAL OPENINGS [2015–2020]
- 112

GROWTH RATE [2015–2020]
- 8%

HOURLY PAY RANGE [SAN DIEGO]
- $23.55 ENTRY-LEVEL
- $38.76 MEDIAN
- $50.11 EXPERIENCED

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

TOP HIRING DIFFICULTIES
1. Technical skills specific to the position
2. Education level
3. Relevant work experience
4. Interpersonal and social skills (non-technical)

CERTIFIED APPRENTICESHIPS AVAILABLE
- No

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Database management system software
- Development environment software
- Enterprise resource planning (ERP) software
- Network monitoring software
- Web platform development software

NON-TECHNICAL
- Critical thinking
- Reading comprehension
- Systems analysis
- Complex problem solving
- Judgment and decision making
NURSING ASSISTANTS
STANDARD OCCUPATIONAL CODE: 31-1014

Provide basic patient care under direction of nursing staff. Perform duties such as feed, bathe, dress, groom or move patients or change linens. May transfer or transport patients. Includes nursing care attendants, nursing aides and nursing attendants.

OTHER JOB TITLES  CERTIFIED NURSE AIDE (CNA) // LICENSED NURSING ASSISTANT (LNA) // CERTIFIED MEDICATION AIDE (CMA)

OCCUPATIONAL TASKS
- Answer patient call signals, signal lights, bells or intercom systems to determine patients’ needs
- Turn or reposition bedridden patients
- Provide physical support to assist patients to perform daily living activities, such as getting out of bed, bathing, dressing, using the toilet, standing, walking or exercising
- Review patients’ dietary restrictions, food allergies and preferences to ensure patient receives appropriate diet
- Measure and record food and liquid intake or urinary and fecal output, reporting changes to medical or nursing staff

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015] 9,184
- PROJECTED EMPLOYMENT [2020] 10,895
- AVERAGE ANNUAL OPENINGS [2015–2020] 574
- GROWTH RATE [2015–2020] 19%

AVERAGE ANNUAL OPENINGS [2015–2020]
- CURRENT EMPLOYMENT [2015] 9,184
- PROJECTED EMPLOYMENT [2020] 10,895

HOURLY PAY RANGE [SAN DIEGO]
- ENTRY-LEVEL $10.55
- MEDIAN $13.88
- EXPERIENCED $17.09

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Accounting software
- Medical software
- Office suite software
- Spreadsheet software
- Word processing software

NON-TECHNICAL
- Service orientation
- Active listening
- Social perceptiveness
- Coordination
- Monitoring

CERTIFIED APPRENTICESHIPS AVAILABLE

PRIORITY SECTOR

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

PROJECTED EMPLOYMENT [2020] 10,895
Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with state laws, assist in development of treatment plans, carry out routine functions, direct activity programs and document the progress of treatments. Generally requires formal training.

**OTHER JOB TITLES**
- Certified Occupational Therapy Assistant (COTA)
- Licensed Occupational Therapy Assistant
- Acute Care Occupational Therapy Assistant

### OCCUPATIONAL TASKS
- Select therapy activities to fit patients’ needs and capabilities
- Monitor patients’ performance in therapy activities, providing encouragement
- Instruct, or assist in instructing, patients and families in home programs, basic living skills or the care and use of adaptive equipment
- Maintain and promote a positive attitude toward clients and their treatment programs
- Observe and record patients’ progress, attitudes and behavior and maintain this information in client records

### EMPLOYMENT GROWTH

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<thead>
<tr>
<th>CURRENT EMPLOYMENT [2015]</th>
<th>PROJECTED EMPLOYMENT [2020]</th>
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<tbody>
<tr>
<td>426</td>
<td>527</td>
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</table>

### AVERAGE ANNUAL OPENINGS [2015–2020]
- 35

### GROWTH RATE [2015–2020]
- 24%

### HOURLY PAY RANGE [SAN DIEGO]
- **ENTRY-LEVEL**: $25.22
- **MEDIAN**: $33.84
- **EXPERIENCED**: $36.75

### TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Interpersonal and social skills (non-technical)
3. Technical skills specific to the position
4. Education level

### TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

### CERTIFIED APPRENTICESHIPS AVAILABLE

### TOP SKILLS AND COMPETENCIES
**TECHNOLOGY**
- Accounting software
- Computer-based training software
- Database user interface and query software
- Email software
- Medical software

**NON-TECHNICAL**
- Active listening
- Speaking
- Reading Comprehension
- Social perceptiveness
- Time management
Assist lawyers by investigating facts, preparing legal documents or researching legal precedent. Conduct research to support a legal proceeding, to formulate a defense or to initiate legal action.

**OTHER JOB TITLES**  
CERTIFIED PARALEGAL // LAW CLERK // LEGAL ANALYST

### OCCUPATIONAL TASKS
- Prepare affidavits or other documents, such as legal correspondence, and organize and maintain documents in paper or electronic filing system
- Prepare for trial by performing tasks such as organizing exhibits
- Prepare legal documents, including briefs, pleadings, appeals, wills, contracts and real estate closing statements
- Meet with clients and other professionals to discuss details of case
- File pleadings with court clerk

### EMPLOYMENT GROWTH  
**CURRENT EMPLOYMENT [2015]**  
3,010

**PROJECTED EMPLOYMENT [2020]**  
3,190

**AVERAGE ANNUAL OPENINGS [2015–2020]**  
104

**GROWTH RATE [2015–2020]**  
6%

### HOURLY PAY RANGE  
**[SAN DIEGO]**
- **ENTRY-LEVEL**  
$16.08
- **MEDIAN**  
$27.74
- **EXPERIENCED**  
$34.49

### TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

### TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

### CERTIFIED APPRENTICESHIPS AVAILABLE
- No

### TOP SKILLS AND COMPETENCIES

#### TECHNOLOGY
- Analytical or scientific software
- Database user interface and query software
- Desktop publishing software
- Document management software
- Information retrieval or search software

#### NON-TECHNICAL
- Reading comprehension
- Active listening
- Speaking
- Writing
- Critical thinking
PHARMACY TECHNICIANS
STANDARD OCCUPATIONAL CODE: 29-2052

Prepare medications under the direction of a pharmacist. May measure, mix, count out, label and record amounts and dosages of medications according to prescription orders.

OTHER JOB TITLES  
CERTIFIED PHARMACY TECHNICIAN (CPHT)  //  COMPOUNDING TECHNICIAN  //  PHARMACY TECH

OCCUPATIONAL TASKS
- Receive written prescription or refill requests and verify that information is complete and accurate
- Prepack bulk medicines, fill bottles with prescribed medications and type and affix labels
- Answer telephones, responding to questions or requests
- Maintain proper storage and security conditions for drugs
- Assist customers by answering simple questions, locating items or referring them to the pharmacist for medication information

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015]: 2,808
- PROJECTED EMPLOYMENT [2020]: 3,014

AVERAGE ANNUAL OPENINGS [2015–2020]: 71
GROWTH RATE [2015–2020]: 7%

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

HOURLY PAY RANGE [SAN DIEGO]
- ENTRY-LEVEL: $9.59
- MEDIAN: $17.42
- EXPERIENCED: $21.31

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Accounting software
- Database user interface and query software
- Label making software
- Medical software
- Spreadsheet software

NON-TECHNICAL
- Active listening
- Reading comprehension
- Speaking
- Critical thinking
- Monitoring
Assess, plan organize and participate in rehabilitative programs that improve mobility, relieve pain, increase strength and improve or correct disabling conditions resulting from disease or injury.

**OTHER JOB TITLES**

- REGISTERED PHYSICAL THERAPIST (RPT)
- REHABILITATION SERVICES DIRECTOR
- OUTPATIENT PHYSICAL THERAPIST

**OCCUPATIONAL TASKS**

- Plan, prepare or carry out individually designed programs of physical treatment to maintain, improve or restore physical functioning, alleviate pain or prevent physical dysfunction in patients
- Perform and document an initial exam, evaluating data to identify problems and determine a diagnosis prior to intervention
- Evaluate effects of treatment at various stages and adjust treatments to achieve maximum benefit
- Identify and document goals, anticipated progress and plans for reevaluation
- Record prognosis, treatment, response and progress in patient’s chart or enter information into computer
PHYSICIAN ASSISTANTS
STANDARD OCCUPATIONAL CODE: 29-1071

Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants.

OTHER JOB TITLES
CERTIFIED PHYSICIAN ASSISTANT (PA-C) // CLINICAL PHYSICIAN ASSISTANT // MIDLEVEL PROVIDER

EMPLOYMENT GROWTH
CURRENT EMPLOYMENT [2015] 1,277
PROJECTED EMPLOYMENT [2020] 1,552

AVERAGE ANNUAL OPENINGS [2015–2020] 88
GROWTH RATE [2015–2020] 22%

HOURLY PAY RANGE
[ SAN DIEGO ]
ENTRY-LEVEL $29.88
MÉDIAN $50.73
EXPERIENCED $62.14

TOP HIRING DIFFICULTIES
1 Relevant work experience
2 Education level
3 Interpersonal and social skills (non-technical)
4 Technical skills specific to the position

PRIORITY SECTOR

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

OCCUPATIONAL TASKS
- Examine patients to obtain information about their physical condition
- Make tentative diagnoses and decisions about management and treatment of patients
- Prescribe therapy or medication with physician approval
- Administer or order diagnostic tests, such as x-ray, electrocardiogram and laboratory tests
- Interpret diagnostic test results for deviations from normal

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Medical software
- Office suite software
- Spreadsheet software
- Storage media loading software
- Word processing software

NON-TECHNICAL
- Active listening
- Critical thinking
- Reading comprehension
- Speaking
- Service orientation
Diagnose and treat injuries or illnesses. Physicians counsel and examine patients; take medical histories; prescribe medications; and order, perform and interpret diagnostic tests. Surgeons operate on patients to treat injuries, diseases and deformities.

Data in this profile represents the five types of physicians and surgeons included on the full in-demand job list.

**OTHER JOB TITLES** DOCTOR // M.D. // D.O.

**EMPLOYMENT GROWTH [2015–2020]**

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<tbody>
<tr>
<td>6,643</td>
<td>7,491</td>
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**HOURLY PAY RANGE [SAN DIEGO]**

<table>
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<th>Median</th>
<th>Experienced</th>
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</thead>
<tbody>
<tr>
<td>$51.50</td>
<td>$98.04</td>
<td>$121.38</td>
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</tbody>
</table>

**TOP HIRING DIFFICULTIES**

1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

**TYPICAL ENTRY-LEVEL EDUCATION**

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Medical software
- Accounting software
- Email software
- Office suite software
- Spreadsheet software

**NON-TECHNICAL**
- Active listening
- Complex problem solving
- Critical thinking
- Judgment and decision making
- Reading comprehension

**OCCUPATIONAL TASKS**

- Take a patient’s medical history
- Update charts and patient information to show current findings and treatments
- Order tests for nurses or other healthcare staff to perform
- Review test results to identify any abnormal findings
- Recommend and design a plan of treatment

**Data in this profile represents the five types of physicians and surgeons included on the full in-demand job list.**
Maintain order and protect life and property by enforcing local, tribal, state or federal laws and ordinances. Perform a combination of the following duties: patrol a specific area, direct traffic, issue traffic summonses, investigate accidents, apprehend and arrest suspects or serve legal processes of courts.

**OTHER JOB TITLES**
- LAW ENFORCEMENT OFFICER
- PUBLIC SAFETY OFFICER
- DEPUTY SHERIFF

**OCCUPATIONAL TASKS**
- Identify, pursue and arrest suspects and perpetrators of criminal acts
- Drive vehicles or patrol specific areas to detect law violators, issue citations and make arrests
- Provide for public safety by maintaining order, responding to emergencies, protecting people and property, enforcing motor vehicle and criminal laws and promoting good community relations
- Record daily activities and submit logs and other related reports and paperwork to appropriate authorities
- Investigate illegal or suspicious activities; review facts of incidents to determine if criminal act or statute violations were involved

**EMPLOYMENT GROWTH [2015–2020]**
- **CURRENT EMPLOYMENT [2015]**: 6,173
- **PROJECTED EMPLOYMENT [2020]**: 6,479

**AVERAGE ANNUAL OPENINGS [2015–2020]**: 271

**GROWTH RATE [2015–2020]**: 5%

**HOURLY PAY RANGE [SAN DIEGO]**
- **ENTRY-LEVEL**: $26.04
- **MEDIAN**: $36.54
- **EXPERIENCED**: $44.72

**TOP HIRING DIFFICULTIES**
1. Interpersonal and social skills (non-technical)
2. Education level
3. Relevant work experience
4. Technical skills specific to the position

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor's degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**
**TECHNOLOGY**
- Database user interface and query software
- Email software
- Graphics or photo imaging software
- Map creation software
- Spreadsheet software

**NON-TECHNICAL**
- Active listening
- Critical thinking
- Speaking
- Social perceptiveness
- Judgment and decision making
INSTRUCT STUDENTS IN A WIDE VARIETY OF ACADEMIC AND CAREER AND TECHNICAL SUBJECTS BEYOND THE HIGH SCHOOL LEVEL. Conduct research and publish scholarly papers and books. Work in public and private colleges and universities, professional schools, junior or community colleges and career and technical schools.

OTHER JOB TITLES

PROFESSOR // CAREER & TECHNICAL EDUCATION TEACHER // FACULTY

EMPLOYMENT GROWTH

[2015–2020]

CURRENT EMPLOYMENT [2015] 18,571

PROJECTED EMPLOYMENT [2020] 20,964

AVERAGE ANNUAL OPENINGS [2015–2020] 834

GROWTH RATE [2015–2020] 13%

HOURLY PAY RANGE [SAN DIEGO]

$20.02 ENTRY-LEVEL

$34.61 MEDIAN

$47.24 EXPERIENCED

TOP HIRING DIFFICULTIES

1. Technical skills specific to the position
2. Interpersonal and social skills (non-technical)
3. Relevant work experience
4. Education level

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Computer based training software
- Database user interface and query software
- Email software
- Spreadsheet software
- Word processing software

NON-TECHNICAL
- Speaking
- Reading comprehension
- Writing
- Active learning
- Active listening

CERTIFIED APPRENTICESHIPS AVAILABLE

PRIORITY SECTOR

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree
PRODUCTION, PLANNING AND EXPEDITING CLERKS
STANDARD OCCUPATIONAL CODE: 43-5061

Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule. Duties include reviewing and distributing production, work and shipment schedules; conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work, inventory levels, costs and production problems.

OTHER JOB TITLES
MASTER SCHEDULER // MATERIALS PLANNER // PRODUCTION CONTROLLER

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015] 3,809
PROJECTED EMPLOYMENT [2020] 3,995

AVERAGE ANNUAL OPENINGS [2015–2020] 144
GROWTH RATE [2015–2020] 5%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $12.31
MEDIAN $22.28
EXPERIENCED $29.46

TOP HIRING DIFFICULTIES
1 Relevant work experience
2 Technical skills specific to the position
3 Education level
4 Interpersonal and social skills (non-technical)

PRIORITY SECTOR
CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

OCCUPATIONAL TASKS
- Distribute production schedules or work orders to departments
- Review documents, such as production schedules, work orders or staffing tables, to determine personnel or materials requirements or material priorities
- Requisition and maintain inventories of materials or supplies necessary to meet production demands
- Arrange for delivery, assembly or distribution of supplies or parts to expedite flow of materials and meet production schedules
- Confer with department supervisors or other personnel to assess progress and discuss needed changes

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Accounting software
- Analytical or scientific software
- Database user interface and query software
- Enterprise resource planning (ERP) software
- Materials requirements planning logistics and supply chain software

NON-TECHNICAL
- Active listening
- Reading comprehension
- Speaking
- Time management
- Critical thinking

CURRENT EMPLOYMENT [2015] 3,809
PROJECTED EMPLOYMENT [2020] 3,995

1 Relevant work experience
2 Technical skills specific to the position
3 Education level
4 Interpersonal and social skills (non-technical)
RECEPTIONISTS AND INFORMATION CLERKS
STANDARD OCCUPATIONAL CODE: 43-4171

Answer inquiries and provide information to the general public, customers, visitors and other interested parties regarding activities conducted at establishment and location of departments, offices and employees within the organization.

OTHER JOB TITLES  FRONT DESK RECEPTIONIST // OFFICE ASSISTANT // SCHEDULER

EMPLOYMENT GROWTH [2015–2020]

CURRENT EMPLOYMENT [2015]
8,511

PROJECTED EMPLOYMENT [2020]
9,651

AVERAGE ANNUAL OPENINGS [2015–2020]
481

GROWTH RATE [2015–2020]
13%

HOURLY PAY RANGE [SAN DIEGO]

$10.17 ENTRY-LEVEL

$14.72 MEDIAN

$17.33 EXPERIENCED

TOP HIRING DIFFICULTIES

1. Interpersonal and social skills (non-technical)
2. Technical skills specific to the position
3. Relevant work experience
4. Education level

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION

High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Accounting software
- Database user interface and query software
- Email software
- Medical software
- Office suite software

NON-TECHNICAL
- Active listening
- Speaking
- Service orientation
- Critical thinking
- Reading comprehension

OCCUPATIONAL TASKS
- Operate telephone switchboard to answer, screen or forward calls, providing information, taking messages or scheduling appointments
- Greet persons entering establishment, determine nature and purpose of visit, and direct or escort them to specific destinations
- Schedule appointments and maintain and update appointment calendars
- Hear and resolve complaints from customers or the public
- File and maintain records
REGISTERED NURSES
STANDARD OCCUPATIONAL CODE: 29-1141

Assess patient health problems and needs, develop and implement nursing care plans and maintain medical records. Administer nursing care to ill, injured, convalescent or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required.

OTHER JOB TITLES
REGISTERED NURSE (RN) // STAFF NURSE // PUBLIC HEALTH NURSE (PHN)

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015 ]
22,872
PROJECTED EMPLOYMENT [2020 ]
25,273
AVERAGE ANNUAL OPENINGS [2015–2020]
1,067
GROWTH RATE [2015–2020]
10%

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
Categorization or classification software
Database user interface and query software
Email software
Medical software
Spreadsheet software

NON-TECHNICAL
Active listening
Social perceptiveness
Service orientation
Speaking
Coordination

OCCUPATIONAL TASKS
- Maintain accurate, detailed reports and records
- Administer medications to patients and monitor patients for reactions or side effects
- Record patients’ medical information and vital signs
- Monitor, record and report symptoms or changes in patients’ conditions
- Consult and coordinate with healthcare team members to assess, plan, implement or evaluate patient care plans
- Modify patient treatment plans as indicated by patients’ responses and conditions
- Monitor all aspects of patient care, including diet and physical activity

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL
$27.64
MEDIAN
$40.92
EXPERIENCED
$50.46

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)
Assess, treat and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check and operate equipment.

**OTHER JOB TITLES**
- CERTIFIED RESPIRATORY THERAPIST (CRT)
- RESPIRATORY CARE PRACTITIONER (RCP)
- REGISTERED RESPIRATORY THERAPIST (RRT)

**OCCUPATIONAL TASKS**
- Provide emergency care, such as artificial respiration, external cardiac massage or assistance with cardiopulmonary resuscitation
- Monitor patients’ physiological responses to therapy, such as vital signs, arterial blood gases or blood chemistry changes, and consult with physician if adverse reactions occur
- Set up and operate devices such as mechanical ventilators, therapeutic gas administration apparatus, environmental control systems or aerosol generators, following specified parameters of treatment
- Work as part of a team of physicians, nurses or other healthcare professionals to manage patient care by assisting with medical procedures or related duties
- Maintain charts that contain patients’ pertinent identification and therapy information

**EMPLOYMENT GROWTH**
- Current Employment [2015]: 1,368
- Projected Employment [2020]: 1,478
- Average Annual Openings [2015–2020]: 56
- Growth Rate [2015–2020]: 8%

**HOURLY PAY RANGE** [San Diego]
- Entry-Level: $24.09
- Median: $35.18
- Experienced: $42.22

**TOP HIRING DIFFICULTIES**
1. Relevant work experience
2. Interpersonal and social skills (non-technical)
3. Technical skills specific to the position
4. Education level

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Email software
- Medical software
- Office suite software
- Spreadsheet software
- Word processing software

**NON-TECHNICAL**
- Active listening
- Critical thinking
- Monitoring
- Speaking
- Active learning
SALES REPRESENTATIVES
WHOLESALE AND MANUFACTURING, EXCEPT TECHNICAL AND SCIENTIFIC PRODUCTS
STANDARD OCCUPATIONAL CODE: 41-4012

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

OTHER JOB TITLES  ACCOUNT MANAGER // OUTSIDE SALES REPRESENTATIVE // SALESPERSON

OCCUPATIONAL TASKS
- Contact regular and prospective customers to demonstrate products, explain product features and solicit orders
- Recommend products to customers, based on customers’ needs and interests
- Answer customers’ questions about products, prices, availability, product uses and credit terms
- Estimate or quote prices, credit or contract terms, warranties and delivery dates
- Consult with clients after sales or contract signings to resolve problems and to provide ongoing support

EMPLOYMENT GROWTH [2015–2020]
- CURRENT EMPLOYMENT [2015] 10,383
- PROJECTED EMPLOYMENT [2020] 11,081
- AVERAGE ANNUAL OPENINGS [2015–2020] 391
- GROWTH RATE [2015–2020] 7%

HOURLY PAY RANGE [SAN DIEGO]
- $12.27 ENTRY-LEVEL
- $24.70 MEDIAN
- $35.90 EXPERIENCED

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Interpersonal and social skills (non-technical)
3. Technical skills specific to the position
4. Education level

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Accounting software
- Analytical or scientific software
- Customer relationship management (CRM) software
- Database user interface and query software
- Email software

NON-TECHNICAL
- Active listening
- Speaking
- Persuasion
- Social perceptiveness
- Critical thinking
SALES REPRESENTATIVES
WHOLESALE AND MANUFACTURING, TECHNICAL AND SCIENTIFIC PRODUCTS
STANDARD OCCUPATIONAL CODE: 41-4011

Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry and electronics, normally obtained from at least 2 years of post-secondary education.

OTHER JOB TITLES
DISTRIBUTION SALES MANAGER // INSIDE SALES REPRESENTATIVE // CHANNEL SALES DIRECTOR

EMPLOYMENT GROWTH
[2015–2020]

CURRENT EMPLOYMENT [2015]
4,085

PROJECTED EMPLOYMENT [2020]
4,343

143
6%

CURRENT PROJECTED OPENINGS [2015–2020]

AVERAGE ANNUAL OPENINGS [2015–2020]

TOP HIRING DIFFICULTIES

1. Technical skills specific to the position
2. Relevant work experience
3. Interpersonal and social skills (non-technical)
4. Education level

TYPICAL ENTRY-LEVEL EDUCATION

High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES

TECHNOLOGY
- Accounting software
- Analytical or scientific software
- Customer relationship management (CRM) software
- Database user interface and query software
- Email software

NON-TECHNICAL
- Persuasion
- Speaking
- Active listening
- Negotiation
- Social perceptiveness

OCCUPATIONAL TASKS
- Negotiate prices or terms of sales or service agreements
- Prepare and submit sales contracts for orders
- Visit establishments to evaluate needs or to promote product or service sales
- Maintain customer records, using automated systems
- Answer customers’ questions about products, prices, availability or credit terms

HOURLY PAY RANGE
[SAN DIEGO]

$18.28
ENTRY-LEVEL

$31.64
MEDIAN

$47.26
EXPERIENCED
Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files or providing information to callers.

**OTHER JOB TITLES**  
ADMINISTRATIVE ASSISTANT // ADMINISTRATIVE SPECIALIST // DEPARTMENT SECRETARY

### OCCUPATIONAL TASKS

- Use computers for various applications, such as database management or word processing
- Answer telephones and give information to callers, take messages or transfer calls to appropriate individuals
- Create, maintain and enter information into databases
- Set up and manage paper or electronic filing systems, recording information, updating paperwork or maintaining documents, such as attendance records, correspondence or other material
- Operate office equipment, such as fax machines, copiers or phone systems, and arrange for repairs when equipment malfunctions

### TOP SKILLS AND COMPETENCIES

**TECHNOLOGY**

- Accounting software
- Database reporting software
- Database user interface and query software
- Email software
- Enterprise resource planning (ERP) software

**NON-TECHNICAL**

- Writing
- Active listening
- Reading comprehension
- Speaking
- Time management

### EMPLOYMENT GROWTH

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>22,238</td>
<td>23,477</td>
<td>494</td>
<td>6%</td>
</tr>
</tbody>
</table>

### HOURLY PAY RANGE [SAN DIEGO]

- **ENTRY-LEVEL** $11.48
- **MEDIAN** $18.28
- **EXPERIENCED** $23.05

### TYPICAL ENTRY-LEVEL EDUCATION

- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

### CERTIFIED APPRENTICESHIPS AVAILABLE

- **Top Hiring Difficulties**
  1. Relevant work experience
  2. Technical skills specific to the position
  3. Interpersonal and social skills (non-technical)
  4. Education level
SOCIAL AND HUMAN SERVICE ASSISTANTS
STANDARD OCCUPATIONAL CODE: 21-1093

Assist in providing client services in a wide variety of fields, such as psychology, rehabilitation or social work, including support for families. May assist clients in identifying and obtaining available benefits and social and community services. May assist social workers with developing organizing and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation or dependent care.

OTHER JOB TITLES
CASEWORKER // SOCIAL WORK ASSOCIATE // FAMILY SUPPORT WORKER

EMPLOYMENT GROWTH [2015–2020]
CURRENT EMPLOYMENT [2015]
3,190
PROJECTED EMPLOYMENT [2020]
3,515

AVERAGE ANNUAL OPENINGS [2015–2020]
134

GROWTH RATE [2015–2020]
10%

HOURLY PAY RANGE [SAN DIEGO]
$9.67 ENTRY-LEVEL
$15.89 MEDIAN
$19.20 EXPERIENCED

OCCUPATIONAL TASKS
- Keep records or prepare reports for owner or management concerning visits with clients
- Provide information or refer individuals to public or private agencies or community services for assistance
- Visit individuals in homes or attend group meetings to provide information on agency services, requirements or procedures
- Interview individuals or family members to compile information on social, educational, criminal, institutional or drug history
- Submit reports and review reports or problems with superior

TOP HIRING DIFFICULTIES
1. Technical skills specific to the position
2. Interpersonal and social skills (non-technical)
3. Education level
4. Relevant work experience

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Database user interface and query software
- Email software
- Medical software
- Spreadsheet software
- Voice recognition software

NON-TECHNICAL
- Active listening
- Service orientation
- Social perceptiveness
- Speaking
- Writing
SOFTWARE DEVELOPERS, APPLICATIONS
STANDARD OCCUPATIONAL CODE: 15-1132

Develop, create and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.

OTHER JOB TITLES
APP DEVELOPER // COMPUTER PROGRAMMER // SOFTWARE ENGINEER

EMPLOYMENT GROWTH [2015-2020]
CURRENT EMPLOYMENT [2015]
10,050
PROJECTED EMPLOYMENT [2020]
10,997

AVERAGE ANNUAL OPENINGS [2015-2020]
343

GROWTH RATE [2015-2020]
9%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL
$26.46
MEDIAN
$48.57
EXPERIENCED
$60.30

TOP HIRING DIFFICULTIES
1. Technical skills specific to the position
2. Relevant work experience
3. Education level
4. Interpersonal and social skills (non-technical)

TYPICAL ENTRY-LEVEL EDUCATION
High school diploma or equivalent
Some college, associate degree or certification
Bachelor’s degree
Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

OCCUPATIONAL TASKS
- Modify existing software to correct errors, allow it to adapt to new hardware or to improve its performance
- Analyze user needs and software requirements to determine feasibility of design within time and cost constraints
- Confer with systems analysts, engineers, programmers and others to design system and to obtain information on project limitations and capabilities, performance requirements and interfaces
- Store, retrieve and manipulate data for analysis of system capabilities and requirements
- Design, develop and modify software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Database management system software
- Development environment software
- Object or component oriented development software
- Program testing software
- Web platform development software

NON-TECHNICAL
- Programming
- Systems analysis
- Systems evaluation
- Judgment and decision making
- Complex problem solving
SOFTWARE DEVELOPERS,
SYSTEMS SOFTWARE
STANDARD OCCUPATIONAL CODE: 15-1133

Research, design, develop and test operating systems-level software, compilers and network distribution software for medical, industrial, military, communications, aerospace, business, scientific and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering and mathematical analysis.

OTHER JOB TITLES
DEVELOPER // COMPUTER PROGRAMMER // SOFTWARE ARCHITECT

OCCUPATIONAL TASKS
- Modify existing software to correct errors, to adapt it to new hardware or to upgrade interfaces and improve performance
- Develop or direct software system testing or validation procedures
- Direct software programming and development of documentation
- Consult with customers or other departments on project status, proposals or technical issues, such as software system design or maintenance
- Analyze information to determine, recommend and plan installation of a new system or modification of an existing system

EMPLOYMENT GROWTH [2015-2020]
CURRENT EMPLOYMENT [2015] 7,486
PROJECTED EMPLOYMENT [2020] 7,982

AVG. ANNUAL OPENINGS [2015-2020] 211
GROWTH RATE [2015-2020] 7%

HOURLY PAY RANGE [SAN DIEGO]
ENTRY-LEVEL $37.87
MEDIAN $55.00
EXPERIENCED $67.31

TOP HIRING DIFFICULTIES
1. Relevant work experience
2. Education level
3. Technical skills specific to the position
4. Interpersonal and social skills (non-technical)

PRIORITY SECTOR

CERTIFIED APPRENTICESHIPS AVAILABLE

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

TOP SKILLS AND COMPETENCIES
TECHNOLOGY
- Development environment software
- Object or component oriented development software
- Operating system software
- Program testing software
- Web platform development software

NON-TECHNICAL
- Reading comprehension
- Active listening
- Critical thinking
- Complex problem solving
- Speaking

CURRENT EMPLOYMENT [2015] 7,486
PROJECTED EMPLOYMENT [2020] 7,982
Install, set-up, rearrange or remove switching, distribution, routing and dialing equipment used in central offices or headends.
Service or repair telephone, cable television, Internet and other communications equipment on customers’ property.
May install communications equipment or communications wiring in buildings.

**OTHER JOB TITLES**
- COMMUNICATIONS TECHNICIAN
- FIELD TECHNICIAN
- SERVICE TECHNICIAN

**OCCUPATIONAL TASKS**
- Note differences in wire and cable colors so that work can be performed correctly
- Test circuits and components of malfunctioning telecommunications equipment to isolate sources of malfunctions, using test meters, circuit diagrams, polarity probes and other hand tools
- Test repaired, newly installed or updated equipment to ensure that it functions properly and conforms to specifications, using test equipment and observation
- Drive crew trucks to and from work areas
- Inspect equipment on a regular basis to ensure proper functioning

**EMPLOYMENT GROWTH [2015–2020]**
- CURRENT EMPLOYMENT [2015]
  - 2,441
- PROJECTED EMPLOYMENT [2020]
  - 2,759

**AVERAGE ANNUAL OPENINGS [2015–2020]**
- 87

**GROWTH RATE [2015–2020]**
- 13%

**HOURLY PAY RANGE [SAN DIEGO]**
- ENTRY-LEVEL
  - $11.35
- MEDIAN
  - $26.72
- EXPERIENCED
  - $32.85

**TOP HIRING DIFFICULTIES**
1. Relevant work experience
2. Technical skills specific to the position
3. Education level
4. Interpersonal and social skills (non-technical)

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Analytical or scientific software
- Contact center software
- Expert system software
- Office suite software
- Spreadsheet software

**NON-TECHNICAL**
- Operation monitoring
- Quality control analysis
- Troubleshooting
- Active listening
- Complex problem solving
TELECOMMUNICATIONS LINE INSTALLERS AND REPAIRERS
STANDARD OCCUPATIONAL CODE: 49-9052

Install and repair telecommunications cable, including fiber optics.

OTHER JOB TITLES
CABLE SPICER // CABLE TECHNICIAN // INSTALLATION AND REPAIR (I & R) TECHNICIAN

OCCUPATIONAL TASKS
- Set up service for customers, installing, connecting, testing or adjusting equipment
- Travel to customers’ premises to install, maintain or repair audio and visual electronic reception equipment or accessories
- Measure signal strength at utility poles, using electronic test equipment
- Inspect or test lines or cables, recording and analyzing test results, to assess transmission characteristics and locate faults or malfunctions
- Splice cables, using hand tools, epoxy or mechanical equipment

TECHNOLOGY
- Contact center software
- Enterprise resource planning (ERP) software
- Office suite software
- Operating system software
- Spreadsheet software

NON-TECHNICAL
- Complex problem solving
- Critical thinking
- Operation monitoring
- Speaking
- Active listening

TOP SKILLS AND COMPETENCIES

EMPLOYMENT GROWTH [2015–2020]

CURRENT EMPLOYMENT [2015]
878

PROJECTED EMPLOYMENT [2020]
1,001

AVERAGE ANNUAL OPENINGS [2015–2020]
42

GROWTH RATE [2015–2020]
14%

HOURLY PAY RANGE [SAN DIEGO]

$16.94 ENTRY-LEVEL

$30.92 MEDIAN

$34.74 EXPERIENCED

TYPICAL ENTRY-LEVEL EDUCATION
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor's degree
- Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

TOP HIRING DIFFICULTIES
1. Technical skills specific to the position
2. Relevant work experience
3. Education level
4. Interpersonal and social skills (non-technical)
Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.

**OTHER JOB TITLES**
- CORPORATE TRAINER
- E-LEARNING DEVELOPER
- JOB TRAINING SPECIALIST

**OCCUPATIONAL TASKS**
- Assess training needs through surveys, interviews with employees, focus groups or consultation with managers, instructors or customer representatives
- Design, plan organize or direct orientation and training programs for employees or customers
- Offer specific training programs to help workers maintain or improve job skills
- Present information using a variety of instructional techniques or formats, such as role playing, simulations, team exercises, group discussions, videos or lectures
- Obtain, organize or develop training procedure manuals, guides or course materials, such as handouts or visual materials

**EMPLOYMENT GROWTH [2015–2020]**
- **CURRENT EMPLOYMENT [2015]**: 2,335
- **PROJECTED EMPLOYMENT [2020]**: 2,510
- **AVERAGE ANNUAL OPENINGS [2015–2020]**: 95
- **GROWTH RATE [2015–2020]**: 7%

**HOURLY PAY RANGE [SAN DIEGO]**
- **ENTRY-LEVEL**: $17.50
- **MEDIAN**: $30.90
- **EXPERIENCED**: $41.63

**TOP HIRING DIFFICULTIES**
1. Technical skills specific to the position
2. Relevant work experience
3. Education level
4. Interpersonal and social skills (non-technical)

**CERTIFIED APPRENTICESHIPS AVAILABLE**

**PRIORITY SECTOR**

**TYPICAL ENTRY-LEVEL EDUCATION**
- High school diploma or equivalent
- Some college, associate degree or certification
- Bachelor’s degree
- Graduate degree

**TOP SKILLS AND COMPETENCIES**

**TECHNOLOGY**
- Computer based training software
- Database user interface and query software
- Document management software
- Enterprise resource planning (ERP) software
- Graphics or photo imaging software

**NON-TECHNICAL**
- Instructing
- Learning strategies
- Active listening
- Speaking
- Monitoring
WEB DEVELOPERS
STANDARD OCCUPATIONAL CODE: 15-1134

Design, create and modify websites. Analyze user needs to implement website content, graphics, performance and capacity. May integrate websites with other computer applications. May convert written, graphic, audio and video components to compatible web formats by using software designed to facilitate the creation of web and multimedia content.

OTHER JOB TITLES  WEB DESIGNER // WEB DEVELOPER // WEBMASTER

EMPLOYMENT GROWTH [2015–2020]

CURRENT EMPLOYMENT [2015]

2,397

PROJECTED EMPLOYMENT [2020]

2,696

AVERAGE ANNUAL OPENINGS [2015–2020]

93

GROWTH RATE [2015–2020]

12%

H O U R L Y  P A Y  R A N G E  [ S A N  D I E G O ]

$14.28
ENTRY-LEVEL

$30.05
MEDIAN

$40.51
EXPERIENCED

T O P  H I R I N G  D I F F I C U L T I E S

1 Relevant work experience

2 Interpersonal and social skills (non-technical)

3 Technical skills specific to the position

4 Education level

T Y P I C A L  E N T R Y - L E V E L  E D U C A T I O N

High school diploma or equivalent

Some college, associate degree or certification

Bachelor’s degree

Graduate degree

CERTIFIED APPRENTICESHIPS AVAILABLE

OCCUPATIONAL TASKS

- Design, build or maintain websites, using authoring or scripting languages, content creation tools, management tools and digital media
- Perform or direct website updates
- Write, design or edit web page content, or direct others producing content
- Confer with management or development teams to prioritize needs, resolve conflicts, develop content criteria or choose solutions
- Back up files from websites to local directories for instant recovery in case of problems

T O P  S K I L L S  A N D  C O M P E T E N C I E S

TECHNOLOGY

- Database management system software
- Development environment software
- Object or component oriented development software
- Operating system software
- Web platform development software

NON-TECHNICAL

- Programming
- Critical thinking
- Operations analysis
- Active listening
- Complex problem solving
## APPENDIX B: SKILLS & COMPETENCIES REFERENCE

### Non-Technical Skills

<table>
<thead>
<tr>
<th>Non-technical skill</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active learning</td>
<td>Understanding the implications of new information for both current and future problem-solving and decision-making.</td>
</tr>
<tr>
<td>Active listening</td>
<td>Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.</td>
</tr>
<tr>
<td>Complex problem solving</td>
<td>Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.</td>
</tr>
<tr>
<td>Coordination</td>
<td>Adjusting actions in relation to others' actions.</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</td>
</tr>
<tr>
<td>Instructing</td>
<td>Teaching others how to do something.</td>
</tr>
<tr>
<td>Judgment and decision making</td>
<td>Considering the relative costs and benefits of potential actions to choose the most appropriate.</td>
</tr>
<tr>
<td>Learning strategies</td>
<td>Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Using mathematics to solve problems.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.</td>
</tr>
<tr>
<td>Negotiation</td>
<td>Bringing others together and trying to reconcile differences.</td>
</tr>
<tr>
<td>Operation and control</td>
<td>Controlling operations of equipment or systems.</td>
</tr>
<tr>
<td>Operation monitoring</td>
<td>Watching gauges, dials, or other indicators to make sure a machine is working properly.</td>
</tr>
<tr>
<td>Persuasion</td>
<td>Persuading others to change their minds or behavior.</td>
</tr>
<tr>
<td>Programming</td>
<td>Writing computer programs for various purposes.</td>
</tr>
<tr>
<td>Quality control analysis</td>
<td>Conducting tests and inspections of products, services or processes to evaluate quality.</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>Understanding written sentences and paragraphs in work related documents.</td>
</tr>
<tr>
<td>Repairing</td>
<td>Repairing machines or systems using the needed tools.</td>
</tr>
<tr>
<td>Science</td>
<td>Using scientific rules and methods to solve problems.</td>
</tr>
<tr>
<td>Service orientation</td>
<td>Actively looking for ways to help people.</td>
</tr>
<tr>
<td>Social perceptiveness</td>
<td>Being aware of others' reactions and understanding why they react as they do.</td>
</tr>
<tr>
<td>Speaking</td>
<td>Talking to others to convey information effectively.</td>
</tr>
<tr>
<td>Systems analysis</td>
<td>Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.</td>
</tr>
<tr>
<td>Systems evaluation</td>
<td>Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.</td>
</tr>
<tr>
<td>Time management</td>
<td>Managing one's own time and the time of others.</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>Determining causes of operating errors and deciding what to do about it.</td>
</tr>
<tr>
<td>Writing</td>
<td>Communicating effectively in writing as appropriate for the needs of the audience.</td>
</tr>
</tbody>
</table>
# Technology

The specific technologies will vary depending on the occupation, but this list provides some examples of each type.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting software</td>
<td>Intuit QuickBooks; Sage 50 Accounting; Sage Peachtree software; NDComedisoft software; QMSOFTware Receivables Management; Siemens Soarian Financials; MediGraph software</td>
</tr>
<tr>
<td>Action games</td>
<td>Biometrics video game software</td>
</tr>
<tr>
<td>Administration software</td>
<td>Cisco Systems CiscoWorks software; ifconfig; ipconfig; SolarWinds software</td>
</tr>
<tr>
<td>Analytical or scientific software</td>
<td>SAS software; SPSS software; Stata; MATLAB; Accelrys QAUNTA; Fujitsu BioMedCache; Wavefunction Titan; YASARA software; CellQuest; Armchair Machinist software; CNC Consulting Machinists' Calculator; Fluke ClearSight Analyzer</td>
</tr>
<tr>
<td>Business intelligence and data analysis software</td>
<td>IBM Cognos Impromptu; Oracle Business Intelligence Enterprise Edition; MicroStrategy software; Qlik Tech QlikView; Tableau software</td>
</tr>
<tr>
<td>Categorization or classification software</td>
<td>3M Encoder; Diagnostic and procedural coding software; American Medical Association CodeManager; ColorSoft AutoMatch; DRG Grouper software; Yost Engineering CodeSearch Pro; Yost Engineering EpiCorder</td>
</tr>
<tr>
<td>Communications server software</td>
<td>IBM Domino</td>
</tr>
<tr>
<td>Computer aided design (CAD) software</td>
<td>AutoCAD; Bentley MicroStation; PTC Creo Parametric; Research Engineers International STAAD.Pro; Accelrys Insight II; Chem 4-D; ChemSW Molecular Modeling Pro</td>
</tr>
<tr>
<td>Computer aided manufacturing (CAM) software</td>
<td>CNC Mastercam; CNC TurboCAD/CAM; JETCAM software</td>
</tr>
<tr>
<td>Computer based training software</td>
<td>Blackboard Learn; BrainTrain IVA+Plus; Math/language arts educational software; Adobe Captivate; Articulate Rapid E-Learning Studio; Halogen eLMS; Qarbon ViewletBuilder Professional</td>
</tr>
<tr>
<td>Configuration management software</td>
<td>HyperSpace software; Perforce Helix software; Puppet; Wise Solutions software</td>
</tr>
<tr>
<td>Contact center software</td>
<td>Avaya software</td>
</tr>
<tr>
<td>Customer relationship management (CRM) software</td>
<td>ActionWare; Blackbaud The Raiser's Edge; Sage ACT!; Salesforce software; TechExcel software; NetSuite NetCRM; Sybase iAnywhere Sales Anywhere</td>
</tr>
<tr>
<td>Data base management system software</td>
<td>Apache Cassandra; Apache Hadoop; Apache Hive; NoSQL software; Oracle PL/SQL; Teradata Database</td>
</tr>
<tr>
<td>Database reporting software</td>
<td>SAP Crystal Reports</td>
</tr>
<tr>
<td>Database user interface and query software</td>
<td>FileMaker Pro software; Microsoft Access; Sage 300 Construction and Real Estate; SQL; MySQL; Blackboard software; Oracle software; Law enforcement information databases</td>
</tr>
<tr>
<td>Desktop publishing software</td>
<td>Adobe PageMaker; Microsoft Publisher</td>
</tr>
<tr>
<td>Development environment software</td>
<td>Apache Maven; C; Eclipse software; Microsoft .NET Framework; Microsoft PowerShell; Microsoft Visual Basic; Symantec Visual Cafe</td>
</tr>
<tr>
<td>Document management software</td>
<td>Adobe Acrobat software; Atrion Intelligent Authoring; Current Professional Terminology (CPT); e-MDs DocMan; Nuance PaperPort Professional; SoftMed ChartLocator; SoftMed ChartReserve</td>
</tr>
<tr>
<td>Email software</td>
<td>Microsoft Outlook; Gmail</td>
</tr>
<tr>
<td>Enterprise resource planning (ERP) software</td>
<td>Microsoft Dynamics GP; Oracle PeopleSoft software; Sage MAS 200 ERP; SAP software; NetSuite ERP</td>
</tr>
<tr>
<td>Expert system software</td>
<td>Fluke Networks Fluke TechEXPERT</td>
</tr>
<tr>
<td>Category</td>
<td>Software</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Financial analysis software</td>
<td>Cygnus Software IncomeMax; Insurance analysis software; Insurance rating software; Underwriting software</td>
</tr>
<tr>
<td>Graphics or photo imaging software</td>
<td>Adobe Photoshop software; Microsoft Visio; MetaFluor; WebLab ViewerPro; DesignWare 3D EyeWitness</td>
</tr>
<tr>
<td>Information retrieval or search software</td>
<td>American LegalNet US CourtForms; LexisNexis software; Thomson West FindLaw; Westlaw Real Property Deed Images</td>
</tr>
<tr>
<td>Internet browser software</td>
<td>Google Chrome; Mozilla Firefox; Internet Explorer; Safari</td>
</tr>
<tr>
<td>Map creation software</td>
<td>ESRI ArcGIS software; ESRI ArcView; Google Maps; Microsoft MapPoint</td>
</tr>
<tr>
<td>Materials requirements planning logistics and supply chain software</td>
<td>eLading Bill of Lading Software; LSA Visual Easy Lean; Stratford Group INMASS/MRP; Waterloo Hydrogeologic TACTIC</td>
</tr>
<tr>
<td>Medical software</td>
<td>HCPCS software; Medical condition/procedure coding software; EMR/EHR software; MEDITECH software</td>
</tr>
<tr>
<td>Network monitoring software</td>
<td>Dartware InterMapper; Route; WildPackets OmniPeek Network Analyzer; Wireshark; Nagios; Remote monitoring software; Snort; Wireshark</td>
</tr>
<tr>
<td>Object or component oriented development software</td>
<td>ABAP; jQuery; Perl; Python; C++; Objective C; Oracle Java; R; Spark; Swift;</td>
</tr>
<tr>
<td>Office suite software</td>
<td>Apple iWork software; Microsoft Office software; Google Drive suite</td>
</tr>
<tr>
<td>Operating system software</td>
<td>Microsoft Windows; Apple IOS; Linux; Oracle Solaris; Cisco IOS; Hewlett Packard HP-UX; Android</td>
</tr>
<tr>
<td>Presentation software</td>
<td>Microsoft PowerPoint; Prezi; Google Slides</td>
</tr>
<tr>
<td>Program testing software</td>
<td>Compatibility testing software; Defect tracking software; Fault testing software; Hewlett Packard LoadRunner; Source code editor software; Unit testing software; Usability testing software</td>
</tr>
<tr>
<td>Project management software</td>
<td>Cost estimating software; Microsoft Project; Oracle Primavera Enterprise Project Portfolio Management software; The Gordian Group PROGEN Online; bMobile Technology Route Manager; bMobile Technology Sales</td>
</tr>
<tr>
<td>Spreadsheet software</td>
<td>Microsoft Excel; Google Sheets</td>
</tr>
<tr>
<td>Storage media loading software</td>
<td>Patient records software for personal digital assistants PDAs</td>
</tr>
<tr>
<td>Transaction security and virus protection software</td>
<td>McAfee software; Root kit detection software; Symantec Norton Antivirus; Symantec security software</td>
</tr>
<tr>
<td>Virtual private network (VPN) management software</td>
<td>Intrusion prevention system IPS software; Network and system vulnerability assessment software; NIKSUN NetDetector; Sonicwall SonicOS Enhanced</td>
</tr>
<tr>
<td>Voice recognition software</td>
<td>Nuance Dragon NaturallySpeaking software</td>
</tr>
<tr>
<td>Web platform development software</td>
<td>AJAX; Apache Tomcat; Drupal; Google AngularJS; HTML; JavaScript; jQuery; LAMP Stack; Microsoft Active Server Pages ASP; Ruby on Rails</td>
</tr>
<tr>
<td>Word processing software</td>
<td>Microsoft Word; Google Docs; Corel WordPerfect software</td>
</tr>
</tbody>
</table>
APPENDIX C: METHODOLOGY

Secondary Data
The 2016 In-Demand Jobs list was compiled using data from the Emsi Q3 2016 data set. Wage estimates are based on Occupational Employment Statistics (Quarterly Census of Employment and Wages, or QCEW, and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed). Occupational wage estimates are also affected by county-level Emsi earnings by industry. This report also uses state data from the California Labor Market Information Department. All data is specific to San Diego County. The following profile elements were sourced from this data set:

- Current and projected employment
- Average annual openings
- Growth rate
- Hourly pay range (entry-level wages are equal to the occupation’s 10th percentile earnings; experienced wages are 75th percentile)
- Typical entry-level education
- Priority Sector

Supplemental information for each profile was incorporated from O*NET OnLine, a database of occupational information developed for the U.S. Department of Labor by the National Center for O*NET Development. The following profile elements were sourced from this database:

- Occupation description
- Other job titles
- Occupational tasks
- Top skills and competencies

Employer Survey
SDWP commissioned BW Research Partnership, Inc. (BW Research) to gather data for this study. In addition to the quantitative research findings, data from the survey informed the “Top hiring difficulties” section of the job profiles. The table below provides a brief overview of the methodology utilized for the survey research component of the project.

<table>
<thead>
<tr>
<th>Method:</th>
<th>Web and telephone survey of San Diego County employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of survey participants:</td>
<td>407 employers in San Diego County</td>
</tr>
<tr>
<td>Survey field dates:</td>
<td>March 17 – April 27, 2016</td>
</tr>
<tr>
<td>Survey universe:</td>
<td>49,799 firms with five or more employees in San Diego County</td>
</tr>
</tbody>
</table>

Survey Design
Through an iterative process, BW Research worked closely with SDWP to develop a survey instrument that met the research objectives of the study. In developing the survey instrument, BW Research utilized techniques to overcome known biases in survey research and minimize potential sources of measurement error within the survey.

Sampling Method
A database of San Diego County employers was utilized for the telephone portion of the survey. The web survey was completed by San Diego County employers using internet panels—Clint and Research for Good. Certain industries were targeted to ensure a higher incidence of occupational completes.
Once a particular occupation reached the desired amount of completes, it was shut down for respondents and they were asked to provide information for occupations that had not yet reached the quota.

Data Collection
Prior to beginning data collection, BW Research conducted interviewer training and also pre-tested the survey instrument (web and phone) to ensure that all words and questions were easily understood by the respondents. Telephone interviews were generally conducted from 9:00 a.m. to 4:30 p.m. Monday through Friday. The data collection period was March 17 through April 27, 2016.

Employer Interviews
Thirty-one employers were recruited through Salesgenie to participate in in-person interviews focusing on special populations and employment practices. These employers were not part of the 407 who participated in the web/phone surveys.

Occupation Selection
The following outlines the criteria for inclusion and methodology for occupation selection.

Projected Growth Rate
Each occupation on the list shows a projected growth rate from 2015-2020 that is higher than the 2010-2014 average of six percent. Additionally, each occupation experienced at least one percent growth from 2010-2014.

Median Wage
All In-Demand Jobs offer a median hourly wage at or above $13.09, the San Diego living wage.¹

Educational Attainment
Each occupation listed requires at least a high school diploma or its equivalent for a typical entry-level position.

Annual Openings
Each occupation on the list is projected to have a number of annual openings from 2015-2020 that is higher than the 2010-2014 median of 30 annual openings.

Exceptions
There are seven occupations on the In-Demand Jobs list that do not meet the criteria for projected growth rate. However, these occupations have been identified as “in-demand” though interviews with employers, and are either at or one percent below the 2010-2014 average of six percent. Even though they are not projected to grow at an above-average rate, each has a projected number of annual openings that is significantly above the 2010-2014 median. In addition, one occupation experienced zero percent growth from 2010-2014, but exceeded the other growth criteria. These occupations are:

¹ Self-Sufficiency Standard developed by Insight Center for Community Economic Development and adopted for San Diego by Center on Policy Initiatives: cpisandiego.org/making_ends_meet.
• Business Operations Specialists, All Other (13-1199)
• Compliance Officers (13-1041)
• Family and General Practitioners (29-1062)
• Paralegals and Legal Assistants (23-2011)
• Police and Sheriff’s Patrol Officers (33-3051)
• Production, Planning, and Expediting Clerks (43-5061)
• Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)
## APPENDIX D: FULL IN-DEMAND JOBS LIST

### 2016 In-Demand Jobs

<table>
<thead>
<tr>
<th>Occupation Title (SOC)</th>
<th>2015 Jobs</th>
<th>5-year Growth</th>
<th>Annual Openings</th>
<th>Median Wage</th>
<th>Typical Entry Level Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Services Managers (11-3011)</td>
<td>3,686</td>
<td>7%</td>
<td>123</td>
<td>$41.47</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Adult Basic and Secondary Education and Literacy Teachers and Instructors (25-3011)</td>
<td>932</td>
<td>7%</td>
<td>32</td>
<td>$33.79</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Aerospace Engineers (17-2011)</td>
<td>1,770</td>
<td>10%</td>
<td>88</td>
<td>$50.02</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Anesthesiologists (29-1061)</td>
<td>650</td>
<td>14%</td>
<td>39</td>
<td>$110.75</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Architects, Except Landscape and Naval (17-1011)</td>
<td>1,463</td>
<td>10%</td>
<td>55</td>
<td>$34.40</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Architectural and Civil Drafters (17-3011)</td>
<td>1,371</td>
<td>7%</td>
<td>37</td>
<td>$27.57</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Architectural and Engineering Managers (11-9041)</td>
<td>2,562</td>
<td>9%</td>
<td>130</td>
<td>$73.17</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Billing and Posting Clerks (43-3021)</td>
<td>4,977</td>
<td>12%</td>
<td>235</td>
<td>$17.51</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Biochemists and Biophysicists (19-1021)</td>
<td>1,201</td>
<td>17%</td>
<td>77</td>
<td>$41.37</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Biological Scientists, All Other (19-1029)</td>
<td>800</td>
<td>8%</td>
<td>35</td>
<td>$35.11</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Biological Technicians (19-4021)</td>
<td>2,870</td>
<td>11%</td>
<td>145</td>
<td>$22.51</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Biomedical Engineers (17-2031)</td>
<td>895</td>
<td>20%</td>
<td>63</td>
<td>$39.87</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Bus and Truck Mechanics and Diesel Engine Specialists (49-3031)</td>
<td>1,855</td>
<td>12%</td>
<td>78</td>
<td>$24.45</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Bus Drivers, School or Special Client (53-3022)</td>
<td>2,426</td>
<td>15%</td>
<td>110</td>
<td>$18.44</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Bus Drivers, Transit and Intercity (53-3021)</td>
<td>2,086</td>
<td>13%</td>
<td>85</td>
<td>$14.29</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Business Operations Specialists, All Other (13-1199)</td>
<td>13,964</td>
<td>5%</td>
<td>317</td>
<td>$35.39</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Cargo and Freight Agents (43-5011)</td>
<td>755</td>
<td>12%</td>
<td>44</td>
<td>$19.57</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Chefs and Head Cooks (35-1011)</td>
<td>2,226</td>
<td>13%</td>
<td>92</td>
<td>$19.08</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Chemical Technicians (19-4031)</td>
<td>719</td>
<td>15%</td>
<td>44</td>
<td>$22.86</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Chemists (19-2031)</td>
<td>1,394</td>
<td>16%</td>
<td>77</td>
<td>$34.54</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Civil Engineering Technicians (17-3022)</td>
<td>984</td>
<td>11%</td>
<td>47</td>
<td>$27.74</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Civil Engineers (17-2051)</td>
<td>5,216</td>
<td>11%</td>
<td>285</td>
<td>$42.05</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Clinical, Counseling and School Psychologists (19-3031)</td>
<td>2,399</td>
<td>9%</td>
<td>97</td>
<td>$33.99</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Coaches and Scouts (27-2022)</td>
<td>3,251</td>
<td>13%</td>
<td>206</td>
<td>$17.67</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Occupation Title (SOC)</td>
<td>2015 Jobs</td>
<td>5-year Growth</td>
<td>Annual Openings</td>
<td>Median Wage</td>
<td>Typical Entry Level Education</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>-----------------</td>
<td>-------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Community and Social Service Specialists, All Other (21-1099)</td>
<td>849</td>
<td>8%</td>
<td>32</td>
<td>$21.20</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Compliance Officers (13-1041)</td>
<td>4,031</td>
<td>5%</td>
<td>99</td>
<td>$37.33</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Computer and Information Systems Managers (11-3021)</td>
<td>4,321</td>
<td>9%</td>
<td>136</td>
<td>$71.45</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Computer Network Architects (15-1143)</td>
<td>1,196</td>
<td>10%</td>
<td>45</td>
<td>$47.74</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Computer Network Support Specialists (15-1152)</td>
<td>2,342</td>
<td>7%</td>
<td>65</td>
<td>$34.16</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Computer Systems Analysts (15-1121)</td>
<td>5,873</td>
<td>14%</td>
<td>242</td>
<td>$43.39</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Computer User Support Specialists (15-1151)</td>
<td>6,400</td>
<td>9%</td>
<td>196</td>
<td>$26.59</td>
<td>Some college, no degree</td>
</tr>
<tr>
<td>Computer-Controlled Machine Tool Operators, Metal and Plastic (51-4011)</td>
<td>1,043</td>
<td>12%</td>
<td>60</td>
<td>$20.78</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Construction and Building Inspectors (47-4011)</td>
<td>1,261</td>
<td>9%</td>
<td>60</td>
<td>$34.50</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Correctional Officers and Jailers (33-3012)</td>
<td>1,185</td>
<td>10%</td>
<td>58</td>
<td>$40.44</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Cost Estimators (13-1051)</td>
<td>3,001</td>
<td>7%</td>
<td>130</td>
<td>$31.69</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Couriers and Messengers (43-5021)</td>
<td>1,245</td>
<td>7%</td>
<td>37</td>
<td>$14.67</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Customer Service Representatives (43-4051)</td>
<td>19,108</td>
<td>9%</td>
<td>842</td>
<td>$17.81</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Database Administrators (15-1141)</td>
<td>1,100</td>
<td>9%</td>
<td>46</td>
<td>$45.98</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Dental Assistants (31-9091)</td>
<td>3,947</td>
<td>8%</td>
<td>166</td>
<td>$19.06</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Dental Hygienists (29-2021)</td>
<td>1,582</td>
<td>10%</td>
<td>60</td>
<td>$42.33</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Dental Laboratory Technicians (51-9081)</td>
<td>680</td>
<td>10%</td>
<td>33</td>
<td>$18.62</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Dentists, General (29-1021)</td>
<td>1,696</td>
<td>8%</td>
<td>62</td>
<td>$70.95</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Diagnostic Medical Sonographers (29-2032)</td>
<td>473</td>
<td>25%</td>
<td>34</td>
<td>$44.36</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Dispatchers, Except Police, Fire andAmbulance (43-5032)</td>
<td>2,182</td>
<td>7%</td>
<td>87</td>
<td>$17.24</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Driver/Sales Workers (53-3031)</td>
<td>2,839</td>
<td>13%</td>
<td>126</td>
<td>$13.28</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Education Administrators, Elementary and Secondary School (11-9032)</td>
<td>1,595</td>
<td>7%</td>
<td>72</td>
<td>$55.98</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Education Administrators, Postsecondary (11-9033)</td>
<td>1,799</td>
<td>13%</td>
<td>102</td>
<td>$46.23</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Occupation Title (SOC)</td>
<td>2015 Jobs</td>
<td>5-year Growth</td>
<td>Annual Openings</td>
<td>Median Wage</td>
<td>Typical Entry Level Education</td>
</tr>
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<td>-------------------------------</td>
</tr>
<tr>
<td>Educational, Guidance, School and Vocational Counselors (21-1012)</td>
<td>2,890</td>
<td>7%</td>
<td>102</td>
<td>$27.31</td>
<td>Master’s degree</td>
</tr>
<tr>
<td>Electricians (47-2111)</td>
<td>6,195</td>
<td>9%</td>
<td>212</td>
<td>$28.24</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Elementary School Teachers, Except Special Education (25-2021)</td>
<td>9,297</td>
<td>7%</td>
<td>348</td>
<td>$33.47</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Engineers, All Other (17-2199)</td>
<td>2,355</td>
<td>9%</td>
<td>94</td>
<td>$46.34</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Environmental Engineers (17-2081)</td>
<td>658</td>
<td>16%</td>
<td>41</td>
<td>$44.10</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Environmental Science and Protection Technicians, Including Health (19-4091)</td>
<td>683</td>
<td>8%</td>
<td>40</td>
<td>$21.60</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Environmental Scientists and Specialists, Including Health (19-2041)</td>
<td>1,065</td>
<td>12%</td>
<td>61</td>
<td>$37.51</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Family and General Practitioners (29-1062)</td>
<td>1,135</td>
<td>13%</td>
<td>67</td>
<td>$89.26</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Financial Analysts (13-2051)</td>
<td>2,664</td>
<td>7%</td>
<td>103</td>
<td>$40.62</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>First-Line Supervisors of Food Preparation and Serving Workers (35-1012)</td>
<td>9,788</td>
<td>14%</td>
<td>599</td>
<td>$14.41</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>First-Line Supervisors of Housekeeping and Janitorial Workers (37-1011)</td>
<td>3,062</td>
<td>8%</td>
<td>102</td>
<td>$22.64</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>First-Line Supervisors of Mechanics, Installers and Repairers (49-1011)</td>
<td>3,065</td>
<td>7%</td>
<td>109</td>
<td>$31.25</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>First-Line Supervisors of Office and Administrative Support Workers (43-1011)</td>
<td>14,310</td>
<td>8%</td>
<td>452</td>
<td>$25.89</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>First-Line Supervisors of Personal Service Workers (39-1021)</td>
<td>2,309</td>
<td>14%</td>
<td>113</td>
<td>$17.79</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators (53-1031)</td>
<td>1,328</td>
<td>7%</td>
<td>63</td>
<td>$26.36</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Fitness Trainers and Aerobics Instructors (39-9031)</td>
<td>3,558</td>
<td>20%</td>
<td>218</td>
<td>$20.04</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Food Service Managers (11-9051)</td>
<td>5,075</td>
<td>10%</td>
<td>211</td>
<td>$19.36</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>General and Operations Managers (11-1021)</td>
<td>23,867</td>
<td>7%</td>
<td>959</td>
<td>$49.97</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td>Health Diagnosing and Treating Practitioners, All Other (29-1199)</td>
<td>553</td>
<td>16%</td>
<td>32</td>
<td>$28.53</td>
<td>Master’s degree</td>
</tr>
<tr>
<td>Health Technologists and Technicians, All Other (29-2099)</td>
<td>1,213</td>
<td>10%</td>
<td>38</td>
<td>$22.58</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Healthcare Social Workers (21-1022)</td>
<td>1,180</td>
<td>19%</td>
<td>78</td>
<td>$34.37</td>
<td>Master’s degree</td>
</tr>
<tr>
<td>Occupation Title (SOC)</td>
<td>2015 Jobs</td>
<td>5-year Growth</td>
<td>Annual Openings</td>
<td>Median Wage</td>
<td>Typical Entry Level Education</td>
</tr>
<tr>
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<td>------------------------------</td>
</tr>
<tr>
<td>Healthcare Support Workers, All Other (31-9099)</td>
<td>1,632</td>
<td>7%</td>
<td>58</td>
<td>$20.69</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Heating, Air Conditioning, and Refrigeration Mechanics and Installers (49-9021)</td>
<td>2,289</td>
<td>18%</td>
<td>124</td>
<td>$24.49</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers (53-3032)</td>
<td>8,283</td>
<td>8%</td>
<td>295</td>
<td>$18.21</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Helpers--Installation, Maintenance and Repair Workers (49-9098)</td>
<td>1,105</td>
<td>7%</td>
<td>52</td>
<td>$13.82</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Human Resources Managers (11-3121)</td>
<td>1,572</td>
<td>8%</td>
<td>73</td>
<td>$53.92</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Industrial Engineers (17-2112)</td>
<td>3,169</td>
<td>8%</td>
<td>148</td>
<td>$44.77</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Industrial Machinery Mechanics (49-9041)</td>
<td>1,544</td>
<td>14%</td>
<td>89</td>
<td>$25.24</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Information Security Analysts (15-1122)</td>
<td>815</td>
<td>14%</td>
<td>34</td>
<td>$46.32</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Instructional Coordinators (25-9031)</td>
<td>1,897</td>
<td>7%</td>
<td>44</td>
<td>$35.33</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Insurance Sales Agents (41-3021)</td>
<td>4,902</td>
<td>10%</td>
<td>248</td>
<td>$23.42</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Internists, General (29-1063)</td>
<td>713</td>
<td>10%</td>
<td>36</td>
<td>$93.73</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Interpreters and Translators (27-3091)</td>
<td>1,011</td>
<td>17%</td>
<td>51</td>
<td>$22.99</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Kindergarten Teachers, Except Special Education (25-2012)</td>
<td>1,049</td>
<td>7%</td>
<td>47</td>
<td>$28.34</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Library Technicians (25-4031)</td>
<td>831</td>
<td>7%</td>
<td>54</td>
<td>$21.73</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses (29-2061)</td>
<td>5,176</td>
<td>16%</td>
<td>335</td>
<td>$25.78</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Life, Physical, and Social Science Technicians, All Other (19-4099)</td>
<td>929</td>
<td>10%</td>
<td>61</td>
<td>$22.09</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Machinists (51-4041)</td>
<td>3,663</td>
<td>7%</td>
<td>169</td>
<td>$24.01</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Maintenance and Repair Workers, General (49-9071)</td>
<td>11,971</td>
<td>7%</td>
<td>506</td>
<td>$18.50</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Management Analysts (13-1111)</td>
<td>11,185</td>
<td>10%</td>
<td>391</td>
<td>$37.05</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Market Research Analysts and Marketing Specialists (13-1161)</td>
<td>7,312</td>
<td>11%</td>
<td>257</td>
<td>$30.97</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Marketing Managers (11-2021)</td>
<td>2,941</td>
<td>7%</td>
<td>116</td>
<td>$65.08</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Massage Therapists (31-9011)</td>
<td>2,362</td>
<td>15%</td>
<td>88</td>
<td>$16.00</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Mechanical Engineers (17-2141)</td>
<td>3,152</td>
<td>14%</td>
<td>200</td>
<td>$42.11</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Occupation Title (SOC)</td>
<td>2015 Jobs</td>
<td>5-year Growth</td>
<td>Annual Openings</td>
<td>Median Wage</td>
<td>Typical Entry Level Education</td>
</tr>
<tr>
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<td>-------------------------------</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technicians (29-2012)</td>
<td>2,368</td>
<td>16%</td>
<td>140</td>
<td>$22.52</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technologists (29-2011)</td>
<td>1,129</td>
<td>23%</td>
<td>83</td>
<td>$37.10</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Medical and Health Services Managers (11-9111)</td>
<td>2,595</td>
<td>14%</td>
<td>143</td>
<td>$52.22</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Medical Assistants (31-9092)</td>
<td>7,140</td>
<td>18%</td>
<td>427</td>
<td>$17.06</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Medical Records and Health Information Technicians (29-2071)</td>
<td>2,009</td>
<td>12%</td>
<td>97</td>
<td>$19.08</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Medical Scientists, Except Epidemiologists (19-1042)</td>
<td>3,145</td>
<td>15%</td>
<td>200</td>
<td>$48.70</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Medical Secretaries (43-6013)</td>
<td>7,594</td>
<td>13%</td>
<td>288</td>
<td>$17.66</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Meeting, Convention and Event Planners (13-1121)</td>
<td>1,309</td>
<td>10%</td>
<td>44</td>
<td>$22.13</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Mental Health Counselors (21-1014)</td>
<td>968</td>
<td>10%</td>
<td>42</td>
<td>$18.84</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Microbiologists (19-1022)</td>
<td>1,011</td>
<td>10%</td>
<td>50</td>
<td>$30.65</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Middle School Teachers, Except Special and Career/Technical Education (25-2022)</td>
<td>3,982</td>
<td>7%</td>
<td>152</td>
<td>$31.32</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Mixing and Blending Machine Setters, Operators and Tenders (51-9023)</td>
<td>1,000</td>
<td>7%</td>
<td>38</td>
<td>$14.79</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Natural Sciences Managers (11-9121)</td>
<td>1,013</td>
<td>15%</td>
<td>54</td>
<td>$72.98</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Network and Computer Systems Administrators (15-1142)</td>
<td>3,713</td>
<td>8%</td>
<td>112</td>
<td>$38.76</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Nurse Practitioners (29-1171)</td>
<td>1,367</td>
<td>25%</td>
<td>105</td>
<td>$54.54</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Nursing Assistants (31-11014)</td>
<td>9,184</td>
<td>19%</td>
<td>574</td>
<td>$13.88</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Occupational Therapists (29-1122)</td>
<td>1,164</td>
<td>16%</td>
<td>63</td>
<td>$45.13</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Occupational Therapy Assistants (31-2011)</td>
<td>426</td>
<td>24%</td>
<td>35</td>
<td>$33.84</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Operations Research Analysts (15-2031)</td>
<td>1,044</td>
<td>18%</td>
<td>58</td>
<td>$40.91</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Opticians, Dispensing (29-2081)</td>
<td>792</td>
<td>17%</td>
<td>50</td>
<td>$20.86</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Paralegals and Legal Assistants (23-2011)</td>
<td>3,010</td>
<td>6%</td>
<td>104</td>
<td>$27.74</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Pest Control Workers (37-2021)</td>
<td>1,322</td>
<td>10%</td>
<td>63</td>
<td>$15.76</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Pharmacy Technicians (29-2052)</td>
<td>2,808</td>
<td>7%</td>
<td>71</td>
<td>$17.42</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Occupation Title (SOC)</td>
<td>2015 Jobs</td>
<td>5-year Growth</td>
<td>Annual Openings</td>
<td>Median Wage</td>
<td>Typical Entry Level Education</td>
</tr>
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</tr>
<tr>
<td>Phlebotomists (31-9097)</td>
<td>1,094</td>
<td>26%</td>
<td>84</td>
<td>$17.73</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Photographers (27-4021)</td>
<td>1,835</td>
<td>8%</td>
<td>79</td>
<td>$13.71</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Physical Therapist Assistants (31-2021)</td>
<td>621</td>
<td>28%</td>
<td>56</td>
<td>$31.70</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Physical Therapists (29-1123)</td>
<td>1,984</td>
<td>20%</td>
<td>141</td>
<td>$43.14</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Physician Assistants (29-1071)</td>
<td>1,277</td>
<td>22%</td>
<td>88</td>
<td>$50.73</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Physicians and Surgeons, All Other (29-1069)</td>
<td>3,375</td>
<td>13%</td>
<td>199</td>
<td>$100.36</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Plumbers, Pipefitters, and Steamfitters (47-2152)</td>
<td>4,709</td>
<td>13%</td>
<td>195</td>
<td>$24.87</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Police and Sheriff's Patrol Officers (33-3051)</td>
<td>6,173</td>
<td>5%</td>
<td>271</td>
<td>$36.54</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Postsecondary Teachers (25-1099)</td>
<td>18,571</td>
<td>13%</td>
<td>834</td>
<td>$34.61</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Production, Planning, and Expediting Clerks (43-5061)</td>
<td>3,809</td>
<td>5%</td>
<td>144</td>
<td>$22.28</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Protective Service Workers, All Other (33-9099)</td>
<td>1,331</td>
<td>7%</td>
<td>39</td>
<td>$17.39</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Public Relations and Fundraising Managers (11-2031)</td>
<td>594</td>
<td>8%</td>
<td>31</td>
<td>$55.15</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Public Relations Specialists (27-3031)</td>
<td>2,199</td>
<td>7%</td>
<td>57</td>
<td>$28.77</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Radiologic Technologists (29-2034)</td>
<td>1,496</td>
<td>15%</td>
<td>75</td>
<td>$33.40</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Receptionists and Information Clerks (43-4171)</td>
<td>8,511</td>
<td>13%</td>
<td>481</td>
<td>$14.72</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Registered Nurses (29-1141)</td>
<td>22,872</td>
<td>10%</td>
<td>1,067</td>
<td>$40.92</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Rehabilitation Counselors (21-1015)</td>
<td>1,346</td>
<td>7%</td>
<td>50</td>
<td>$13.89</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Residential Advisors (39-9041)</td>
<td>578</td>
<td>14%</td>
<td>36</td>
<td>$15.67</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Respiratory Therapists (29-1126)</td>
<td>1,368</td>
<td>8%</td>
<td>56</td>
<td>$35.18</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Sales Engineers (41-9031)</td>
<td>852</td>
<td>7%</td>
<td>35</td>
<td>$44.00</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)</td>
<td>10,383</td>
<td>7%</td>
<td>391</td>
<td>$24.70</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)</td>
<td>4,085</td>
<td>6%</td>
<td>143</td>
<td>$31.64</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Occupation Title (SOC)</td>
<td>2015 Jobs</td>
<td>5-year Growth</td>
<td>Annual Openings</td>
<td>Median Wage</td>
<td>Typical Entry Level Education</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>-----------------</td>
<td>-------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Secretaries and Administrative Assistants, Except Legal, Medical and Executive (43-6014)</td>
<td>22,238</td>
<td>6%</td>
<td>494</td>
<td>$18.28</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Security and Fire Alarm Systems Installers (49-2098)</td>
<td>887</td>
<td>7%</td>
<td>36</td>
<td>$21.81</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Self-Enrichment Education Teachers (25-3021)</td>
<td>5,231</td>
<td>12%</td>
<td>229</td>
<td>$19.41</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Sheet Metal Workers (47-2211)</td>
<td>2,390</td>
<td>8%</td>
<td>94</td>
<td>$26.24</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Social and Community Service Managers (11-9151)</td>
<td>1,421</td>
<td>9%</td>
<td>72</td>
<td>$30.58</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Social and Human Service Assistants (21-1093)</td>
<td>3,190</td>
<td>10%</td>
<td>134</td>
<td>$15.89</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Software Developers, Applications (15-1132)</td>
<td>10,050</td>
<td>9%</td>
<td>343</td>
<td>$48.57</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Software Developers, Systems Software (15-1133)</td>
<td>7,486</td>
<td>7%</td>
<td>211</td>
<td>$55.00</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Speech-Language Pathologists (29-1127)</td>
<td>1,090</td>
<td>17%</td>
<td>67</td>
<td>$40.21</td>
<td>Master's degree</td>
</tr>
<tr>
<td>Surgeons (29-1067)</td>
<td>770</td>
<td>14%</td>
<td>46</td>
<td>$94.08</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Teacher Assistants (25-9041)</td>
<td>9,686</td>
<td>7%</td>
<td>374</td>
<td>$13.74</td>
<td>Some college, no degree</td>
</tr>
<tr>
<td>Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022)</td>
<td>2,441</td>
<td>13%</td>
<td>87</td>
<td>$26.72</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Telecommunications Line Installers and Repairers (49-9052)</td>
<td>878</td>
<td>14%</td>
<td>42</td>
<td>$30.92</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Training and Development Specialists (13-1151)</td>
<td>2,335</td>
<td>7%</td>
<td>95</td>
<td>$30.90</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Veterinarians (29-1131)</td>
<td>866</td>
<td>16%</td>
<td>47</td>
<td>$46.39</td>
<td>Doctoral or professional degree</td>
</tr>
<tr>
<td>Veterinary Assistants and Laboratory Animal Caretakers (31-9096)</td>
<td>1,298</td>
<td>18%</td>
<td>77</td>
<td>$13.93</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Veterinary Technologists and Technicians (29-2056)</td>
<td>862</td>
<td>30%</td>
<td>63</td>
<td>$21.56</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Web Developers (15-1134)</td>
<td>2,397</td>
<td>12%</td>
<td>93</td>
<td>$30.05</td>
<td>Associate degree</td>
</tr>
</tbody>
</table>