Occupational Requirements Survey
Occupational Group Profiles

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Architecture and Engineering Occupations

This occupational group includes architects, surveyors, cartographers, engineers, drafters, engineering technicians, and mapping technicians.

Physical Requirements

Most (80.5 percent) architecture and engineering jobs require reaching at or below the shoulder with both hands. These jobs require lifting or carrying an average maximum weight of about 26 pounds. The median number of hours architecture and engineering workers spend sitting is 6 hours in a workday. Most (73.7 percent) workers are able to choose when they can sit versus stand.

Environmental Conditions

In architecture and engineering jobs, 13.4 percent require exposure to wetness. Working in a high and exposed place where a worker could be at risk of falling more than five feet from one’s center of gravity is a requirement for 20.5 percent of jobs. Almost one-third (27.9 percent) of workers are exposed to moving mechanical parts. The noise intensity at work sites is classified in levels from quiet to very loud. A moderate noise intensity level is present in 71.3 percent of jobs.

Cognitive Requirements

The work location for 57.4 percent of jobs rarely or never changes. Architecture and engineering workers require a frequency of contact with other contacts daily or less 81.3 percent of the time. Supervision for workers is classified as general instruction and review of broad work objectives in 40.2 percent of jobs.

Educational Requirements

Most (63.5 percent) jobs require a bachelor’s degree to fulfill a minimum education requirement. Most (78.5 percent) jobs also require prior work experience and the average time was over 4 years (1727 days). On-the-job training is a requirement for 59.6 percent of jobs and the average duration is about 77 days.

Selected requirements for architecture and engineering jobs, 2016

Source: Bureau of Labor Statistics

- Choice of sitting or standing and walking
- Wetness exposure
- Work location rarely or never changes
- Bachelor’s degree
Arts, Design, Entertainment, Sports, and Media Occupations

This occupational group includes art and design workers, entertainers and performers, sports and related workers, media and communication workers, and media and communication equipment workers.

Physical Requirements

Arts, design, entertainment, sports, and media workers spend an average of between 4 and 5 hours sitting throughout the workday. The decision of when to sit or stand is left up to workers in 52.1 percent of jobs. The category of strenuousness for 36.3 percent of jobs is medium work on a scale of strength levels that ranges from sedentary to very heavy. Gross manipulation with both hands is required in 88.4 percent of jobs.

Environmental Conditions

Exposure to wetness is required for 10.9 percent of these workers. Exposure to high exposed places where there is a risk of falling more than five feet from the worker’s center of gravity occurs in 9.8 percent of these jobs. The noise intensity at work sites is classified in levels from quiet to very loud. A moderate noise intensity level is present in 75.6 percent of jobs.

Cognitive Requirements

Interaction with regular contacts, considered those people with whom a worker has an established working relationship, can range from very unstructured to very structured. Structured interaction with regular contacts is required for 48.9 percent of jobs. Work location rarely or never changes in 68.1 percent of jobs. Work schedule rarely or never changes in 50.3 percent of jobs. Decision making of the type where workers assess the situation and possible outcomes is required in 41.1 percent of arts, design, entertainment, sports, and media jobs.

Educational Requirements

Many of these jobs (39.7 percent) require a minimum education of a bachelor’s degree. Another 32.5 percent of jobs require a high school diploma. On-the-job training is required for 63.2 percent of jobs and 70.5 percent require prior work experience.
Building and Grounds Cleaning and Maintenance Occupations

This occupational group includes janitors, maids and housekeeping cleaners, pest control, landscaping, pesticide handlers, tree trimmers, and grounds maintenance workers.

Physical Requirements

Overhead reaching with both hands is required for 72.7 percent of these jobs, and lifting or carrying an average maximum weight of almost 42 pounds is also required. Climbing work-related ramps or stairs is required in 47.8 percent of these jobs. Standing and walking is necessary in these jobs, and 91.3 percent do not allow the worker a choice for when they can sit versus stand. Workers in building and grounds cleaning and maintenance jobs stand or walk an average of about 6 hours.

Environmental Conditions

Exposure to wetness is a job requirement in 85.0 percent of building and grounds cleaning and maintenance occupations. The noise intensity at work sites is classified in levels from quiet to very loud. A quiet noise intensity level is present in 20.8 percent of jobs and a moderate one in 67.6 percent of jobs.

Cognitive Requirements

Interaction with regular contacts can range from very unstructured to very structured. Regular contacts are considered those people with whom a worker has an established working relationship. Structured interaction with regular contacts is required for 39.1 percent of jobs and about 20.9 percent of jobs require structured interaction with other contacts, those with whom the worker has no working relationship (for example, the public).

Educational Requirements

Most (68.5 percent) building and grounds cleaning and maintenance jobs do not have a minimum education requirement; although, about 29.3 percent require a high school diploma. On-the-job training is a requirement for 84.7 percent of jobs with an average training duration of almost 18 days.

Source: Bureau of Labor Statistics

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Business and Financial Operations Occupations

This occupational group includes business operations specialists such as purchasing agents, compliance officers, human resource workers, logisticians, fundraisers, and market research analysts. Financial specialists such as accountants, auditors, credit counselors, and tax examiners are also included in this occupational group.

Physical Requirements

Business and financial operations workers spend an average of a little over 6 hours sitting. Peripheral vision is required in 36.8 percent of positions. Reaching overhead with both hands is required of 22.0 percent of workers. The median maximum amount of weight lifted or carried for these jobs is 10 pounds. Gross manipulation with both hands is required in 75.4 percent of jobs.

Environmental Conditions

The noise intensity at work sites is classified in levels from quiet to very loud. A moderate noise intensity level is present in 72.9 percent of jobs. Another 25.8 percent of jobs have a quiet noise intensity level. Business and financial operations workers are exposed to the outdoors in 36.5 percent of jobs. Most workers are not exposed to heavy vibrations (100.0 percent), high and exposed places (99.1 percent), wetness (97.3 percent), or hazardous contaminants (98.9 percent).

Cognitive Requirements

Interaction with regular contacts can range from very unstructured to very structured. Regular contacts are considered those people with whom a worker has an established working relationship. Structured interaction with regular contacts is required in 40.7 percent of jobs. Work location rarely or never changes in 68.3 percent of jobs. Work schedule rarely or never changes in 59.0 percent of jobs. Decision making that includes assessing uncertain or conflicting situations is required in 50.5 percent of jobs.

Educational Requirements

Many of these jobs (69.4 percent) require a minimum education of a bachelor’s degree. On-the-job training is required for 64.1 percent of jobs and 83.3 percent require prior work experience. Where on-the-job-training is required, the average amount of training is about 63 days.
Community and Social Service Occupations

This occupational group includes marriage and family therapists, substance abuse and behavioral disorder counselors, marriage and family therapists, healthcare social workers, probation officers and correctional treatment specialists, community health workers, clergy, and directors of religious activities and education.

**Physical Requirements**

Overhead reaching with both hands is required for 41.3 percent of these jobs. Climbing ramps or stairs for the job is required in 36.6 percent of these jobs. Many workers, 70.7 percent, can choose when to sit or stand to perform their work. Workers in community and social service occupations spend an average of about 5 hours sitting.

**Environmental Conditions**

Exposure to the outdoors is a job requirement in 58.1 percent of community and social service jobs. The amount of noise that a worker experiences while working is referred to as the noise intensity level. The noise intensity at work sites is classified in levels from quiet to very loud. A moderate noise intensity level is experienced in 79.5 percent of jobs.

**Cognitive Requirements**

Interaction with regular contacts, considered those people with whom a worker has an established working relationship, can range from very unstructured to very structured. Structured interaction with regular contacts is required in 39.1 percent of jobs and unstructured interaction in 22.1 percent. About 41.8 percent of jobs require structured interaction with other contacts, those with whom the worker has no working relationship (for example, the public).

**Educational Requirements**

The minimum education requirement of a bachelor’s degree is present in 44.9 percent of community and social service jobs. An additional 19.2 percent require a high school diploma. On-the-job training is a requirement for 59.6 percent of jobs with an average training duration of about 39 days.

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Selected requirements in community and social service jobs, 2016

Source: Bureau of Labor Statistics
Computer and Mathematical Occupations

This occupational group includes computer and information analysts, software developers and programmers, database and systems administrators, computer support specialists, actuaries, mathematicians, statisticians, operations research analysts, and mathematical technicians.

Physical Requirements
On average, workers in computer and mathematical jobs spend almost 7 hours sitting throughout the workday. These jobs require lifting or carrying an average maximum weight of about 16 pounds. Reaching at or below the shoulder with both hands is required in 60.1 percent of jobs. Keyboarding is required in 100 percent of jobs.

Environmental Conditions
The noise intensity at work sites is classified in levels from quiet to very loud. A moderate noise intensity level was the most common (72.4 percent) noise exposure for these jobs. One hundred percent of these jobs do not expose workers to heavy vibrations or humidity.

Cognitive Requirements
Regular contacts are considered those people with whom a worker has an established working relationship. Other contacts include the public and those with whom the worker has no working relationship. Interaction with regular and other contacts ranges from very unstructured to very structured. Semi-structured interaction with regular contacts is required in 40.2 percent of jobs while structured interaction with other contacts is required in 39.4 percent of jobs.

Educational Requirements
The minimum education required for 66.2 percent of jobs is a bachelor’s degree. In 87.1 percent of jobs, prior work experience is required with the average amount being about 4 years (1,456 days).
Construction and Extraction Occupations

This occupational group includes carpenters; carpet, floor, and tile installers and finishers; laborers; equipment operators; electricians; roofers; elevator installers and repairers; earth drillers; and mining machine operators.

Physical Requirements

Work is classified by its level of strenuousness on a scale of strength levels from sedentary to very heavy work. Almost half (45.5 percent) of construction and extraction jobs are at the heavy strenuous work level and 13.4 percent are considered very heavy strenuous work level. These jobs require lifting or carrying an average maximum weight of about 66 pounds.

Environmental Conditions

Exposure to heavy vibrations is present in 42.8 percent of jobs and 49.6 percent of jobs are performed in environments with a loud noise intensity level. The noise intensity at work sites is classified in levels from quiet to very loud. Additionally, 95.1 percent of jobs require work outdoors.

Cognitive Requirements

Regular contacts are considered those people with whom a worker has an established working relationship and interaction with regular contacts ranges from very unstructured to very structured. Structured interaction with regular contacts is required for 57.4 percent in jobs and very structured interaction for 24.9 percent. The work location often changes for 44.8 percent of jobs.

Educational Requirements

Most (50.7 percent) construction and extraction jobs do not have a minimum education requirement. Of jobs without a minimum education requirement, 39.7 percent require literacy and 11.0 percent do not. A high school diploma is required in 46.5 percent of jobs. On-the-job training is a requirement for 60.7 percent of jobs and 54.6 percent require prior work experience with an average length of almost three years (1,052 days).
Education, Training, and Library Occupations

This occupational group includes postsecondary teachers, preschool, primary, secondary, and special education school teachers, librarians, teacher assistants, instructional coordinators, audio-visual and multimedia collections specialists, curators, and archivists.

**Physical Requirements**

Only 7.7 percent of these jobs are not required to perform work using traditional keyboarding. These jobs also require lifting or carrying an average maximum weight of about 27 pounds. Climbing ramps or structure-related stairs is required in 58.6 of these jobs. On average, workers in education, training, and library jobs spend a little over 2 hours sitting throughout the workday.

**Environmental Conditions**

The noise intensity at work sites is classified in levels from quiet to very loud. Most jobs (88.6 percent) have a moderate noise intensity level. Exposure to wetness occurs in 35.1 percent of jobs and exposure to the outdoors occurs in 64.2 percent of jobs.

**Cognitive Requirements**

The share of workers in these occupations that must interact with other contacts, those with whom the worker has no working relationship (for example, the public), on a daily basis or less is 83.5 percent. Just 7.5 percent of workers in these occupations interact with other contacts hourly or semi-hourly. A moderate pace of work occurs in 62.2 percent of jobs. Only 2.8 percent of jobs have a slow pace of work.

**Educational Requirements**

The most common (58.5 percent) educational requirement for education, training and library jobs is a bachelor’s degree. Prior work experience is required for percent of jobs with an average of slightly over 2 and a half years (951 days) of prior work experience. On-the-job training is required for 49.4 percent of jobs with an average of slightly more than 1 month (36 days) of on-the-job training.
Food Preparation and Serving Related Occupations

This occupational group includes cooks, bartenders, waiters and waitresses, food servers, dishwashers, cooks, hosts and hostesses, and food preparation workers.

Physical Requirements

Standing and walking is a necessary component of these jobs, and for almost all (97.3 percent) the worker is not able to choose when they can sit versus stand. The mean number of hours a food preparation and serving related worker spends sitting is less than a half hour throughout the workday. The strenuousness of work is classified into strength levels ranging from sedentary to very heavy and most (67.2 percent) of these jobs are classified at a medium work level.

Environmental Conditions

Food preparation and serving related occupations are exposed to extreme cold in 42.3 percent of jobs and extreme heat in 35.4 percent of jobs. Most jobs, 59.3 percent, do not require worker exposure to the outdoors. Exposure to wetness is required in 98.4 percent of jobs. The noise intensity at work sites is classified in levels from quiet to very loud. A moderate noise intensity level is present in most jobs (82.1 percent).

Cognitive Requirements

The work tasks rarely or never change in 77.3 percent of food preparation and serving worker jobs. For 2.8 percent of these jobs, worker adaptability is necessary as the work tasks change often. Very structured interaction with other contacts, defined as those with whom the worker has no working relationship (for example, the public), is required in 56.2 percent of jobs. Workers have ongoing interaction with other contacts in 39.2 percent of jobs.

Educational Requirements

For 81.1 percent of food preparation and serving workers jobs there is no requirement for workers to hold an educational degree or diploma. However, literacy is required for 73.7 percent and not required for 7.4 percent of jobs that do not have a minimum education requirement.
Healthcare Practitioners and Technical Occupations

This occupational group includes chiropractors, dentists, pharmacists, physicians and surgeons, health diagnosing and treating practitioners, therapists, veterinarians, registered nurses, health technologists and technicians, and occupational health and safety specialists.

Physical Requirements
On average, healthcare practitioners and technical jobs require workers to stand a little more than 5 hours throughout the workday. Overhead reaching with both hands occurs in 68.2 percent of jobs and workers lift or carry an average maximum weight of about 44 pounds.

Environmental Conditions
Exposure to wetness occurs in 84.7 percent of jobs and 23.3 percent have exposure to the outdoors. The noise intensity at work sites is classified in levels from quiet to very loud. Most (85.0 percent) jobs have moderate noise intensity levels.

Cognitive Requirements

Interaction with regular contacts, those people with whom a worker has an established working relationship, can range from very unstructured to very structured. Structured interaction with regular contacts is required in 50.7 percent of jobs and 34.5 percent require semi-structured interaction. Most (54.4 percent) healthcare practitioners and technical jobs have work schedules that rarely or never change. In 42.9 percent of jobs the type of required decision making is assessing situations and possible outcomes.

Educational Requirements
A high school diploma is required for 23.6 percent of jobs. Pre-employment training is required for 64.7 percent of jobs with an average duration of approximately 4 months (137 days). Prior work experience is required for 43.2 percent of jobs, with an average of almost 2 years (680 days).
Healthcare Support Occupations

This occupational group includes nursing, psychiatric, and home health aides; occupational therapy and physical therapist assistants and aides; dental, medical, and veterinary assistants; phlebotomists; and medical transcriptionists.

Physical Requirements
On average, workers in healthcare support jobs spend 73.4 percent of the workday standing or walking and 26.6 percent of the workday sitting. These jobs require lifting or carrying an average maximum weight of about 45 pounds. The strenuousness of work is classified into five strength levels ranging from sedentary to very heavy and 48.1 percent of jobs are classified as medium strenuous work. Light work occurs in 23.3 percent of jobs and heavy work in 21.9 percent.

Environmental Conditions
In most (81.3 percent) healthcare support jobs, workers are not exposed to hazardous contaminants and 4.6 percent of these jobs fully mitigate hazardous contaminants through the use of personal protective equipment. About 18.6 percent of jobs provide workers with personal protective equipment to mitigate exposure to hazardous contaminants in the workplace.

Cognitive Requirements
Regular contacts are considered those people with whom a worker has an established working relationship. Other contacts include the public and those with whom the worker has no working relationship. Interaction with regular and other contacts ranges from very unstructured to very structured. Structured interaction with regular contacts is required in 66.6 percent of jobs while other contacts is split largely between very structured (43.4 percent) and structured (42.4 percent).

Educational Requirements
The minimum education required for 74.6 percent of jobs is a high school diploma. Where required, these jobs also require about 3 months (93 days) of pre-employment training, about 1 year (375 days) of prior work experience, and about 1 month (28 days) of on-the-job training.
Installation, Maintenance, and Repair Occupations

This occupational group includes electrical and electronic equipment mechanics, installers, and repairers, vehicle and mobile equipment mechanics, installers, and repairers, and other installation, maintenance, and repair occupations.

Physical Requirements

Workers in installation, maintenance, and repair jobs spend an average of about 2 hours sitting. Fine manipulation with both hands is required in 85.0 percent of jobs. Gross manipulation with both hands is required in 99.5 percent of jobs. Overhead reaching is required in 93.4 percent of jobs. The average maximum amount of weight lifted or carried for these jobs is about 65 pounds.

Environmental Conditions

Exposure to extreme cold occurs in 10.4 percent of installation, maintenance, and repair jobs. Exposure to extreme heat occurs for 16.3 percent of jobs. Exposure to hazardous contaminants occurs in 44.1 percent of these jobs and heavy vibrations in 18.9 percent. A majority (87.3 percent) of jobs expose workers to the outdoors.

Cognitive Requirements

Interaction with regular contacts, considered those people with whom a worker has an established working relationship, can range from very unstructured to very structured. Structured interaction with regular contacts is required for 71.1 percent of jobs. Work location and work schedule rarely or never change in 54.3 percent and 47.2 percent of jobs, respectively. The type of decision making required in this job most often is assessing situations and possible outcomes at 56.4 percent.

Educational Requirements

Many of these jobs (65.8 percent) require a minimum education requirement of a high school diploma. Another 22.2 percent of jobs have no minimum education requirement. Of installation, maintenance, and repair jobs, 66.8 percent require prior work experience with the median amount of it being about 2 years (730 days).
Legal Occupations

This occupational group includes lawyers; judges; and legal support workers, such as paralegals and assistants, court reporters, title examiners, abstractors, and searchers.

Physical Requirements

On average, workers in legal jobs spend 77.5 percent of the workday sitting and 22.5 percent of the workday standing or walking. These jobs also require lifting or carrying an average maximum weight of about 19 pounds. Far visual acuity is required for 68.7 percent of jobs.

Environmental Conditions

The noise intensity at work sites is classified in levels from quiet to very loud. Most jobs (64.5 percent) have a moderate noise intensity level and 35.5 percent have a quiet noise intensity level. A little over half (51.6 percent) of jobs require outdoor work.

Cognitive Requirements

Interaction with regular contacts can range from very unstructured to very structured. Interaction with regular contacts is split between structured (25.8 percent), semi-structured (27.2 percent), and unstructured (25.5 percent). In most (63.9 percent) jobs the work is work-driven as opposed to worker-driven. A pace of work as fast is present in 39.3 percent of jobs.

Educational Requirements

The minimum education required for legal occupations is a professional degree in 50.0 percent of jobs. Pre-employment training is required in 58.4 percent of jobs. Prior work experience is required for 65.5 percent of jobs with an average of 4 years (1,457 days).

Source: Bureau of Labor Statistics
Life, Physical, and Social Science Occupations

Life scientist occupations such as agricultural, food, biological, and medical scientists; physical scientists such as astronomers, physicists, chemists, and hydrologists; social scientists such as economists, psychologists, sociologists, and historians; and life, physical, and social science technicians are included in this occupational group.

Physical Requirements

In 57.7 percent of jobs, workers are able to choose when to sit or stand. Fine manipulation with both hands is required in 58.6 percent of these jobs. Crouching is required in 61.7 percent and pushing or pulling with hands and arms occurs in 32.5 percent of these jobs.

Environmental Conditions

Many (49.5 percent) life, physical, and social science jobs expose workers to hazardous contaminants. Some (10.3 percent) jobs fully mitigate the exposure from hazardous contaminants. Exposure to the outdoors is a requirement for 52.7 percent of these jobs. Exposure to wetness occurs in 56.4 percent of these jobs. A proximity to moving mechanical parts occurs in 21.1 percent of jobs. Most jobs do not expose workers to extreme cold (91.9 percent) or extreme heat (84.8 percent).

Cognitive Requirements

Regular contacts are considered those people with whom a worker has an established working relationship and interaction with regular contacts ranges from very unstructured to very structured. Structured interaction with regular contacts is required for 45.5 percent of jobs. Work location rarely or never changes in 62.1 percent of jobs. The type of decision making required in this job most often is assessing uncertain or conflicting situations at 50.9 percent.

Educational Requirements

For 44.1 percent of jobs a bachelor’s degree is the minimum education requirement. Another 21.3 percent of jobs have a master’s degree as a minimum requirement. Of life, physical, and social science jobs, 69.8 percent require prior work experience with an average span of about 3 years (1,159 days).
Management Occupations

This occupational group includes chief executives; general and operations managers; advertising and promotions managers; construction, administrative services, financial, industrial production, transportation, storage, distribution, compensation and benefits, human resources, training, and development managers; and education administrators.

Physical Requirements

The level of strenuousness of work is classified on a scale of strength levels ranging from sedentary to very heavy work. The percentage of jobs classified as sedentary is 27.5 percent, light work is 36.9 percent, and medium work is 31.7 percent.

Environmental Conditions

The noise intensity at work sites is classified in levels from quiet to very loud. Most (73.5 percent) management jobs occur in moderate noise intensity environments and 19.2 percent are in the quiet noise intensity level.

Cognitive Requirements

Regular contacts are considered those people with whom a worker has an established working relationship and interaction with regular contacts ranges from very unstructured to very structured. Interaction with regular contacts is structured in 24.4 percent of jobs, semi-structured interaction occurs in 35.8 percent, and 29.6 percent of jobs have unstructured interaction with regular contacts.

Education Requirements

Most (59.6 percent) management jobs have a bachelor’s degree minimum education requirement and 11.5 percent require a master’s degree. Prior work experience is required for 94.6 percent of jobs, and the length of prior work experience required is on average greater than 5 years (1951 days).
Office and Administrative Support Occupations

This occupational group includes communications equipment and computer operators, information and record clerks, secretaries and administrative assistants, data entry and information processing workers, and desktop publishers.

Physical Requirements

The median amount of time workers in office and administrative support jobs spend sitting is 6 hours. Deciding when to sit or stand is left up to workers in 61.4 percent of jobs. The strenuousness of work is classified into strength levels ranging from sedentary to very heavy; 33.5 percent of these jobs are considered light work, one level above sedentary. Fine manipulation with both hands is required in 48.9 percent of jobs.

Environmental Conditions

Exposure to hazardous contaminants is a requirement in 1.2 percent of jobs. A small percentage (2.4 percent) of jobs require work in high and exposed places. In 5.0 percent of jobs, work is performed with workers in proximity to moving mechanical parts. On a scale from quiet to very loud, a moderate noise intensity level is present in 79.3 percent of jobs.

Cognitive Requirements

Interaction with regular contacts can range from very unstructured to very structured. Regular contacts are considered those people with whom a worker has an established working relationship. Structured interaction with regular contacts is required in 63.3 percent of jobs. Work location and work schedule rarely or never change for 92.2 percent and 70.0 percent of jobs, respectively. Decision making where workers make straightforward decisions from a set of choices, is present in 54.0 percent of office and administrative support jobs.

Educational Requirements

Most (73.2 percent) office and administrative support jobs have a minimum education requirement of a high school diploma. Most (94.9 percent) of these jobs do not require pre-employment training; although, 78.8 require on-the-job training. On average, 54.1 percent of jobs require almost 2 years (659 days) of prior work experience.
Personal Care and Service Occupations

This occupational group includes animal care and service workers, entertainment attendants, funeral service workers, personal appearance workers, baggage portages, bellhops, and concierges, tour and travel guides, childcare workers, personal care aides, recreation and fitness workers, and residential advisors.

Physical Requirements

The strenuousness of work is classified into strength levels ranging from sedentary to very heavy work and 49.7 percent of jobs are classified as medium work, 29.0 percent as light work, and 16.9 percent as heavy work. Workers may lift or carry an average maximum weight of about 39 pounds.

Environmental Conditions

Exposure to the outdoors is present in 73.9 percent of jobs. The noise intensity of work environments is classified on a scale ranging from quiet to very loud. A moderate noise intensity level is present in 72.5 percent of jobs, a quiet noise intensity level is present in 10.5 percent of jobs, and a loud noise intensity level is present in 17.1 percent of jobs.

Cognitive Requirements

Interaction with regular contacts can range from very unstructured to very structured. Structured interaction with regular contacts is required for 51.2 percent of jobs, 25.1 percent have semi-structured interaction, and 19.4 percent have very structured interaction requirements. Work location and work schedule rarely or never change in 59.8 percent and 38.3 percent of jobs, respectively.

Educational Requirements

About 63 percent of jobs require a high school diploma. On-the-job training is required for 82.8 percent of jobs and 34.6 percent require prior work experience. Where on-the-job training is required, the average amount of training is 19 days.
Production Occupations

This occupational group includes assemblers and fabricators; food processing workers; metal and plastic workers; printing workers; textile, apparel, and furnishing workers; woodworkers; and plant and systems operators.

Physical Requirements

On average, workers in production jobs spend 83.2 percent of the workday standing or walking and 16.8 percent of the workday sitting. Workers are required to lift or carry an average maximum weight of about 45 pounds. The strenuousness of work is classified into strength levels ranging from sedentary to very heavy work. Twelve percent of jobs are classified as light work, 63.2 percent as medium work, and 17.2 percent as heavy work.

Environmental Conditions

Exposure to extreme cold is a requirement in 7.9 percent of jobs and exposure to extreme heat is required in 18.6 percent of jobs. Most (71.3 percent) jobs do not expose workers to hazardous contaminants.

Cognitive Requirements

Regular contacts are considered those people with whom a worker has an established working relationship. Other contacts include the public and those with whom the worker has no working relationship. Interaction with regular contacts ranges from very unstructured to very structured, and 33.5 percent of jobs require very structured interaction, 58.0 percent require structured interaction, and 6.4 percent jobs have semi-structured interaction. Very structured interaction for other contacts is required in 50.6 percent of jobs.

Educational Requirements

The minimum education requirement is a high school diploma in 55.4 percent of jobs. Most jobs (92.5 percent) do not require pre-employment training; although for those jobs requiring pre-employment training the average duration is about two-thirds of a year (227 days). In 42.8 percent of jobs, prior work experience is required and is on average over 2 years (779 days). On average, 83.1 percent of jobs require on-the-job training with a duration of about 2 months (59 days).
Protective Service Occupations
This occupational group includes workers engaged in firefighting and fire prevention, law enforcement, and animal control, as well as private detectives and investigators, security guards, lifeguards, transportation security screeners, and crossing guards.

Physical Requirements
Overhead reaching is required for 79.8 percent of protective service jobs. These jobs also require lifting or carrying an average maximum weight of about 74 pounds. Climbing ramps or stairs (work-related) is required in 70.0 percent of jobs. In most (85.5 percent) jobs the worker is not able to choose when they can sit versus stand.

Environmental Conditions
Exposure to extreme cold is a requirement for 8.9 percent of protective service jobs, while 20.7 percent of these jobs require exposure to extreme heat. Exposure to hazardous contaminants is a requirement for 33.0 percent of jobs.

Cognitive Requirements
Interaction with regular contacts ranges from very unstructured to very structured. Structured interaction with regular contacts is required for 47.7 percent of jobs and unstructured interaction is required for 15.5 percent of jobs. Twenty percent of protective service jobs require very structured interaction with regular contacts. About 23.5 percent of jobs require very structured interaction with other contacts, those with whom the worker has no working relationship (for example, the public).

Educational Requirements
A high school diploma was the most common (75.2 percent) educational requirement for protective service jobs. Of those jobs that required it, about 3 months (72 days) of pre-employment training and on average over two years (849 days) of prior work experience are required for these jobs. For protective service jobs that require on-the-job training, slightly over 2 months (64 days) of training is required.
Sales and Related Occupations

This occupational group includes cashiers; retail salespersons; advertising, insurance, securities, commodities, and financial sales agents; travel agents; wholesale and manufacturing sales representatives; models, demonstrators and product promoters; real estate brokers and sales agents; sales engineers; and telemarketers.

Physical Requirements
Most (58.4 percent) sales and related jobs are classified as a medium strenuousness work level, on a scale of strength levels ranging from sedentary to very heavy. Workers in these jobs stand or walk almost 5 hours throughout the workday.

Environmental Conditions
Most (57.9 percent) of these jobs do not expose workers to the outdoors. These jobs typically (91.6 percent) have a moderate noise intensity level, the levels range from quiet to very loud. A quiet noise intensity level is present in 6.2 percent of jobs.

Cognitive Requirements
Regular contacts are considered those people with whom a worker has an established working relationship and interaction with regular contacts ranges from very unstructured to very structured. Structured interaction with regular contacts is required in 46.8 percent of jobs and 25.3 percent require very structured interaction.

Educational Requirements
About 46.7 percent of sales and related jobs do not have a minimum education requirement. Of these, 46.2 percent require literacy. Another 42.8 percent require at least a high school diploma. Most (88.3 percent) jobs require on-the-job training with an average duration of slightly less than 1 month (23 days). Prior work experience is required in 39.1 percent of jobs.
Transportation and Material Moving Occupations

This occupational group includes airline pilots, flight engineers, air traffic controllers, bus and taxi drivers, chauffeurs, locomotive engineers, railroad conductors, sailors, marine oilers, ship and boat captains, industrial truck and tractor operators, hoist and winch operators, refuse and recyclable material collectors.

Physical Requirements

Overhead reaching with both hands is required in 62.6 percent of transportation and material moving jobs. These jobs also require lifting or carrying an average maximum weight of about 52 pounds. The median number of hours transportation and material moving workers spend sitting is a little more than 2 hours in a workday.

Environmental Conditions

Exposure to hazardous contaminants is a requirement in 20.0 percent of transportation and material moving jobs. About 12.1 percent of jobs require workers to wear personal protective equipment and 4.4 percent of jobs provide workers with equipment to fully mitigate exposure to hazardous contaminants. Most (72.9 percent) transportation and material moving jobs have a requirement to work outdoors. High and exposed places, or being at risk of falling more than five feet from the worker’s center of gravity, is a requirement for 19.5 percent of transportation and material moving jobs. Forty-one percent of jobs require workers to perform in proximity to moving mechanical parts. On a scale from quiet to very loud, a moderate noise intensity level is present in 67.4 percent of jobs.

Cognitive Requirements

The work location rarely or never changes in 55.8 percent of jobs, while it always changes in 13.3 percent of jobs. Interaction with regular contacts can range from very unstructured to very structured. Regular contacts are considered those people with whom a worker has an established working relationship. Structured interaction with regular contacts is required for 51.3 percent of jobs.

Educational Requirements

Most (57.1 percent) jobs do not have a minimum education requirement. About 35.4 percent of these jobs require, on average, about a year and a half (521 days) of prior work experience.
Data in this release are from the Occupational Requirements Survey (ORS), conducted by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). The ORS provides job-related information about the physical demands, environmental conditions, education and training, and mental requirements of jobs in the U.S. economy. This release contains 2016 estimates on occupational requirements for jobs within the U.S. economy for all civilian workers. Excluded are the federal government, the military, agricultural workers, private household workers, and the self-employed.

Sample size
The annual estimates displayed herein are from a single sample of data collected from the Occupational Requirements Survey. The ORS is an establishment-based survey and uses a national sample design. To maximize the amount of publishable information, the BLS is combining data across three annual ORS samples. The number of publishable occupations and the level of occupational detail is expected to increase with the addition of each subsequent year’s sample until the full ORS sample size of up to 30,000 sampled establishments is reached.

Data for the 2016 reference period were collected from 5,800 private industry and 600 state and local government establishments. The ORS estimates represent 136,700,000 civilian workers in the United States.

Measures of reliability
To assist users in ascertaining the reliability of ORS estimates, standard errors are available for each estimate. For more information on standard errors see: www.bls.gov/ors/se.htm.

Occupational classification
BLS uses the Standard Occupational Classification (SOC) system, www.bls.gov/soc. The ORS classifies occupations by eight-digit codes used by O*NET’s detailed occupational taxonomy referred to as “O*NET-SOC 2010 Occupations,” see www.onetcenter.org/taxonomy.html for more information regarding O*Net occupation classification. Military specific occupations (55-0000.00) are out of scope for the ORS. The occupational groups in this publication reflect the 2-digit aggregation of occupations as defined using the 2010 SOC, see www.bls.gov/soc/major_groups.htm

Obtaining information
For research papers on the ORS and testing activities please see information listed at www.bls.gov/ors.

Definitions of major terms
The glossary below contains some major terms used in ORS. The complete list of terms is available within the ORS collection manual, see www.bls.gov/ncs/ors/occupational_requirements_survey_collection_manual_092015.pdf

Job - group of workers in an establishment that have the same position. The term job refers to a single position within an establishment, whereas occupation refers to a profession or trade. Example: “waiters at Smith’s Restaurant” is a job, whereas “waiters” is an occupation.

Civilian workers – includes private industry and state and local government workers. Excluded are the federal government, the military, agricultural workers, private household workers, and the self-employed.

Duration levels:
- Seldom – up to 2 percent of the day
- Occasionally – from 2 percent up to 1/3 of the day
- Frequently – from 1/3 up to 2/3 of the day
- Constantly – from 2/3 or more of the day
Physical requirements

Carrying – transporting an object, usually by holding it in the hands, arms, or on the shoulders

Fine manipulation – touching, picking, pinching, or otherwise working primarily with fingers rather than with the whole hand or arm

Gross manipulation – seizing, holding, grasping, turning, or otherwise working with the hands; and also often present when lifting involves the hands

Lifting – raising or lowering an object from one level to another, also includes upward pulling

Sitting and standing or walking at will – occurs when three conditions exist (1) workers have flexibility to choose between sitting and standing or walking throughout the day, (2) there is no assigned time during the day to sit and stand or walk, (3) no external factors determine whether an employee must sit and stand or walk

Strenuousness of work – is classified into strength five levels: sedentary, light, medium, heavy, and very heavy

Environmental conditions

Extreme cold – 40 degrees or below when exposed 2/3 or more of the time or 32 degrees or below when exposed up to 2/3 of the time

Extreme heat – above 90 degrees in a dry environment or above 85 degrees in a humid environment

Hazardous contaminants – exposure that negatively affects the respiratory system, eyes, skin, or other living tissue via inhalation, ingestion, or contact

Noise intensity level – amount of noise that a worker experiences while working

Examples of noise level – (1) Quiet: settings such as a private office or art museum; (2) Moderate: business office, department store, fast food restaurant; (3) Loud: large earth moving equipment or can manufacturing department; (4) Very loud: rock concert or jackhammer work

Outdoors – is considered present when two conditions exist, (1) a worker performs typical job duties outdoors or a worker moves between different work sites during the workday and (2) a worker is unprotected and exposed to the elements

Personal protective equipment (PPE) – gear used or worn to minimize exposure to serious workplace injuries and illnesses

Proximity to moving mechanical parts – must present a risk of bodily injury

Cognitive requirements

Other contacts – include the public and those with whom the worker has no working relationship

Regular contacts – those people with whom a worker has an established working relationship

Frequency of contact – the highest frequency of work-related verbal contact that a worker has with regular and other contacts

Ongoing – every few minutes

Several times an hour – more than once per hour

Hourly or Semi-hourly – more than once per day

Daily or Less – no more than once per day, includes never

Education requirements

Minimum education – the lowest level of formal coursework required in a job and excludes general education, see the Education Requirements fact sheet for more information.