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# Jobs for Which You Can Qualify If You're Not a High School Graduate

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# Jobs for Which You Can Qualify If You're Not a High School Graduate

Are you worried about your chances of finding a job because you don't have a high school diploma? While graduation from high school has become almost standard in recent years, practical experience and personal qualities are more important for many jobs than formal education. And if you're willing to get some additional training—through an apprenticeship program for example—you can learn a skill that can provide relatively high earnings.

This pamphlet contains a list of occupations—selected from the 1980-81 *Occupational Outlook Handbook* of the Bureau of Labor Statistics—for which a high school diploma is not required. It highlights the job qualifications for each. Included are occupations such as welder, mail carrier, retail trade sales worker, drywall installer, and social service aide. You should recognize, however, that employers strongly prefer to hire graduates for some of the occupations in this pamphlet, and that a diploma may be required for advancement or entry into a training program.

These summaries cannot provide all the information you need, however. Information has been omitted on special talents, aptitudes, or interests a job may require. So too are details on the content of training programs. For more information about an occupation, look in the *Occupational Outlook Handbook*. It describes the nature of the work, working conditions, places of employment, job qualifications and advancement prospects, employment outlook, and earnings for hundreds of occupations. It also lists related occupations and other helpful sources of career information.

The *Handbook* is available in offices of school guidance counselors and employment counselors and in school and public libraries. Or it may be purchased for \$8 by check or money order from the nearest regional office of the Bureau of Labor Statistics. A list of offices and their addresses appears at the back of this pamphlet.

Reprints from the *Handbook* also are available, each containing information about several related occupations. At the end of this pamphlet is a list of reprints along with an order form that includes information on prices.

This pamphlet is one in a series of five prepared by

the Bureau of Labor Statistics. Each pamphlet discusses a group of occupations for which a particular educational or training background is applicable. The other titles in the series are: *Jobs for Which You Can Train Through Apprenticeship*; *Jobs for Which You Can Qualify If You're a High School Graduate*; *Jobs for Which You Probably Will Need Some College or Specialized Training*; and *Jobs for Which You Probably Will Need a College Education*.

## Industrial Production and Related Occupations

### Foundry Occupations

*Molders.* Completion of a 4-year apprenticeship is the recommended way to learn skilled hand molding. Workers who have this training also are preferred for some kinds of machine molding. Less skilled hand molding jobs can be learned on the job in 2 to 6 months. An eighth grade education usually is the minimum requirement for apprenticeship; however, many employers prefer high school graduates.

*Coremakers.* Completion of a 4-year apprenticeship is the recommended way to learn skilled hand coremaking. Workers with this training also are preferred for the more difficult machine coremaking jobs. Although the minimum requirement for apprenticeships is an eighth grade education, most employers prefer high school graduates. Inexperienced workers may learn less skilled coremaking on the job.

### Machining Occupations

*Machine tool operators.* These workers are classified as either semiskilled or skilled operators. Most are trained on the job. Semiskilled operators may learn their trade in just a few months, but skilled operators often require 1 to 2 years. Some companies have formal training programs for new employees.

### Other Industrial Production and Related Occupations

*Assemblers.* Training varies according to the level of skill required. Most inexperienced persons can be

trained on the job in a few days or weeks, but, for some types of complicated assembly work, training lasts much longer.

*Automobile painters.* Most of these workers acquire their skills by working for 3 to 4 years with experienced painters. A small number learn through a 3-year apprenticeship.

*Blacksmiths.* Many blacksmiths are trained by working as helpers in blacksmith shops or industrial firms that employ blacksmiths. Some enter through 3- or 4-year apprenticeship programs. Blacksmiths who shoe horses are called farriers. Most farriers learn their craft by assisting experienced workers. Others take a 3- or 4-week course in horseshoeing before gaining experience on their own or as a farrier's assistant. These courses are taught in several colleges, as well as at private horseshoeing schools. At least 3 to 5 years of special training or experience are needed to learn to shoe racehorses. Farriers who wish to work at racetracks must pass a licensing examination.

*Boilermaking occupations.* This group includes layout workers, fitters, and boilermakers. Most layout workers and fitters are hired as helpers and learn the craft by working with experienced employees for at least 2 years. Many boilermakers also learn their trade on the

job, although most training authorities recommend a 4-year apprenticeship. For all three occupations, employers prefer high school or vocational school graduates.

*Boiler tenders.* Most learn their skills by working as helpers in boiler rooms. Some large cities and a few States require boiler tenders to be licensed. Applicants for a license must pass a written test.

*Electroplaters.* Most learn their trade on the job as helpers to experienced workers, but some learn through 3- or 4-year apprenticeship programs. Applicants for apprenticeships usually must be high school graduates. A few take 1- or 2-year courses in electroplating at junior colleges, technical institutes, and vocational schools.

*Forge shop occupations.* Most workers learn these trades on the job. Generally, they start as helpers or heaters on hammer or press crews. Workers advance to more skilled occupations as they gain experience and as openings occur. Some forge shops offer 4-year apprenticeship programs for skilled jobs, such as die sinker and heat treater. High school graduation may be preferred for more skilled occupations.

*Inspectors (manufacturing).* Inspectors generally learn their skills on the job. Depending on the skill required, training may last from a few hours to several months. Some employers hire applicants who do not have a high school diploma but who have related experience.

*Millwrights.* Generally, these workers start as helpers and rotate from job to job for 6 to 8 years to acquire the necessary skills. Millwrights also are trained through 4-year apprenticeship programs.

*Motion picture projectionists.* Most motion picture theaters in urban areas are unionized and projectionists in these theaters must meet union membership requirements. Some union locals accept only persons who have experience running theater projectors. Other locals conduct training programs for inexperienced persons. In these programs, trainees work with a variety of projection equipment under the supervision of experienced projectionists and may take courses in basic electronics and mechanics. In a nonunion theater, a trainee may start as an usher or helper and learn the trade by working with an experienced projectionist. A high school diploma is preferred by employers and may be required by union locals. Experience acquired while serving in the Armed Forces is helpful. Local governments may require projectionists to be licensed.

*Photographic laboratory occupations.* Most photographic laboratory workers learn their skills through



on-the-job training. Employers generally prefer high school graduates. Applicants who specialize in a particular laboratory procedure are in training from a few weeks to several months. All-round technicians learn their trade in about 3 years.

*Power truck operators.* Newly hired operators usually are trained on the job. Most workers can learn how to operate a power truck in just a few days, but it may take several weeks to learn the physical layout and operation of a plant and the most efficient way of handling the materials to be moved. Some power truck manufacturers conduct short training courses for operators employed by their customers.

*Production painters.* New workers usually learn their skills on the job by helping experienced painters. Training may vary from a few days to several months.

*Stationary engineers.* Many start as helpers or oilers and acquire their skills informally during many years on the job. Technical or other training in vocational schools or home study can supplement this experience. A good background also can be obtained in the Navy or Merchant Marine. Most training authorities, however, recommend completion of a 4-year apprenticeship. Employers prefer to hire high school graduates. Many States and larger cities require stationary engineers to be licensed. Generally a stationary engineer may qualify for one of several classes of licenses—each specifying the steam pressure or horsepower of the equipment the engineer may operate. A high school diploma may be required for higher class licenses.

*Welders.* Training varies for the several levels of skill within this occupation. Less skilled jobs can be learned on the job in a few months, but a skilled welder generally needs several years of training and experience. Many large companies train their own welders. Many employers prefer to hire applicants who have high school or vocational training in welding for entry to skilled jobs. A few companies have apprenticeship programs. An employer or government agency may require welders to pass a qualifying examination for work where the strength of the weld is highly critical.

## Office Occupations

### Clerical Occupations

*Cashiers.* Many cashiers are trained on the job. In large firms, training often includes classroom instruction in the use of electronic or computerized cash registers and other phases of the job. Cashier training also is available in many public school vocational programs.

*File clerks.* Newly hired workers usually receive several weeks or months of on-the-job training. A high school diploma generally is required. Most employers seek applicants who can type and have some knowledge of office practices which can be learned in high schools, vocational schools, private business schools, and community and junior colleges. In addition, many States and localities sponsor programs that provide training in basic clerical skills.

*Postal clerks.* Applicants must be at least 18 except for high school graduates, who must be at least 16. Applicants must pass an examination for clerical accuracy and the ability to read, do simple arithmetic, and memorize mail sorting systems. Applicants also must pass a physical examination and may have to show that they can handle mail sacks weighing up to 70 pounds. These workers are trained primarily on the job.

*Shipping and receiving clerks.* High school graduates are preferred for beginning jobs. Newly hired workers are trained on the job.

*Stock clerks.* There are no specific educational requirements for beginning stock clerks, although employers prefer to hire high school graduates. Newly hired workers learn their skills on the job. Basic duties usually are learned in a few weeks. Stock clerks who handle jewelry, liquor, or drugs must be bonded (which requires good character references).

### Banking Occupations

*Bank tellers.* These workers learn their skills on the job. Training may last from a few days to 3 weeks or longer. Generally, banks prefer to hire high school graduates who have some experience in office work.

## Service Occupations

### Cleaning and Related Occupations

*Building custodians.* Most building custodians are trained on the job. Training in custodial skills is available through government training programs and labor unions.

*Hotel housekeepers and assistants.* Employers prefer to hire high school graduates. Experience or training in hotel housekeeping also is helpful in getting a job. Several colleges, junior colleges, and technical institutes have programs in hotel administration that include courses in housekeeping. The Educational Institute of the American Hotel and Motel Association offers courses for either classroom or home study.

*Pest controllers.* Most begin as helpers to experienced pest controllers and can do routine pest control work



after 2 or 3 months of on-the-job training. Employers generally prefer to hire high school graduates who are licensed to drive.

### **Food Service Occupations**

***Bartenders.*** Most bartenders learn their trade on the job. Experience as a bartender's helper, dining room attendant, waiter, or waitress is good training. Some schools offer short courses in bartending. Generally, bartenders must be at least 21 years old; some employers prefer persons who are 25 or older. Some States require bartenders to have health certificates showing that they are free from contagious diseases. In some instances, bartenders must be bonded.

***Cooks and chefs.*** Most cooks acquire their skills on the job as kitchen helpers, although cooks increasingly have high school or post-high school vocational training in food preparation. Cooks and chefs may also be trained as apprentices under trade union contracts, by professional associations, or as part of employee training programs conducted by large hotels and restaurants. Employers usually prefer high school graduates, and applicants for apprenticeships generally must be graduates. The Armed Forces also are a good source of training and experience in food service. Most States require cooks and chefs to have health certificates showing that they are free of contagious diseases.

***Dining room attendants and dishwashers.*** These occupations can be learned on the job with very little formal training. Many employers will hire applicants who do not speak English. State laws often require dining room attendants and dishwashers to obtain health certificates showing that they are free of contagious diseases.

***Food counter workers.*** Most counter workers learn their skills on the job. Managers of fast-food restaurants often hire high school students as part-time counter workers. State laws often require counter workers to obtain health certificates showing that they are free of contagious diseases.

***Meatcutters.*** Although many learn their skills informally on the job, most meatcutters complete a 2-year apprenticeship program. A few attend private schools that specialize in meatcutting. At the end of the training, apprentices are given a meatcutting test that their employers observe. Employers prefer high school graduates. Some States require meatcutters to have health certificates showing that they are free of contagious diseases.

***Waiters and waitresses.*** Although most waiters and waitresses start as dining room attendants, car hops, or food counter workers, or learn their skills on the job, some attend training courses offered by public and private vocational schools, restaurant associations, or large restaurant chains. Expensive restaurants that take pride in the quality of their service often hire only experienced waiters and waitresses. Knowledge of a foreign language is helpful in restaurants specializing in food of a foreign country. State laws often require waiters and waitresses to obtain health certificates showing that they are free of contagious diseases.

### **Personal Service Occupations**

***Barbers.*** All States require barbers to be licensed. To obtain a license, applicants must graduate from a State-approved barber school and be at least 16 years old (in some States 18). Educational requirements in States vary—some require graduation from high school, while others have no requirement at all. Many States require an examination for an apprentice license and a second examination, after 1 or 2 years of work, for a license as a registered barber. Many public and private schools and a few vocational schools offer a 9- to 12-month training course. Because some States do not recognize out-of-State training, apprenticeship work, or licenses, persons who wish to become barbers should review the laws of the State in which they wish to work before entering barber school.

***Bellhops and bell captains.*** Bellhops are trained on the job. Although not required, a high school diploma im-

proves chances for promotion to bell captain or to front office clerk. Opportunities for advancement to bell captain are limited, however.

*Cosmetologists.* All States require cosmetologists to be licensed. Most States require applicants for a license to be at least 16 years old and pass a physical examination. Educational requirements for licensure vary among States—some have no requirement, while others require graduation from high school. Successful completion of a State-approved cosmetology course is appropriate preparation to take an examination. In some States, completion of a 1- or 2-year apprenticeship program can substitute for graduation from cosmetology school, but few cosmetologists learn their skills this way. Both public and private vocational schools offer training in cosmetology. A daytime course usually takes 6 months to 1 year; an evening course takes longer.

### **Private Household Service Occupations**

*Private household workers.* Most jobs require no formal education. Instead, the ability to cook, sew, wash and iron, clean house, and care for children is important. Many of the necessary skills are learned in the home; more advanced skills can be learned in home economics courses in junior colleges, high schools, vocational schools, and through government and private training programs.

### **Protective and Related Service Occupations**

*Guards.* Employers prefer high school graduates; applicants who have not completed high school may be tested for their ability to read, write, and follow written and oral instructions. Police experience gained in the Armed Forces or in State or local police departments is helpful. Most newly hired guards receive on-the-job training combined with formal instruction.

### **Other Service Occupations**

*Mail carriers.* Applicants must be at least 18 except for high school graduates, who must be at least 16. They also must pass an examination that tests clerical accuracy and the ability to read, do simple arithmetic, and memorize mail sorting systems. If the job involves driving, an applicant must have a driver's license and pass a road test. Applicants also must pass a physical examination and may be asked to show that they can handle mail sacks weighing up to 70 pounds. These workers are trained primarily on the job.

## **Sales Occupations**

*Gasoline service station attendants.* These workers are trained on the job. A high school diploma usually is not required and students often are hired for these jobs.

Applicants for attendant jobs should have a driver's license.

*Models.* The most important asset for a model is a distinctive and attractive physical appearance. Size requirements for certain assignments are rigid. There are no educational requirements for models; some have limited formal education, others have completed high school and modeling school, and others have had college training. Many sales jobs in department stores provide useful experience in selecting and coordinating fashions, experimenting with makeup and, occasionally, modeling. Developing a portfolio is very important. The overwhelming majority of models work through modeling agencies.

*Retail trade sales workers.* Most sales workers learn their skills on the job. In large stores, training programs usually begin with several days of classroom instruction, which are followed by on-the-job training. In small stores, an experienced worker or, in some cases, the proprietor trains new sales workers. Employers prefer to hire high school graduates. Thousands of high schools offer distributive education programs that allow students to work part time at local stores while taking courses in merchandising, accounting, and other aspects of retailing. Some of these programs are intended for adults as well.

*Route drivers.* Although some large companies have classes in sales techniques, most route drivers are trained on the job. Employers generally prefer high school graduates. Most States require route drivers to have a chauffeur's license.

## **Construction Occupations**

*Bricklayers, stonemasons, and marblesetters.* Most bricklayers learn their trade on the job, usually in 3 to 5 years. But some bricklayers and most stonemasons and marblesetters learn their skills through a 3-year apprenticeship program. Employers usually prefer applicants who have a high school diploma or its equivalent for apprenticeship programs.

*Carpenters.* The recommended way to learn this trade is to complete a 4-year apprenticeship. Most workers learn on the job, however, often by beginning as a helper to experienced carpenters and gradually acquiring skills. It takes much longer to become a skilled carpenter in this way than it does through an apprenticeship. Some knowledge of the trade also may be obtained through vocational school courses. Employers generally prefer to hire high school graduates.

*Cement masons and terrazzo workers.* Most learn their trade informally on the job in 2 to 3 years. Others com-

plete a 2- or 3-year apprenticeship. Employers prefer to hire high school graduates.

*Construction laborers.* Most laborers are trained on the job as this work does not require specific skills. Generally, applicants must be at least 18 years old and in good physical condition.

*Drywall installers and finishers.* These workers usually start as helpers and learn their skills on the job in 2 to 3 years. Some employers, in cooperation with unions, supplement on-the-job training with classroom instruction in subjects such as tool use and care. High school graduates are preferred.

*Floor covering installers.* Most of these workers learn their skills on the job, usually beginning as helpers to experienced workers. Others qualify through 2- to 4-year apprenticeship programs. Individuals also may learn the basic skills as part of an apprenticeship in carpentry, tilesetting, bricklaying, or stone and marblesetting. Employers prefer to hire high school or vocational school graduates. Applicants for apprenticeships generally must have a high school diploma.

*Insulation workers.* Most insulation workers learn their trade on the job. Others learn through a 4-year "improvership" program that is similar to an apprenticeship. A few insulation workers pick up their skills while working in another trade or in a manufacturing plant where applying insulation is part of their job. Employers prefer high school graduates who are licensed to drive.

*Ironworkers (structural, ornamental, and reinforcing ironworkers; riggers; and machine movers).* Most learn their skills on the job; however, completion of a 3-year apprenticeship program is recommended. Employers generally prefer high school graduates.

*Lathers.* Although many lathers acquire their skills informally on the job, completion of an apprenticeship is recommended. Depending on the local union operating the program, apprenticeships last 2, 3, or 4 years. Employers generally prefer high school graduates, and a diploma is required for an apprenticeship.

*Operating engineers (construction machinery operators).* Completion of a 3-year apprenticeship program including related classroom instruction is recommended. Some engineers who learn their skills on the job start as helpers or oilers and then progress from operating light equipment to highly complex construction machinery. A few individuals learn their skills while serving in the Armed Forces or through special heavy-equipment training schools. Most employers prefer

high school graduates; a diploma may be required for entry into apprenticeship programs.

*Painters and paperhangers.* Although completion of a 3-year apprenticeship is recommended, apprenticeship opportunities are very limited. Informal on-the-job training is available through local contractors, however. Employers prefer to hire applicants who have a high school education.

*Plasterers.* A 3- to 4-year apprenticeship is the recommended way to learn the trade. Many plasterers learn the trade on the job, however, by working as plasterers' helpers or laborers. Employers generally prefer to hire high school graduates.

*Roofers.* The majority of roofers begin as helpers and learn their skills on the job. Completion of a 3-year apprenticeship is recommended, however. Employers prefer high school graduates.

*Tilesetters.* The best way to learn this trade is through a 3-year apprenticeship program. However, many workers acquire their skills on the job as helpers. When hiring apprentices or helpers, employers usually prefer high school or vocational school graduates.

## **Occupations in Transportation Activities**

### **Merchant Marine Occupations**

*Merchant marine officers.* Candidates must either acquire at least 3 years of appropriate sea experience or graduate from the U.S. Merchant Marine Academy, from one of six State merchant marine academies, or from a trade union training program. Candidates also must pass a Coast Guard examination to obtain a license. Usually, applicants who have sea experience but are not graduates of academies must obtain training to pass the examination.

*Merchant marine sailors.* Most sailors learn on the job, although previous sea experience in the Coast Guard or Navy is helpful. Applicants must obtain a doctor's certificate stating that they are in excellent health, and, if they do not have previous sea experience, a letter from an employer stating that they will be hired if a job becomes available. In addition, they must acquire special identification papers, "merchant mariner's documents," from the Coast Guard. Several training programs help experienced sailors upgrade their skills, but only the school operated by the Seafarer's International Union of North America trains inexperienced sailors.

### **Railroad Occupations**

*Shop trades.* Completing a 3- to 4-year apprenticeship

program is the most common way to enter shop trades, although some helpers and laborers are upgraded to these jobs. A high school diploma is preferred.

*Signal department workers.* These workers begin as helpers and are trained on the job. After 60 to 90 days of training, they may advance to assistants; after 2 years' additional training and experience, they may be promoted to signal installers or maintainers. Railroads prefer high school or vocational school graduates.

*Station agents.* These workers rise from the ranks of other railroad occupations. Experienced telegraphers, telephoners, tower operators, and clerks may become agents in small stations and may be promoted to larger stations as they gain seniority.

*Telegraphers, telephoners, and tower operators.* Clerical workers usually fill these jobs according to seniority. Upon promotion, workers receive on-the-job training. Before the promotion is final, workers must pass examinations and show that they can use all the equipment. A high school diploma generally is preferred and may be required by some railroads.

*Track workers.* Most workers are trained on the job for several months. The ability to perform heavy work is essential.

### **Driving Occupations**

*Intercity busdrivers.* Most companies conduct 2- to 8-week training programs for new employees. Minimum qualifications established by the U.S. Department of Transportation require intercity busdrivers to be at least 21, pass a physical examination, and pass a written test on motor vehicle regulations. Most States require a chauffeur's license. Bus companies generally have even higher requirements. Most prefer applicants who are at least 25 years old; some prefer those who have truck or bus driving experience. A high school diploma is preferred.

*Local transit busdrivers.* New drivers receive several weeks of classroom and driving instruction. Applicants must be at least 21, have a chauffeur's license, and have good eyesight—with or without glasses. Most employers require applicants to pass a physical examination and a written test. A high school diploma is preferred by many employers.

*Local truckdrivers.* New drivers usually are trained on the job. Many drivers begin by working as freight handlers on a loading dock. In most States, applicants must have a chauffeur's license. The amount of driving experience required often depends on the size of truck to be driven and value of the cargo.



*Long-distance truckdrivers.* Minimum qualifications set by the U.S. Department of Transportation require drivers to be at least 21, pass a physical examination, and pass a written test on motor carrier safety regulations. Most States require drivers to have a chauffeur's license. Employers may have even higher standards. Many specify height and weight requirements for drivers and some hire only applicants who have several years' experience driving trucks. Most truckdrivers start as freight handlers on a loading dock, advance to local truckdriver, and then to long-distance driver.

*Parking attendants.* These workers are trained on the job from a few hours to a week. Applicants must have a driver's license and be able to drive all types of cars. Completion of a driver's education course is an asset. Generally, employers prefer high school graduates.

*Taxicab drivers.* In most cities, taxi drivers must have a chauffeur's license and pass a written test on taxicab and traffic regulations to obtain a special license from the local police or safety department, or Public Utilities Commission. Some companies teach drivers taxicab regulations and the location of streets. A large number of companies hire only applicants who are at least 21 and some require drivers to be 25 or older.

## Mechanics and Repairers

### Telephone Craft Occupations

*Central office craft occupations.* Though employees such as telephone operators or line installers generally fill trainee jobs, occasionally workers are hired from outside. New craft workers receive both classroom instruction and on-the-job training. Some vocational schools, particularly those in rural areas served by small independent telephone companies, also offer training. A few people learn these crafts through apprenticeship programs designed by State employment agencies in conjunction with local telephone companies. Because electrical wires usually are color coded, applicants must not be color blind.

*Central office equipment installers.* These workers learn their skills on the job. New employees attend classes the first few weeks to learn basic installation and then begin on-the-job training. It usually takes several years to become a skilled installer. A high school diploma generally is preferred. Because electrical wires are color coded, applicants must not be color blind.

*Line installers and cable splicers.* These workers usually are trained on the job. Classrooms are equipped with actual telephone apparatus, including poles and other fixtures to simulate working conditions. After several weeks, trainees generally are assigned to a crew for on-the-job training under a line supervisor. Some small independent telephone companies, particularly in rural areas, rely on local vocational and technical schools for classroom training. State employment agencies provide classroom training for a few 4-year apprenticeships. Training in installing telephone systems in the Armed Forces is helpful. Because wires are color coded, applicants must not be color blind.

*Telephone and PBX installers and repairers.* These workers are trained on the job. Telephone companies provide several weeks of classroom instruction supplemented by on-the-job training. Many small independent telephone companies, particularly in rural areas, rely on local vocational and technical schools to train workers. State employment agencies provide classroom training for a few 4-year apprenticeships. Because telephone wires are color coded, applicants must not be color blind. A high school diploma is preferred.

### Other Mechanics and Repairers

*Automobile body repairers.* Although most repairers learn this skill informally through 3 to 4 years of on-the-job training, completion of a 3- or 4-year apprenticeship is recommended. High school graduation is considered an asset.



*Automobile mechanics.* Most automobile mechanics learn their trade through 3 to 4 years of on-the-job experience, but additional time may be needed to learn a difficult specialty such as automatic transmission repair. Training authorities usually recommend completion of a 3- or 4-year apprenticeship program. Automobile mechanic training received in the Armed Forces is good preparation. A high school diploma is preferred.

*Boat-engine mechanics.* Most mechanics learn on the job. Generally 2 to 3 years of experience are required to become skilled in repairing both outboard and inboard motors. A high school diploma is preferred by employers.

*Bowling-pin-machine mechanics.* These workers usually start as assistant mechanics or pinchers and learn their skills on the job. Bowling alleys sometimes send their mechanics to training seminars conducted by companies that manufacture pinsetters. It usually takes 1 to 2 years of experience to learn the job thoroughly. Employers prefer to hire high school graduates.

*Farm equipment mechanics.* Most begin as helpers and learn their skills on the job. Employers generally prefer high school graduates who have a farm background. Usually, at least 3 years of on-the-job experience are

necessary to become fully skilled. Some mechanics complete a 3- to 4-year apprenticeship program, while others learn through a vocational program.

*Furniture upholsterers.* The most common way to learn this trade is to work as a helper in an upholstery shop for about 3 years. Vocational or high school courses in upholstery provide a good background, but experience still is necessary to refine one's skills.

*Industrial machinery repairers.* Most begin as helpers and rotate from job to job for several years. Others learn their trade through 4-year apprenticeship programs. A high school diploma is preferred.

*Locksmiths.* On-the-job training lasting up to 4 years is the recommended way to learn this trade. Additional training is necessary to service electronic security systems. Completion of a 1- or 2-year vocational or correspondence school course is an advantage. When hiring trainees, employers prefer high school graduates. Some cities require locksmiths to be licensed.

*Motorcycle mechanics.* Most motorcycle mechanics learn their trade on the job. Generally, 2 to 3 years of on-the-job training are necessary to become skilled in all aspects of motorcycle repair. Although a high school diploma is often preferred, many employers will hire trainees who have mechanical aptitude or who exhibit a genuine interest in motorcycles and in learning the work.

*Shoe repairers.* These workers generally start as helpers and are trained on the job in shoe repair shops. It takes up to 2 years to learn all aspects of the job. Some repairers learn the trade in vocational school but additional training under an experienced shoe repairer generally is helpful.

*Truck mechanics and bus mechanics.* Most learn their skills on the job in 3 to 4 years, but completion of a 4-year apprenticeship program is recommended. A high school diploma is preferred by employers and strongly recommended for applicants for apprenticeships. For some jobs that require driving, mechanics must have a chauffeur's license.

## Health Occupations

### Nursing Occupations

*Licensed practical nurses.* All States require applicants for licenses as practical nurses to complete a State-approved course in practical nursing and to pass an examination. Educational requirements for enrollment in these courses vary by State and range from completion

of eighth or ninth grade to high school graduation. Generally, junior colleges, local hospitals, health agencies, and vocational schools offer the 1-year course.

*Nursing aides, orderlies, and attendants.* Although some employers prefer high school graduates, a diploma is not required. Training usually is acquired on the job, often in combination with classroom instruction.

## Social Service Occupations

*Homemaker-home health aides.* Homemaker-home health aides must be able to read and write but high school graduation generally is not required. Some employers hire only experienced nursing aides; others require at least a year's experience as a nursing aide in a hospital or nursing home.

*Social service aides.* Social service aides are trained on the job. An aide's education usually determines the level of responsibility. For example, persons who have a grade school education may become clerks while those who have a college degree may assume some duties normally performed by social workers. Employers also consider an applicant's desire to help people and his or her ability to communicate with community agencies and clients. An individual's potential for advancement and need for work also may be considered.

## Performing Arts, Design, and Communications Occupations

### Performing Artists

*Actors and actresses.* Formal training in acting is increasingly necessary to enter the field. Training can be obtained at dramatic arts schools, located chiefly in New York, and in hundreds of colleges and universities throughout the country. Experience is important; participating in school or community productions is excellent preparation.

*Dancers.* Serious training at a dance school or through private lessons should begin by age 12, especially for ballet dancers. Training and practice continue throughout a dancer's career. Many colleges and universities offer dance instruction.

*Musicians.* Studying an instrument, either through school or private lessons, should begin at an early age. More advanced training can be acquired through further study under an accomplished musician, in a college or university which has a strong music program, or in a music conservatory.



*Singers.* As a rule, intensive voice training should not begin until after the individual has matured physically. Voice training can be obtained through private lessons or in a music conservatory or department of music in a college or university. A background in music theory and history is helpful for persons interested in singing professionally, although formal voice training is not essential for a successful career in popular music.

#### **Design Occupations**

*Floral designers.* Although there are no minimum educational requirements, most employers prefer high school graduates. Training usually takes place on the job. However, an increasing number of these workers attend adult education programs, junior colleges, or commercial floral design schools.

#### **Ordering Occupational Outlook Handbook Reprints**

There are 42 reprints from the *Occupational Outlook Handbook*, 1980-81 Edition, available for order. Each reprint contains a group of related occupational and industrial statements. For example, reprint 2075-35, *Communications Occupations*, includes statements on broadcast technicians, newspaper reporters, photographers, public relations workers, radio and

television announcers, the radio and television broadcasting industry, and technical writers. A list of all reprints follows. A flyer that cross-references all *Occupational Outlook Handbook* occupations and industries to the reprints in which they appear may be obtained by using the reprint order form on the back page of this leaflet.

#### **Occupational Outlook Reprints, 1980-81 Edition**

Bulletin No.	Title
2075-1	Tomorrow's Jobs
2075-2	Metalworking Occupations
2075-3	Printing and Publishing Occupations
2075-4	Factory Production Occupations
2075-5	Clerical Occupations
2075-6	Office Machine and Computer Occupations
2075-7	Banking and Insurance Occupations
2075-8	Business Occupations
2075-9	Service Occupations
2075-10	Food Merchandising Occupations
2075-11	Protective and Related Service Occupations
2075-12	Education and Related Occupations
2075-13	Sales Occupations
2075-14	Construction Occupations — Structural
2075-15	Construction Occupations — Finishing
2075-16	Air and Water Transportation Occupations
2075-17	Railroad Occupations
2075-18	Driving Occupations
2075-19	Environmental Scientists and Conservation Occupations
2075-20	Engineering and Related Occupations
2075-21	Physical and Life Scientists
2075-22	Mathematics and Related Occupations
2075-23	Public Utilities Occupations
2075-24	Motor Vehicle and Machinery Repairers
2075-25	Machine Repairers and Operators
2075-26	Small Business Occupations
2075-27	Health Practitioners
2075-28	Health Occupations Dental auxiliaries, nursing, therapy and rehabilitation, health services administration
2075-29	Health Occupations Medical technologists, technicians, and assistants, dispensing opticians, ophthalmic laboratory technicians, medical record personnel

2075-30	Lawyers, City Managers, and Social Science Occupations
2075-31	Counseling and Related Occupations
2075-32	Social Service Occupations
2075-33	Performing Arts and Entertainment-Related Occupations
2075-34	Design Occupations
2075-35	Communications Occupations
2075-36	Agriculture and Logging and Lumber Mill Products Industries
2075-37	Energy-Producing Industries
2075-38	Petroleum Refining, Industrial Chemical, Drug, and Paper and Allied Products Industries
2075-39	Aluminum, Iron and Steel, and Foundry Industries
2075-40	Aircraft, Missile, and Spacecraft, Office Machine and Computer, Electronics, and Motor Vehicle and Equipment Manufacturing Industries
2075-41	Apparel, Baking, Laundry and Dry Cleaning, and Textile Mill Products Industries
2075-42	Government Occupations

Cosmetologists.....	26
Dancers .....	33
Dining room attendants and dishwashers .....	10
Drywall installers and finishers.....	15
Electroplaters .....	4
Farm equipment mechanics .....	24
File clerks .....	5
Floor covering installers .....	15
Floral designers .....	34
Food counter workers .....	10
Forge shop occupations.....	2
Furniture upholsterers .....	26
Gasoline service station attendants.....	24
Guards .....	11
Homemaker-home health aides.....	32
Hotel housekeepers and assistants.....	9
Industrial machinery repairers.....	4
Inspectors (manufacturing).....	4
Insulation workers .....	15
Intercity busdrivers .....	18
Ironworkers.....	14
Lathers .....	15
Licensed practical nurses .....	28
Line installers and cable splicers .....	23
Local transit busdrivers.....	18
Local truckdrivers .....	18
Locksmiths.....	26
Long-distance truckdrivers.....	18
Machine tool operators .....	2
Mail carriers .....	5
Meatcutters .....	10
Merchant marine officers .....	16
Merchant marine sailors .....	16
Millwrights.....	4
Models .....	33
Molders .....	2 or 39
Motion picture projectionists .....	25
Motorcycle mechanics.....	24
Musicians.....	33
Nursing aides, orderlies, and attendants.....	28
Operating engineers.....	14
Painters and paperhangers .....	15
Parking attendants .....	18
Pest controllers .....	9
Photographic laboratory occupations .....	3
Plasterers .....	15
Postal clerks.....	5
Power truck operators .....	4
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Retail trade sales workers.....	13
Roofers.....	14

The following is an alphabetical listing of the occupations included in this leaflet. Occupations are cross-referenced to the *Handbook* reprint in which they appear.

Actors and actresses.....	33
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Automobile body repairers.....	24
Automobile mechanics .....	24
Automobile painters.....	24
Bank tellers .....	7
Barbers.....	26
Bartenders .....	10
Bellhops and bell captains .....	9
Blacksmiths .....	2
Boat-engine mechanics .....	24
Boilermaking occupations.....	4
Boiler tenders .....	4
Bowling-pin-machine mechanics .....	25
Bricklayers, stonemasons, and marblesetters .....	14
Building custodians .....	9
Carpenters .....	14
Cashiers .....	10
Cement masons and terrazzo workers .....	14
Central office craft occupations.....	23
Central office equipment installers.....	23
Construction laborers.....	14
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Coremakers.....	2 or 39

Route drivers .....	13 or 18	Telegraphers, telephoners, and tower operators .....	17
Shipping and receiving clerks .....	5	Telephone and PBX installers and repairers .....	23
Shoe repairers .....	26	Tilesetters .....	15
Shop trades .....	17	Track workers .....	17
Signal department workers .....	17	Truck mechanics and bus mechanics .....	24
Singers .....	33	Waiters and waitresses .....	10
Social service aides .....	32	Welders .....	2
Station agents .....	17		
Stationary engineers .....	4		
Stock clerks .....	5		
Taxicab drivers .....	18		

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