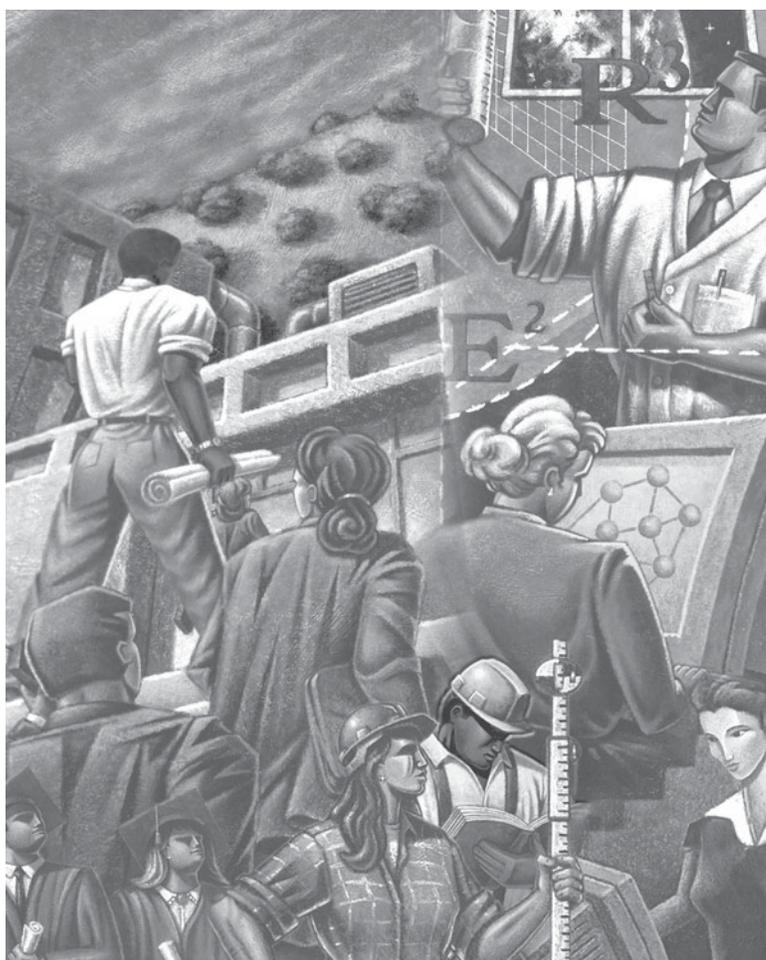


# Arts, Design, Entertainment, Sports, and Media Occupations



Reprinted from the  
Occupational Outlook Handbook, 2004-05 Edition

U.S. Department of Labor  
Bureau of Labor Statistics



## Occupations Included in this Reprint

Actors, producers, and directors  
Announcers  
Artists and related workers  
Athletes, coaches, umpires, and related workers  
Broadcast and sound engineering  
    technicians and radio operators  
Dancers and choreographers  
Designers  
Interpreters and translators  
Musicians, singers, and related workers  
News analysts, reporters, and correspondents  
Photographers  
Public relations specialists  
Television, video, and motion picture  
    camera operators and editors  
Writers and editors

# Actors, Producers, and Directors

(0\*NET 27-2011.00, 27-2012.01, 27-2012.02,

27-2012.03, 27-2012.04, 27-2012.05)

## Significant Points

- Actors endure long periods of unemployment, intense competition for roles, and frequent rejections in auditions.
- Formal training through a university or acting conservatory is typical; however, many actors, producers, and directors find work on the basis of their experience and talent alone.
- Because earnings for actors are erratic, many supplement their incomes by holding jobs in other fields.

## Nature of the Work

Actors, producers, and directors express ideas and create images in theater, film, radio, television, and other performing arts media. They interpret a writer's script to entertain, inform, or instruct an audience. Although the most famous actors, producers, and directors work in film, network television, or theater in New York or Los Angeles, far more work in local or regional television studios, theaters, or film production companies, preparing advertising, public-relations, or independent, small-scale movie productions.

*Actors* perform in stage, radio, television, video, or motion picture productions. They also work in cabarets, nightclubs, theme parks, commercials, and "industrial" films produced for training and educational purposes. Most actors struggle to find steady work; only a few ever achieve recognition as stars. Some well-known, experienced performers may be cast in supporting roles. Others work as "extras," with no lines to deliver, or make brief, cameo appearances, speaking only one or two lines. Some actors do voiceover and narration work for advertisements, animated features, books on tape, and other electronic media. They also teach in high school or university drama departments, acting conservatories, or public programs.

*Producers* are entrepreneurs, overseeing the business and financial decisions of a motion picture, made-for-television feature, or stage production. They select scripts, approve the development of ideas for the production, arrange financing, and determine the size and cost of the endeavor. Producers hire or approve the selection of directors, principal cast members, and key production staff members. They also negotiate contracts with artistic and design personnel in accordance with collective bargaining agreements and guarantee payment of salaries, rent, and other expenses. Television and radio producers determine which programs, episodes, or news segments get aired. They may research material, write scripts, and oversee the production of individual pieces. Producers in any medium coordinate the activities of writers, directors, managers, and agents to ensure that each project stays on schedule and within budget.

*Directors* are responsible for the creative decisions of a production. They interpret scripts, express concepts to set and costume designers, audition and select cast members, conduct rehearsals, and direct the work of cast and crew. Directors cue the performers and technicians to make entrances or to make light, sound, or set changes. They approve the design elements

of a production, including the sets, costumes, choreography, and music.

## Working Conditions

Actors, producers, and directors work under constant pressure. Many face stress from the continual need to find their next job. To succeed, actors, producers, and directors need patience and commitment to their craft. Actors strive to deliver flawless performances, often while working under undesirable and unpleasant conditions. Producers and directors organize rehearsals; meet with writers, designers, financial backers, and production technicians. They experience stress not only from these activities, but also from the need to adhere to budgets, union work rules, and production schedules.

Acting assignments typically are short term—ranging from 1 day to a few months—which means that actors frequently experience long periods of unemployment between jobs. The uncertain nature of the work results in unpredictable earnings and intense competition for even the lowest-paid jobs. Often, actors, producers, and directors must hold other jobs in order to sustain a living.

When performing, actors typically work long, irregular hours. For example, stage actors may perform one show at night while rehearsing another during the day. They also might travel with a show when it tours the country. Movie actors may work on location, sometimes under adverse weather conditions, and may spend considerable time in their trailers or dressing rooms waiting to perform their scenes. Actors who perform in a television series often appear on camera with little preparation time, because scripts tend to be revised frequently or even written moments before taping. Those who appear live or before a studio audience must be able to handle impromptu situations and calmly ad lib, or substitute, lines when necessary.

Evening and weekend work is a regular part of a stage actor's life. On weekends, more than one performance may be held per day. Actors and directors working on movies or television programs—especially those who shoot on location—may work in the early morning or late evening hours to film night scenes or tape scenes inside public facilities outside of normal business hours.

Actors should be in good physical condition and have the necessary stamina and coordination to move about theater stages



*Directors, who are responsible for creative decisions, instruct actors and technicians on how to play a scene.*

and large movie and television studio lots. They also need to maneuver about complex technical sets while staying in character and projecting their voices audibly. Actors must be fit to endure heat from stage or studio lights and the weight of heavy costumes. Producers and directors ensure the safety of actors by conducting extra rehearsals on the set so that the actors can learn the layout of set pieces and props, by allowing time for warmups and stretching exercises to guard against physical and vocal injuries, and by providing an adequate number of breaks to prevent heat exhaustion and dehydration.

### **Employment**

In 2002, actors, producers, and directors held about 139,000 jobs, primarily in motion picture and video, performing arts, and broadcast industries. Because many others were between jobs, the total number of actors, producers, and directors available for work was higher. Employment in the theater, and other performing arts companies, is cyclical—higher in the fall and spring seasons—and concentrated in New York and other major cities with large commercial houses for musicals and touring productions. Also, many cities support established professional regional theaters that operate on a seasonal or year-round basis. About one fourth of actors, producers, and directors are self-employed.

Actors, producers, and directors may find work in summer festivals, on cruise lines, and in theme parks. Many smaller, nonprofit professional companies, such as repertory companies, dinner theaters, and theaters affiliated with drama schools, acting conservatories, and universities, provide employment opportunities for local amateur talent and professional entertainers. Auditions typically are held in New York for many productions across the country and for shows that go on the road.

Employment in motion pictures and in films for television is centered in New York and Hollywood. However, small studios are located throughout the country. Many films are shot on location and may employ local professional and nonprofessional actors. In television, opportunities are concentrated in the network centers of New York and Los Angeles, but cable television services and local television stations around the country also employ many actors, producers, and directors.

### **Training, Other Qualifications, and Advancement**

Persons who become actors, producers, and directors follow many paths. Employers generally look for people with the creative instincts, innate talent, and intellectual capacity to perform. Actors should possess a passion for performing and enjoy entertaining others. Most aspiring actors participate in high school and college plays, work in college radio stations, or perform with local community theater groups. Local and regional theater experience and work in summer stock, on cruise lines, or in theme parks helps many young actors hone their skills and earn qualifying credits toward membership in one of the actors' unions. Union membership and work experience in smaller communities may lead to work in larger cities, notably New York or Los Angeles. In television and film, actors and directors typically start in smaller television markets or with independent movie production companies and then work their way up to larger media markets and major studio productions. Intense competition, however, ensures that only a few actors reach star billing.

Formal dramatic training, either through an acting conservatory or a university program, generally is necessary; however, some people successfully enter the field without it. Most people

studying for a bachelor's degree take courses in radio and television broadcasting, communications, film, theater, drama, or dramatic literature. Many continue their academic training and receive a Master of Fine Arts (MFA) degree. Advanced curricula may include courses in stage speech and movement, directing, playwriting, and design, as well as intensive acting workshops. The National Association of Schools of Theatre accredits 128 programs in theater arts.

Actors, regardless of experience level, may pursue workshop training through acting conservatories or by being mentored by a drama coach. Actors also research roles so that they can grasp concepts quickly during rehearsals and understand the story's setting and background. Sometimes actors learn a foreign language or train with a dialect coach to develop an accent to make their characters more realistic.

Actors need talent, creative ability, and training that will enable them to portray different characters. Because competition for parts is fierce, versatility and a wide range of related performance skills, such as singing, dancing, skating, juggling, or miming are especially useful. Experience in horseback riding, fencing, or stage combat also can lift some actors above the average and get them noticed by producers and directors. Actors must have poise, stage presence, the capability to affect an audience, and the ability to follow direction. Modeling experience also may be helpful. Physical appearance, such as possessing the right size, weight, or features, often is a deciding factor in being selected for particular roles.

Many professional actors rely on agents or managers to find work, negotiate contracts, and plan their careers. Agents generally earn a percentage of the pay specified in an actor's contract. Other actors rely solely on attending open auditions for parts. Trade publications list the times, dates, and locations of these auditions.

To become a movie extra, one usually must be listed by a casting agency, such as Central Casting, a no-fee agency that supplies extras to the major movie studios in Hollywood. Applicants are accepted only when the number of persons of a particular type on the list—for example, athletic young women, old men, or small children—falls below the foreseeable need. In recent years, only a very small proportion of applicants have succeeded in being listed.

There are no specific training requirements for producers. They come from many different backgrounds. Talent, experience, and business acumen are important determinants of success for producers. Actors, writers, film editors, and business managers commonly enter the field. Also, many people who start out as actors move into directing, while some directors might try their hand at acting. Producers often start in a theatrical management office, working for a press agent, managing director, or business manager. Some start in a performing arts union or service organization. Others work behind the scenes with successful directors, serve on boards of directors, or promote their own projects. No formal training exists for producers; however, a growing number of colleges and universities now offer degree programs in arts management and in managing nonprofits.

As the reputations and box-office draw of actors, producers, and directors grow, they might work on bigger budget productions, on network or syndicated broadcasts, or in more prestigious theaters. Actors may advance to lead roles and receive star billing. A few actors move into acting-related jobs, such as drama coaches or directors of stage, television, radio, or motion

picture productions. Some teach drama privately or in colleges and universities.

### Job Outlook

Employment of actors, producers, and directors is expected to grow about as fast as the average for all occupations through 2012. Although a growing number of people will aspire to enter these professions, many will leave the field early because the work—when it is available—is hard, the hours are long, and the pay is low. Competition for jobs will be stiff, in part because the large number of highly trained and talented actors auditioning for roles generally exceeds the number of parts that become available. Only performers with the most stamina and talent will find regular employment.

Expanding cable and satellite television operations, increasing production and distribution of major studio and independent films, and continued growth and development of interactive media, such as direct-for-Web movies and videos, should increase demand for actors, producers, and directors. However, greater emphasis on national, rather than local, entertainment productions may restrict employment opportunities in the broadcasting industry.

Venues for live entertainment, such as Broadway and Off-Broadway theaters, touring productions and repertory theaters in many major metropolitan areas, theme parks, and resorts, are expected to offer many job opportunities; however, prospects in these venues are more variable, because they fluctuate with economic conditions.

### Earnings

Median annual earnings of salaried actors were \$23,470 in 2002. The middle 50 percent earned between \$15,320 and \$53,320. The lowest 10 percent earned less than \$13,330, and the highest 10 percent earned more than \$106,360. Median annual earnings in the industries employing the largest numbers of actors were as follows:

Accounting, tax preparation, bookkeeping, and payroll services .....	\$29,590
Performing arts companies .....	28,850
Motion picture and video industries .....	17,610

Minimum salaries, hours of work, and other conditions of employment are covered in collective bargaining agreements between the producers and the unions representing workers. The Actors' Equity Association (Equity) represents stage actors; the Screen Actors Guild (SAG) covers actors in motion pictures, including television, commercials, and films; and the American Federation of Television and Radio Artists (AFTRA) represents television and radio studio performers. While these unions generally determine minimum salaries, any actor or director may negotiate for a salary higher than the minimum.

Under terms of a joint SAG and AFTRA contract covering all unionized workers, motion picture and television actors with speaking parts earned a minimum daily rate of \$678 or \$2,352 for a 5-day week as of July 1, 2003. Actors also receive contributions to their health and pension plans and additional compensation for reruns and foreign telecasts of the productions in which they appear.

According to Equity, the minimum weekly salary for actors in Broadway productions as of June 30, 2003 was \$1,354. Actors in Off-Broadway theaters received minimums ranging from \$479 to \$557 a week as of October 27, 2003, depending on the seating capacity of the theater. Regional theaters that operate under an

Equity agreement pay actors \$531 to \$800 per week. For touring productions, actors receive an additional \$111 per day for living expenses (\$117 per day in larger, higher cost cities).

Some well-known actors—stars—earn well above the minimum; their salaries are many times the figures cited, creating the false impression that all actors are highly paid. For example, of the nearly 100,000 SAG members, only about 50 might be considered stars. The average income that SAG members earn from acting—less than \$5,000 a year—is low because employment is erratic. Therefore, most actors must supplement their incomes by holding jobs in other occupations.

Many actors who work more than a set number of weeks per year are covered by a union health, welfare, and pension fund, which includes hospitalization insurance and to which employers contribute. Under some employment conditions, Equity and AFTRA members receive paid vacations and sick leave.

Median annual earnings of salaried producers and directors were \$46,240 in 2002. The middle 50 percent earned between \$31,990 and \$70,910. The lowest 10 percent earned less than \$23,300, and the highest 10 percent earned more than \$119,760. Median annual earnings were \$56,090 in motion picture and video industries and \$38,480 in radio and television broadcasting.

Many stage directors belong to the Society of Stage Directors and Choreographers (SSDC), and film and television directors belong to the Directors Guild of America. Earnings of stage directors vary greatly. According to the SSDC, summer theaters offer compensation, including “royalties” (based on the number of performances), usually ranging from \$2,500 to \$8,000 for a 3- to 4-week run. Directing a production at a dinner theater generally will pay less than directing one at a summer theater, but has more potential for generating income from royalties. Regional theaters may hire directors for longer periods, increasing compensation accordingly. The highest-paid directors work on Broadway and commonly earn \$50,000 per show. However, they also receive payment in the form of royalties—a negotiated percentage of gross box office receipts—that can exceed their contract fee for long-running box office successes.

Stage producers seldom get a set fee; instead, they get a percentage of a show's earnings or ticket sales.

### Related Occupations

People who work in performing arts occupations that may require acting skills include announcers; dancers and choreographers; and musicians, singers, and related workers. Others working in film- and theater-related occupations are makeup artists, theatrical and performance; fashion designers; set and exhibit designers; and writers and authors. Producers share many responsibilities with those who work as top executives.

### Sources of Additional Information

For general information about theater arts and a list of accredited college-level programs, contact:

► National Association of Schools of Theater, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: <http://nast.arts-accredit.org>

For general information on actors, producers, and directors, contact any of the following organizations:

► Actors Equity Association, 165 West 46th St., New York, NY 10036. Internet: <http://www.actorsequity.org>

► Screen Actors Guild, 5757 Wilshire Blvd., Los Angeles, CA 90036-3600. Internet: <http://www.sag.org>

► American Federation of Television and Radio Artists—Screen Actors Guild, 4340 East-West Hwy., Suite 204, Bethesda, MD 20814-4411. Internet: <http://www.aftra.org> or <http://www.sag.org>

# Announcers

(0\*NET 27-3011.00, 27-3012.00)

## Significant Points

- Competition for announcer jobs will continue to be keen.
- Jobs at small stations usually have low pay, but offer the best opportunities for beginners.
- Related work experience at a campus radio station or as an intern at a commercial station can be helpful in breaking into the occupation.

## Nature of the Work

Announcers in radio and television perform a variety of tasks on and off the air. They announce station program information, such as program schedules and station breaks for commercials, or public service information, and they introduce and close programs. Announcers read prepared scripts or ad-lib commentary on the air, as they present news, sports, weather, time, and commercials. If a written script is required, they may do the research and writing. Announcers also interview guests and moderate panels or discussions. Some provide commentary for the audience during sporting events, at parades, and on other occasions. Announcers often are well known to radio and television audiences and may make promotional appearances and remote broadcasts for their stations.

Radio announcers often are called *disc jockeys (DJs)*. Some disc jockeys specialize in one kind of music, announcing selections as they air them. Most DJs do not select much of the music they play (although they often did so in the past); instead, they follow schedules of commercials, talk, and music provided to them by management. While on the air, DJs comment on the music, weather, and traffic. They may take requests from listeners, interview guests, and manage listener contests.

Newscasters, or *anchors*, work at large stations and specialize in news, sports, or weather. (See the related statement on news analysts, reporters, and correspondents elsewhere in the *Handbook*.) *Show hosts* may specialize in a certain area of interest, such as politics, personal finance, sports, or health. They contribute to the preparation of the program's content, interview guests, and discuss issues with viewers, listeners, or the studio audience.

Announcers at smaller stations may cover all of these areas and tend to have more off-air duties as well. They may operate the control board, monitor the transmitter, sell commercial time to advertisers, keep a log of the station's daily programming, and produce advertisements and other recorded material. Advances in technology make it possible for announcers to do some work previously performed by broadcast technicians. At many music stations, the announcer is simultaneously responsible for both announcing and operating the control board, which is used to broadcast programming, commercials, and public-service announcements according to the station's schedule. (See the statement on broadcast and sound engineering technicians and radio operators elsewhere in the *Handbook*.) Public radio and television announcers are involved in station fundraising efforts.

Changes in technology have led to more remote operation of stations. Several stations in different locations of the same region may be operated from one office. Some stations operate without any staff overnight, playing programming from a satel-

lite feed or using programming that was recorded earlier, including segments from announcers.

Announcers frequently participate in community activities. Sports announcers, for example, may serve as masters of ceremonies at sports club banquets or may greet customers at openings of sporting goods stores.

Although most announcers are employed in broadcasting, some are employed in the motion picture production industry. *Public address system announcers* provide information to the audience at sporting, performing arts, and other events. Some disc jockeys announce and play music at clubs, dances, restaurants, and weddings.

## Working Conditions

Announcers usually work in well-lighted, air-conditioned, soundproof studios. The broadcast day is long for radio and TV stations—many are on the air 24 hours a day—so announcers can expect to work unusual hours. Many present early-morning shows, when most people are getting ready for work or commuting, while others do late-night programs.

Announcers often work within tight schedule constraints, which can be physically and mentally stressful. For many announcers, the intangible rewards—creative work, many personal contacts, and the satisfaction of becoming widely known—far outweigh the disadvantages of irregular and often unpredictable hours, work pressures, and disrupted personal lives.

## Employment

Announcers held about 76,000 jobs in 2002. More than half were employed in broadcasting, but some were self-employed freelance announcers who sold their services for individual assignments to networks and stations or to advertising agencies and other independent producers. About a third of all announcers work part time.

## Training, Other Qualifications, and Advancement

Entry into this occupation is highly competitive. Formal training in broadcasting from a college or technical school (private broadcasting school) is valuable. Most announcers have a bachelor's degree in a major such as communications, broadcasting, or journalism. Station officials pay particular attention to taped auditions that show an applicant's delivery and—in television—appearance and style on commercials, news, and interviews. Those hired by television stations usually start out



Some public-address system announcers work at sporting events.

as production assistants, researchers, or reporters and are given a chance to move into announcing if they show an aptitude for “on-air” work. A beginner’s chance of landing an on-air job is remote, except possibly at a small radio station, as a substitute for a familiar announcer, or on the late-night shift at a larger station. In radio, newcomers usually start out taping interviews and operating equipment.

Announcers usually begin at a station in a small community and, if they are qualified, may move to a better paying job in a large city. They also may advance by hosting a regular program as a disc jockey, sportscaster, or other specialist. Competition is particularly intense for employment by networks, and employers look for college graduates with at least several years of successful announcing experience.

Announcers must have a pleasant and well-controlled voice, good timing, excellent pronunciation, and correct grammar. College broadcasting programs offer courses, such as voice and diction, to help students improve their vocal qualities. Television announcers need a neat, pleasing appearance as well. Knowledge of theater, sports, music, business, politics, and other subjects likely to be covered in broadcasts improves one’s chances for success. Announcers also must be computer literate, because programming is created and edited by computer. Announcers need strong writing skills, because they normally write their own material. In addition, they should be able to ad-lib all or part of a show and to work under tight deadlines. The most successful announcers attract a large audience by combining a pleasing personality and voice with an appealing style.

High school and college courses in English, public speaking, drama, foreign languages, and computer science are valuable, and hobbies such as sports and music are additional assets. Students may gain valuable experience at campus radio or TV facilities and at commercial stations while serving as interns. Paid or unpaid internships provide students with hands-on training and the chance to establish contacts in the industry. Unpaid interns often receive college credit and are allowed to observe and assist station employees. Although the Fair Labor Standards Act limits the work unpaid interns may perform in a station, unpaid internships are the rule. Unpaid internships sometimes lead to paid internships, which are valuable because interns do work ordinarily performed by regular employees and may even go on the air.

Persons considering enrolling in a broadcasting school should contact personnel managers of radio and television stations, as well as broadcasting trade organizations, to determine the school’s reputation for producing suitably trained candidates.

### **Job Outlook**

Competition for jobs as announcers will be keen because the broadcasting field attracts many more jobseekers than there are jobs. Small radio stations are more inclined to hire beginners, but the pay is low. Applicants who have completed internships or have related work experience usually receive preference for available positions. Because competition for ratings is so intense in major metropolitan areas, large stations will continue to seek announcers who have proven that they can attract and retain a sizable audience.

Announcers who are knowledgeable in business, consumer, and health news may have an advantage over others. While specialization is more common at large stations and the networks, many small stations also encourage it.

Employment of announcers is expected to decline through 2012, due to the lack of growth of new radio and television

stations and consolidation of existing stations, but some job openings will arise from the need to replace those who transfer to other kinds of work or leave the labor force. Some announcers leave the field because they cannot advance to better paying jobs. Changes in station ownership, format, and ratings frequently cause periods of unemployment for many announcers.

Increasing consolidation of radio and television stations, new technology, and the growth of alternative media sources, such as cable television and satellite radio, will contribute to the expected decline in employment of announcers. Consolidation in broadcasting may lead to an increased use of syndicated programming and programs originating outside a station’s viewing or listening area. Digital technology is increasing the productivity of announcers, reducing the time required to edit material or perform other off-air technical and production work.

### **Earnings**

Salaries in broadcasting vary widely, but generally are relatively low, except for announcers who work for large stations in major markets or for networks. Earnings are higher in television than in radio and higher in commercial than in public broadcasting.

Median hourly earnings of announcers in 2002 were \$9.91. The middle 50 percent earned between \$7.13 and \$15.10. The lowest 10 percent earned less than \$6.14, and the highest 10 percent earned more than \$24.92. Median hourly earnings of announcers in 2002 were \$9.86 in the radio and television broadcasting industry.

### **Related Occupations**

The success of announcers depends upon how well they communicate. Others who must be skilled at oral communication include news analysts, reporters, and correspondents; interpreters and translators; salespersons and those in related occupations; and public-relations specialists. Many announcers also must entertain their audience, so their work is similar to other entertainment-related occupations, such as actors, producers, and directors; and musicians, singers, and related workers. Announcers perform a variety of duties, including some technical operations, like broadcast sound engineering technicians and radio operators.

### **Sources of Additional Information**

General information on the broadcasting industry is available from

► National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036. Internet: <http://www.nab.org>

## Artists and Related Workers

(0\*NET 27-1011.00, 27-1013.01, 27-1013.02, 27-1013.03, 27-1013.04, 27-1014.00)

### Significant Points

- More than half of all artists and related workers were self-employed—almost eight times the proportion for all professional and related occupations.
- Artists usually develop their skills through a bachelor's degree program or other postsecondary training in art or design.
- Keen competition is expected for both salaried jobs and freelance work, because many talented people are attracted to the visual arts.

### Nature of the Work

Artists create art to communicate ideas, thoughts, or feelings. They use a variety of methods—painting, sculpting, or illustration—and an assortment of materials, including oils, watercolors, acrylics, pastels, pencils, pen and ink, plaster, clay, and computers. Artists' works may be realistic, stylized, or abstract and may depict objects, people, nature, or events.

Artists generally fall into one of three categories. *Art directors* formulate design concepts and presentation approaches for visual communications media. *Fine artists, including painters, sculptors, and illustrators* create original artwork, using a variety of media and techniques. *Multi-media artists and animators* create special effects, animation, or other visual images on film, on video, or with computers or other electronic media. (Designers, including graphic designers, are discussed elsewhere in the *Handbook*.)

*Art directors* develop design concepts and review material that is to appear in periodicals, newspapers, and other printed or digital media. They decide how best to present the information visually, so that it is eye catching, appealing, and organized. Art directors decide which photographs or artwork to use and oversee the layout design and production of the printed material. They may direct workers engaged in artwork, layout design, and copywriting.

*Fine artists* typically display their work in museums, commercial art galleries, corporate collections, and private homes. Some of their artwork may be commissioned (done on request from clients), but most is sold by the artist or through private art galleries or dealers. The gallery and the artist predetermine how much each will earn from the sale. Only the most successful fine artists are able to support themselves solely through the sale of their works. Most fine artists must work in an unrelated field to support their art careers. Some work in museums or art galleries as fine-arts directors or as curators, planning and setting up art exhibits. Others work as art critics for newspapers or magazines or as consultants to foundations or institutional collectors.

Usually, fine artists specialize in one or two art forms, such as painting, illustrating, sketching, sculpting, printmaking, and restoring. *Painters, illustrators, cartoonists, and sketch artists* work with two-dimensional art forms, using shading, perspective, and color to produce realistic scenes or abstractions.

*Illustrators* typically create pictures for books, magazines, and other publications, and for commercial products such as textiles, wrapping paper, stationery, greeting cards, and calen-

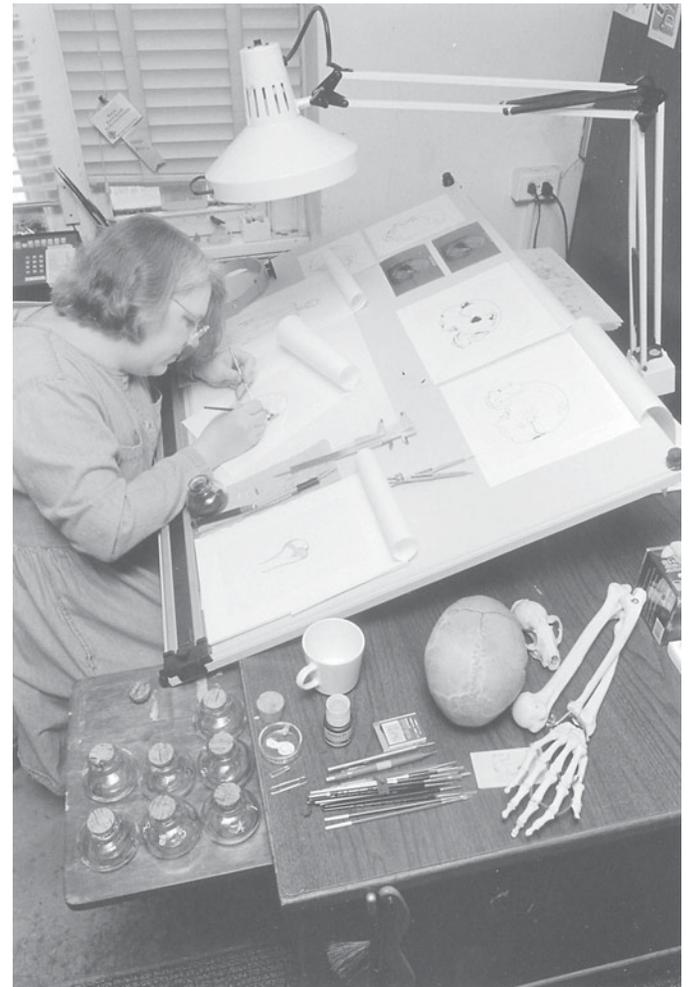
dars. Increasingly, illustrators work in digital format, preparing work directly on a computer.

*Medical and scientific illustrators* combine drawing skills with knowledge of biology or other sciences. Medical illustrators draw illustrations of human anatomy and surgical procedures. Scientific illustrators draw illustrations of animal and plant life, atomic and molecular structures, and geologic and planetary formations. The illustrations are used in medical and scientific publications and in audiovisual presentations for teaching purposes. Medical illustrators also work for lawyers, producing exhibits for court cases.

*Cartoonists* draw political, advertising, social, and sports cartoons. Some cartoonists work with others who create the idea or story and write the captions. Most cartoonists have comic, critical, or dramatic talents in addition to drawing skills.

*Sketch artists* create likenesses of subjects using pencil, charcoal, or pastels. Sketches are used by law enforcement agencies to assist in identifying suspects, by the news media to depict courtroom scenes, and by individual patrons for their own enjoyment.

Sculptors design three-dimensional artworks, either by molding and joining materials such as clay, glass, wire, plastic, fabric, or metal or by cutting and carving forms from a block of plaster, wood, or stone. Some sculptors combine various materials to create mixed-media installations. Some incorporate light, sound, and motion into their works.



*Medical illustrators combine drawing skills with knowledge of the biological sciences.*

*Printmakers* create printed images from designs cut or etched into wood, stone, or metal. After creating the design, the artist inks the surface of the woodblock, stone, or plate and uses a printing press to roll the image onto paper or fabric. Some make prints by pressing the inked surface onto paper by hand or by graphically encoding and processing data, using a computer. The digitized images are then printed on paper with the use of a computer printer.

*Painting restorers* preserve and restore damaged and faded paintings. They apply solvents and cleaning agents to clean the surfaces of the paintings, they reconstruct or retouch damaged areas, and they apply preservatives to protect the paintings. All this is highly detailed work and usually is reserved for experts in the field.

*Multi-media artists and animators* work primarily in motion picture and video industries, advertising, and computer systems design services. They draw by hand and use computers to create the large series of pictures that form the animated images or special effects seen in movies, television programs, and computer games. Some draw storyboards for television commercials, movies, and animated features. Storyboards present television commercials in a series of scenes similar to a comic strip and allow an advertising agency to evaluate proposed commercials with the company doing the advertising. Storyboards also serve as guides to placing actors and cameras on the television or motion picture set and to other details that need to be taken care of during the production of commercials.

### **Working Conditions**

Many artists work in fine- or commercial-art studios located in office buildings, warehouses, or lofts. Others work in private studios in their homes. Some fine artists share studio space, where they also may exhibit their work. Studio surroundings usually are well lighted and ventilated; however, fine artists may be exposed to fumes from glue, paint, ink, and other materials and to dust or other residue from filings, splattered paint, or spilled fluids. Artists who sit at drafting tables or who use computers for extended periods may experience back pain, eye-strain, or fatigue.

Artists employed by publishing companies, advertising agencies, and design firms generally work a standard workweek. During busy periods, they may work overtime to meet deadlines. Self-employed artists can set their own hours, but may spend much time and effort selling their artwork to potential customers or clients and building a reputation.

### **Employment**

Artists held about 149,000 jobs in 2002. More than half were self-employed. Of the artists who were not self-employed, many worked in advertising and related services; newspaper, periodical, book, and software publishers; motion picture and video industries; specialized design services; and computer systems design and related services. Some self-employed artists offered their services to advertising agencies, design firms, publishing houses, and other businesses on a contract or freelance basis.

### **Training, Other Qualifications, and Advancement**

Training requirements for artists vary by specialty. Although formal training is not strictly necessary for fine artists, it is very difficult to become skilled enough to make a living without some training. Many colleges and universities offer programs leading to the Bachelor in Fine Arts (BFA) and Master in Fine Arts (MFA) degrees. Course work usually includes core sub-

jects, such as English, social science, and natural science, in addition to art history and studio art.

Independent schools of art and design also offer postsecondary studio training in the fine arts leading to an Associate in Art or Bachelor in Fine Arts degree. Typically, these programs focus more intensively on studio work than do the academic programs in a university setting. The National Association of Schools of Art and Design accredits more than 200 postsecondary institutions with programs in art and design; most award a degree in art.

Formal educational programs in art also provide training in computer techniques. Computers are used widely in the visual arts, and knowledge and training in computer graphics and other visual display software are critical elements of many jobs in these fields.

Those who want to teach fine arts at public elementary or secondary schools must have a teaching certificate in addition to a bachelor's degree. An advanced degree in fine arts or arts administration is necessary for management or administrative positions in government or in foundations or for teaching in colleges and universities. (See the statements for teachers-postsecondary; and teachers-preschool, kindergarten, elementary, middle, and secondary school teachers elsewhere in the *Handbook*.)

Illustrators learn drawing and sketching skills through training in art programs and through extensive practice. Most employers prefer candidates with a bachelor's degree; however, some illustrators are contracted on the basis of portfolios of their past work.

Medical illustrators must have both a demonstrated artistic ability and a detailed knowledge of living organisms, surgical and medical procedures, and human and animal anatomy. A 4-year bachelor's degree combining art and premedical courses usually is preferred; a master's degree in medical illustration is recommended. This degree is offered in only five accredited schools in the United States.

Evidence of appropriate talent and skill, displayed in an artist's portfolio, is an important factor used by art directors, clients, and others in deciding whether to hire an individual or to contract out work. The portfolio is a collection of handmade, computer-generated, photographic, or printed samples of the artist's best work. Assembling a successful portfolio requires skills usually developed in a bachelor's degree program or through other postsecondary training in art or visual communications. Internships also provide excellent opportunities for artists to develop and enhance their portfolios.

Artists hired by advertising agencies often start with relatively routine work. While doing this work, however, they may observe and practice their skills on the side. Many artists freelance on a part-time basis while continuing to hold a full-time job until they are established. Others freelance part time while still in school, to develop experience and to build a portfolio of published work.

Freelance artists try to develop a set of clients who regularly contract for work. Some freelance artists are widely recognized for their skill in specialties such as magazine or children's book illustration. These artists may earn high incomes and can choose the type of work they do.

Fine artists advance professionally as their work circulates and as they establish a reputation for a particular style. Many of the most successful artists continually develop new ideas, and their work often evolves over time.

## Job Outlook

Employment of artists and related workers is expected to grow about as fast as the average through the year 2012. Because the arts attract many talented people with creative ability, the number of aspiring artists continues to grow. Consequently, competition for both salaried jobs and freelance work in some areas is expected to be keen.

Art directors work in a variety of industries, such as advertising, public relations, publishing, and design firms. Despite an expanding number of opportunities, they should experience keen competition for the available openings.

Fine artists mostly work on a freelance, or commission, basis and may find it difficult to earn a living solely by selling their artwork. Only the most successful fine artists receive major commissions for their work. Competition among artists for the privilege of being shown in galleries is expected to remain acute, and grants from sponsors such as private foundations, State and local arts councils, and the National Endowment for the Arts should remain competitive. Nonetheless, studios, galleries, and individual clients are always on the lookout for artists who display outstanding talent, creativity, and style. Talented fine artists who have developed a mastery of artistic techniques and skills, including computer skills, will have the best job prospects.

The need for artists to illustrate and animate materials for magazines, journals, and other printed or electronic media will spur demand for illustrators and animators of all types. Growth in motion picture and video industries will provide new job opportunities for illustrators, cartoonists, and animators. Competition for most jobs, however, will be strong, because job opportunities are relatively few and the number of people interested in these positions usually exceeds the number of available openings. Employers should be able to choose from among the most qualified candidates.

## Earnings

Median annual earnings of salaried art directors were \$61,850 in 2002. The middle 50 percent earned between \$44,740 and \$85,010. The lowest 10 percent earned less than \$32,410, and the highest 10 percent earned more than \$115,570. Median annual earnings were \$67,340 in advertising and related services.

Median annual earnings of salaried fine artists, including painters, sculptors, and illustrators, were \$35,260 in 2002. The middle 50 percent earned between \$23,970 and \$48,040. The lowest 10 percent earned less than \$16,900, and the highest 10 percent earned more than \$73,560.

Median annual earnings of salaried multi-media artists and animators were \$43,980 in 2002. The middle 50 percent earned between \$33,970 and \$61,120. The lowest 10 percent earned less than \$25,830, and the highest 10 percent earned more than \$85,160. Median annual earnings were \$58,840 in motion picture and video industries.

Earnings for self-employed artists vary widely. Some charge only a nominal fee while they gain experience and build a reputation for their work. Others, such as well-established freelance fine artists and illustrators, can earn more than salaried artists. Many, however, find it difficult to rely solely on income earned from selling paintings or other works of art. Like other self-employed workers, freelance artists must provide their own benefits.

## Related Occupations

Other workers who apply art skills include architects, except landscape and naval; archivists, curators, and museum technicians; designers; landscape architects; and photographers. Some computer-related occupations, including computer software engineers and desktop publishers, may require art skills.

## Sources of Additional Information

For general information about art and design and a list of accredited college-level programs, contact:

► National Association of Schools of Art and Design, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: <http://nasad.arts-accredit.org>

For information on careers in medical illustration, contact:

► Association of Medical Illustrators, 5475 Mark Dabling Blvd., Suite 108, Colorado Springs, CO 80918. Internet: <http://www.ami.org>

# Athletes, Coaches, Umpires, and Related Workers

(0\*NET 27-2021.00, 27-2022.00, 27-2023.00)

## Significant Points

- Work hours are often irregular; travel may be extensive.
- Career-ending injuries are always a risk for athletes.
- Job opportunities for coaches, sports instructors, umpires, referees, and sports officials will be best in high school and other amateur sports.
- Competition for professional athlete jobs will continue to be extremely intense; athletes who seek to compete professionally must have extraordinary talent, desire, and dedication to training.

## Nature of the Work

We are a nation of sports fans and sports players. Interest in watching sports continues at a high level and recreational participation in sports continues to grow. Some of those who participate in amateur sports dream of becoming paid professional athletes, coaches, or sports officials but very few beat the long and daunting odds of making a full-time living from professional athletics. Those athletes who do make it to professional levels find that careers are short and jobs are insecure. Even though the chances of employment as a professional athlete are slim, there are many opportunities for at least a part-time job related to athletics as a coach, instructor, referee, or umpire in amateur athletics and in high schools, colleges, and universities.

*Athletes and sports competitors* compete in organized, officiated sports events to entertain spectators. When playing a game, athletes are required to understand the strategies of their game while obeying the rules and regulations of the sport. The events in which they compete include both team sports—such as baseball, basketball, football, hockey, and soccer—and individual sports—such as golf, tennis, and bowling. As the type of sport varies, so does the level of play, ranging from unpaid high school athletics to professional sports, in which the best from around the world compete before international television audiences.

In addition to competing in athletic events, athletes spend many hours practicing skills and teamwork under the guidance of a coach or sports instructor. Most athletes spend hours in hard practices every day. They also spend additional hours viewing video tapes, in order to critique their own performances and techniques and to scout their opponents' tendencies and weaknesses to gain a competitive advantage. Some athletes may also be advised by *strength trainers* in an effort to gain muscle and stamina, while also preventing injury. Competition at all levels is extremely intense and job security is always precarious. As a result, many athletes train year round to maintain excellent form, technique, and peak physical condition. Very little downtime from the sport exists at the professional level. Athletes also must conform to regimented diets during the height of their sports season to supplement any physical training program. Many athletes push their bodies to the limit during both practice and play, so career-ending injury always is a risk. Even minor injuries to an athlete may put the player at risk of replacement.

*Coaches* organize, instruct, and teach amateur and professional athletes in fundamentals of individual and team sports. In individual sports, *instructors* may sometimes fill this role. Coaches train athletes for competition by holding practice sessions to perform drills and improve the athlete's skills and stamina. Using their expertise in the sport, coaches instruct the athlete on proper form and technique in beginning and, later, in advanced exercises attempting to maximize the players' physical potential. Along with overseeing athletes as they refine their individual skills, coaches also are responsible for managing the team during both practice sessions and competitions, and for instilling good sportsmanship, a competitive spirit, and teamwork. They may also select, store, issue, and inventory equipment, materials, and supplies. During competitions, for example, coaches substitute players for optimum team chemistry and success. In addition, coaches direct team strategy and may call specific plays during competition to surprise or overpower the opponent. To choose the best plays, coaches evaluate or "scout" the opposing team prior to the competition, allowing them to determine game strategies and practice specific plays.

Many coaches in high schools are primarily teachers of academic subjects who supplement their income by coaching part time. College coaches consider coaching a full-time discipline and may be away from home frequently as they travel to scout and recruit prospective players.

*Sports instructors* teach professional and nonprofessional athletes on an individual basis. They organize, instruct, train, and lead athletes of indoor and outdoor sports such as bowling, tennis, golf, and swimming. Because activities are as diverse as weight lifting, gymnastics, and scuba diving, and may include self-defense training such as karate, instructors tend to specialize in one or a few types of activities. Like coaches, sports instructors also may hold daily practice sessions and be responsible for any needed equipment and supplies. Using their knowledge of their sport, physiology, and corrective techniques, they determine the type and level of difficulty of exercises, prescribe specific drills, and correct the athlete's techniques. Some instructors also teach and demonstrate use of training apparatus, such as trampolines or weights, while correcting athletes' weaknesses and enhancing their conditioning. Using their expertise in the sport, sports instructors evaluate the athlete and the athlete's opponents to devise a competitive game strategy.



*Athletes spend many hours practicing skills under the guidance of a coach or sports instructor.*

Coaches and sports instructors sometimes differ in their approach to athletes because of the focus of their work. For example, while coaches manage the team during a game to optimize its chance for victory, sports instructors—such as those who work for professional tennis players—often are not permitted to instruct their athletes during competition. Sports instructors spend more of their time with athletes working one-on-one, which permits them to design customized training programs for each individual. Motivating athletes to play hard challenges most coaches and sports instructors but is vital for the athlete's success. Many coaches and instructors derive great satisfaction working with children or young adults, helping them to learn new physical and social skills and to improve their physical condition, as well as helping them to achieve success in their sport.

*Umpires, referees, and other sports officials* officiate at competitive athletic and sporting events. They observe the play, detect infractions of rules, and impose penalties established by the sports' rules and regulations. Umpires, referees, and sports officials anticipate play and position themselves to best see the action, assess the situation, and determine any violations. Some sports officials, such as boxing referees, may work independently, while others such as umpires—the sports officials of baseball—work in groups. Regardless of the sport, the job is highly stressful because officials are often required to make a decision in a matter of a split second, sometimes resulting in strong disagreement among competitors, coaches, or spectators.

Professional *scouts* evaluate the skills of both amateur and professional athletes to determine talent and potential. As a sports intelligence agent, the scout's primary duty is to seek out top athletic candidates for the team he or she represents, ultimately contributing to team success. At the professional level, scouts typically work for scouting organizations, or as freelance scouts. In locating new talent, scouts perform their work in secrecy so as to not "tip off" their opponents about their interest in certain players. At the college level, the head scout is often an assistant coach, although freelance scouts may aid colleges by providing reports about exceptional players to coaches. Scouts at this level seek talented high school athletes by reading newspapers, contacting high school coaches and alumni, attending high school games, and studying videotapes of prospects' performances.

### **Working Conditions**

Irregular work hours are the trademark of the athlete. They also are common for the coach, as well as umpires, referees, and other sports officials. Athletes, coaches, umpires, and related workers often work Saturdays, Sundays, evenings, and holidays. Athletes and full-time coaches usually work more than 40 hours a week for several months during the sports season, if not most of the year. Some coaches in educational institutions may coach more than one sport, particularly at the high school level.

Athletes, coaches, and sports officials who participate in competitions that are held outdoors may be exposed to all weather conditions of the season; those involved in events that are held indoors tend to work in climate-controlled comfort, often in arenas, enclosed stadiums, or gymnasiums. Athletes, coaches, and some sports officials frequently travel to sporting events by bus or airplane. Scouts also travel extensively in locating talent, often by automobile.

### **Employment**

Athletes, coaches, umpires, and related workers held about 158,000 jobs in 2002. Coaches and scouts held 130,000 jobs; athletes, 15,000; and umpires, referees, and other sports officials, 14,000. Large proportions of athletes, coaches, umpires, and related workers worked part time—about 37 percent, while 17 percent maintained variable schedules. Many sports officials and coaches receive such a small and irregular payment for their services (occasional officiating at club games, for example) that they may not consider themselves employed in these occupations, even part time.

About 27 percent of workers in this occupation were self-employed, earning prize money or fees for lessons, scouting, or officiating assignments, and many other coaches and sports officials, although technically not self-employed, have such irregular or tenuous working arrangements that their working conditions resemble self-employment.

Among those employed in wage and salary jobs, 20 percent held jobs in private educational services. About 12 percent worked in amusement, gambling, and recreation industries, including golf and tennis clubs, gymnasiums, health clubs, judo and karate schools, riding stables, swim clubs, and other sports and recreation-related facilities. Another 7 percent worked in the spectator sports industry.

### **Training, Other Qualifications, and Advancement**

Education and training requirements for athletes, coaches, umpires, and related workers vary greatly by the level and type of sport. Regardless of the sport or occupation, jobs require immense overall knowledge of the game, usually acquired through years of experience at lower levels. Athletes usually begin competing in their sports while in elementary or middle school and continue through high school and sometimes college. They play in amateur tournaments and on high school and college teams, where the best attract the attention of professional scouts. Most schools require that participating athletes maintain specific academic standards to remain eligible to play. Becoming a professional athlete is the culmination of years of effort. Athletes who seek to compete professionally must have extraordinary talent, desire, and dedication to training.

For high school coach and sports instructor jobs, schools usually prefer to hire teachers willing to take on the jobs part time. If no one suitable is found, they hire someone from outside. Some entry-level positions for coaches or instructors require only experience derived as a participant in the sport or activity. Many coaches begin their careers as assistant coaches to gain the necessary knowledge and experience needed to become a head coach. Head coaches at larger schools that strive to compete at the highest levels of a sport require substantial experience as a head coach at another school or as an assistant coach. To reach the ranks of professional coaching, it usually takes years of coaching experience and a winning record in the lower ranks.

Public secondary school head coaches and sports instructors at all levels usually must have a bachelor's degree. (For information on teachers, including those specializing in physical education, see the section on teachers—preschool, kindergarten, elementary, middle, and secondary elsewhere in the *Handbook*.) Those who are not teachers must meet State requirements for certification in order to become a head coach. Certification, however, may not be required for coach and sports instructor jobs in private schools. Degree programs specifically related to coaching include exercise and sports science, physiology, kine-

siology, nutrition and fitness, physical education, and sports medicine.

For sports instructors, certification is highly desirable for those interested in becoming a tennis, golf, karate, or any other kind of instructor. Often, one must be at least 18 years old and CPR certified. There are many certifying organizations specific to the various sports, and their training requirements vary depending on their standards. Participation in a clinic, camp, or school usually is required for certification. Part-time workers and those in smaller facilities are less likely to need formal education or training.

Each sport has specific requirements for umpires, referees, and other sports officials. Referees, umpires, and other sports officials often begin their careers by volunteering for intramural, community, and recreational league competitions. For college refereeing, candidates must be certified by an officiating school and be evaluated during a probationary period. Some larger college conferences require officials to have certification and other qualifications, such as residence in or near the conference boundaries along with previous experience that typically includes several years officiating at high school, community college, or other college conference games.

Standards are even more stringent for officials in professional sports. For umpire jobs in professional baseball, for example, a high school diploma or equivalent is usually sufficient, plus 20/20 vision and quick reflexes. To qualify for the professional ranks, however, prospective candidates must attend professional umpire training school. Currently, there are two schools whose curriculums have been approved by the Professional Baseball Umpires Corporation (PBUC) for training. Top graduates are selected for further evaluation while officiating in a rookie minor league. Umpires then usually need 8 to 10 years of experience in various minor leagues before being considered for major league jobs. Football also is competitive, as candidates must have at least 10 years of officiating experience, with 5 of them at a collegiate varsity or minor professional level. For the National Football League (NFL), prospects are interviewed by clinical psychologists to determine levels of intelligence and ability to handle extremely stressful situations. In addition, the NFL's security department conducts thorough background checks. Potential candidates are likely to be interviewed by a panel from the NFL officiating department and are given a comprehensive examination on the rules of the sport.

Jobs as scouts require experience playing a sport at the college or professional level that enables them to spot young players who possess extraordinary athletic abilities and skills. Most beginning scout jobs are as part-time talent spotters in a particular area or region. Hard work and a record of success often lead to full-time jobs responsible for bigger territories. Some scouts advance to scouting director jobs or various administrative positions in sports.

Athletes, coaches, umpires, and related workers must relate well to others and possess good communication and leadership skills. Coaches also must be resourceful and flexible to successfully instruct and motivate individuals or groups of athletes.

### **Job Outlook**

Employment of athletes, coaches, umpires, and related workers is expected to increase about as fast as the average for all occupations through the year 2012. Employment will grow as the general public continues to increasingly participate in organized sports as a form of entertainment, recreation, and physical conditioning. Job growth also will be driven by the increasing

numbers of baby boomers approaching retirement, during which they are expected to become more active participants of leisure-time activities, such as golf and tennis, and require instruction. The large numbers of the children of baby boomers in high schools and colleges also will be active participants in athletics and require coaches and instructors.

Expanding opportunities are expected for coaches and instructors, as a higher value is being placed upon physical fitness in our society. Americans of all ages are engaging in more physical fitness activities, such as participating in amateur athletic competition and joining athletic clubs, and are being encouraged to participate in physical education. Employment of coaches and instructors also will increase with expansion of school and college athletic programs and growing demand for private sports instruction. Sports-related job growth within education also will be driven by the decisions of local school boards. Population growth dictates the construction of additional schools, particularly in the expanding suburbs. However, funding for athletic programs is often one of the first areas to be cut when budgets become tight, but the popularity of team sports often enables shortfalls to be offset somewhat by assistance from fundraisers, booster clubs, and parents. Persons who are State-certified to teach academic subjects in addition to physical education are likely to have the best prospects for obtaining coach and instructor jobs. The need to replace many high school coaches also will provide some coaching opportunities.

Competition for professional athlete jobs will continue to be extremely intense. Opportunities to make a living as a professional in individual sports such as golf or tennis may grow as new tournaments are established and prize money distributed to participants increases. Most professional athletes' careers last only several years due to debilitating injuries and age, so a large proportion of the athletes in these jobs is replaced every year, creating some job opportunities. However, a far greater number of talented young men and women dream of becoming a sports superstar and will be competing for a very limited number of job openings.

Opportunities should be best for persons seeking part-time umpire, referee, and other sports official jobs at the high school level, but competition is expected for higher paying jobs at the college level, and even greater competition for jobs in professional sports. Competition should be very keen for jobs as scouts, particularly for professional teams, as the number of available positions is limited.

### **Earnings**

Median annual earnings of athletes were \$45,320 in 2002. The lowest 10 percent earned less than \$14,090, and the highest 10 percent earned more than \$145,600. However, the highest paid professional athletes earn salaries far in excess of these estimates.

Median annual earnings of umpires and related workers were \$20,540 in 2002. The middle 50 percent earned between \$16,210 and \$29,490. The lowest 10 percent earned less than \$13,760, and the highest 10 percent earned more than \$40,350.

Median annual earnings of coaches and scouts were \$27,880 in 2002. The middle 50 percent earned between \$17,890 and \$42,250. The lowest 10 percent earned less than \$13,370, and the highest 10 percent earned more than \$60,230. Median annual earnings in the industries employing the largest numbers of coaches and scouts in 2002 were as follows:

Colleges, universities, and professional schools .....	\$36,170
Other amusement and recreation industries .....	25,900
Elementary and secondary schools .....	24,740
Other schools and instruction .....	22,570

Earnings vary by education level, certification, and geographic region. Some instructors and coaches are paid a salary, while others may be paid by the hour, per session, or based on the number of participants.

**Related Occupations**

Athletes and coaches have extensive knowledge of physiology and sports, and instruct, inform, and encourage participants. Other workers with similar duties include dietitians and nutritionists; physical therapists; recreation and fitness workers; recreational therapists; and teachers—preschool, kindergarten, elementary, middle, and secondary.

**Sources of Additional Information**

- For general information on coaching, contact:
- ▶ National High School Athletic Coaches Association, P.O. Box 4342, Hamden, CT 06514. Internet: <http://www.hscoaches.org>
- For information about sports officiating for team and individual sports, contact:
- ▶ National Association of Sports Officials, 2017 Lathrop Ave., Racine, WI 53405. Internet: <http://www.naso.org>

# Broadcast and Sound Engineering Technicians and Radio Operators

(0\*NET 27-4011.00, 27-4012.00, 27-4013.00, 27-4014.00)

## Significant Points

- Job applicants face strong competition for jobs in major metropolitan areas, where pay generally is higher; prospects are better in small cities and towns.
- Technical school, community college, or college training in electronics, computer networking, or broadcast technology provides the best preparation.
- About 32 percent work in broadcasting, mainly for radio and television stations, and 16 percent work in the motion picture and sound recording industries.
- Evening, weekend, and holiday work is common.

## Nature of the Work

Broadcast and sound engineering technicians and radio operators set up, operate, and maintain a wide variety of electrical and electronic equipment involved in almost any radio or television broadcast, concert, play, musical recording, television show, or movie. With such a range of work, there are many specialized occupations within the field.

Audio and video equipment technicians set up and operate audio and video equipment, including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. They may also set up and operate associated spotlights and other custom lighting systems.

Broadcast technicians set up, operate, and maintain equipment that regulates the signal strength, clarity, and range of sounds and colors of radio or television broadcasts. They also operate control panels to select the source of the material. Technicians may switch from one camera or studio to another, from film to live programming, or from network to local programming.

Sound engineering technicians operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in recording studios, sporting arenas, theater productions, or movie and video productions.

Radio operators mainly receive and transmit communications using a variety of tools. They also are responsible for repairing equipment, using such devices as electronic testing equipment, handtools, and power tools. One of their major duties is to help to maintain communication systems in good condition.

Broadcast and sound engineering technicians and radio operators perform a variety of duties in small stations. In large stations and at the networks, technicians are more specialized, although job assignments may change from day to day. The terms “operator,” “engineer,” and “technician” often are used interchangeably to describe these jobs. Workers in these positions may monitor and log outgoing signals and operate transmitters; set up, adjust, service, and repair electronic broadcasting equipment; and regulate fidelity, brightness, contrast, volume, and sound quality of television broadcasts.

Technicians also work in program production. *Recording engineers* operate and maintain video and sound recording equipment. They may operate equipment designed to produce special effects, such as the illusions of a bolt of lightning or a police siren. *Sound mixers* or *rerecording mixers* produce the soundtrack of a movie or television program. After filming or recording is complete, they may use a process called “dubbing” to insert sounds. *Field technicians* set up and operate portable transmission equipment outside the studio. Television news coverage requires so much electronic equipment, and the technology is changing so rapidly, that many stations assign technicians exclusively to news.

Chief engineers, *transmission engineers*, and *broadcast field supervisors* oversee other technicians and maintain broadcasting equipment.

The transition to digital recording, editing, and broadcasting has greatly changed the work of broadcast and sound engineering technicians and radio operators. Software on desktop computers has replaced specialized electronic equipment in many recording and editing functions. Most radio and television stations have replaced video and audio tapes with computer hard drives and other computer data storage systems. Computer networks linked to the specialized equipment dominate modern broadcasting. This transition has forced technicians to learn computer networking and software skills. (See the statement on computer support specialists and systems administrators elsewhere in the *Handbook*.)

## Working Conditions

Broadcast and sound engineering technicians and radio operators generally work indoors in pleasant surroundings. However, those who broadcast news and other programs from locations outside the studio may work outdoors in all types of weather. Technicians doing maintenance may climb poles or antenna towers, while those setting up equipment do heavy lifting.

Technicians at large stations and the networks usually work a 40-hour week under great pressure to meet broadcast deadlines, and may occasionally work overtime. Technicians at small stations routinely work more than 40 hours a week.



*Audio and video equipment technicians monitor and adjust sound and mixing boards.*

Evening, weekend, and holiday work is usual, because most stations are on the air 18 to 24 hours a day, 7 days a week. Even though a technician may not be on duty when the station is broadcasting, some technicians may be on call during nonwork hours; that is, they must handle any problems that occur when they are on call.

Those who work on motion pictures may be on a tight schedule and may work long hours to meet contractual deadlines.

## Employment

Broadcast and sound engineering technicians and radio operators held about 93,000 jobs in 2002. Their employment was distributed among the following detailed occupations:

Audio and video equipment technicians .....	42,000
Broadcast technicians .....	5,000
Sound engineering technicians .....	13,000
Radio operators .....	3,000

About 32 percent worked in broadcasting (except Internet) and 16 percent worked in the motion picture and sound recording industries. Almost 1 in 10 were self-employed. Television stations employ, on average, many more technicians than do radio stations. Some technicians are employed in other industries, producing employee communications, sales, and training programs. Technician jobs in television are located in virtually all cities, whereas jobs in radio also are found in many small towns. The highest paying and most specialized jobs are concentrated in New York City, Los Angeles, Chicago, and Washington, DC—the originating centers for most network or news programs. Motion picture production jobs are concentrated in Los Angeles and New York City.

## Training, Other Qualifications, and Advancement

The best way to prepare for a broadcast and sound engineering technician job is to obtain technical school, community college, or college training in electronics, computer networking, or broadcast technology. In the motion picture industry, people are hired as apprentice editorial assistants and work their way up to more skilled jobs. Employers in the motion picture industry usually hire experienced freelance technicians on a picture-by-picture basis. Reputation and determination are important in getting jobs.

Beginners learn skills on the job from experienced technicians and supervisors. They often begin their careers in small stations and, once experienced, move on to larger ones. Large stations usually hire only technicians with experience. Many employers pay tuition and expenses for courses or seminars to help technicians keep abreast of developments in the field.

Audio and video equipment technicians generally need a high school diploma. Many recent entrants have a community college degree or various other forms of postsecondary degrees, although that is not always a requirement. They may substitute on-the-job training for formal education requirements. Working in a studio, as an assistant, is a great way of gaining experience and knowledge.

Radio operators do not usually require any formal training. This is an entry-level position that generally requires on-the-job training.

The Federal Communications Commission no longer requires the licensing of broadcast technicians, as the Telecommunications Act of 1996 eliminated this licensing requirement. Certification by the Society of Broadcast Engineers is a mark of competence and experience. The certificate is issued to experienced technicians who pass an examination.

Prospective technicians should take high school courses in math, physics, and electronics. Building electronic equipment from hobby kits and operating a “ham,” or amateur, radio are good experience, as is work in college radio and television stations.

Broadcast and sound engineering technicians and radio operators must have manual dexterity and an aptitude for working with electrical, electronic, and mechanical systems and equipment.

Experienced technicians can become supervisory technicians or chief engineers. A college degree in engineering is needed in order to become chief engineer at a large television station.

## Job Outlook

People seeking entry-level jobs as technicians in broadcasting are expected to face strong competition in major metropolitan areas, where pay generally is higher and the number of qualified jobseekers typically exceeds the number of openings. There, stations seek highly experienced personnel. Prospects for entry-level positions usually are better in small cities and towns for beginners with appropriate training.

Overall employment of broadcast and sound engineering technicians and radio operators is expected to about as fast as the average for all occupations through the year 2012. Job growth in radio and television broadcasting will be limited by consolidation of ownership of radio and television stations, and by laborsaving technical advances such as computer-controlled programming and remotely controlled transmitters. Changes to Federal Communications Commission (FCC) regulations now allow a single owner for up to eight radio stations in a single large market, and rules changes under consideration may have a similar impact on the ownership of television stations. Owners of multiple stations often consolidate the stations into a single location, reducing employment because one or a few technicians can provide support to multiple stations. Technicians who know how to install transmitters will be in demand as television stations install digital transmitters. Although most television stations are broadcasting in both analog and digital formats and plan to switch entirely to digital, radio stations are only beginning to broadcast digital signals.

Employment of broadcast and sound engineering technicians in the cable and pay television portion of the broadcasting industry should grow as the range of services is expanded to provide, such products as cable Internet access and video-on-demand. Employment of these workers in the motion picture industry will grow rapidly. However, job prospects are expected to remain competitive because of the large number of people who are attracted by the glamour of working in motion pictures.

Projected job growth varies among detailed occupations in this field. Employment of broadcast technicians is expected to grow about as fast as the average for all occupations through 2012, as advancements in technology enhance the capabilities of technicians to produce higher quality radio and television programming. Employment of radio operators is expected to

decline as more stations operate transmitters that control programming remotely. Employment of audio and video equipment technicians and sound engineering technicians is expected to grow faster than the average for all occupations. Not only will these workers have to set up audio and video equipment, but it will be necessary for them to maintain and repair this equipment.

In addition to employment growth, job openings also will result from the need to replace experienced technicians who leave this field. Some of these workers leave for other jobs that require knowledge of electronics, such as computer repairer or industrial machinery repairer.

### **Earnings**

Television stations usually pay higher salaries than do radio stations; commercial broadcasting usually pays more than public broadcasting; and stations in large markets pay more than those in small markets.

Median annual earnings of broadcast technicians in 2002 were \$27,760. The middle 50 percent earned between \$18,860 and \$45,200. The lowest 10 percent earned less than \$14,600, and the highest 10 percent earned more than \$65,970.

Median annual earnings of sound engineering technicians in 2002 were \$36,970. The middle 50 percent earned between \$24,330 and \$57,350. The lowest 10 percent earned less than \$18,540, and the highest 10 percent earned more than \$82,510.

Median annual earnings of audio and video equipment technicians in 2002 were \$31,110. The middle 50 percent earned between \$22,670 and \$43,950. The lowest 10 percent earned less than \$17,710, and the highest 10 percent earned more than \$61,420.

Median annual earnings of radio operators in 2002 were \$31,530. The middle 50 percent earned between \$24,000 and \$41,430. The lowest 10 percent earned less than \$17,380, and the highest 10 percent earned more than \$56,340.

### **Related Occupations**

Broadcast and sound engineering technicians and radio operators need the electronics training necessary to operate technical equipment, and they generally complete specialized postsecondary programs. Occupations with similar characteristics include engineering technicians, science technicians, and electrical and electronics installers and repairers. Broadcast and sound engineering technicians also may operate computer networks, as do computer support specialists and systems administrators. Broadcast technicians on some live radio and television programs are responsible for screening incoming calls, similar to the work of communications equipment operators.

### **Sources of Additional Information**

For career information and links to employment resources, contact:

► National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036. Internet: <http://www.nab.org>

For information on certification, contact:

► Society of Broadcast Engineers, 9247 North Meridian St., Suite 305, Indianapolis, IN 46260. Internet: <http://www.sbe.org>

# Dancers and Choreographers

(0\*NET 27-2031.00, 27-2032.00)

## Significant Points

- Many dancers stop performing by their late thirties; however, some remain in the field as choreographers, dance teachers, or artistic directors.
- Most dancers begin formal training at an early age—between 5 and 15—and many have their first professional audition by age 17 or 18.
- Dancers and choreographers face intense competition—only the most talented find regular work.

## Nature of the Work

From ancient times to the present, dancers have expressed ideas, stories, and rhythm with their bodies. They use a variety of dance forms that allow free movement and self-expression, including classical ballet, modern dance, and culturally specific dance styles. Many dancers combine performance work with teaching or choreography.

Dancers perform in a variety of settings, such as musical productions, and may present folk, ethnic, tap, jazz, and other popular kinds of dance. They also perform in opera, musical theater, television, movies, music videos, and commercials, in which they also may sing and act. Dancers most often perform as part of a group, although a few top artists perform solo.

Many dancers work with choreographers, who create original dances and develop new interpretations of existing dances. Because few dance routines are written down, choreographers instruct performers at rehearsals to achieve the desired effect. In addition, choreographers often are involved in auditioning performers.

## Working Conditions

Dance is strenuous. Many dancers stop performing by their late thirties because of the physical demands on the body. However, some continue to work in the field as choreographers, dance teachers and coaches, or artistic directors. Others move into administrative positions, such as company managers. A few celebrated dancers, however, continue performing beyond the age of 50.

Daily rehearsals require very long hours. Many dance companies tour for part of the year to supplement a limited performance schedule at home. Dancers who perform in musical productions and other family entertainment spend much of their time on the road; others work in nightclubs or on cruise ships. Most dance performances are in the evening, whereas rehearsals and practice take place during the day. As a result, dancers often work very long and late hours. Generally, dancers and choreographers work in modern and temperature-controlled facilities; however, some studios may be older and less comfortable.

## Employment

Professional dancers and choreographers held about 37,000 jobs in 2002. Many others were between engagements, so that the total number of people available for work as dancers over the course of the year was greater. Dancers and choreographers worked in a variety of industries, such as private educational services, which includes dance studios and schools, as well as

colleges and universities; food services and drinking establishments; performing arts companies, which includes dance, theater, and opera companies; and amusement and recreation venues, such as casinos and theme parks. Almost one fifth of dancers and choreographers are self-employed.

New York City is home to many major dance companies; however, full-time professional dance companies operate in most major cities.

## Training, Other Qualifications, and Advancement

Training varies with the type of dance and is a continuous part of all dancers' careers. Many dancers and dance instructors believe that dancers should start with a good foundation in classical dance before selecting a particular dance style. Ballet training for women usually begins at 5 to 8 years of age with a private teacher or through an independent ballet school. Serious training traditionally begins between the ages of 10 and 12. Men often begin their ballet training between the ages of 10 and 15. Students who demonstrate potential in their early teens receive more intensive and advanced professional training. At about this time, students should begin to focus their training on a particular style and decide whether to pursue additional training through a dance company's school or a college dance program. Leading dance school companies often have summer training programs from which they select candidates for admission to their regular full-time training programs. Formal training for modern and culturally specific dancers often begins later than training in ballet; however, many folk dance forms are taught to very young children.

Many dancers have their first professional auditions by age 17 or 18. Training is an important component of professional dancers' careers. Dancers normally spend 8 hours a day in class and rehearsal, keeping their bodies in shape and preparing for performances. Their daily training period includes time to warm up and cool down before and after classes and rehearsals.

Because of the strenuous and time-consuming dance training required, some dancers view formal education as secondary. However, a broad, general education including music, literature, history, and the visual arts is helpful in the interpretation of dramatic episodes, ideas, and feelings. Dancers some-



*Dancers spend considerable time warming up and practicing in rehearsal halls or dance studios.*

times conduct research to learn more about the part they are playing.

Many colleges and universities award bachelor's or master's degrees in dance, typically through departments of music, theater, or fine arts. The National Association of Schools of Dance accredits 57 programs in dance. Many programs concentrate on modern dance, but some also offer courses in jazz, culturally specific, ballet, or classical techniques; dance composition, history, and criticism; and movement analysis.

A college education is not essential to obtaining employment as a professional dancer; however, many dancers obtain degrees in unrelated fields to prepare themselves for careers after dance. The completion of a college program in dance and education is essential in order to qualify to teach dance in college, high school, or elementary school. Colleges and conservatories sometimes require graduate degrees, but may accept performance experience. A college background is not necessary, however, for teaching dance or choreography in local recreational programs. Studio schools usually require teachers to have experience as performers.

Because of the rigorous practice schedules of most dancers, self-discipline, patience, perseverance, and a devotion to dance are essential for success in the field. Dancers also must possess good problem-solving skills and an ability to work with people. Good health and physical stamina also are necessary attributes. Above all, dancers must have flexibility, agility, coordination, grace, a sense of rhythm, a feeling for music, and a creative ability to express themselves through movement.

Dancers seldom perform unaccompanied, so they must be able to function as part of a team. They should also be highly motivated and prepared to face the anxiety of intermittent employment and rejections when auditioning for work. For dancers, advancement takes the form of a growing reputation, more frequent work, bigger and better roles, and higher pay.

Choreographers typically are older dancers with years of experience in the theater. Through their performance as dancers, they develop reputations that often lead to opportunities to choreograph productions.

### **Job Outlook**

Dancers and choreographers face intense competition for jobs. Only the most talented find regular employment.

Employment of dancers and choreographers is expected to grow about as fast as the average for all occupations through 2012. The public's continued interest in dance will sustain larger dance companies; however, funding from public and private organizations is not expected to keep pace with rising production costs. For many small and midsize organizations, the result will be fewer performances and more limited employment opportunities. Although job openings will arise each year because dancers and choreographers retire or leave the occupation for other reasons, the number of applicants will continue to vastly exceed the number of job openings.

National dance companies should continue to provide jobs in this field. Opera companies and dance groups affiliated with colleges and universities and with television and motion pictures also will offer some opportunities. Moreover, the growing popularity of dance in recent years has resulted in increased opportunities to teach dance. Finally, music video channels will provide some opportunities for both dancers and choreographers.

### **Earnings**

Median annual earnings of salaried dancers were \$21,100 in 2002. The middle 50 percent earned between \$14,570 and \$34,660. The lowest 10 percent earned less than \$12,880, and the highest 10 percent earned more than \$53,350.

Median annual earnings of salaried choreographers were \$29,470 in 2002. The middle 50 percent earned between \$19,590 and \$43,720. The lowest 10 percent earned less than \$14,000, and the highest 10 percent earned more than \$57,590. Median annual earnings were \$29,820 in other schools and instruction, which includes dance studios and schools.

Dancers who were on tour received an additional allowance for room and board, as well as extra compensation for overtime. Earnings from dancing are usually low, because employment is part year and irregular. Dancers often supplement their income by working as guest artists with other dance companies, teaching dance, or taking jobs unrelated to the field.

Earnings of many professional dancers are governed by union contracts. Dancers in the major opera ballet, classical ballet, and modern dance corps belong to the American Guild of Musical Artists, Inc. of the AFL-CIO; those who appear on live or videotaped television programs belong to the American Federation of Television and Radio Artists; those who perform in films and on television belong to the Screen Actors Guild; and those in musical theater are members of the Actors' Equity Association. The unions and producers sign basic agreements specifying minimum salary rates, hours of work, benefits, and other conditions of employment. However, the contract each dancer signs with the producer of the show may be more favorable than the basic agreement.

Dancers and choreographers covered by union contracts are entitled to some paid sick leave, paid vacations, and various health and pension benefits, including extended sick pay and family-leave benefits provided by their unions. Employers contribute toward these benefits. Those not covered by union contracts usually do not enjoy such benefits.

### **Related Occupations**

People who work in other performing arts occupations include actors, producers, and directors; and musicians, singers, and related workers. Those directly involved in the production of dance programs include set and exhibit designers; fashion designers; and barbers, cosmetologists, and other personal appearance workers. Like dancers, athletes, coaches, umpires, and related workers need strength, flexibility, and agility.

### **Sources of Additional Information**

For general information about dance and a list of accredited college-level programs, contact:

► National Association of Schools of Dance, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: <http://nasd.arts-accredit.org>

For information about dance and dance companies, contact:

► Dance/USA, 1156 15th St. NW., Suite 820, Washington, DC 20005. Internet: <http://www.danceusa.org>

## Designers

(0\*NET 27-1021.00, 27-1022.00, 27-1023.00, 27-1024.00, 27-1025.00, 27-1026.00, 27-1027.01, 27-1027.02)

### Significant Points

- Nearly one-third of designers were self-employed—almost five times the proportion for all professional and related occupations.
- Creativity is crucial in all design occupations; most designers need a bachelor's degree, and candidates with a master's degree hold an advantage.
- Keen competition is expected for most jobs, despite average projected employment growth, because many talented individuals are attracted to careers as designers.

### Nature of the Work

Designers are people with a desire to create. They combine practical knowledge with artistic ability to turn abstract ideas into formal designs for the merchandise we buy, the clothes we wear, the Web sites we use, the publications we read, and the living and office space we inhabit. Designers usually specialize in a particular area of design, such as automobiles, industrial or medical equipment, home appliances, clothing and textiles, floral arrangements, publications, Web sites, logos, signage, movie or TV credits, interiors of homes or office buildings, merchandise displays, or movie, television, and theater sets.

The first step in developing a new design or altering an existing one is to determine the needs of the client, the ultimate function for which the design is intended, and its appeal to customers or users. When creating a design, designers often begin by researching the desired design characteristics, such as size, shape, weight, color, materials used, cost, ease of use, fit, and safety.

Designers then prepare sketches or diagrams—by hand or with the aid of a computer—to illustrate the vision for the design. After consulting with the client, a creative director, or a product development team, designers create detailed designs, using drawings, a structural model, computer simulations, or a full-scale prototype. Many designers use computer-aided design (CAD) tools to create and better visualize the final product. Computer models allow ease and flexibility in exploring a greater number of design alternatives, thus reducing design costs and cutting the time it takes to deliver a product to market. Industrial designers use computer-aided industrial design (CAID) tools to create designs and machine-readable instructions that communicate with automated production tools.

Designers sometimes supervise assistants who carry out their creations. Designers who run their own businesses also may devote a considerable amount of time to developing new business contacts, examining equipment and space needs, and performing administrative tasks, such as reviewing catalogues and ordering samples. The need for up-to-date computer and communications equipment is an ongoing consideration for many designers, especially those in industrial and graphic design.

Design encompasses a number of different fields. Many designers specialize in a particular area of design, whereas others work in more than one area.

*Commercial and industrial designers* develop countless manufactured products, including airplanes; cars; children's

toys; computer equipment; furniture; home appliances; and medical, office, and recreational equipment. They combine artistic talent with research on the use of a product, on customer needs, and on marketing, materials, and production methods to create the most functional and appealing design that will be competitive with others in the marketplace. Industrial designers typically concentrate in a subspecialty such as kitchen appliances, auto interiors, or plastic-molding machinery.

*Fashion designers* design clothing and accessories. Some high-fashion designers are self-employed and design for individual clients. Other high-fashion designers cater to specialty stores or high-fashion department stores. These designers create original garments, as well as clothing that follows established fashion trends. Most fashion designers, however, work for apparel manufacturers, creating designs of men's, women's, and children's fashions for the mass market.

*Floral designers* cut and arrange live, dried, or artificial flowers and foliage into designs, according to the customer's order. They design arrangements by trimming flowers and arranging bouquets, sprays, wreaths, dish gardens, and terrariums. They may either meet with customers to discuss the arrangement or work from a written order. Floral designers make note of the occasion, the customer's preference with regard to the color and type of flower involved, the price of the completed order, the time at which the floral arrangement or plant is to be ready, and



*Interior designers refer to swatches from sample books to plan the space and furnish the interiors of buildings.*

the place to which it is to be delivered. The variety of duties performed by floral designers depends on the size of the shop and the number of designers employed. In a small operation, floral designers may own their shops and do almost everything, from growing and purchasing flowers to keeping financial records.

*Graphic designers* plan, analyze, and create visual solutions to communications problems. They use a variety of print, electronic, and film media and technologies to execute a design that meet clients' communication needs. They consider cognitive, cultural, physical, and social factors in planning and executing designs appropriate for a given context. Graphic designers use computer software to develop the overall layout and production design of magazines, newspapers, journals, corporate reports, and other publications. They also produce promotional displays and marketing brochures for products and services, design distinctive logos for products and businesses, and develop signs and signage systems—called environmental graphics—for business and government. An increasing number of graphic designers are developing material for Internet Web pages, computer interfaces, and multimedia projects. Graphic designers also produce the credits that appear before and after television programs and movies.

*Interior designers* enhance the function, safety, and quality of interior spaces of private homes, public buildings, and business or institutional facilities, such as offices, restaurants, retail establishments, hospitals, hotels, and theaters. They also plan the interiors of existing structures that are undergoing renovation or expansion. Most interior designers specialize. For example, some may concentrate on residential design, while others focus on business design. Still others may specialize further by focusing on particular rooms, such as kitchens or baths. With a client's tastes, needs, and budget in mind, interior designers prepare drawings and specifications for non-load-bearing interior construction, furnishings, lighting, and finishes. Increasingly, designers are using computers to plan layouts, because computers make it easy to change plans to include ideas received from the client. Interior designers also design lighting and architectural details—such as crown molding, built-in bookshelves, or cabinets—coordinate colors, and select furniture, floor coverings, and window treatments. Interior designers must design space to conform to Federal, State, and local laws, including building codes. Designs for public areas also must meet accessibility standards for the disabled and the elderly.

*Merchandise displayers and window dressers, or visual merchandisers*, plan and erect commercial displays, such as those in windows and interiors of retail stores or at trade exhibitions. Those who work on building exteriors erect major store decorations, including building and window displays and lights. Those who design store interiors outfit store departments, arrange table displays, and dress mannequins. In large retail chains, store layouts typically are designed corporately, through a central design department. To retain the chain's visual identity and ensure that a particular image or theme is promoted in each store, designs are distributed to individual stores by e-mail, downloaded to computers equipped with the appropriate design software, and adapted to meet the size and dimension requirements of each individual store.

*Set and exhibit designers* create sets for movie, television, and theater productions and design special exhibition displays. Set designers study scripts, confer with directors and other designers, and conduct research to determine the historical period,

fashion, and architectural styles appropriate for the production on which they work. They then produce sketches or scale models to guide in the construction of the actual sets or exhibit spaces. Exhibit designers work with curators, art and museum directors, and trade-show sponsors to determine the most effective use of available space.

### **Working Conditions**

Working conditions and places of employment vary. Designers employed by manufacturing establishments, large corporations, or design firms generally work regular hours in well-lighted and comfortable settings. Designers in smaller design consulting firms, or those who freelance, generally work on a contract, or job, basis. They frequently adjust their workday to suit their clients' schedules and deadlines, meeting with the clients during evening or weekend hours when necessary. Consultants and self-employed designers tend to work longer hours and in smaller, more congested, environments.

Designers may transact business in their own offices or studios or in clients' homes or offices. They also may travel to other locations, such as showrooms, design centers, clients' exhibit sites, and manufacturing facilities. Designers who are paid by the assignment are under pressure to please clients and to find new ones in order to maintain a steady income. All designers sometimes face frustration when their designs are rejected or when their work is not as creative as they wish. With the increased speed and sophistication of computers and advanced communications networks, designers may form international design teams, serve a geographically more dispersed clientele, research design alternatives by using information on the Internet, and purchase supplies electronically, all with the aid of a computer in their workplace or studio.

Occasionally, industrial designers may work additional hours to meet deadlines. Similarly, graphic designers usually work regular hours, but may work evenings or weekends to meet production schedules. In contrast, set and exhibit designers work long and irregular hours; often, they are under pressure to make rapid changes. Merchandise displayers and window trimmers may spend much of their time designing displays in their office or studio, but those who also construct and install the displays may have to move lumber and heavy materials and perform some carpentry and painting. Fashion designers may work long hours to meet production deadlines or prepare for fashion shows. In addition, fashion designers may be required to travel to production sites across the United States and overseas. Interior designers generally work under deadlines and may put in extra hours to finish a job. Also, they typically carry heavy, bulky sample books to meetings with clients. Floral designers generally work regular hours in a pleasant work environment, but holiday, wedding, and funeral orders often require overtime.

### **Employment**

Designers held about 532,000 jobs in 2002. Approximately one-third were self-employed. Employment was distributed as follows:

Graphic designers .....	212,000
Floral designers .....	104,000
Merchandise displayers and window trimmers .....	77,000
Interior designers .....	60,000
Commercial and industrial designers .....	52,000
Fashion designers .....	15,000
Set and exhibit designers .....	12,000

Salaried designers worked in a number of different industries, depending on their design specialty. Graphic designers, for example, worked primarily in specialized design services; newspaper, periodical, book, and directory publishers; and advertising and related services. Floral designers were concentrated in retail florists or floral departments of grocery stores. Merchandise displayers and window trimmers were dispersed across a variety of retailers and wholesalers. Interior designers generally worked in specialized design services or in retail furniture stores. Most commercial and industrial designers were employed in manufacturing or architectural, engineering, and related services. Fashion designers generally worked in apparel manufacturing or wholesale distribution of apparel, piece goods, and notions. Set and exhibit designers worked primarily for performing arts companies, movie and video industries, and radio and television broadcasting.

In 2002, a large proportion of designers were self-employed and did freelance work—full time or part time—in addition to holding a salaried job in design or in another occupation.

### **Training, Other Qualifications, and Advancement**

Creativity is crucial in all design occupations. People in this field must have a strong sense of the esthetic—an eye for color and detail, a sense of balance and proportion, and an appreciation for beauty. Designers also need excellent communication and problem-solving skills. Despite the advancement of computer-aided design, sketching ability remains an important advantage in most types of design, especially fashion design. A good portfolio—a collection of examples of a person's best work—often is the deciding factor in getting a job.

A bachelor's degree is required for most entry-level design positions, except for floral design and visual merchandising. Esthetic ability is important in floral design and visual merchandising, but formal preparation typically is not necessary. Many candidates in industrial design pursue a master's degree to increase their chances of selection for open positions.

Interior design is the only design field subject to government regulation. According to the American Society of Interior Designers, 22 States and the District of Columbia register or license interior designers. Passing the National Council for Interior Design Qualification examination is required for registration or licensure in these jurisdictions. To be eligible to take the exam, an applicant must have at least 6 years of combined education and experience in interior design, of which at least 2 years constitute postsecondary education in design. Because registration or licensure is not mandatory in all States, membership in a professional association is an indication of an interior designer's qualifications and professional standing, and can aid in obtaining clients.

In fashion design, employers seek individuals with a 2- or 4-year degree who are knowledgeable in the areas of textiles, fabrics, and ornamentation, and about trends in the fashion world. Set and exhibit designers typically have college degrees in design. A Master of Fine Arts degree from an accredited university program further establishes one's design credentials. For set designers, membership in the United Scenic Artists, Local 829, is recognized nationally as the attainment of professional standing in the field.

Most floral designers learn their skills on the job. When employers hire trainees, they generally look for high school graduates who have a flair for arranging and a desire to learn. The completion of formal design training, however, is an asset for floral designers, particularly those interested in advancing

to chief floral designer or in opening their own businesses. Vocational and technical schools offer programs in floral design, usually lasting less than a year, while 2- and 4-year programs in floriculture, horticulture, floral design, or ornamental horticulture are offered by community and junior colleges, colleges, and universities. The American Institute of Floral Designers offers an accreditation examination to its members as an indication of professional achievement in floral design.

Formal training for some design professions also is available in 2- and 3-year professional schools that award certificates or associate degrees in design. Graduates of 2-year programs normally qualify as assistants to designers, or they may enter a formal bachelor's degree program. The Bachelor of Fine Arts degree is granted at 4-year colleges and universities. The curriculum in these schools includes art and art history, principles of design, designing and sketching, and specialized studies for each of the individual design disciplines, such as garment construction, textiles, mechanical and architectural drawing, computerized design, sculpture, architecture, and basic engineering. A liberal arts education or a program that includes training in business or project management, together with courses in merchandising, marketing, and psychology, along with training in art, is recommended for designers who want to freelance. In addition, persons with training or experience in architecture qualify for some design occupations, particularly interior design.

Employers increasingly expect new designers to be familiar with computer-aided design software as a design tool. For example, industrial designers use computers extensively in the aerospace, automotive, and electronics industries. Interior designers use computers to create numerous versions of interior space designs—images can be inserted, edited, and replaced easily and without added cost—making it possible for a client to see and choose among several designs.

The National Association of Schools of Art and Design accredits more than 200 postsecondary institutions with programs in art and design. Most of these schools award a degree in art, and some award degrees in industrial, interior, textile, graphic, or fashion design. Many schools do not allow formal entry into a bachelor's degree program until a student has successfully finished a year of basic art and design courses. Applicants may be required to submit sketches and other examples of their artistic ability.

The Foundation for Interior Design Education Research also accredits interior design programs that lead to a bachelor's degree. There are about 120 accredited professional programs in the United States, located primarily in schools of art, architecture, and home economics.

Individuals in the design field must be creative, imaginative, and persistent and must be able to communicate their ideas in writing, visually, and verbally. Because tastes in style and fashion can change quickly, designers need to be well read, open to new ideas and influences, and quick to react to changing trends. Problem-solving skills and the ability to work independently and under pressure are important traits. People in this field need self-discipline to start projects on their own, to budget their time, and to meet deadlines and production schedules. Good business sense and sales ability also are important, especially for those who freelance or run their own business.

Beginning designers usually receive on-the-job training and normally need 1 to 3 years of training before they can advance to higher level positions. Experienced designers in large firms may advance to chief designer, design department head, or other

supervisory positions. Some designers leave the occupation to become teachers in design schools or in colleges and universities. Many faculty members continue to consult privately or operate small design studios to complement their classroom activities. Some experienced designers open their own firms.

### Job Outlook

Overall employment of designers is expected to grow about as fast as the average for all occupations through the year 2012 as the economy expands and consumers, businesses, and manufacturers continue to rely on the services provided by designers. However, designers in most fields—with the exception of floral design—are expected to face keen competition for available positions. Many talented individuals are attracted to careers as designers. Individuals with little or no formal education in design, as well as those who lack creativity and perseverance, will find it very difficult to establish and maintain a career in the occupation.

Among the design specialties, graphic designers are projected to provide the most new jobs. Demand for graphic designers should increase because of the rapidly expanding market for Web-based information and expansion of the video entertainment market, including television, movies, video, and made-for-Internet outlets.

Rising demand for interior design of private homes, offices, restaurants and other retail establishments, and institutions that care for the rapidly growing elderly population should spur employment growth of interior designers. New jobs for floral designers are expected to stem mostly from the relatively high replacement needs in retail florists that result from comparatively low starting pay and limited opportunities for advancement. The majority of new jobs for merchandise displayers and window trimmers will also result from the need to replace workers who retire, transfer to other occupations, or leave the labor force for other reasons.

Increased demand for industrial designers will stem from continued emphasis on the quality and safety of products, demand for new products that are easy and comfortable to use, and the development of high-technology products in medicine, transportation, and other fields. Demand for fashion designers should remain strong, because many consumers continue to seek new fashions and fresh styles of apparel. Employment growth for fashion designers will be slowed, however, by declines in the apparel manufacturing industries. Despite faster-than-average growth for set and exhibit designers, few job openings will result because the occupation is small.

### Earnings

Median annual earnings for commercial and industrial designers were \$52,260 in 2002. The middle 50 percent earned between \$39,240 and \$67,430. The lowest 10 percent earned less than \$28,820, and the highest 10 percent earned more than \$82,130. Median annual earnings were \$61,530 in architectural, engineering, and related services.

Median annual earnings for fashion designers were \$51,290 in 2002. The middle 50 percent earned between \$35,550 and \$75,970. The lowest 10 percent earned less than \$25,350, and the highest 10 percent earned more than \$105,280.

Median annual earnings for floral designers were \$19,480 in 2002. The middle 50 percent earned between \$15,880 and \$23,560. The lowest 10 percent earned less than \$13,440, and the highest 10 percent earned more than \$29,830. Median annual earnings were \$21,610 in grocery stores and \$18,950 in florists.

Median annual earnings for graphic designers were \$36,680 in 2002. The middle 50 percent earned between \$28,140 and \$48,820. The lowest 10 percent earned less than \$21,860, and the highest 10 percent earned more than \$64,160. Median annual earnings in the industries employing the largest numbers of graphic designers were as follows:

Advertising and related services .....	\$39,510
Specialized design services .....	38,710
Printing and related support activities .....	31,800
Newspaper, periodical, book, and directory publishers .....	31,670

Median annual earnings for interior designers were \$39,180 in 2002. The middle 50 percent earned between \$29,070 and \$53,060. The lowest 10 percent earned less than \$21,240, and the highest 10 percent earned more than \$69,640. Median annual earnings in the industries employing the largest numbers of interior designers were as follows:

Architectural, engineering, and related services .....	\$41,680
Specialized design services .....	39,870
Furniture stores .....	36,320

Median annual earnings of merchandise displayers and window dressers were \$22,550 in 2002. The middle 50 percent earned between \$18,320 and \$29,070. The lowest 10 percent earned less than \$15,100, and the highest 10 percent earned more than \$40,020. Median annual earnings were \$22,130 in department stores.

Median annual earnings for set and exhibit designers were \$33,870 in 2002. The middle 50 percent earned between \$24,780 and \$46,350. The lowest 10 percent earned less than \$17,830, and the highest 10 percent earned more than \$63,280.

The American Institute of Graphic Arts reported 2002 median annual earnings for graphic designers with increasing levels of responsibility. Staff-level graphic designers earned \$40,000, while senior designers, who may supervise junior staff or have some decisionmaking authority that reflects their knowledge of graphic design, earned \$55,000. Solo designers, who freelanced or worked under contract to another company, reported median earnings of \$55,000. Design directors, the creative heads of design firms or in-house corporate design departments, earned \$85,000. Graphic designers with ownership or partnership interests in a firm or who were principals of the firm in some other capacity earned \$93,000.

### Related Occupations

Workers in other occupations who design or arrange objects, materials, or interiors to enhance their appearance and function include artists and related workers; architects, except landscape and naval; engineers; landscape architects; and photographers. Some computer-related occupations, including computer software engineers and desktop publishers, require design skills.

### Sources of Additional Information

For general information about art and design and a list of accredited college-level programs, contact:

► National Association of Schools of Art and Design, 11250 Roger Bacon Dr., Suite 21, Reston, VA 20190. Internet: <http://nasad.arts-accredit.org>

For information about graphic, communication, or interaction design careers, contact:

► American Institute of Graphic Arts, 164 Fifth Ave., New York, NY 10010. Internet: <http://www.aiga.org>

For information on degree, continuing education, and licensure programs in interior design and interior design research, contact:

► American Society for Interior Designers, 608 Massachusetts Ave. NE., Washington, DC 20002-6006. Internet: **<http://www.asid.org>**

For a list of schools with accredited programs in interior design, contact:

► Foundation for Interior Design Education Research, 146 Monroe Center NW., Suite 1318, Grand Rapids, MI 49503. Internet: **<http://www.fider.org>**

For information on careers, continuing education, and certification programs in the interior design specialty of residential kitchen and bath design, contact:

► National Kitchen and Bath Association, 687 Willow Grove St., Hackettstown, NJ 07840. Internet: **<http://www.nkba.org/student>**

For information about careers in floral design, contact:

► Society of American Florists, 1601 Duke St., Alexandria, VA 22314. Internet: **<http://www.safnow.org>**

# Interpreters and Translators

(0\*NET 27-3091.00 )

## Significant Points

- Twenty percent of these workers are self-employed.
- Work is often sporadic and many interpreters and translators work part time.
- Although training requirements can vary, almost all interpreters and translators have a bachelor's degree.
- Job outlook varies by specialty and language combination.

## Nature of the Work

Interpreters and translators enable the cross-cultural communication necessary in today's society by converting one language into another. However, these language specialists do more than simply translate words—they relay concepts and ideas between languages. They must thoroughly understand the subject matter in which they work, so that they are able to convert information from one language, known as the source language, into another, the target language. In addition, they must remain sensitive to the cultures associated with their languages of expertise.

Interpreters and translators are often discussed together because they share some common traits. For example, both need a special ability, known as language combination. This enables them to be fluent in at least two languages—a native, or active, language and a secondary, or passive, language. Their active language is the one they know best and into which they interpret or translate, and their passive language is one of which they have nearly perfect knowledge.

Although some people do both, interpretation and translation are different professions. Each requires a distinct set of skills and aptitudes, and most people are better suited for one or the other. While interpreters often work into and from both languages, translators generally work only into their active language.

*Interpreters* convert one spoken language into another—or, in the case of sign-language interpreters, between spoken communication and sign language. This requires interpreters to pay attention carefully, understand what is communicated in both languages, and express thoughts and ideas clearly. Strong research and analytical skills, mental dexterity, and an exceptional memory also are important.

The first part of an interpreter's work begins before arriving at the jobsite. The interpreter must become familiar with the subject matter that the speakers will cover, a task that may involve research to create a list of common words and phrases associated with the topic. Next, the interpreter usually travels to the location where his or her services are needed. Physical presence may not be required for some work, such as telephone interpretation. But it is usually important that the interpreter see the communicators in order to hear and observe the person speaking and to relay the message to the other party.

There are two types of interpretation: simultaneous and consecutive. Simultaneous interpretation requires interpreters to listen and speak (or sign) at the same time. In simultaneous interpretation, the interpreter begins to convey a sentence being spoken while the speaker is still talking. Ideally, simultaneous

interpreters should be so familiar with a subject that they are able to anticipate the end of the speaker's sentence. Because they need a high degree of concentration, simultaneous interpreters work in pairs, with each interpreting for 20- to 30-minute segments. This type of interpretation is required at international conferences and is sometimes used in the courts.

In contrast to simultaneous interpretation's immediacy, consecutive interpretation begins only after the speaker has verbalized a group of words or sentences. Consecutive interpreters often take notes while listening to the speakers, so they must develop some type of note-taking or shorthand system. This form of interpretation is used most often for person-to-person communication, during which the interpreter sits near both parties.

*Translators* convert written materials from one language into another. They must have excellent writing and analytical ability. And because the documents they translate must be as flawless as possible, they also need good editing skills.

Translators' assignments may vary in length, writing style, and subject matter. When they first receive text to convert into another language, translators usually read it in its entirety to get an idea of the subject. Next, they identify and look up any unfamiliar words. Translators also might do additional reading on the subject matter if they are unclear about anything in the text. However, they also consult with the text's originator or issuing agency to clarify unclear or unfamiliar ideas, words, or acronyms.

Translating involves more than replacing a word with its equivalent in another language; sentences and ideas must be manipulated to flow with the same coherence as those in the source document, so that the translation reads as though it originated in the target language. Translators also must bear in mind any cultural references that may need to be explained to the intended audience, such as colloquialisms, slang, and other expressions that do not translate literally. Some subjects may be more difficult than others to translate because words or passages may have multiple meanings that make several translations possible. Not surprisingly, translated work often goes through multiple revisions before final text is submitted.

The way in which translators do their jobs has changed with advancements in technology. Today, nearly all translation work is done on a computer, and most assignments are received and submitted electronically. This enables translators to work from



*Interpreters help people who speak different languages to communicate with each other.*

almost anywhere, and a large percentage of them work from home. The Internet provides advanced research capabilities and valuable language resources, such as specialized dictionaries and glossaries. In some cases, use of machine-assisted translation—including memory tools that provide comparisons of previous translations with current work—helps save time and reduce repetition.

The services of interpreters and translators are needed in a number of subject areas. While these workers may not completely specialize in a particular field or industry, many do focus on one area of expertise. Some of the most common areas are described below; however, interpreters and translators also may work in a variety of other areas, including business, social services, or entertainment.

*Conference interpreters* work at conferences that involve non-English-speaking attendees. This work includes international business and diplomacy, although conference interpreters also may interpret for any organization that works with foreign language speakers. Employers prefer high-level interpreters who have at least two language combinations—for example, the ability to interpret from English to French and English to Spanish. For some positions, such as those with the United Nations, this qualification is mandatory.

Much of the interpreting performed at conferences is simultaneous; however, at some meetings with a small number of attendees, consecutive interpreting also may be used. Usually, interpreters sit in soundproof booths, listening to the speakers through headphones and interpreting into a microphone what is said. The interpreted speech is then relayed to the listener through headsets. When interpreting is needed for only one or two people, the *chuchotage*, or *whispering*, method may be used. The interpreter sits behind or next to the attendee and whispers a translation of the proceedings.

Guide or escort interpreters accompany either U.S. visitors abroad or foreign visitors in the United States to ensure that they are able to communicate during their stay. These specialists interpret on a variety of subjects, both on an informal basis and on a professional level. Most of their interpretation is consecutive, and work is generally shared by two interpreters when the assignment requires more than an 8-hour day. Frequent travel, often for days or weeks at a time, is common, a factor which some find particularly appealing.

*Judiciary interpreters and translators* help people appearing in court who are unable or unwilling to communicate in English. These workers must remain detached from the content of their work and not alter or modify the meaning or tone of what is said. Legal translators must be thoroughly familiar with the language and functions of the U.S. judicial system, as well as other countries' legal systems. Court interpreters work in a variety of legal settings, such as attorney-client meetings, preliminary hearings, depositions, trials, and arraignments. Success as a court interpreter requires an understanding of both legal terminology and colloquial language. In addition to interpreting what is said, court interpreters also may be required to translate written documents and read them aloud, also known as sight translation.

*Literary translators* adapt written literature from one language into another. They may translate any number of documents, including journal articles, books, poetry, and short stories. Literary translation is related to creative writing; literary translators must create a new text in the target language that reproduces the content and style of the original. Whenever possible, literary translators work closely with authors in order

to best capture their intended meanings and literary characteristics.

This type of work often is done as a sideline by university professors; however, opportunities exist for well-established literary translators. As is the case with writers, finding a publisher is a critical part of the job. Most aspiring literary translators begin by submitting a short sample of their work, in the hope that it will be printed and give them recognition. For example, after receiving permission from the author, they might submit to a publishing house a previously unpublished short work, such as a poem or essay.

*Localization translators* constitute a relatively recent and rapidly expanding specialty. Localization involves the complete adaptation of a product for use in a different language and culture. At its earlier stages, this work dealt primarily with software localization, but the specialty has expanded to include the adaptation of Internet sites and products in manufacturing and other business sectors.

Translators working in localization need a solid grasp of the languages to be translated, a thorough understanding of technical concepts and vocabulary, and a high degree of knowledge about the intended target audience or users of the product. The goal of these specialists is for the product to appear as if it were originally manufactured in the country where it will be sold and supported. Because software often is involved, it is not uncommon for people who work in this area of translation to have a strong background in computer science or computer-related work experience.

Providing language services to healthcare patients with limited English proficiency is the realm of *medical interpreters and translators*. Medical interpreters help patients to communicate with doctors, nurses, and other medical staff. Translators working in this specialty primarily convert patient materials and informational brochures, issued by hospitals and medical facilities, into the desired language. Medical interpreters need a strong grasp of medical and colloquial terminology in both languages, along with cultural sensitivity regarding how the patient receives the information. They must remain detached but aware of the patient's feelings and pain.

*Sign language interpreters* facilitate communication between people who are deaf or hard of hearing and people who can hear. Sign language interpreters must be fluent in English and American Sign Language (ASL), which combines signing, finger spelling, and specific body language. ASL has its own grammatical rules, sentence structure, idioms, historical contexts, and cultural nuances. Sign language interpreting, like foreign language interpreting, involves more than simply replacing a word of spoken English with a sign representing that word.

Most sign language interpreters either interpret, aiding communication between English and ASL, or transliterate, facilitating communication between English and contact signing—a form of signing that uses a more English language-based word order. Some interpreters specialize in oral interpreting for deaf or hard of hearing persons who lipread instead of sign. Other specialties include tactile signing, interpreting for persons who are deaf-blind; cued speech; and signing exact English.

### **Working Conditions**

Working environments of interpreters and translators vary. Interpreters work in a variety of settings, such as hospitals, courtrooms and conference centers. They are required to travel

to the site—whether it is a neighboring town or the other side of the world—where their services are needed. Interpreters who work over the telephone generally work on call or in call centers in urban areas and keep to a standard 5-day, 40-hour workweek. Interpreters for deaf students in schools usually work in a school setting and work 9 months out of the year. Translators usually work alone, and they must frequently perform under pressure of deadlines and tight schedules. Many translators choose to work at home; however, technology allows translators to work from virtually anywhere.

Because many interpreters and translators freelance, their schedules are often erratic, with extensive periods of no work interspersed with others requiring long, irregular hours. For those who freelance, a significant amount of time must be dedicated to looking for jobs. In addition, freelancers must manage their own finances, and payment for their services may not always be prompt. Freelancing, however, offers variety and flexibility, and allows many workers to choose which jobs to accept or decline.

The number of work-related accidents in these occupations is relatively low. The work can be stressful and exhausting and translation can be lonesome or dull. However, interpreters and translators may use their irregular schedules to pursue other interests, such as traveling, dabbling in a hobby, or working a second job. Many interpreters and translators enjoy what they do and value the ability to control their schedules and workloads.

### **Employment**

Interpreters and translators held about 24,000 jobs in 2002. Because of the large number of people who work in the occupation sporadically, however, the actual number of interpreters and translators is probably significantly higher. Reflecting the diversity of employment options in the field, interpreters and translators are employed in a variety of industries. Nearly 3 in 10 worked in public and private educational institutions, such as schools, colleges, and universities. About 1 in 10 worked in healthcare, many of which worked for hospitals. More than 1 in 10 worked in other areas of government, such as Federal, State and local courts. Other employers of interpreters and translators include publishing companies, telephone companies, airlines, and interpreting and translating agencies.

More than 2 in 10 interpreters and translators are self-employed. To find work, these interpreters and translators may submit resumes to 100 or more employment agencies, and then wait to be contacted when an agency matches their skills with a job. After establishing a few regular clients, interpreters and translators often hear of subsequent jobs by word of mouth; or, they may receive enough work from a few clients to stay busy. Many who freelance in the occupation work only part time, relying on other sources of income to supplement earnings from interpreting or translation.

### **Training, Other Qualifications, and Advancement**

The educational backgrounds of interpreters and translators vary. Knowing a language in addition to a native language is a given. Although it is not necessary to have been raised bilingual to succeed, many interpreters and translators grew up speaking two languages.

In high school, students can begin to prepare for these careers by taking a broad range of courses that include English writing and comprehension, foreign languages, and basic com-

puter proficiency. Other helpful pursuits include spending time abroad, or comparable forms of direct contact with foreign cultures, and extensive reading on a variety of subjects in English and at least one other language.

Beyond high school, there are many educational options. Although a bachelor's degree is almost always required, interpreters and translators note that it is acceptable to major in something other than a language. However, specialized training in how to do the work is generally required. A number of formal programs in interpreting and translation are available at colleges nationwide and through nonuniversity training programs, conferences, and courses. Many people who work as conference interpreters or in more technical areas—such as localization, engineering, or finance—have master's degrees, while those working in the community as court or medical interpreters or translators are more likely to complete job-specific training programs.

There is currently no universal form of certification required of all interpreters and translators in the United States, but there are a variety of different tests that workers can take to demonstrate proficiency. The American Translators Association provides accreditation in more than 24 language combinations for its members; other options include a certification program offered by The Translators and Interpreters Guild. Many interpreters are not certified. Federal courts have certification for Spanish, Navaho, and Haitian Creole interpreters, and many State and municipal courts offer their own forms of certification. The National Association of Judiciary Interpreters and Translators also offers certification for court interpreting.

The U.S. Department of State has a three-test series for interpreters, including simple consecutive interpreting (escort), simultaneous interpreting (court/seminar), and conference-level interpreting (international conferences). These tests are not referred to directly as certification, but successful completion often indicates that a person has an adequate level of skill to work in the field.

Both the National Association of the Deaf and the Registry of Interpreters for the Deaf offer certification for sign interpreters and have recently collaborated to develop a joint exam.

Experience is an essential part of a successful career in either interpreting or translation. In fact, many agencies or companies use only the services of people who have worked in the field for 3 to 5 years or who have a degree in translation studies or both.

A good way for translators to learn firsthand about the profession is to start out working in-house for a company; however, such jobs are not very numerous. Advice for new entrants to the field is to begin getting experience whatever way they can—even if it means doing informal or unpaid work. Mentoring relationships and internships are other ways to build skills and confidence. Escort interpreting may offer an opportunity for inexperienced candidates to work alongside a more seasoned interpreter. Interpreters might also find it easier to break into areas with particularly high demand for language services, such as court or medical interpretation. Once interpreters and translators have gained sufficient experience, they may then move up to more difficult or prestigious assignments, may be given editorial responsibility, or may eventually manage or start their own translation agency.

### **Job Outlook**

Employment of interpreters and translators is projected to grow faster than the average for all occupations over the 2002-12

period, reflecting growth in the industries employing interpreters and translators. Higher demand for interpreters and translators in recent years has resulted directly from the broadening of international ties and the increase in foreign language speakers in the United States. Both of these trends are expected to continue, contributing to relatively rapid growth in the number of jobs for interpreters and translators.

Technology has made the work of interpreters and translators easier. However, technology is not likely to have a negative impact on employment of interpreters and translators because such innovations are incapable of producing work comparable with work produced by these professionals.

Translators are most in demand for the languages referred to as "PFIGS"—Portuguese, French, Italian, German, and Spanish—and the principal Asian languages—Chinese, Japanese, and Korean. Current events and changing political environments, often difficult to foresee, sometimes increase the need for persons who can work with other languages.

Urban areas, especially those in California, New York, and Washington, DC, provide the largest numbers of employment possibilities, especially for interpreters; however, as the immigrant population spreads into more rural areas, jobs in smaller communities will become more widely available.

Job prospects for interpreters and translators vary by specialty. In particular, there should be strong demand for specialists in localization, driven by imports and exports, the expansion of the Internet, and demand in other technical areas such as medicine or law. Rapid employment growth among interpreters and translators in health services industries will be fueled by relatively recent guidelines regarding compliance with Title VI of the Civil Rights Act, which requires all healthcare providers receiving Federal aid to provide language services to non-English speakers. Similarly, the Americans with Disabilities Act and other laws, such as the Rehabilitation Act, mandate that, in certain situations, an interpreter must be available for people who are deaf or hard of hearing. Given the lack of qualified candidates meeting these requirements, interpreters for the deaf will continue to have favorable employment prospects. On the other hand, job growth is expected to be limited for both conference interpreters and literary translators.

### Earnings

Salaried interpreters and translators had median hourly earnings of \$15.67 in 2002. The middle 50 percent earned between \$11.97 and \$20.33. The lowest 10 percent earned less than \$9.37, and the highest 10 percent earned more than \$25.99. Limited information suggests that highly skilled interpreters and translators—for example, high-level conference interpreters—working full time can earn more than \$100,000 annually. Earnings depend on language, subject matter, skill, experience, education, certification, and type of employer, and salaries of interpreters and translators can vary widely. Interpreters and translators with language skills for which there is a greater demand, or for which there are relatively few people with the skills, often have higher earnings. According to a 2001 salary survey by the American Translators Association, Chinese and Japanese interpreters and translators earned the highest median hourly rates—ranging from \$45 to \$50 an hour. Interpreters and translators with specialized expertise, such as those working in software localization, also generally command higher rates. Individuals classified as language specialists for

the Federal Government earned an average of \$64,234 annually in 2003.

For those who are not salaried, earnings may fluctuate, depending on the availability of work. Furthermore, freelancers do not have any employer-paid benefits. Freelance interpreters usually earn an hourly rate, whereas translators who freelance typically earn a rate per word or per hour.

### Related Occupations

Interpreters and translators use their multilingual skills, as do teachers of languages. These include teachers—preschool, kindergarten, elementary, middle, and secondary; teachers—postsecondary; teachers—special education; and teachers—adult literacy and remedial and self-enrichment education. The work of interpreters, particularly guide or escort interpreters, can be likened to that of tour and travel guides, in that they accompany individuals or groups on tours or to places of interest. Similarly, interpreters may share some common work characteristics with announcers, who also work in soundproof environments relaying information to listeners.

The work of translators is similar to that of writers and editors, in that they communicate information and ideas through the written word and prepare texts for publication or dissemination. Those working in localization of software have skills similar to those of computer software engineers, in that they analyze users' needs and design, create, and modify computer software, and many possess strong programming skills. Furthermore, interpreters or translators working in a legal or healthcare environment are required to have a knowledge of terms and concepts that is similar to that of professionals working in these fields, such as court reporters or medical transcriptionists.

### Sources of Additional Information

Organizations dedicated to these professions can provide valuable advice and guidance for people interested in learning more about interpretation and translation. The language services division of local hospitals or courthouses also may be able to offer information about available opportunities.

For career information, contact the organizations listed below:

- ▶ American Translators Association, 225 Reinekers Lane, Suite 590, Alexandria, VA 22314. Internet: <http://www.atanet.org>
- ▶ The Translators and Interpreters Guild, 8611 Second Ave., Suite 203, Silver Spring, MD 20910. Internet: <http://www.ttig.org>
- ▶ U.S. Department of State, Office of Language Services, Room 2212, Washington, DC 20520.

For more detailed information by specialty, contact the association affiliated with that subject area:

- ▶ National Association of Judiciary Interpreters and Translators, 2150 N. 107th St., Suite 205, Seattle, WA 98133. Internet: <http://www.najit.org>
- ▶ American Literary Translators Association, PO Box 830688, Richardson, TX 75083. Internet: <http://www.literarytranslators.org>
- ▶ The Localisation Industry Standards Association, 7 Route du Monastère-CH-1173, Féchy, Switzerland. Internet: <http://www.lisa.org>
- ▶ Massachusetts Medical Interpreters Association, New England Medical Center, 750 Washington St., NEMC Box 271, Boston, MA 02111. Internet: <http://www.mmia.org>
- ▶ Registry of Interpreters for the Deaf, 333 Commerce St., Alexandria, VA 22314. Internet: <http://www.rid.org>

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## Musicians, Singers, and Related Workers

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(0\*NET 27-2041.01, 27-2041.02, 27-2041.03, 27-2042.01, 27-2042.02)

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### Significant Points

- Part-time schedules and intermittent unemployment are common; many musicians supplement their income with earnings from other sources.
- Aspiring musicians begin studying an instrument or training their voices at an early age.
- Competition for jobs is keen; those who can play several instruments and perform a wide range of music styles should enjoy the best job prospects.

### Nature of the Work

Musicians, singers, and related workers play musical instruments, sing, compose or arrange music, or conduct groups in instrumental or vocal performances. They may perform solo or as part of a group. Musicians, singers, and related workers entertain live audiences in nightclubs, concert halls, and theaters featuring opera, musical theater, or dance. Although most of these entertainers play for live audiences, many perform exclusively for recording or production studios. Regardless of the setting, musicians, singers, and related workers spend considerable time practicing, alone and with their band, orchestra, or other musical ensemble.

*Musicians* often gain their reputation or professional standing in a particular kind of music or performance. However, those who learn several related instruments, such as the flute and clarinet, and who can perform equally well in several musical styles, have better employment opportunities. Instrumental musicians, for example, may play in a symphony orchestra, rock group, or jazz combo one night, appear in another ensemble the next, and work in a studio band the following day. Some play a variety of string, brass, woodwind, or percussion instruments or electronic synthesizers.

*Singers* interpret music, using their knowledge of voice production, melody, and harmony. They sing character parts or perform in their own individual style. Singers are often classified according to their voice range—soprano, contralto, tenor, baritone, or bass—or by the type of music they sing, such as opera, rock, popular, folk, rap, or country and western.

*Music directors* conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Conductors lead instrumental music groups, such as symphony orchestras, dance bands, show bands, and various popular ensembles. These leaders audition and select musicians, choose the music most appropriate for their talents and abilities, and direct rehearsals and performances. Choral directors lead choirs and glee clubs, sometimes working with a band or an orchestra conductor. Directors audition and select singers and lead them at rehearsals and performances in order to achieve harmony, rhythm, tempo, shading, and other desired musical effects.

*Composers* create original music such as symphonies, operas, sonatas, radio and television jingles, film scores, or popular songs. They transcribe ideas into musical notation, using harmony, rhythm, melody, and tonal structure. Although most

composers and songwriters practice their craft on instruments and transcribe the notes with pen and paper, some use computer software to compose and edit their music.

*Arrangers* transcribe and adapt musical compositions to a particular style for orchestras, bands, choral groups, or individuals. Components of music—including tempo, volume, and the mix of instruments needed—are arranged to express the composer's message. While some arrangers write directly into a musical composition, others use computer software to make changes.

### Working Conditions

Musicians typically perform at night and on weekends. They spend much of their remaining time practicing or in rehearsal. Full-time musicians with long-term employment contracts, such as those with symphony orchestras or television and film production companies, enjoy steady work and less travel. Nightclub, solo, or recital musicians frequently travel to perform in a variety of local settings and may tour nationally or internationally. Because many musicians find only part-time or intermittent work, experiencing unemployment between engagements, they often supplement their income with other types of jobs. The stress of constantly looking for work leads many musicians to accept permanent, full-time jobs in other occupations, while working only part time as musicians.

Most instrumental musicians work closely with a variety of other people, including their colleagues, agents, employers, sponsors, and audiences. Although they usually work indoors, some perform outdoors for parades, concerts, and dances. In some nightclubs and restaurants, smoke and odors may be present, and lighting and ventilation may be inadequate.

### Employment

Musicians, singers, and related workers held about 215,000 jobs in 2002. Almost 40 percent worked part time, and more than one third were self-employed. Many found jobs in cities in which entertainment and recording activities are concentrated, such as New York, Los Angeles, Chicago, and Nashville.

Musicians, singers, and related workers are employed in a variety of settings. Of those who earn a wage or salary, more than one half are employed by religious organizations and one



*Singers interpret music, using their knowledge of voice production, melody, and harmony.*

fourth by performing arts companies, such as professional orchestras, small chamber music groups, opera companies, musical theater companies, and ballet troupes. Musicians and singers also perform in nightclubs and restaurants and for weddings and other events. Well-known musicians and groups may perform in concerts, appear on radio and television broadcasts, and make recordings and music videos. The Armed Forces also offer careers in their bands and smaller musical groups.

### **Training, Other Qualifications, and Advancement**

Aspiring musicians begin studying an instrument at an early age. They may gain valuable experience playing in a school or community band or an orchestra or with a group of friends. Singers usually start training when their voices mature. Participation in school musicals or choirs often provides good early training and experience.

Musicians need extensive and prolonged training to acquire the necessary skills, knowledge, and ability to interpret music. Like other artists, musicians and singers continually strive to stretch themselves—exploring different forms of music. Formal training may be obtained through private study with an accomplished musician, in a college or university music program, or in a music conservatory. For university or conservatory study, an audition generally is necessary. The National Association of Schools of Music accredits nearly 600 college-level programs in music. Courses typically include musical theory, music interpretation, composition, conducting, and performance in a particular instrument or in voice. Music directors, composers, conductors, and arrangers need considerable related work experience or advanced training in these subjects.

Many colleges, universities, and music conservatories grant bachelor's or higher degrees in music. A master's or doctoral degree is usually required to teach advanced music courses in colleges and universities; a bachelor's degree may be sufficient to teach basic courses. A degree in music education qualifies graduates for a State certificate to teach music in public elementary or secondary schools. Musicians who do not meet public school music education requirements may teach in private schools and recreation associations or instruct individual students in private sessions.

Musicians must be knowledgeable about a broad range of musical styles, but keenly aware of the form that interests them most. This broader range of interest, knowledge, and training can help expand employment opportunities and musical abilities. Voice training and private instrumental lessons, taken especially when the individual is young, also help develop technique and enhance one's performance.

Young persons considering careers in music should have musical talent, versatility, creativity, poise, and a good stage presence. Because quality performance requires constant study and practice, self-discipline is vital. Moreover, musicians who play in concerts or in nightclubs and those who tour must have physical stamina to endure frequent travel and an irregular performance schedule. Musicians and singers always must make their performances look effortless; therefore, preparation and practice are important. They also must be prepared to face the anxiety of intermittent employment and of rejection when auditioning for work.

Advancement for musicians usually means becoming better known and performing for higher earnings. Successful musicians often rely on agents or managers to find them performing engagements, negotiate contracts, and develop their careers.

### **Job Outlook**

Competition for jobs for musicians, singers, and related workers is expected to be keen. The vast number of persons with the desire to perform will exceed the number of openings. Talent alone is no guarantee of success: many people start out to become musicians or singers, but leave the profession because they find the work difficult, the discipline demanding, and the long periods of intermittent unemployment unendurable.

Overall employment of musicians, singers, and related workers is expected to grow about as fast as the average for all occupations through 2012. Most new wage and salary jobs for musicians will arise in religious organizations. Slower-than-average growth is expected for self-employed musicians, who generally perform in nightclubs, concert tours, and other venues. Although growth in demand for musicians will generate a number of job opportunities, many openings also will arise from the need to replace those who leave the field each year because they are unable to make a living solely as musicians or for other reasons.

### **Earnings**

Median annual earnings of salaried musicians and singers were \$36,290 in 2002. The middle 50 percent earned between \$18,660 and \$59,970. The lowest 10 percent earned less than \$13,040, and the highest 10 percent earned more than \$96,250. Median annual earnings were \$43,060 in performing arts companies and \$18,160 in religious organizations.

Median annual earnings of salaried music directors and composers were \$31,310 in 2002. The middle 50 percent earned between \$23,820 and \$46,350. The lowest 10 percent earned less than \$14,590, and the highest 10 percent earned more than \$67,330.

Earnings often depend on the number of hours and weeks worked, a performer's professional reputation, and the setting. The most successful musicians earn performance or recording fees that far exceed the median earnings.

According to the American Federation of Musicians, weekly minimum salaries in major orchestras ranged from \$734 to \$1,925 during the 2002-03 performing season. Each orchestra works out a separate contract with its local union, with individual musicians eligible to negotiate a higher salary. Top orchestras have a season ranging from 24 to 52 weeks, with 18 orchestras reporting 52-week contracts. In regional orchestras, minimum salaries are often less, because fewer performances are scheduled. Community orchestras often have yet more limited levels of funding and offer salaries that are much lower for seasons of shorter duration. Regional orchestra musicians often are paid for their services, without any guarantee of future employment.

Although musicians employed by some symphony orchestras work under master wage agreements, which guarantee a season's work up to 52 weeks, many other musicians face relatively long periods of unemployment between jobs. Even when employed, many musicians and singers work part time in unrelated occupations. Thus, their earnings usually are lower than earnings in many other occupations. Moreover, because they may not work steadily for one employer, some performers cannot qualify for unemployment compensation, and few have typical benefits such as sick leave or paid vacations. For these reasons, many musicians give private lessons or take jobs unrelated to music to supplement their earnings as performers.

Many musicians belong to a local of the American Federation of Musicians. Professional singers who perform live often belong to a branch of the American Guild of Musical Artists;

those who record for the broadcast industries may belong to the American Federation of Television and Radio Artists.

### **Related Occupations**

Musical instrument repairers and tuners (part of precision instrument and equipment repairers) require technical knowledge of musical instruments. Others whose work involves music include actors, producers, and directors; announcers; and dancers and choreographers.

### **Sources of Additional Information**

For general information about music and music teacher education and a list of accredited college-level programs, contact:

► National Association of Schools of Music, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22091. Internet: <http://nasm.arts-accredit.org>

# News Analysts, Reporters, and Correspondents

(0\*NET 27-3021.00, 27-3022.00)

## Significant Points

- Most employers prefer experienced individuals with a bachelor's degree in journalism or mass communications.
- Competition will be keen for jobs at large metropolitan and national newspapers, broadcast stations, and magazines; most entry-level openings arise at small broadcast stations and publications.
- Jobs often involve irregular hours, night and weekend work, and pressure to meet deadlines.

## Nature of the Work

News analysts, reporters, and correspondents play a key role in our society. They gather information, prepare stories, and make broadcasts that inform us about local, State, national, and international events; present points of view on current issues; and report on the actions of public officials, corporate executives, special-interest groups, and others who exercise power.

News analysts examine, interpret, and broadcast news received from various sources. They also are called *newscasters* or *news anchors*. News anchors present news stories and introduce videotaped news or live transmissions from on-the-scene reporters. Some newscasters at large stations and networks specialize in a particular type of news, such as sports or weather. *Weathercasters*, also called weather reporters, report current and forecasted weather conditions. They gather information from national satellite weather services, wire services, and local and regional weather bureaus. Some weathercasters are trained meteorologists and can develop their own weather forecasts. (See the statement on atmospheric scientists elsewhere in the *Handbook*.) *Sportscasters* select, write, and deliver sports news. This may include interviews with sports personalities and coverage of games and other sporting events.

In covering a story, *reporters* investigate leads and news tips, look at documents, observe events at the scene, and interview people. Reporters take notes and also may take photographs or shoot videos. At their office, they organize the material, determine the focus or emphasis, write their stories, and edit accompanying video material. Many reporters enter information or write stories on laptop computers, and electronically submit the material to their offices from remote locations. In some cases, *newswriters* write a story from information collected and submitted by reporters. Radio and television reporters often compose stories and report "live" from the scene. At times, they later tape an introduction to or commentary on their story in the studio. Some journalists also interpret the news or offer opinions to readers, viewers, or listeners. In this role, they are called *commentators* or *columnists*.

General assignment reporters write about newsworthy occurrences, such as an accident, a political rally, the visit of a celebrity, or a company going out of business, as assigned. Large newspapers and radio and television stations assign reporters to gather news about specific topics or "beats," such as crime or education. Some reporters specialize in fields such as health, politics, foreign affairs, sports, theater, consumer affairs, social

events, science, business, or religion. Investigative reporters cover stories that may take many days or weeks of information gathering. Some publications use teams of reporters instead of assigning specific beats, allowing reporters to cover a greater variety of stories. News teams may include reporters, editors, graphic artists, and photographers, working together to complete a story.

News *correspondents* report on news occurring in the large U.S. and foreign cities where they are stationed. Reporters on small publications cover all aspects of the news. They take photographs, write headlines, lay out pages, edit wire service stories, and write editorials. Some also solicit advertisements, sell subscriptions, and perform general office work.

## Working Conditions

The work of news analysts, reporters, and correspondents is usually hectic. They are under great pressure to meet deadlines. Broadcasts sometimes are made with little or no time for preparation. Some news analysts, reporters, and correspondents work in comfortable, private offices; others work in large rooms filled with the sound of keyboards and computer printers, as well as the voices of other reporters. Curious onlookers, police, or other emergency workers can distract those reporting from the scene for radio and television. Covering wars, political uprisings, fires, floods, and similar events is often dangerous.

Working hours vary. Reporters on morning papers often work from late afternoon until midnight. Radio and television reporters usually are assigned to a day or evening shift. Magazine reporters usually work during the day.

Reporters sometimes have to change their work hours to meet a deadline, or to follow late-breaking developments. Their work demands long hours, irregular schedules, and some travel. Many stations and networks are on the air 24 hours a day, so newscasters can expect to work unusual hours.

## Employment

News analysts, reporters, and correspondents held about 66,000 jobs in 2002. About 60 percent worked for newspaper, periodical, book, and directory publishers. Another 25 percent worked in radio and television broadcasting. About 4,100 news analysts, reporters, and correspondents were self-employed.



Reporters often travel to sporting events.

## **Training, Other Qualifications, and Advancement**

Most employers prefer individuals with a bachelor's degree in journalism or mass communications, but some hire graduates with other majors. They look for experience on school newspapers or broadcasting stations and internships with news organizations. Large-city newspapers and stations also may prefer candidates with a degree in a subject-matter specialty such as economics, political science, or business. Some large newspapers and broadcasters may hire only experienced reporters.

Bachelor's degree programs in journalism are available at more than 400 colleges or universities. About three-fourths of the courses in a typical curriculum are in liberal arts; the remaining courses are in journalism. Examples of journalism courses are introductory mass media, basic reporting and copy editing, history of journalism, and press law and ethics. Students planning a career in broadcasting take courses in radio and television news and production. Those planning newspaper or magazine careers usually specialize in news-editorial journalism. To create a story for an online presentation, they need to know how to use computer software to combine online story text with audio and video elements and graphics.

Many community and junior colleges offer journalism courses or programs; credits may be transferable to 4-year journalism programs. About 120 schools offered a master's degree in journalism in 2002; about 35 schools offered a Ph.D. degree. Some graduate programs are intended primarily as preparation for news careers, while others prepare journalism teachers, researchers and theorists, and advertising and public relations workers.

High school courses in English, journalism, and social studies provide a good foundation for college programs. Useful college liberal arts courses include English with an emphasis on writing, sociology, political science, economics, history, and psychology. Courses in computer science, business, and speech are useful as well. Fluency in a foreign language is necessary in some jobs.

Although reporters need good word processing skills, computer graphics and desktop publishing skills also are useful. Computer-assisted reporting involves the use of computers to analyze data in search of a story. This technique and the interpretation of the results require computer skills and familiarity with databases. Knowledge of news photography also is valuable for entry-level positions, which sometimes combine the responsibilities of a reporter with those of a camera operator or photographer.

Employers report that practical experience is the most important part of education and training. Upon graduation many students have already gained much practical experience through part-time or summer jobs or through internships with news organizations. Most newspapers, magazines, and broadcast news organizations offer reporting and editing internships. Work on high school and college newspapers, at broadcasting stations, or on community papers or U.S. Armed Forces publications also provides practical training. In addition, journalism scholarships, fellowships, and assistantships awarded to college journalism students by universities, newspapers, foundations, and professional organizations are helpful. Experience as a stringer or freelancer—a part-time reporter who is paid only for stories printed—is advantageous.

Reporters should be dedicated to providing accurate and impartial news. Accuracy is important, both to serve the public and because untrue or libelous statements can lead to lawsuits.

A nose for news, persistence, initiative, poise, resourcefulness, a good memory, and physical stamina are important, as is the emotional stability to deal with pressing deadlines, irregular hours, and dangerous assignments. Broadcast reporters and news analysts must be comfortable on camera. All reporters must be at ease in unfamiliar places and with a variety of people. Positions involving on-air work require a pleasant voice and appearance.

Most reporters start at small publications or broadcast stations as general assignment reporters or copy editors. Large publications and stations hire few recent graduates; as a rule, they require new reporters to have several years of experience.

Beginning reporters cover court proceedings and civic and club meetings, summarize speeches, and write obituaries. With experience, they report more difficult assignments, cover an assigned beat, or specialize in a particular field.

Some news analysts and reporters can advance by moving to larger newspapers or stations. A few experienced reporters become columnists, correspondents, writers, announcers, or public relations specialists. Others become editors in print journalism or program managers in broadcast journalism, who supervise reporters. Some eventually become broadcasting or publishing industry managers.

## **Job Outlook**

Employment of news analysts, reporters, and correspondents is expected to grow more slowly than the average for all occupations through the year 2012—the result of mergers, consolidations, and closures of newspapers; decreased circulation; increased expenses; and a decline in advertising profits. In addition to consolidation of local newspaper and television and radio station ownership, increasing competition for viewers from cable networks also should limit employment growth. Some job growth is expected in new media areas, such as online newspapers and magazines. Job openings also will result from the need to replace workers who leave their occupations permanently. Some news analysts, reporters, and correspondents find the work too stressful and hectic or do not like the lifestyle, and transfer to other occupations.

Most opportunities will be with smalltown and suburban newspapers and radio and television stations. Competition will continue to be keen for more sought-after jobs on large metropolitan and national newspapers, broadcast stations and networks, and magazines. Talented writers who can handle highly specialized scientific or technical subjects have an advantage. Also, newspapers increasingly are hiring stringers and freelancers.

Journalism graduates have the background for work in closely related fields such as advertising and public relations, and many take jobs in these fields. Other graduates accept sales, managerial, or other nonmedia positions.

The number of job openings in the newspaper and broadcasting industries—in which news analysts, reporters, and correspondents are employed—is sensitive to economic ups and downs, because these industries depend on advertising revenue.

## **Earnings**

Salaries for news analysts, reporters, and correspondents vary widely. Median annual earnings of news analysts, reporters, and correspondents were \$30,510 in 2002. The middle 50 percent earned between \$22,350 and \$47,170. The lowest 10 percent earned less than \$17,620, and the highest 10 percent earned more than \$69,450. Median annual earnings of news analysts,

reporters, and correspondents were \$33,320 in radio and television broadcasting and \$29,090 in newspaper, periodical, book, and directory publishers in 2002.

### **Related Occupations**

News analysts, reporters, and correspondents must write clearly and effectively to succeed in their profession. Others for whom good writing ability is essential include writers and editors, and public relations specialists. Many news analysts, reporters, and correspondents also must communicate information orally. Others for whom oral communication skills are important are announcers, interpreters and translators, sales and related occupations, and teachers.

### **Sources of Additional Information**

For information on broadcasting education and scholarship resources, contact:

► National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036. Internet: <http://www.nab.org>

Information on careers in journalism, colleges and universities offering degree programs in journalism or communications, and journalism scholarships and internships may be obtained from:

► Dow Jones Newspaper Fund, Inc., P.O. Box 300, Princeton, NJ 08543-0300.

Information on union wage rates for newspaper and magazine reporters is available from:

► Newspaper Guild, Research and Information Department, 501 3rd St. NW., Suite 250, Washington, DC 20001.

For a list of schools with accredited programs in journalism and mass communications, send a stamped, self-addressed envelope to:

► Accrediting Council on Education in Journalism and Mass Communications, University of Kansas School of Journalism and Mass Communications, Stauffer-Flint Hall, 1435 Jayhawk Blvd., Lawrence, KS 66045. Internet: <http://www.ku.edu/~acejmc/STUDENT/STUDENT.SHTML>

Names and locations of newspapers and a list of schools and departments of journalism are published in the *Editor and Publisher International Year Book*, available in most public libraries and newspaper offices.

# Photographers

(0\*NET 27-4021.01, 27-4021.02)

## Significant Points

- Competition for jobs is expected to be keen because the work is attractive to many people.
- Technical expertise, a “good eye,” imagination, and creativity are essential.
- More than half of all photographers are self-employed; the most successful are able to adapt to rapidly changing technologies and are adept at operating a business.

## Nature of the Work

Photographers produce and preserve images that paint a picture, tell a story, or record an event. To create commercial quality photographs, photographers need both technical expertise and creativity. Producing a successful picture requires choosing and presenting a subject to achieve a particular effect, and selecting the appropriate equipment. For example, photographers may enhance the subject’s appearance with natural or artificial light, use a particular lens depending on the desired range or level of detail, or draw attention to a particular aspect of the subject by blurring the background.

Today, many cameras adjust settings such as shutter speed and aperture automatically. They also let the photographer adjust these settings manually, allowing greater creative and technical control over the picture-taking process. In addition to automatic and manual cameras, photographers use an array of film, lenses, and equipment—from filters, tripods, and flash attachments to specially constructed lighting equipment.

Photographers use either a traditional camera that records images on silver halide film that is developed into prints or a digital camera that electronically records images. Some photographers send their film to laboratories for processing. Color film requires expensive equipment and exacting conditions for correct processing and printing. (See the statement on photographic process workers and processing machine operators elsewhere in the *Handbook*.) Other photographers, especially those who use black and white film or who require special effects, prefer to develop and print their own photographs. Photographers who do their own film developing must have the technical skill to operate a fully equipped darkroom or the appropriate computer software to process prints digitally.

Recent advances in electronic technology now make it possible for the professional photographer to develop and scan standard 35mm or other types of film, and use flatbed scanners and photofinishing laboratories to produce computer-readable, digital images from film. After converting the film to a digital image, photographers can edit and electronically transmit images using a method as simple as e-mail or as advanced as a satellite phone. This makes it easier and faster to shoot, develop, and transmit pictures from remote locations.

Using computers and specialized software, photographers also can manipulate and enhance the scanned or digital image to create a desired effect. Images can be stored on portable memory devices including compact disks (CDs) or on new types of smaller “mini pocket” storage devices such as flash disks, which are small memory cards used in digital cameras. Digital

technology also allows the production of larger, more colorful, and more accurate prints or images for use in advertising, photographic art, and scientific research. Some photographers use this technology to create electronic portfolios as well. Because much photography now involves the use of computer technology, photographers must have hands-on knowledge of computer editing software.

Some photographers specialize in areas such as portrait, commercial and industrial, scientific, news, or fine arts photography. *Portrait photographers* take pictures of individuals or groups of people and often work in their own studios. Some specialize in weddings, religious ceremonies, or school photographs and may work on location. Portrait photographers who are business owners arrange for advertising, schedule appointments, set and adjust equipment, develop and retouch negatives, and mount and frame pictures. They also purchase supplies, keep records, bill customers, and may hire and train employees.

*Commercial and industrial photographers* take pictures of various subjects, such as buildings, models, merchandise, artifacts, and landscapes. These photographs are used in a variety of media, including books, reports, advertisements, and catalogs. Industrial photographers often take pictures of equipment, machinery, products, workers, and company officials. The pictures are used for various purposes—for example, analysis of engineering projects, publicity, or records of equipment development or deployment, such as placement of an offshore rig. This photography frequently is done on location.

*Scientific photographers* take images of a variety of subjects to illustrate or record scientific or medical data or phenomena, using knowledge of scientific procedures. They typically possess additional knowledge in areas such as engineering, medicine, biology, or chemistry.

*News photographers*, also called *photojournalists*, photograph newsworthy people, places, and sporting, political, and community events for newspapers, journals, magazines, or television. Some news photographers are salaried staff; others are self-employed and are known as freelance photographers.

*Fine arts photographers* sell their photographs as fine artwork. In addition to technical proficiency, fine arts photographers need artistic talent and creativity.

Self-employed, or freelance, photographers may license the use of their photographs through stock photo agencies or con-



*Portrait photographers take pictures of individuals or groups of people and often work in their own studios.*

tract with clients or agencies to provide photographs as necessary. Stock agencies grant magazines and other customers the right to purchase the use of photographs, and, in turn, pay the photographer on a commission basis. Stock photo agencies require an application from the photographer and a sizable portfolio. Once accepted, a large number of new submissions usually is required from the photographer each year.

### **Working Conditions**

Working conditions for photographers vary considerably. Photographers employed in government and advertising agencies usually work a 5-day, 40-hour week. On the other hand, news photographers often work long, irregular hours and must be available to work on short notice. Many photographers work part-time or variable schedules.

Portrait photographers usually work in their own studios but also may travel to take photographs at the client's location, such as a school, a company office, or a private home. News and commercial photographers frequently travel locally, stay overnight on assignments, or travel to distant places for long periods.

Some photographers work in uncomfortable or even dangerous surroundings, especially news photographers covering accidents, natural disasters, civil unrest, or military conflicts. Many photographers must wait long hours in all kinds of weather for an event to take place and stand or walk for long periods while carrying heavy equipment. News photographers often work under strict deadlines.

Self-employment allows for greater autonomy, freedom of expression, and flexible scheduling. However, income can be uncertain and the continuous, time-consuming search for new clients can be stressful. Some self-employed photographers hire assistants who help seek out new business.

### **Employment**

Photographers held about 130,000 jobs in 2002. More than half were self-employed, a much higher proportion than the average for all occupations. Some self-employed photographers have contracts with advertising agencies, magazines, or others to do individual projects at a predetermined fee, while others operate portrait studios or provide photographs to stock photo agencies.

Most salaried photographers work in portrait or commercial photography studios. Newspapers, magazines, television broadcasters, and advertising agencies employ most of the others. Most photographers work in metropolitan areas.

### **Training, Other Qualifications, and Advancement**

Employers usually seek applicants with a "good eye," imagination, and creativity, as well as a good technical understanding of photography. Entry-level positions in photojournalism or in industrial or scientific photography generally require a college degree in journalism or photography. Freelance and portrait photographers need technical proficiency, whether gained through a degree program, vocational training, or extensive work experience.

Many universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools offer photography courses. Basic courses in photography cover equipment, processes, and techniques. Bachelor's degree programs, especially those including business courses,

provide a well-rounded education. Art schools offer useful training in design and composition.

Individuals interested in photography should subscribe to photographic newsletters and magazines, join camera clubs, and seek summer or part-time employment in camera stores, newspapers, or photo studios.

Photographers may start out as assistants to experienced photographers. Assistants learn to mix chemicals, develop film, and print photographs, and acquire the other skills necessary to run a portrait or commercial photography business. Freelance photographers also should develop an individual style of photography in order to differentiate themselves from the competition. Some photographers enter the field by submitting unsolicited photographs to magazines and to art directors at advertising agencies. For freelance photographers, a good portfolio of their work is critical.

Photographers need good eyesight, artistic ability, and good hand-eye coordination. They should be patient, accurate, and detail-oriented. Photographers should be able to work well with others, as they frequently deal with clients, graphic designers, or advertising and publishing specialists. Increasingly, photographers need to know how to use computer software programs and applications that allow them to prepare and edit images.

Portrait photographers need the ability to help people relax in front of the camera. Commercial and fine arts photographers must be imaginative and original. News photographers not only must be good with a camera, but also must understand the story behind an event so that their pictures match the story. They must be decisive in recognizing a potentially good photograph and act quickly to capture it.

Photographers who operate their own businesses, or freelance, need business skills as well as talent. These individuals must know how to prepare a business plan; submit bids; write contracts; market their work; hire models, if needed; get permission to shoot on locations that normally are not open to the public; obtain releases to use photographs of people; license and price photographs; secure copyright protection for their work; and keep financial records. Knowledge of licensing and copyright laws as well as contract negotiation procedures is especially important for self-employed photographers, in order to protect their rights and their work.

After several years of experience, magazine and news photographers may advance to photography or picture editor positions. Some photographers teach at technical schools, film schools, or universities.

### **Job Outlook**

Photographers can expect keen competition for job openings because the work is attractive to many people. The number of individuals interested in positions as commercial and news photographers usually is much greater than the number of openings. Those who succeed in landing a salaried job or attracting enough work to earn a living by freelancing are likely to be the most creative, able to adapt to rapidly changing technologies, and adept at operating a business. Related work experience, job-related training, or some unique skill or talent—such as a background in computers or electronics—also are beneficial to prospective photographers.

Employment of photographers is expected to increase about as fast as the average for all occupations through 2012. Demand

for portrait photographers should increase as the population grows. As the number of electronic versions of magazines, journals, and newspapers increases on the Internet, commercial photographers will be needed to provide digital images.

Job growth, however, will be constrained somewhat by the widespread use of digital photography and the falling price of digital equipment. Besides increasing photographers' productivity, improvements in digital technology reduce barriers of entry into this profession and allow more individual consumers and businesses to produce, store, and access photographic images on their own. Declines in the newspaper industry also will reduce demand for photographers to provide still images for print.

### **Earnings**

Median annual earnings of salaried photographers were \$24,040 in 2002. The middle 50 percent earned between \$17,740 and \$34,910. The lowest 10 percent earned less than \$14,640, and the highest 10 percent earned more than \$49,920. Median annual earnings in the industries employing the largest numbers of salaried photographers were \$31,460 for newspapers and periodicals and \$21,860 for other professional or scientific services.

Salaried photographers—more of whom work full time—tend to earn more than those who are self-employed. Because most freelance and portrait photographers purchase their own equipment, they incur considerable expense acquiring and maintaining cameras and accessories. Unlike news and commercial photographers, few fine arts photographers are successful enough to support themselves solely through their art.

### **Related Occupations**

Other occupations requiring artistic talent and creativity include architects, except landscape and naval; artists and related workers; designers; news analysts, reporters, and correspondents; and television, video, and motion picture camera operators and editors.

### **Sources of Additional Information**

Career information on photography is available from:

- ▶ Professional Photographers of America, Inc., 229 Peachtree St. NE., Suite 2200, Atlanta, GA 30303.
- ▶ National Press Photographers Association, Inc., 3200 Croasdaile Dr., Suite 306, Durham, NC 27705. Internet: <http://www.nppa.org>

# Public Relations Specialists

(0\*NET 27-3031.00)

## Significant Points

- Although employment is projected to increase faster than average, keen competition is expected for entry-level jobs.
- Opportunities should be best for college graduates who combine a degree in public relations, journalism, or another communications-related field with a public relations internship or other related work experience.
- The ability to communicate effectively is essential.

## Nature of the Work

An organization's reputation, profitability, and even its continued existence can depend on the degree to which its targeted "publics" support its goals and policies. Public relations specialists—also referred to as communications specialists and media specialists, among other titles—serve as advocates for businesses, nonprofit associations, universities, hospitals, and other organizations, and build and maintain positive relationships with the public. As managers recognize the growing importance of good public relations to the success of their organizations, they increasingly rely on public relations specialists for advice on the strategy and policy of such programs.

Public relations specialists handle organizational functions such as media, community, consumer, industry, and governmental relations; political campaigns; interest-group representation; conflict mediation; or employee and investor relations. They help an organization and its public adapt mutually to each other. However, public relations are not only about "telling the organization's story." Understanding the attitudes and concerns of consumers, employees, and various other groups also is a vital part of the job. To improve communication, public relations specialists establish and maintain cooperative relationships with representatives of community, consumer, employee, and public interest groups, and with representatives from print and broadcast journalism.

Informing the general public, interest groups, and stockholders of an organization's policies, activities, and accomplishments is an important part of a public relations specialist's job. The work also involves keeping management aware of public attitudes and the concerns of the many groups and organizations with which they must deal.

Media specialists draft press releases and contact people in the media who might print or broadcast their material. Many radio or television special reports, newspaper stories, and magazine articles start at the desks of public relations specialists. Sometimes, the subject is an organization and its policies toward its employees or its role in the community. Often, the subject is a public issue, such as health, energy, or the environment.

Public affairs specialists also arrange and conduct programs to keep up contact between organization representatives and the public. For example, they set up speaking engagements and often prepare speeches for company officials. These media specialists represent employers at community projects; make film, slide, or other visual presentations at meetings and school assemblies; and plan conventions. In addition, they are responsible for preparing annual reports and writing proposals for various projects.

In government, public relations specialists—who may be called press secretaries, information officers, public affairs specialists, or communication specialists—keep the public informed about the activities of government agencies and officials. For example, public affairs specialists in the U.S. Department of State keep the public informed of travel advisories and of U.S. positions on foreign issues. A press secretary for a member of Congress keeps constituents aware of the representative's accomplishments.

In large organizations, the key public relations executive, who often is a vice president, may develop overall plans and policies with other executives. In addition, public relations departments employ public relations specialists to write, research, prepare materials, maintain contacts, and respond to inquiries.

People who handle publicity for an individual or who direct public relations for a small organization may deal with all aspects of the job. They contact people, plan and research, and prepare materials for distribution. They also may handle advertising or sales promotion work to support marketing.

## Working Conditions

Some public relations specialists work a standard 35- to 40-hour week, but unpaid overtime is common. Occasionally, they must be at the job or on call around the clock, especially if there is an emergency or crisis. Public relations offices are busy places; work schedules can be irregular and frequently interrupted. Schedules often have to be rearranged so that workers can meet deadlines, deliver speeches, attend meetings and community activities, or travel.

## Employment

Public relations specialists held about 158,000 jobs in 2002. Public relations specialists are concentrated in service-providing industries such as advertising and related services; health care and social assistance; educational services; and govern-



*Public relations specialists serve as advocates for organizations and build and maintain positive relationships with the public.*

ment. Others worked for communications firms, financial institutions, and government agencies. About 11,000 public relations specialists were self-employed.

Public relations specialists are concentrated in large cities, where press services and other communications facilities are readily available and many businesses and trade associations have their headquarters. Many public relations consulting firms, for example, are in New York, Los Angeles, San Francisco, Chicago, and Washington, DC. There is a trend, however, for public relations jobs to be dispersed throughout the Nation, closer to clients.

### **Training, Other Qualifications, and Advancement**

There are no defined standards for entry into a public relations career. A college degree combined with public relations experience, usually gained through an internship, is considered excellent preparation for public relations work; in fact, internships are becoming vital to obtaining employment. The ability to communicate effectively is essential. Many entry-level public relations specialists have a college major in public relations, journalism, advertising, or communication. Some firms seek college graduates who have worked in electronic or print journalism. Other employers seek applicants with demonstrated communication skills and training or experience in a field related to the firm's business—information technology, health, science, engineering, sales, or finance, for example.

Many colleges and universities offer bachelor's and postsecondary degrees in public relations, usually in a journalism or communications department. In addition, many other colleges offer at least one course in this field. A common public relations sequence includes courses in public relations principles and techniques; public relations management and administration, including organizational development; writing, emphasizing news releases, proposals, annual reports, scripts, speeches, and related items; visual communications, including desktop publishing and computer graphics; and research, emphasizing social science research and survey design and implementation. Courses in advertising, journalism, business administration, finance, political science, psychology, sociology, and creative writing also are helpful. Specialties are offered in public relations for business, government, and nonprofit organizations.

Many colleges help students gain part-time internships in public relations that provide valuable experience and training. The U.S. Armed Forces also can be an excellent place to gain training and experience. Membership in local chapters of the Public Relations Student Society of America (affiliated with the Public Relations Society of America) or the International Association of Business Communicators provides an opportunity for students to exchange views with public relations specialists and to make professional contacts that may help them find a job in the field. A portfolio of published articles, television or radio programs, slide presentations, and other work is an asset in finding a job. Writing for a school publication or television or radio station provides valuable experience and material for one's portfolio.

Creativity, initiative, good judgment, and the ability to express thoughts clearly and simply are essential. Decision making, problem-solving, and research skills also are important. People who choose public relations as a career need an outgoing personality, self-confidence, an understanding of human psychology, and an enthusiasm for motivating people. They

should be competitive, yet able to function as part of a team and open to new ideas.

Some organizations, particularly those with large public relations staffs, have formal training programs for new employees. In smaller organizations, new employees work under the guidance of experienced staff members. Beginners often maintain files of material about company activities, scan newspapers and magazines for appropriate articles to clip, and assemble information for speeches and pamphlets. They also may answer calls from the press and public, work on invitation lists and details for press conferences, or escort visitors and clients. After gaining experience, they write news releases, speeches, and articles for publication or design and carry out public relations programs. Public relations specialists in smaller firms usually get all-around experience, whereas those in larger firms tend to be more specialized.

The Public Relations Society of America accredits public relations specialists who have at least 5 years of experience in the field and have passed a comprehensive 6-hour examination (5 hours written, 1 hour oral). The International Association of Business Communicators also has an accreditation program for professionals in the communication field, including public relations specialists. Those who meet all the requirements of the program earn the Accredited Business Communicator (ABC) designation. Candidates must have at least 5 years of experience in a communication field and pass a written and oral examination. They also must submit a portfolio of work samples demonstrating involvement in a range of communication projects and a thorough understanding of communication planning. Employers may consider professional recognition through accreditation a sign of competence in this field, which could be especially helpful in a competitive job market.

Promotion to supervisory jobs may come as public relations specialists show that they can handle more demanding assignments. In public relations firms, a beginner might be hired as a research assistant or account coordinator and be promoted to account executive, senior account executive, account manager, and, eventually, vice president. A similar career path is followed in corporate public relations, although the titles may differ. Some experienced public relations specialists start their own consulting firms. (For more information on public relations managers, see the *Handbook* statement on advertising, marketing, promotions, public relations, and sales managers.)

### **Job Outlook**

Keen competition will likely continue for entry-level public relations jobs, as the number of qualified applicants is expected to exceed the number of job openings. Many people are attracted to this profession due to the high-profile nature of the work. Opportunities should be best for college graduates who combine a degree in journalism, public relations, advertising, or another communications-related field with a public relations internship or other related work experience. Applicants without the appropriate educational background or work experience will face the toughest obstacles.

Employment of public relations specialists is expected to increase faster than the average for all occupations through 2012. The need for good public relations in an increasingly competitive business environment should spur demand for public relations specialists in organizations of all types and sizes. The value of a company is measured not just by its balance sheet, but also by the strength of its relationships with those upon whom it depends for its success. And, in the wake

of corporate scandals, more emphasis will be placed on improving the image of the client, as well as building public confidence.

Employment in public relations firms should grow as firms hire contractors to provide public relations services rather than support full-time staff. In addition to those arising from employment growth, job opportunities should result from the need to replace public relations specialists who take other jobs or who leave the occupation altogether.

### Earnings

Median annual earnings for salaried public relations specialists were \$41,710 in 2002. The middle 50 percent earned between \$31,300 and \$56,180; the lowest 10 percent earned less than \$24,240, and the top 10 percent earned more than \$75,100. Median annual earnings in the industries employing the largest numbers of public relations specialists in 2002 were:

Advertising and related services .....	\$48,070
Local government .....	42,000
Business, professional, labor, political, and similar organizations .....	39,330
Colleges, universities, and professional schools .....	36,820

According to a joint survey conducted by the International Association of Business Communicators and the Public Relations Society of America, the median annual income for a public relations specialist was \$66,800 in 2002.

### Related Occupations

Public relations specialists create favorable attitudes among various organizations, special interest groups, and the public through effective communication. Other workers with similar jobs include advertising, marketing, promotions, public relations, and sales managers; demonstrators, product promoters, and models; news analysts, reporters, and correspondents; lawyers; market and survey researchers; sales representatives, wholesale and manufacturing; and police and detectives involved in community relations.

### Sources of Additional Information

A comprehensive directory of schools offering degree programs, a sequence of study in public relations, a brochure on careers in public relations, and a \$5 brochure entitled *Where Shall I go to Study Advertising and Public Relations?* are available from:

► Public Relations Society of America, Inc., 33 Irving Place, New York, NY 10003-2376. Internet: <http://www.prsa.org>

For information on accreditation for public relations professionals, contact:

► International Association of Business Communicators, One Hallidie Plaza, Suite 600, San Francisco, CA 94102.

# Television, Video, and Motion Picture Camera Operators and Editors

(0\*NET 27-4031.00, 27-4032.00)

## Significant Points

- Workers acquire their skills through on-the-job or formal postsecondary training.
- Technical expertise, a “good eye,” imagination, and creativity are essential.
- Keen competition for job openings is expected, because many talented people are attracted to the field.
- About one in five camera operators are self-employed.

## Nature of the Work

*Television, video, and motion picture camera operators* produce images that tell a story, inform or entertain an audience, or record an event. *Film and video editors* edit soundtracks, film, and video for the motion picture, cable, and broadcast television industries. Some camera operators do their own editing.

Making commercial-quality movies and video programs requires technical expertise and creativity. Producing successful images requires choosing and presenting interesting material, selecting appropriate equipment, and applying a good eye and steady hand to assure smooth, natural movement of the camera.

Camera operators use television, video, or motion picture cameras to shoot a wide range of material, including television series, studio programs, news and sporting events, music videos, motion pictures, documentaries, and training sessions. Some camera operators film or videotape private ceremonies and special events. Those who record images on videotape are often called *videographers*. Many are employed by independent television stations, local affiliates, large cable and television networks, or smaller, independent production companies. *Studio camera operators* work in a broadcast studio and usually videotape their subjects from a fixed position. *News camera operators*, also called *electronic news gathering (ENG) operators*, work as part of a reporting team, following newsworthy events as they unfold. To capture live events, they must anticipate the action and act quickly. ENG operators may need to edit raw footage on the spot for relay to a television affiliate for broadcast.

Camera operators employed in the entertainment field use motion picture cameras to film movies, television programs, and commercials. Those who film motion pictures are also known as *cinematographers*. Some specialize in filming cartoons or special effects. They may be an integral part of the action, using cameras in any of several different mounts. For example, the camera operator can be stationary and shoot whatever passes in front of the lens, or the camera can be mounted on a track, with the camera operator responsible for shooting the scene from different angles or directions. More recently, the introduction of digital cameras has enhanced the number of angles and the clarity that a camera operator can provide. Other camera operators sit on cranes and follow the action while crane operators move them into position. *Steadicam operators* mount a harness and carry the camera on their shoulders to provide a clear picture while they move about the action. Camera operators who work in the entertainment field often meet with directors, actors, editors, and camera assistants to discuss ways of filming, editing, and improving scenes.

## Working Conditions

Working conditions for camera operators and editors vary considerably. Those employed in government, television and cable networks, and advertising agencies usually work a 5-day, 40-hour week. By contrast, ENG operators often work long, irregular hours and must be available to work on short notice. Camera operators and editors working in motion picture production also may work long, irregular hours.

ENG operators and those who cover major events, such as conventions or sporting events, frequently travel locally, stay overnight on assignments, or travel to distant places for longer periods. Camera operators filming television programs or motion pictures may travel to film on location.

Some camera operators—especially ENG operators covering accidents, natural disasters, civil unrest, or military conflicts—work in uncomfortable or even dangerous surroundings. Many camera operators must wait long hours in all kinds of weather for an event to take place and must stand or walk for long periods while carrying heavy equipment. ENG operators often work under strict deadlines.

## Employment

Television, video, and motion picture camera operators held about 28,000 jobs in 2002, and film and video editors held about 19,000. About 1 in 5 camera operators were self-employed. Some self-employed camera operators contracted with television networks, documentary or independent filmmakers, advertising agencies, or trade show or convention sponsors to work on individual projects for a predetermined fee, often at a daily rate.

Most of the salaried camera operators were employed by television broadcasting stations or motion picture studios. More than half of the salaried film and video editors worked for motion picture studios. Most camera operators and editors worked in large metropolitan areas.

## Training, Other Qualifications, and Advancement

Employers usually seek applicants with a “good eye,” imagination, and creativity, as well as a good technical understanding of how the camera operates. Television, video, and motion picture camera operators and editors usually acquire their skills through on-the-job training or formal postsecondary training at vocational schools, colleges, universities, or photographic institutes. Formal education may be required for some positions.

Many universities, community and junior colleges, vocational-technical institutes, and private trade and technical



Film and video editors edit soundtracks, film, and video.

schools offer courses in camera operation and videography. Basic courses cover equipment, processes, and techniques. Bachelor's degree programs, especially those including business courses, provide a well-rounded education.

Individuals interested in camera operations should subscribe to videographic newsletters and magazines, join clubs, and seek summer or part-time employment in cable and television networks, motion picture studios, or camera and video stores.

Camera operators in entry-level jobs learn to set up lights, cameras, and other equipment. They may receive routine assignments requiring adjustments to their cameras or decisions on what subject matter to capture. Camera operators in the film and television industries usually are hired for a project on the basis of recommendations from individuals such as producers, directors of photography, and camera assistants from previous projects or through interviews with the producer. ENG and studio camera operators who work for television affiliates usually start in small markets to gain experience.

Camera operators need good eyesight, artistic ability, and hand-eye coordination. They should be patient, accurate, and detail oriented. Camera operators also should have good communication skills and, if needed, the ability to hold a camera by hand for extended periods.

Camera operators who run their own businesses, or freelance, need business skills as well as talent. These individuals must know how to submit bids, write contracts, get permission to shoot on locations that normally are not open to the public, obtain releases to use film or tape of people, price their services, secure copyright protection for their work, and keep financial records.

With increased experience, operators may advance to more demanding assignments or to positions with larger or network television stations. Advancement for ENG operators may mean moving to larger media markets. Other camera operators and editors may become directors of photography for movie studios, advertising agencies, or television programs. Some teach at technical schools, film schools, or universities.

### **Job Outlook**

Television, video, and motion picture camera operators and editors can expect keen competition for job openings because the work is attractive to many people. The number of individuals interested in positions as videographers and movie camera operators usually is much greater than the number of openings. Those who succeed in landing a salaried job or attracting enough work to earn a living by freelancing are likely to be the most creative, highly motivated, able to adapt to rapidly changing technologies, and adept at operating a business. Related work experience or job-related training also can benefit prospective camera operators.

Employment of camera operators and editors is expected to grow about as fast as the average for all occupations through 2012. Rapid expansion of the entertainment market, especially motion picture production and distribution, will spur growth of camera operators. In addition, computer and Internet services will provide new outlets for interactive productions. Growth will be tempered, however, by the increased off-shore production of motion pictures. Camera operators will be needed to film made-for-the-Internet broadcasts, such as live music videos, digital movies, sports features, and general information or entertainment programming. These images can be delivered directly into the home either on compact discs or over the Internet. Job growth also is expected in radio and television broadcasting.

### **Earnings**

Median annual earnings for television, video, and motion picture camera operators were \$32,720 in 2002. The middle 50 percent earned between \$20,610 and \$51,000. The lowest 10 percent earned less than \$14,710, and the highest 10 percent earned more than \$65,070. Median annual earnings were \$46,540 in the motion picture and video industries and \$25,830 in radio and television broadcasting.

Median annual earnings for film and video editors were \$38,270 in 2002. The middle 50 percent earned between \$26,780 and \$55,300. The lowest 10 percent earned less than \$20,030, and the highest 10 percent earned more than \$78,070. Median annual earnings were \$41,440 in the motion picture and video industries, which employ the largest numbers of film and video editors.

Many camera operators who work in film or video are freelancers whose earnings tend to fluctuate each year. Because most freelance camera operators purchase their own equipment, they incur considerable expense acquiring and maintaining cameras and accessories. Some camera operators belong to unions, including the International Alliance of Theatrical Stage Employees and the National Association of Broadcast Employees and Technicians.

### **Related Occupations**

Related arts and media occupations include artists and related workers, broadcast and sound engineering technicians and radio operators, designers, and photographers.

### **Sources of Additional Information**

Information about career and employment opportunities for camera operators and film and video editors is available from local offices of State employment service agencies, local offices of the relevant trade unions, and local television and film production companies that employ these workers.

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## Writers and Editors

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### Significant Points

- Most jobs in this occupation require a college degree in communications, journalism, or English, although a degree in a technical subject may be useful for technical-writing positions.
- The outlook for most writing and editing jobs is expected to be competitive, because many people with writing or journalism training are attracted to the occupation.
- Online publications and services are growing in number and sophistication, spurring the demand for writers and editors, especially those with Web experience.

### Nature of the Work

Communicating through the written word, writers and editors generally fall into one of three categories. *Writers and authors* develop original fiction and nonfiction for books, magazines, trade journals, online publications, company newsletters, radio and television broadcasts, motion pictures, and advertisements. (Reporters and correspondents who collect and analyze facts about newsworthy events are described elsewhere in the *Handbook*.) *Editors* examine proposals and select material for publication or broadcast. They review and revise a writer's work for publication or dissemination. *Technical writers* develop technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. They also may assist in layout work.

Most writers and editors have at least a basic familiarity with technology, regularly using personal computers, desktop or electronic publishing systems, scanners, and other electronic communications equipment. Many writers prepare material directly for the Internet. For example, they may write for electronic newspapers or magazines, create short fiction or poetry, or produce technical documentation that is available only online. Also, they may write text for Web sites. These writers should be knowledgeable about graphic design, page layout, and desktop publishing software. In addition, they should be familiar with interactive technologies of the Web so that they can blend text, graphics, and sound together.

Writers—especially of nonfiction—are expected to establish their credibility with editors and readers through strong research and the use of appropriate sources and citations. Sustaining high ethical standards and meeting publication deadlines are essential.

*Creative writers, poets, and lyricists*, including novelists, playwrights, and screenwriters, create original works—such as prose, poems, plays, and song lyrics—for publication or performance. Some works may be commissioned (at the request of a sponsor); others may be written for hire (on the basis of the completion of a draft or an outline).

Nonfiction writers either propose a topic or are assigned one, often by an editor or publisher. They gather information about the topic through personal observation, library and Internet research, and interviews. Writers then select the material they want to use, organize it, and use the written word to express

ideas and convey information. Writers also revise or rewrite sections, searching for the best organization or the right phrasing. *Copy writers* prepare advertising copy for use by publication or broadcast media or to promote the sale of goods and services. *Newsletter writers* produce information for distribution to association memberships, corporate employees, organizational clients, or the public.

Freelance writers sell their work to publishers, publication enterprises, manufacturing firms, public-relations departments, or advertising agencies. Sometimes, they contract with publishers to write a book or an article. Others may be hired to complete specific assignments, such as writing about a new product or technique.

*Editors* review, rewrite, and edit the work of writers. They may also do original writing. An editor's responsibilities vary with the employer and type and level of editorial position held. Editorial duties may include planning the content of books, technical journals, trade magazines, and other general-interest publications. Editors also decide what material will appeal to readers, review and edit drafts of books and articles, offer comments to improve the work, and suggest possible titles. In addition, they may oversee the production of the publications. In the book-publishing industry, an editor's primary responsibility is to review proposals for books and decide whether to buy the publication rights from the author.

Major newspapers and newsmagazines usually employ several types of editors. The *executive editor* oversees *assistant editors* who have responsibility for particular subjects, such as local news, international news, feature stories, or sports. Executive editors generally have the final say about what stories are published and how they are covered. The *managing editor* usually is responsible for the daily operation of the news department. *Assignment editors* determine which reporters will cover a given story. *Copy editors* mostly review and edit a reporter's copy for accuracy, content, grammar, and style.

In smaller organizations, such as small daily or weekly newspapers or membership or publications departments of nonprofit or similar organizations, a single editor may do everything or share responsibility with only a few other people. Executive and managing editors typically hire writers, reporters, and other employees. They also plan budgets and negotiate contracts



*Most writers and editors use computers and other communications equipment to compose and transmit written information.*

with freelance writers, sometimes called “stringers” in the news industry. In broadcasting companies, *program directors* have similar responsibilities.

Editors and program directors often have assistants, many of whom hold entry-level jobs. These assistants, such as copy editors and *production assistants*, review copy for errors in grammar, punctuation, and spelling and check the copy for readability, style, and agreement with editorial policy. They suggest revisions, such as changing words and rearranging sentences, to improve clarity or accuracy. They also carry out research for writers and verify facts, dates, and statistics. Production assistants arrange page layouts of articles, photographs, and advertising; compose headlines; and prepare copy for printing. *Publication assistants* who work for publishing houses may read and evaluate manuscripts submitted by freelance writers, proof-read printers’ galleys, or answer letters about published material. Production assistants on small newspapers or in radio stations compile articles available from wire services or the Internet, answer phones, and make photocopies.

*Technical writers* put technical information into easily understandable language. They prepare operating and maintenance manuals, catalogs, parts lists, assembly instructions, sales promotion materials, and project proposals. Many technical writers work with engineers on technical subject matters to prepare written interpretations of engineering and design specifications and other information for a general readership. They plan and edit technical materials and oversee the preparation of illustrations, photographs, diagrams, and charts.

*Science and medical writers* prepare a range of formal documents presenting detailed information on the physical or medical sciences. They convey research findings for scientific or medical professions and organize information for advertising or public-relations needs. Many writers work with researchers on technical subjects to prepare written interpretations of data and other information for a general readership.

### **Working Conditions**

Some writers and editors work in comfortable, private offices; others work in noisy rooms filled with the sound of keyboards and computer printers, as well as the voices of other writers tracking down information over the telephone. The search for information sometimes requires that the writer travel to diverse workplaces, such as factories, offices, or laboratories, but many find their material through telephone interviews, the library, and the Internet.

For some writers, the typical workweek runs 35 to 40 hours. However, writers occasionally work overtime to meet publication deadlines. Those who prepare morning or weekend publications and broadcasts work some nights and weekends. Freelance writers generally work more flexible hours, but their schedules must conform to the needs of the client. Deadlines and erratic work hours, often part of the daily routine in these jobs, may cause stress, fatigue, or burnout.

Changes in technology and electronic communications also affect a writer’s work environment. For example, laptops allow writers to work from home or on the road. Writers and editors who use computers for extended periods may experience back pain, eyestrain, or fatigue.

### **Employment**

Writers and editors held about 319,000 jobs in 2002. More than one-third were self-employed. Writers and authors held

about 139,000 jobs; editors, about 130,000 jobs; and technical writers, about 50,000 jobs. More than one-half of jobs for writers and editors were salaried positions in the information sector, which includes newspaper, periodical, book, and directory publishers; radio and television broadcasting; software publishers; motion picture and sound recording industries; Internet service providers, web search portals, and data processing services; and Internet publishing and broadcasting. Substantial numbers also worked in advertising and related services, computer systems design and related services, and public and private educational services. Other salaried writers and editors worked in computer and electronic product manufacturing, government agencies, religious organizations, and business, professional, labor, political, and similar organizations.

Jobs with major book publishers, magazines, broadcasting companies, advertising agencies, and public-relations firms are concentrated in New York, Chicago, Los Angeles, Boston, Philadelphia, and San Francisco. Jobs with newspapers, business and professional journals, and technical and trade magazines are more widely dispersed throughout the country.

Thousands of other individuals work as freelance writers, earning some income from their articles, books, and, less commonly, television and movie scripts. Most support themselves with income derived from other sources.

### **Training, Other Qualifications, and Advancement**

A college degree generally is required for a position as a writer or editor. Although some employers look for a broad liberal arts background, most prefer to hire people with degrees in communications, journalism, or English. For those who specialize in a particular area, such as fashion, business, or legal issues, additional background in the chosen field is expected. Knowledge of a second language is helpful for some positions.

Increasingly, technical writing requires a degree in, or some knowledge about, a specialized field—engineering, business, or one of the sciences, for example. In many cases, people with good writing skills can learn specialized knowledge on the job. Some transfer from jobs as technicians, scientists, or engineers. Others begin as research assistants or as trainees in a technical information department, develop technical communication skills, and then assume writing duties.

Writers and editors must be able to express ideas clearly and logically and should love to write. Creativity, curiosity, a broad range of knowledge, self-motivation, and perseverance also are valuable. Writers and editors must demonstrate good judgment and a strong sense of ethics in deciding what material to publish. Editors also need tact and the ability to guide and encourage others in their work.

For some jobs, the ability to concentrate amid confusion and to work under pressure is essential. Familiarity with electronic publishing, graphics, and video production equipment increasingly is needed. Online newspapers and magazines require knowledge of computer software used to combine online text with graphics, audio, video, and animation.

High school and college newspapers, literary magazines, community newspapers, and radio and television stations all provide valuable, but sometimes unpaid, practical writing experience. Many magazines, newspapers, and broadcast stations have internships for students. Interns write short pieces, conduct research and interviews, and learn about the publishing or broadcasting business.

In small firms, beginning writers and editors hired as assistants may actually begin writing or editing material right away. Opportunities for advancement can be limited, however. Many writers look for work on a short-term, project-by-project basis. Many small or not-for-profit organizations either do not have enough regular work or cannot afford to employ writers on a full-time basis. However, they routinely contract out work to freelance writers as needed.

In larger businesses, jobs usually are more formally structured. Beginners generally do research, fact checking, or copy editing. Advancement to full-scale writing or editing assignments may occur more slowly for newer writers and editors in larger organizations than for employees of smaller companies. Advancement often is more predictable, though, coming with the assignment of more important articles.

### **Job Outlook**

Employment of writers and editors is expected to grow about as fast as the average for all occupations through the year 2012. The outlook for most writing and editing jobs is expected to be competitive, because many people with writing or journalism training are attracted to the occupation.

Employment of salaried writers and editors for newspapers, periodicals, book publishers, and nonprofit organizations is expected to increase as demand grows for these publications. Magazines and other periodicals increasingly are developing market niches, appealing to readers with special interests. Businesses and organizations are developing newsletters and websites, and more companies are experimenting with publishing materials directly for the Internet. Online publications and services are growing in number and sophistication, spurring the demand for writers and editors, especially those with Web experience. Advertising and public-relations agencies, which also are growing, should be another source of new jobs.

Opportunities should be best for technical writers and those with training in a specialized field. Demand for technical writers and writers with expertise in specialty areas, such as law, medicine, or economics, is expected to increase because of the continuing expansion of scientific and technical information and the need to communicate it to others. Developments and discoveries in the law, science, and technology generate demand for people to interpret technical information for a more general audience. Rapid growth and change in the high-technology and electronics industries result in a greater need for people to write users' guides, instruction manuals, and training materials. This work requires people who are not only technically skilled as writers, but also familiar with the subject area.

In addition to job openings created by employment growth, some openings will arise as experienced workers retire, transfer to other occupations, or leave the labor force. Replacement needs are relatively high in this occupation; many freelancers leave because they cannot earn enough money.

### **Earnings**

Median annual earnings for salaried writers and authors were \$42,790 in 2002. The middle 50 percent earned between \$29,150 and \$58,930. The lowest 10 percent earned less than \$21,320, and the highest 10 percent earned more than \$85,140. Median annual earnings were \$54,520 in advertising and related services and \$33,550 in newspaper, periodical, book, and directory publishers.

Median annual earnings for salaried editors were \$41,170 in 2002. The middle 50 percent earned between \$30,770 and

\$56,360. The lowest 10 percent earned less than \$24,010, and the highest 10 percent earned more than \$76,620. Median annual earnings in newspaper, periodical, book, and directory publishers were \$40,280.

Median annual earnings for salaried technical writers were \$50,580 in 2002. The middle 50 percent earned between \$39,100 and \$64,750. The lowest 10 percent earned less than \$30,270, and the highest 10 percent earned more than \$80,900. Median annual earnings in computer systems design and related services were \$51,730.

According to the Society for Technical Communication, the median annual salary for entry level technical writers was \$41,000 in 2002. The median annual salary for mid-level non-supervisory technical writers was \$49,900 and for senior-level non-supervisory technical writers, \$66,000.

### **Related Occupations**

Writers and editors communicate ideas and information. Other communications occupations include announcers; interpreters and translators; news analysts, reporters, and correspondents; and public relations specialists.

### **Sources of Additional Information**

For information on careers in technical writing, contact:

► Society for Technical Communication, Inc., 901 N. Stuart St., Suite 904, Arlington, VA 22203. Internet: <http://www.stc.org>