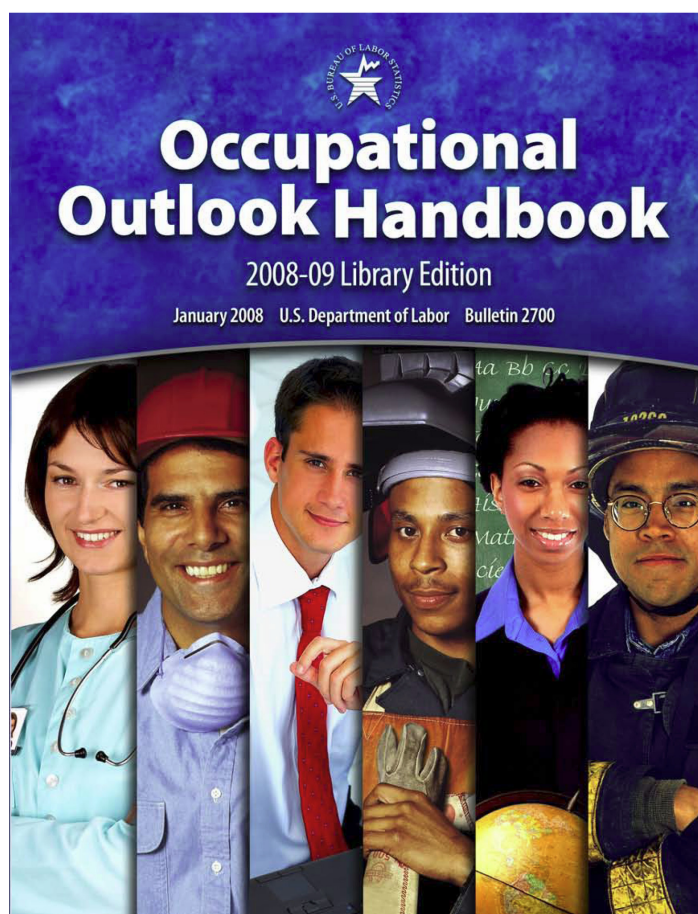


# Arts, Design, Entertainment, Sports, and Media Occupations



Reprinted from the  
Occupational Outlook Handbook, 2008-09 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  
Athletic trainers  
Broadcast and sound engineering technicians and radio operators  
Commercial and industrial designers  
Dancers and choreographers  
Fashion designers  
Fitness workers  
Floral designers  
Graphic designers  
Interior designers  
Interpreters and translators  
Musicians, singers, and related workers  
News analysts, reporters, and correspondents  
Photographers  
Public relations specialists  
Recreation workers  
Television, video, and motion picture camera operators and editors  
Writers and editors

## Actors, Producers, and Directors

(O\*NET 27-2011.00, 27-2012.00, 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 may be erratic, many supplement their incomes by holding jobs in other fields; however, the most successful actors, producers, and directors may have extraordinarily high earnings.

### 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 many actors, producers, and directors work in New York or Los Angeles, far more work in other places. They perform, direct, and produce in local or regional television studios, theaters, or film production companies, often creating advertising or training films or small-scale independent movies.

*Actors* perform in stage, radio, television, video, or motion picture productions. They also work in cabarets, nightclubs, and theme parks. Actors portray characters, and, for more complex roles, they research their character's traits and circumstances so that they can better understand a script.

Most actors struggle to find steady work and only a few achieve recognition as stars. Some well-known, experienced performers may be cast in supporting roles or make brief, cameo appearances, speaking only one or two lines. Others work as "extras," with no lines to deliver. 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 who make the business and financial decisions involving a motion picture, made-for-television feature, or stage production. They select scripts, approve the development of ideas, arrange financing, and determine the size and cost of the endeavor. Producers hire or approve directors, principal cast members, and key production staff members. They also negotiate contracts with artistic and design personnel in accordance with collective bargaining agreements. They 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, audition and select cast members, conduct rehearsals, and direct the work of cast and crew. They approve the design elements of a production, including the sets, costumes, choreography, and music. Assistant directors cue the performers and technicians, telling them when to make entrances or light, sound, or set changes.

**Work environment.** 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 and 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 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 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



*Actors, producers, and directors work in various locations.*

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 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.

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

People who become actors, producers, and directors follow many paths to employment. The most important qualities employers look for are creative instincts, innate talent, and the intellectual capacity to perform. The best way to prepare for a career as an actor, especially in the theater, is through formal dramatic training, preferably obtained as part of a bachelor's degree program. Producers and especially directors need experience in the field, either as actors or in other related jobs.

**Education and training.** Formal dramatic training, either through an acting conservatory or a university program, generally is necessary for these jobs, but 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 stage actors 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 150 programs in theater arts.

Most aspiring actors participate in high school and college plays, work in college radio or television 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. Membership in one of the actors' unions and work experience in smaller communities may lead to work in larger cities, notably New York, Chicago, 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. A few people go into acting after successful careers in other fields, such as broadcasting or announcing.

Actors, regardless of experience level, may pursue workshop training through acting conservatories or mentoring by a drama coach. Sometimes actors learn a foreign language or train with a dialect coach to develop an accent to make their characters more realistic.

There are no specific training requirements for producers. They come from many different backgrounds. Actors, writers, film editors, and business managers commonly enter the field.

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 the boards of art companies, or promote their own projects. Although there are no formal training programs for producers, a number of colleges and universities offer degree programs in arts management and in managing nonprofit organizations.

Directors often start out as actors. Many also have formal training in directing. The Directors Guild of America and the Alliance of Motion Picture and Television Producers jointly sponsor the Assistant Directors Training Program. To be accepted to this highly competitive program, an individual must have either a bachelor's or associate degree or 2 years of experience and must complete a written exam and other assessments. Program graduates are eligible to become a member of the Directors Guild and typically find employment as a second assistant director.

**Other qualifications.** Actors need talent and creativity 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, acrobatics, or miming are especially useful. Experience in horseback riding, fencing, linguistics, 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 ability to affect an audience, and the ability to follow direction. Modeling experience also may be helpful. Physical appearance, such as having certain features and being the specified size and weight, often is a deciding factor in who gets a particular role.

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.

Some actors begin as movie extras. To become an extra, one usually must be listed by casting agencies that supply extras to the major movie studios in Hollywood. Applicants are accepted only when the numbers of people of a particular type on the list, for example, athletic young women, old men, or small children, falls below what is needed. In recent years, only a very small proportion of applicants have succeeded in being listed.

Like actors, directors and producers need talent and creativity. They also need business acumen.

**Advancement.** 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.

### **Employment**

In May 2006, actors, producers, and directors held about 163,000 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 28 percent of actors, producers, and directors were 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 Los Angeles. However, small studios exist 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.

### Job Outlook

Employment of actors, producers, and directors is expected to grow about as fast as the average for all occupations. Competition for jobs will be keen. Although a growing number of people 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 may be low.

**Employment change.** Employment in these occupations is expected to grow 11 percent during the 2006-16 decade, about as fast as the average for all occupations. Expanding cable and satellite television operations, increasing production and distribution of major studio and independent films, and rising demand for films in other countries should create more employment opportunities for actors, producers, and directors. Also fueling job growth is the continued development of interactive media, direct-for-Web movies, and mobile content, produced for cell phones or other portable electronic devices. However, greater emphasis on national, rather than local, entertainment productions may restrict employment opportunities in the broadcasting industry.

**Job prospects.** Competition for jobs will be stiff. 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.

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

### Earnings

The most successful actors, producers, and directors may have extraordinarily high earnings but for others, because earnings may be erratic, many supplement their income by holding jobs in other fields.

Median hourly earnings of actors were \$11.61 in May 2006. The middle 50 percent earned between \$8.47 and \$22.51. The lowest 10 percent earned less than \$7.31, and the highest 10 percent earned more than \$51.02. Median hourly earnings were \$16.82 in performing arts companies and \$10.69 in the motion picture and video industry. Annual earnings data for actors were not available because of the wide variation in the number of hours worked by actors and the short-term nature of many jobs, which may last for 1 day or 1 week; it is extremely rare for actors to have guaranteed employment that exceeded 3 to 6 months.

Median annual earnings of salaried producers and directors were \$56,310 in 2006. The middle 50 percent earned between \$37,980 and \$88,700. Median annual earnings were \$70,750 in the motion picture and video industry and \$47,530 in radio and television broadcasting.

Minimum salaries, hours of work, and other conditions of employment are often covered in collective bargaining agreements between the producers and the unions representing workers. The Actors' Equity Association (AEA) represents stage actors; the Screen Actors Guild (SAG) covers actors in motion pictures, including television, commercials, and film; and the American Federation of Television and Radio Artists (AFTRA) represents television and radio studio performers. Some actors who regularly work in several media find it advantageous to join multiple unions, while SAG and AFTRA may share jurisdiction for work in additional areas, such as the production of training or educational films not slated for broadcast, television commercial work, and interactive media. 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 \$759 or \$2,634

### Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Actors, producers, and directors .....	27-2010	163,000	182,000	18,000	11
Actors .....	27-2011	70,000	78,000	8,100	12
Producers and directors .....	27-2012	93,000	103,000	10,000	11

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

for a 5-day week as of July 1, 2007. 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 AEA, the minimum weekly salary for actors in Broadway productions as of June 2007 was \$1,509. Actors in Off-Broadway theaters received minimums ranging from \$516 to \$976 a week as of October 29, 2007, depending on the seating capacity of the theater. Regional theaters that operate under an Equity agreement pay actors \$544 to \$840 per week. For touring productions, actors receive an additional \$113 per day for living expenses (\$119 per day in higher cost cities). New terms were negotiated under an “experimental touring program” provision for lower budget musicals that tour to smaller cities or that perform for fewer performances at each stop. In an effort to increase the number of paid workweeks while on tour, actors may be paid less than the full production rate for touring shows in exchange for higher per diems and profit participation.

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 sporadic. Therefore, most actors must supplement their incomes by holding jobs in other occupations.

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

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. The SSDC usually negotiates salary contracts which include royalties (additional income based on the number of performances) with smaller theaters. 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 over \$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 occupations related to film and theater include makeup artists, theatrical and performance; fashion designers; and set and exhibit designers. 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>

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## Announcers

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

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### 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 inexperienced announcers.
- Applicants who have completed internships or have related work experience, and those with computer skills, may have an advantage in the job market.
- Employment is projected to decline.

### Nature of the Work

Radio and television announcers 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 make ad lib commentary on the air, as they present news, sports, the 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 do remote broadcasts for their stations.

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 editors and broadcast technicians. At many music stations, the announcer is simultaneously responsible both for announcing and for operating the control board, which is used to broadcast programming, com-

mercials, and public-service announcements according to the station's schedule. Much of the recorded material that used to be on records or tape is now in the form of digital files on computers. (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 overnight without any staff, playing programming from a satellite 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.

Radio announcers who broadcast music often are called *disc jockeys (DJs)*. Some DJs 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.

Some DJs announce and play music at clubs, dances, restaurants, and weddings. They often have their own equipment with which to play the music. Many are self-employed and rent their services out on a job-by-job basis.

*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,



Announcers may read prepared scripts or make ad-lib commentary on the air.

and discuss issues with viewers, listeners, or the studio audience.

*Public address system announcers* provide information to the audience at sporting, performing arts, and other events.

**Work environment.** Announcers usually work in well-lighted, air-conditioned, soundproof studios. Announcers often work within tight schedules, 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.

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. The shifts, however, may not be as varied as in the past because new technology is allowing stations to eliminate some of the overnight hours.

### Training, Other Qualifications, and Advancement

Entry into this occupation is highly competitive, and postsecondary education or long-term on-the-job training is common. Trainees usually must have several years of experience in the industry before receiving an opportunity to work on the air. An applicant's delivery and—in television—appearance and style is important.

**Education and training.** Formal training in broadcasting from a college, a technical school, or a private broadcasting school is valuable. These programs prepare students to work with emerging technologies, a skill that is becoming increasingly important. Many announcers have a bachelor's degree in a subject such as communications, broadcasting, or journalism. 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.

Individuals 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.

Announcers are often required to complete long-term on-the-job training. This can be accomplished at campus radio or TV facilities and at commercial stations while students serve 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 amount of work that unpaid interns may perform in a station, unpaid internships are more common than paid internships. Unpaid internships sometimes lead to paid internships, however, which are valuable because interns do work ordinarily performed by regular employees and may even go on the air.

Once hired by a television station, an employee usually starts out as a production assistant, researcher, or reporter and is 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



**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Announcers .....	27-3010	71,000	66,000	-4,900	-7
Radio and television announcers.....	27-3011	59,000	54,000	-4,900	-8
Public address system and other announcers.....	27-3012	12,000	12,000	0	0

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

remote. The best chances for an on-air job for inexperienced announcers may be as a substitute for a familiar announcer at a small radio station or on the late-night shift at a larger station. In radio, newcomers usually start out taping interviews and operating equipment.

**Other qualifications.** 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, especially those seeking radio careers, should have good information technology skills and be capable of using computers, editing equipment, and other broadcast-related devices because new advances in technology have made these abilities increasingly important. Announcers also 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.

**Advancement.** 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 for employment by networks is particularly intense, and employers look for college graduates with at least several years of successful announcing experience.

**Employment**

Announcers held about 71,000 jobs in 2006. About 42 percent of all announcers worked part time. About 54 percent were employed in radio and television broadcasting. Another 30 percent were self-employed freelance announcers who sold their services for individual assignments to networks and stations, to advertising agencies, other independent producers, or to sponsors of local events.

**Job Outlook**

Competition for jobs as announcers will be keen because the broadcasting field attracts many more jobseekers than there are jobs. Furthermore, employment of announcers is projected to decline. In some cases, 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.

**Employment change.** Employment of announcers is expected to decline moderately by 7 percent from 2006 to 2016. Increasing consolidation of radio and television stations, the advent of new technology, and growth of alternative media sources, such as satellite radio, will contribute to the expected decline. Consolidation among broadcasting companies 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.

**Job prospects.** Some job openings will arise from the need to replace those who transfer to other kinds of work or leave the labor force. Nevertheless, 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 and those with related work experience usually receive preference for available positions. Job seekers with good computer and technical skills also will have an advantage because announcers are now doing more of the computer work that was previously carried out by technicians. In radio, announcers are increasingly using computers to edit their programs. 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 about business, consumer, and health news also may have an advantage over others. While subject-matter specialization is more common at large stations and the networks, many small stations also encourage it. There will be some opportunities for self-employed DJ's who provide music at clubs and special events but most of these jobs will be part time.

**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 broadcasting than in public broadcasting.

Median hourly earnings of wage and salary radio and television announcers in May 2006 were \$11.69. The middle 50 percent earned between \$8.10 and \$18.62. The lowest 10 percent earned less than \$6.55, and the highest 10 percent earned more than \$32.98. Median hourly earnings of announcers in the radio and television broadcasting industry were \$11.52.

Median hourly earnings of wage and salary public address and other system announcers in May 2006 were \$12.02. The middle 50 percent earned between \$8.41 and \$19.38. The low-

est 10 percent earned less than \$6.73 and the highest 10 percent earned more than \$29.69.

### 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. Some announcers write their own material, as do writers and editors. Announcers perform a variety of duties, including some technical operations similar to those performed by broadcast and sound engineering technicians and radio operators.

### Sources of Additional Information

General information on the broadcasting industry, where many announcers are employed, is available from:

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

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## Artists and Related Workers

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(O\*NET 27-1011.00, 27-1012.00, 27-1013.00, 27-1014.00, 27-1019.99)

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### Significant Points

- About 62 percent of artists and related workers are self-employed.
- Keen competition is expected for both salaried jobs and freelance work because the arts attract many talented people with creative ability.
- Artists usually develop their skills through a bachelor's degree program or other postsecondary training in art or design.
- Earnings for self-employed artists vary widely; some well-established artists earn more than salaried artists, while others find it difficult to rely solely on income earned from selling art.

### 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 four categories. Art directors formulate design concepts and presentation approaches for visual communications. Craft artists create or reproduce handmade objects for sale or exhibition. 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 information visually, so that it is eye catching, appealing, and organized. Art directors decide which photographs or artwork to use and oversee the design, layout, and production of material to be published. They may direct workers engaged in artwork, design, layout, and copywriting.

*Craft artists* make a wide variety of objects, mostly by hand, that are sold either in their own studios, in retail outlets, or at arts-and-crafts shows. Some craft artists display their works in galleries and museums. Craft artists work with many different materials, including ceramics, glass, textiles, wood, metal, and paper, to create unique pieces of art, such as pottery, stained glass, quilts, tapestries, lace, candles, and clothing. Many craft artists also use fine-art techniques—for example, painting, sketching, and printing—to add finishing touches to their art.

*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 have at least one other job 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. A few artists work as art critics for newspapers or magazines or as consultants to foundations or institutional collectors. Other artists teach art classes or conduct workshops in schools or in their own studios. Some artists also hold full-time or part-time jobs unrelated to art and pursue fine art as a hobby or second career.

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* usually create pictures for books, magazines, and other publications and for commercial products such as textiles, wrapping paper, stationery, greeting cards, and calendars. Increasingly, illustrators are working in digital format, preparing work directly on a computer. This has created new opportunities for illustrators to work with animators and in broadcast media.

*Medical and scientific illustrators* combine drawing skills with knowledge of biology or other sciences. Medical illustrators work digitally or traditionally to create images of human anatomy and surgical procedures as well as 3-dimensional models and animations. Scientific illustrators draw animal and plant life, atomic and molecular structures, and geologic and planetary formations. These illustrations are used in medical and scientific publications and in audiovisual presentations for teaching purposes. 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 captions. Some cartoonists write captions themselves. Most cartoonists have comic, critical, or dramatic talents in addition to drawing skills.

*Sketch artists* create likenesses of subjects with 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.

*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. Restoration 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 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 commercials proposed by advertising companies. Storyboards also serve as guides to placing actors and cameras on the television or motion picture



Many artists develop their skills through formal training in art and design.

set and to other production details. Many multi-media artists model objects in three dimensions by computer and work with programmers to make those images move.

**Work environment.** Many artists work in fine art 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 cleaners and other fluids. Artists who sit at drafting tables or who use computers for extended periods may experience back pain, eyestrain, or fatigue.

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

### Training, Other Qualifications, and Advancement

Artists usually develop their skills through a bachelor's degree program or other postsecondary training in art or design. Although formal schooling is not strictly required for craft and fine artists, it is very difficult to become skilled enough to make a living without some training. Art directors usually have years of work experience and generally need at least a bachelor's degree. Due to the level of technical expertise demanded, multimedia artists and animators generally also need a bachelor's degree.

**Education and training.** Many colleges and universities offer programs leading to a bachelor's or master's degree in fine arts. Courses usually include core subjects 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 craft, fine, and multi-media arts leading to certificates in the specialties or to an associate or bachelor's degree in fine arts. Typically, these programs focus more intensively on studio work than do the academic programs in a university setting. In 2007 the National Association of Schools of Art and Design accredited 282 postsecondary institutions with programs in art and design; most of these schools award a degree in art.

Many 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.

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 bachelor's degree combining art and premedical courses usually is required. However, most medical illustrators also choose to pursue a master's degree in medical illustration. This degree is offered in four accredited schools in the United States.

Art directors usually begin as entry-level artists in advertising, publishing, design, and motion picture production firms. Artists are promoted to art director after demonstrating artistic

and leadership abilities. Some art schools offer coursework in art direction as part of their curricula. Depending on the scope of their responsibilities, some art directors also may pursue a degree in art administration, which teaches non-artistic skills such as project management and finance.

Those who want to teach fine arts at public elementary or secondary schools usually must have a teaching certificate in addition to a bachelor's degree. An advanced degree in fine arts or arts administration is usually 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 elsewhere in the *Handbook*.)

**Other qualifications.** 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 contract for their work. A 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 through postsecondary training in art or visual communications. Internships also provide excellent opportunities for artists to develop and enhance their portfolios.

**Advancement.** Artists hired by firms often start with relatively routine work. While doing this work, however, they may observe other artists and practice their own skills.

Craft and 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.

Many artists freelance part-time 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 cartooning or children's book illustration. These artists may earn high incomes and can choose the type of work they do.

## Employment

Artists held about 218,000 jobs in 2006. About 62 percent were self-employed. Employment was distributed as follows:

Multimedia artists and animators.....	87,000
Art directors .....	78,000
Fine artists, including painters, sculptors and illustrators .....	30,000
Craft artists .....	8,800
Artists and related workers, all other .....	14,000

Of the artists who were not self-employed, many worked for 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.

## Job Outlook

Employment of artists is projected to grow faster than average. Competition for jobs is expected to be keen for both salaried and freelance jobs in all specialties because the number of people with creative ability and an interest in this career is expected to continue to exceed the number of available openings. Despite the competition, employers and individual clients are always on the lookout for talented and creative artists.

**Employment change.** Employment of artists and related workers is expected to grow 16 percent through 2016, faster than the average for all occupations.

Demand for illustrators who work on a computer will increase as Web sites use more detailed images and backgrounds in their designs. Many cartoonists, in particular, opt to post their work on political Web sites and online publications. Cartoonists often create animated or interactive images to satisfy readers' demands for more sophisticated images. The small number of medical illustrators will also be in greater demand as medical research continues to grow.

Demand for multimedia artists and animators will increase as consumers continue to demand more realistic video games, movie and television special effects, and 3D animated movies. Additional job openings will arise from an increasing demand for Web site development and for computer graphics adaptation from the growing number of mobile technologies. Animators are also increasingly finding work in alternative areas such as scientific research or design services.

**Job prospects.** Competition for jobs as artists and related workers will be keen because there are more qualified candidates than available jobs. Employers in all industries should be able to choose from among the most qualified candidates.

Despite the competition, studios, galleries, and individual clients are always on the lookout for artists who display outstanding talent, creativity, and style. Among craft and fine artists, talented individuals who have developed a mastery of artistic techniques and skills will have the best job prospects. Multi-media artists and animators should have better job opportunities than other artists, but still will experience competition. Job opportunities for animators of lower-technology cartoons could be hampered as these jobs continue to be outsourced overseas.

Despite an expanding number of opportunities, art directors should experience keen competition for the available openings. Craft and fine artists work mostly on a freelance or commission basis and may find it difficult to earn a living solely by selling their artwork. Only the most successful craft and fine artists receive major commissions for their work. Competition among artists for the privilege of being shown in galleries is expected to remain acute, as will competition for grants from sponsors such as private foundations, State and local arts councils, and the National Endowment for the Arts.

The growth in computer graphics packages and stock art Web sites is making it easier for writers, publishers, and art directors to create their own illustrations. As the use of this technology grows, there will be fewer opportunities for illustrators. However, it also has opened up new opportunities for illustrators who prefer to work digitally. Salaried cartoonists

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Artists and related workers .....	27-1010	218,000	253,000	34,000	16
Art directors .....	27-1011	78,000	85,000	7,000	9
Craft artists .....	27-1012	8,800	9,500	700	8
Fine artists, including painters, sculptors, and illustrators.....	27-1013	30,000	33,000	3,000	10
Multi-media artists and animators .....	27-1014	87,000	110,000	23,000	26
Artists and related workers, all other .....	27-1019	14,000	15,000	1,200	8

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

will have fewer job opportunities because many newspapers and magazines increasingly rely on freelance work.

**Earnings**

Median annual earnings of salaried art directors were \$68,100 in May 2006. The middle 50 percent earned between \$49,480 and \$94,920. The lowest 10 percent earned less than \$37,920, and the highest 10 percent earned more than \$135,090. Median annual earnings were \$70,630 in advertising and related services.

Median annual earnings of salaried craft artists were \$24,090. The middle 50 percent earned between \$18,860 and \$35,840. The lowest 10 percent earned less than \$14,130, and the highest 10 percent earned more than \$46,700. Earnings data for the many self-employed craft artists were not available.

Median annual earnings of salaried fine artists, including painters, sculptors, and illustrators were \$41,970. The middle 50 percent earned between \$28,500 and \$58,550. The lowest 10 percent earned less than \$18,350, and the highest 10 percent earned more than \$79,390. Earnings data for the many self-employed fine artists were not available.

Median annual earnings of salaried multi-media artists and animators were \$51,350, not including the earnings of the self-employed. The middle 50 percent earned between \$38,980 and \$70,050. The lowest 10 percent earned less than \$30,390, and the highest 10 percent earned more than \$92,720. Median annual earnings were \$57,310 in motion picture and video industries and \$48,860 in advertising and related services.

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 artistic skills include architects, except landscape and naval; archivists, curators, and museum technicians; commercial and industrial designers; fashion designers; floral designers; graphic designers; interior designers; jewelers and precious stone and metal workers; landscape architects; photographers; and woodworkers. Some workers

who use computers extensively, 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-accrredit.org>

For information on careers in the craft arts and for a list of schools and workshops, contact:

► American Craft Council Library, 72 Spring St., 6th Floor, New York, NY 10012. Internet: <http://www.craftcouncil.org>

For information on careers in illustration, contact:

► Society of Illustrators, 128 E. 63rd St., New York, NY 10021. Internet: <http://www.societyillustrators.org>

For information on careers in medical illustration, contact:

► Association of Medical Illustrators, 245 First St., Suite 1800, Cambridge, MA 02142. Internet: <http://www.ami.org>

For information on workshops, scholarships, internships, and competitions for art students interested in advertising careers, contact:

► Art Directors Club, 106 W. 29th St., New York, NY 10001. Internet: <http://www.adcglobal.org>

**Athletes, Coaches, Umpires, and Related Workers**

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

**Significant Points**

- Work hours are often irregular and extensive travel may be required.
- Career-ending injuries are always a risk for athletes.
- Job opportunities will be best for part-time coaches, sports instructors, umpires, referees, and sports officials in high schools, sports clubs, and other settings.
- Competition to become a professional athlete 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. 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 make it to the professional level 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 as a coach, instructor, referee, or umpire in amateur athletics or in high school, college, or university sports.

*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. The level of play varies from unpaid high school athletics to professional sports, in which the best from around the world compete in events broadcast on international television.

Being an athlete involves more than competing in athletic events. Athletes spend many hours each day practicing skills and improving teamwork under the guidance of a coach or a sports instructor. They view videotapes to critique their own performances and techniques and to learn their opponents' tendencies and weaknesses to gain a competitive advantage. Some athletes work regularly with strength trainers to gain muscle and stamina and to prevent injury. Many athletes push their bodies to the limit during both practice and play, so career-ending injury always is a risk; even minor injuries may put a player at risk of replacement. Because competition at all levels is extremely intense and job security is always precarious, many athletes train year round to maintain excellent form and technique and peak physical condition. Very little downtime from the sport exists at the professional level. Athletes also must conform to regimented diets during their sports season to supplement any physical training program.

*Coaches* organize amateur and professional athletes and teach them the fundamentals of individual and team sports. (In individual sports, *instructors* sometimes may fill this role.) Coaches train athletes for competition by holding practice sessions to perform drills that improve the athletes' form, technique, skills, and stamina. Along with refining athletes' individual skills, coaches are responsible for instilling good sportsmanship, a competitive spirit, and teamwork and for managing their teams during both practice sessions and competitions. Before competition, coaches evaluate or scout the opposing team to determine game strategies and practice specific plays. During competition, coaches may call specific plays intended to surprise or overpower the opponent, and they may substitute players for optimum team chemistry and success. Coaches' additional tasks may include selecting, storing, issuing, and taking inventory of equipment, materials, and supplies.

Many coaches in high schools are primarily teachers of academic subjects who supplement their income by coaching part time. (For more information on high school teachers, see the

statement on teachers—preschool, kindergarten, elementary, middle, and secondary, elsewhere in the *Handbook*.) 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 individually. They organize, instruct, train, and lead athletes in indoor and outdoor sports such as bowling, tennis, golf, and swimming. Because activities are as diverse as weight lifting, gymnastics, scuba diving, and karate, instructors tend to specialize in one or a few 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 and of physiology, they determine the type and level of difficulty of exercises, prescribe specific drills, and correct athletes' techniques. Some instructors also teach and demonstrate the use of training apparatus, such as trampolines or weights, for correcting athletes' weaknesses and enhancing their conditioning. Like coaches, sports instructors evaluate the athlete and the athlete's opponents to devise a competitive game strategy.

Coaches and sports instructors sometimes differ in their approaches 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, improve their physical condition, and 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 rules and regulations of the various sports. 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 work in groups. Regardless of the sport, the job is highly stressful because officials are often required to make a decision in a split second, sometimes resulting in strong disagreement among competitors, coaches, and 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. 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 not to "tip off" their opponents about their interest in certain players. At the college level, the head scout often is an assistant coach, although freelance scouts may aid colleges by reporting to coaches about



*Coaches need good communication and leadership skills.*

exceptional players. 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. They also evaluate potential players' background and personal characteristics, such as motivation and discipline, by talking to the players' coaches, parents, and teachers.

**Work environment.** Irregular work hours are the trademark of the athlete. They also are common for coaches, umpires, referees, and other sports officials. Athletes and others in sports related occupations 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 in high schools.

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.

Umpires, referees, and other sports officials regularly encounter verbal abuse by fans, coaches, and athletes. The officials also face possible physical assault and, increasingly, lawsuits from injured athletes based on their officiating decisions.

### **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, these jobs require immense overall knowledge of the game, usually acquired through years of experience at lower levels.

**Education and training.** Becoming a professional athlete is the culmination of years of effort. 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 pro-

fessional scouts. Most schools require that participating athletes maintain specific academic standards to remain eligible to play. Athletes who seek to compete professionally must have extraordinary talent, desire, and dedication to training.

Head coaches at public secondary schools and sports instructors at all levels usually must have a bachelor's degree. For high school coaching and sports instructor jobs, schools usually prefer to hire teachers willing to take on the jobs part time. (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*.) If no suitable teacher is found, schools hire someone from outside. Some entry-level positions for coaches or instructors require only experience derived as a participant in the sport or activity. Those who are not teachers must meet State requirements for certification to become a head coach. Certification, however, may not be required for coaching and sports instructor jobs in private schools. Degree programs specifically related to coaching include exercise and sports science, physiology, kinesiology, nutrition and fitness, physical education, and sports medicine.

Each sport has specific requirements for umpires, referees, and other sports officials. Umpires, referees, and other sports officials often begin their careers by volunteering for intramural, community, and recreational league competitions.

Scouting jobs require experience playing a sport at the college or professional level that makes it possible to spot young players who possess extraordinary athletic ability and skills. Most beginning scouting 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.

**Certification and other qualifications.** 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 and groups of athletes.

To officiate at high school athletic events, officials must register with the State agency that oversees high school athletics and pass an exam on the rules of the particular game. For college refereeing, candidates must be certified by an officiating school and be evaluated during a probationary period. Some larger college sports conferences require officials to have certification and other qualifications, such as residence in or near the conference boundaries, along with several years of experience officiating at high school, community college, or other college conference games.

For those interested in becoming a tennis, golf, karate, or other kind of instructor, certification is highly desirable. Often, one must be at least 18 years old and certified in cardiopulmonary resuscitation (CPR). There are many certifying organizations specific to the various sports, and their training requirements vary. 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.

Standards for officials become more stringent as the level of competition advances. Whereas umpires for high school baseball need a high school diploma or its equivalent, 20/20 vision, and quick reflexes, those seeking to officiate at minor or major league games must attend professional umpire training school. Top graduates are selected for further evaluation while officiating in a rookie minor league. Umpires then usually need 7 to 10 years of experience in various minor leagues before being considered for major league jobs. Becoming an official for professional 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), prospective trainees 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.

**Advancement.** Many coaches begin their careers as assistant coaches to gain the knowledge and experience needed to become a head coach. Head coaches at large 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, a person usually needs years of coaching experience and a winning record in the lower ranks.

## Employment

Athletes, coaches, umpires, and related workers held about 253,000 jobs in 2006. Coaches and scouts held 217,000 jobs; athletes, 18,000; and umpires, referees, and other sports officials, 19,000. Nearly 42 percent of athletes, coaches, umpires, and related workers worked part time, while 15 percent maintained variable schedules. Many sports officials and coaches receive such small and irregular payments for their services—occasional officiating at club games, for example—that they may not consider themselves employed in these occupations, even part time.

Among those employed in wage and salary jobs, 47 percent held jobs in public and private educational services. About 13 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 facilities. Another 6 percent worked in the spectator sports industry.

About 1 out of 5 workers in this occupation was self-employed, earning prize money or fees for lessons, scouting, or of-

ficiating assignments. Many other coaches and sports officials, although technically not self-employed, have such irregular or tenuous working arrangements that their working conditions resemble those of self-employment.

## Job Outlook

Employment of athletes, coaches, umpires, and related workers is expected to grow faster than the average for all occupations through 2016. Very keen competition is expected for jobs at the highest levels of sports.

**Employment change.** Employment of athletes, coaches, umpires, and related workers is expected to increase by 15 percent from 2006 to 2016, which is faster than the average for all occupations. Employment will grow as the general public continues to participate in organized sports for entertainment, recreation, and physical conditioning. Increasing participation in organized sports by girls and women will boost demand for coaches, umpires, and related workers. Job growth also will be driven by the increasing number of baby boomers approaching retirement, during which they are expected to participate more in leisure activities such as golf and tennis which require instruction.

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, but funding for athletic programs often is cut first when budgets become tight. Still, the popularity of team sports often enables shortfalls to be offset somewhat by assistance from fundraisers, booster clubs, and parents.

**Job prospects.** Persons who are State-certified to teach academic subjects in addition to physical education are likely to have the best prospects for obtaining coaching and instructor jobs. The need to replace the many high school coaches who change occupations or leave the labor force entirely 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 as prize money distributed to participants increases. Because most professional athletes' careers last only a few years due to debilitating injuries and age, annual replacement needs for these jobs is high, creating some job opportunities. However, the talented young men and women who dream of becoming sports superstars greatly outnumber the number of openings.

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Athletes, coaches, umpires, and related workers .....	27-2020	253,000	291,000	38,000	15
Athletes and sports competitors .....	27-2021	18,000	21,000	3,400	19
Coaches and scouts .....	27-2022	217,000	249,000	32,000	15
Umpires, referees, and other sports officials.....	27-2023	19,000	22,000	3,000	16

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.



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

### Earnings

Median annual wage and salary earnings of athletes were \$41,060 in May 2006. However, the highest paid professional athletes earn much more.

Median annual wage and salary earnings of umpires and related workers were \$22,880 in May 2006. The middle 50 percent earned between \$17,090 and \$33,840. The lowest paid 10 percent earned less than \$14,120, and the highest paid 10 percent earned more than \$45,430.

In May 2006, median annual wage and salary earnings of coaches and scouts were \$26,950. The middle 50 percent earned between \$17,510 and \$40,850. The lowest paid 10 percent earned less than \$13,990, and the highest paid 10 percent earned more than \$58,890. However, the highest paid professional coaches earn much more. Median annual earnings in the industries employing the largest numbers of coaches and scouts in May 2006 are shown below:

Colleges, universities, and professional schools.....	\$37,530
Other amusement and recreation industries .....	27,180
Fitness and recreational sports centers .....	26,150
Other schools and instruction.....	23,840
Elementary and secondary schools.....	21,960

Earnings vary by level of education, 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 use their extensive knowledge of physiology and sports to instruct, inform, and encourage sports participants. Other workers with similar duties include dietitians and nutritionists; physical therapists; recreation workers; fitness workers; recreational therapists; and teachers—preschool, kindergarten, elementary, middle, and secondary.

### Sources of Additional Information

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>

For more information about certification of tennis instructors and coaches, contact:

► Professional Tennis Registry, P.O. Box 4739, Hilton Head Island, SC 29938. Internet: <http://www.ptrtennis.org>

► U.S. Professional Tennis Association, 3535 Briarpark Dr., Suite ONE., Houston, TX 77042.

Internet: <http://www.uspta.org>

## Athletic Trainers

(O\*NET 29-9091.00)

### Significant Points

- Long hours, sometimes including nights and weekends, are common.
- A bachelor's degree is usually the minimum requirement, but many athletic trainers hold a master's or doctoral degree.
- Employment is projected to grow much faster than average.
- Job prospects should be good in the health care industry, but competition is expected for positions with sports teams.

### Nature of the Work

Athletic trainers help prevent and treat injuries for people of all ages. Their clients include everyone from professional athletes to industrial workers. Recognized by the American Medical Association as allied health professionals, athletic trainers specialize in the prevention, assessment, treatment, and rehabilitation of musculoskeletal injuries. Athletic trainers often are one of the first health care providers on the scene when injuries occur, and therefore they must be able to recognize, evaluate, and assess injuries and provide immediate care when needed. They also are heavily involved in the rehabilitation and conditioning of injuries. Athletic trainers should not be confused with fitness trainers or personal trainers, who are not health care workers, but rather train people to become physically fit. (Fitness workers are discussed elsewhere in the *Handbook*.)

Athletic trainers often help prevent injuries by advising on the proper use of equipment and applying protective or injury-preventive devices such as tape, bandages, and braces. Injury prevention also often includes educating people on what they should do to avoid putting themselves at risk for injuries.

Athletic trainers work under the supervision of a licensed physician, and in cooperation with other health care providers. The level of medical supervision varies, depending upon the setting. Some athletic trainers meet with the team physician or consulting physician once or twice a week; others interact with a physician every day. The extent of the supervision ranges from discussing specific injuries and treatment options with a physician to performing evaluations and treatments as directed by a physician.

Athletic trainers often have administrative responsibilities. These may include regular meetings with an athletic director or other administrative officer to deal with budgets, purchasing, policy implementation, and other business-related issues.

**Work environment.** The work of athletic trainers requires frequent interaction with others. This includes consulting with physicians as well as frequent contact with athletes and patients to discuss and administer treatments, rehabilitation programs, injury-preventive practices, and other health-related issues.



*Athletic trainers apply protective devices such as tape, bandages, and braces to help prevent injuries.*

Many athletic trainers work indoors most of the time; others, especially those in some sports-related jobs, spend much of their time working outdoors. The job also might require standing for long periods, working with medical equipment or machinery, and being able to walk, run, kneel, crouch, stoop, or crawl. Travel may be required.

Schedules vary by work setting. Athletic trainers in non-sports settings generally have an established schedule—usually about 40 to 50 hours per week—with nights and weekends off. Athletic trainers working in hospitals and clinics may spend part of their time working at other locations doing outreach. Most commonly, these outreach programs include conducting athletic training services and speaking at high schools, colleges, and commercial businesses.

Athletic trainers in sports settings have schedules that are longer and more variable. These athletic trainers must be present for team practices and games, which often are on evenings and weekends, and their schedules can change on short notice when games and practices have to be rescheduled. As a result, athletic trainers in sports settings may regularly work 6 or 7 days per week, including late hours.

In high schools, athletic trainers who also teach may work 60 to 70 hours a week, or more. In National Collegiate Athletic Association Division I colleges and universities, athletic trainers generally work with one team; when that team's sport is in season, working at least 50 to 60 hours a week is common. Athletic trainers in smaller colleges and universities often work with several teams and have teaching responsibilities. During the off-season, a 40-hour to 50-hour work week may be normal in most settings. Athletic trainers for professional sports teams generally work the most hours per week. During training camps, practices, and competitions, they may be required to work up to 12 hours a day.

There is some stress involved with being an athletic trainer, as there is with most health-related occupations. Athletic trainers are responsible for their clients' health, and sometimes have to make quick decisions that could affect the health or career of their clients. Athletic trainers also can be affected by the pressure to win that is typical of competitive sports teams.

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

A bachelor's degree is usually the minimum requirement to work as an athletic trainer, but many athletic trainers hold a master's or doctoral degree. In 2006, 46 States required athletic trainers to be licensed or hold some form of registration.

**Education and training.** A bachelor's degree from an accredited college or university is required for almost all jobs as an athletic trainer. In 2006, there were more than 350 accredited programs nationwide. Students in these programs are educated both in the classroom and in clinical settings. Formal education includes many science and health-related courses, such as human anatomy, physiology, nutrition, and biomechanics.

According to the National Athletic Trainers Association, 68 percent of athletic trainers have a master's or doctoral degree. Athletic trainers may need a master's or higher degree to be eligible for some positions, especially those in colleges and universities, and to increase their advancement opportunities. Because some positions in high schools involve teaching along with athletic trainer responsibilities, a teaching certificate or license could be required.

**Licensure and certification.** In 2006, 46 States required athletic trainers to be licensed or registered; this requires certification from the Board of Certification, Inc. (BOC). For certification, athletic trainers need a bachelor's degree from an accredited athletic training program. In addition, a successful candidate for BOC certification must pass a rigorous examination. To retain certification, credential holders must continue taking medical-related courses and adhere to the BOC standards of practice. In States where licensure is not required, certification is voluntary but may be helpful for those seeking jobs and advancement.

**Other qualifications.** Because all athletic trainers deal directly with a variety of people, they need good social and communication skills. They should be able to manage difficult situations and the stress associated with them, such as when disagreements arise with coaches, clients, or parents regarding suggested treatment. Athletic trainers also should be organized, be able to manage time wisely, be inquisitive, and have a strong desire to help people.

**Advancement.** There are a number of ways for athletic trainers to advance or move into related positions. Assistant athletic trainers may become head athletic trainers and, eventually, athletic directors. Athletic trainers also might enter a physician group practice and assume a management role. Some athletic trainers move into sales and marketing positions, using their athletic trainer expertise to sell medical and athletic equipment.

## **Employment**

Athletic trainers held about 17,000 jobs in 2006 and are found in every part of the country. Most athletic trainer jobs are related to sports, although an increasing number also work in non-sports settings. About 34 percent of athletic trainers worked in health care, including jobs in hospitals, offices of physicians, and offices of other health practitioners. Another 34 percent were found in public and private educational services, primar-

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Athletic trainers.....	29-9091	17,000	21,000	4,200	24

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

ily in colleges, universities, and high schools. About 20 percent worked in fitness and recreational sports centers.

**Job Outlook**

Employment is projected to grow much faster than average. Job prospects should be good in the health care industry, but competition is expected for positions with sports teams.

**Employment change.** Employment of athletic trainers is expected to grow 24 percent from 2006 to 2016, much faster than the average for all occupations. Job growth will be concentrated in the health care industry, including hospitals and offices of health practitioners. Fitness and recreation sports centers also will provide many new jobs, as these establishments become more common and continue to need athletic trainers to care for their clients. Growth in positions with sports teams will be somewhat slower, however, as most professional sports clubs and colleges and universities already have complete athletic training staffs.

The demand for health care should grow dramatically as the result of advances in technology, increasing emphasis on preventive care, and an increasing number of older people who are more likely to need medical care. Athletic trainers will benefit from this expansion because they provide a cost-effective way to increase the number of health professionals in an office or other setting.

Also, employers increasingly emphasize sports medicine, in which an immediate responder, such as an athletic trainer, is on site to help prevent injuries and provide immediate treatment for any injuries that do occur. Increased licensure requirements and regulation has led to a greater acceptance of athletic trainers as qualified health care providers. As a result, third-party reimbursement is expected to continue to grow for athletic training services.

As athletic trainers continue to expand their services, more employers are expected to use these workers to realize the cost savings of providing health care in-house. There should be strong demand for athletic trainers in settings outside the sports world, especially those that focus on health care. Continuing efforts to have an athletic trainer in every high school reflect concern for the health of student-athletes as well as efforts to provide more funding for schools, and may lead to growth in the number of athletic trainers employed in high schools.

**Job prospects.** Job prospects should be good for athletic trainers in the health care industry. Those looking for a position with a sports team, however, may face competition. Turnover among athletic trainers is limited. When working with sports teams, many athletic trainers prefer to continue to work with the same coaches, administrators, and players when a good working relationship already exists.

Because of relatively low turnover, the settings with the best job prospects will be the ones that are expected to have the most

job growth, primarily positions in the health care industry and fitness and recreational sports centers. Additional job opportunities are expected in elementary and secondary schools as more positions are created. Some of these positions also will require teaching responsibilities. There will be more competition for positions within colleges and universities as well as professional sports clubs.

The occupation is expected to continue to change over the next decade, including more administrative responsibilities, adapting to new technology, and working with larger populations, and job seekers must be able to adapt to these changes.

**Earnings**

Most athletic trainers work in full-time positions, and typically receive benefits. The salary of an athletic trainer depends on experience and job responsibilities, and varies by job setting. Median annual earnings of wage-and-salary athletic trainers were \$36,560 in May 2006. The middle 50 percent earned between \$28,920 and \$45,690. The lowest 10 percent earned less than \$21,940, while the top 10 percent earned more than \$57,580.

Many employers pay for some of the continuing education required for athletic trainers to remain certified, although the amount covered varies from employer to employer.

**Related Occupations**

The American Medical Association recognizes athletic trainers as allied health professionals. They work under the direction of physicians and provide immediate and ongoing care for injuries. Also, they provide education and advice on the prevention of injuries and work closely with injured patients to rehabilitate and recondition injuries, often through therapy. Other occupations that may require similar responsibilities include emergency medical technicians and paramedics, physical therapists, physician assistants, registered nurses, licensed practical and licensed vocational nurses, recreational therapists, occupational therapists, respiratory therapists, chiropractors, podiatrists, and massage therapists.

There also are opportunities for athletic trainers to join the military, although they would not be classified as an athletic trainer. Enlisted soldiers and officers who are athletic trainers are usually placed in another program, such as health educator or training specialist, in which their skills are useful. (For information on military careers, see the *Handbook* statement on job opportunities in the Armed Forces.)

**Sources of Additional Information**

For further information on careers in athletic training, contact:  
 ► National Athletic Trainers Association, 2952 Stemmons Freeway, Dallas, TX 75247. Internet: <http://www.nata.org>

For further information on certification, contact:  
 ► Board of Certification, Inc., 4223 South 143rd Circle, Omaha, NE 68137. Internet: <http://www.bocac.org>



## Broadcast and Sound Engineering Technicians and Radio Operators

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

### Significant Points

- Job applicants will face keen competition for jobs in major metropolitan areas, where pay generally is higher; prospects are expected to be better in small cities and towns.
- Technical school, community college, or college training in broadcast technology, electronics, or computer networking provides the best preparation.
- About 30 percent of these workers are in broadcasting, mainly in radio and television stations, and 17 percent work in the motion picture, video, 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 used 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, and recording equipment. They also connect wires and cables and set up and operate sound and mixing boards and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. They may 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 the range of sounds and colors of radio or television broadcasts. These technicians 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. These workers also repair 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.

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 videotapes and audiotapes with computer hard drives and other computer data storage systems. Computer networks linked to 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*.)

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 *re-recording mixers* produce soundtracks for movies or television programs. After filming or recording is complete, these workers may use a process called “dubbing” to insert sounds. *Field technicians* set up and operate portable transmission equipment outside the studio. Because television news coverage requires so much electronic equipment and the technology is changing so rapidly, many stations assign technicians exclusively to news.

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



*Evening, weekend, and holiday work is common for some broadcast and sound engineering technicians and radio operators.*

**Work environment.** 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 or in other dangerous conditions. 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. 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; these workers must handle any problems that occur when they are on call.

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

**Training, Other Qualifications, and Advancement**

Both broadcast and sound engineering technicians usually receive some kind of formal training prior to beginning work. Audio and video technicians usually learn the skills they need through a year or more of on-the-job training, but some have formal education after high school. Radio operators usually train for several months on the job

**Education and training.** The best way to prepare for a broadcast and sound engineering technician job is to obtain technical school, community college, or college training in broadcast technology, electronics, or computer networking. For broadcast technicians, an associate degree is recommended. Sound engineering technicians usually complete vocational programs, which usually takes about a year, although there are shorter programs. Prospective technicians should take high school courses in math, physics, and electronics.

When starting out, broadcast and sound engineering technicians learn skills on the job from experienced technicians and supervisors. These beginners often start their careers in small stations and, once experienced, transfer 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 other forms of postsecondary degrees, although they are not always required. These technicians may substitute on-the-job training for formal education requirements. Many audio and video technicians learn through long-term on-the-job training, lasting from 1 to several years, depending on the specifics of their job. Working in a studio as an assistant is a good way of gaining experience and knowledge.

Radio operators usually are not required to complete any formal training. This is an entry-level position that generally requires on-the-job training.

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.

Continuing education to become familiar with emerging technologies is recommended for all broadcast and sound engineering technicians and radio operators.

**Other qualifications.** Building electronic equipment from hobby kits and operating a “ham,” or amateur, radio are good ways to prepare for these careers, as is working in college radio and television stations. Information technology skills also are valuable because digital recording, editing, and broadcasting are now the norm. 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.

**Certification and advancement.** Licensing is not required for broadcast technicians. However, 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.

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

**Employment**

Broadcast and sound engineering technicians and radio operators held about 105,000 jobs in 2006. Their employment was distributed among the following detailed occupations:

Audio and video equipment technicians .....	50,000
Broadcast technicians.....	38,000
Sound engineering technicians .....	16,000
Radio operators .....	1,500

About 30 percent worked in broadcasting (except Internet) and 17 percent worked in the motion picture, video, and sound recording industries. About 13 percent were self-employed. Television stations employ, on average, many more technicians than radio stations. Some technicians are employed in other industries, producing employee communications, sales, and training programs. Technician jobs in television and radio are located in virtually all cities; 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.

**Job Outlook**

Employment is expected to grow faster than average through 2016. But people seeking entry-level jobs as technicians in broadcasting are expected to face keen competition in major metropolitan areas. Prospects are expected to be better in small cities and towns.

**Employment change.** Overall employment of broadcast and sound engineering technicians and radio operators is expected to grow 17 percent over the 2006-16 decade, which is faster than the average for all occupations. Job growth in radio and television broadcasting will be limited by consolidation of

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Broadcast and sound engineering technicians and radio operators ..	27-4010	105,000	123,000	18,000	17
Audio and video equipment technicians .....	27-4011	50,000	62,000	12,000	24
Broadcast technicians.....	27-4012	38,000	42,000	4,600	12
Radio operators .....	27-4013	1,500	1,300	-300	-16
Sound engineering technicians .....	27-4014	16,000	18,000	1,500	9

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

ownership of radio and television stations and by labor-saving technical advances, such as computer-controlled programming and remotely controlled transmitters. Stations often are consolidated and operated from a single location, reducing employment because one or a few technicians can provide support to multiple stations. Offsetting these trends, however, is a move toward digital broadcasting that will increase employment opportunities. As of February 2009, television stations will only be allowed to broadcast digital signals and, by law, will be forced to turn off their analog signals. Technicians who can install and operate digital transmitters will be in demand as stations attempt to meet this deadline. Radio stations are beginning to broadcast digital signals as well, but there is no law that will require them to do so.

Projected job growth varies among detailed occupations in this field. Employment of audio and video equipment technicians is expected to grow 24 percent through 2016, which is much faster than the average for all occupations. Not only will these workers have to set up audio and video equipment, but they will have to maintain and repair it as well. Employment of broadcast technicians and sound engineering technicians is expected to grow 12 percent and 9 percent respectively, through 2016, about as fast as the average for all occupations. Advancements in technology will enhance the capabilities of technicians to produce higher quality radio and television programming. Employment of radio operators, on the other hand, is projected to decline rapidly by 16 percent through 2016 as more stations control programming and operate transmitters remotely.

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

**Job prospects.** People seeking entry-level jobs as technicians in broadcasting are expected to face keen competition in major metropolitan areas, where pay generally is higher and the number of qualified jobseekers typically exceeds the number of openings. Prospects for entry-level positions are expected to be better in small cities and towns for beginners with appropriate training.

In addition to employment growth, job openings 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 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 audio and video equipment technicians in May 2006 were \$34,840. The middle 50 percent earned between \$26,090 and \$46,320. The lowest 10 percent earned less than \$19,980, and the highest 10 percent earned more than \$62,550. Median annual earnings in motion picture and video industries, which employed the largest number of audio and video equipment technicians, were \$34,530.

Median annual earnings of broadcast technicians in May 2006 were \$30,690. The middle 50 percent earned between \$20,880 and \$45,310. The lowest 10 percent earned less than \$15,680, and the highest 10 percent earned more than \$64,860. Median annual earnings in radio and television broadcasting, which employed the largest number of broadcast technicians, were \$27,380.

Median annual earnings of sound engineering technicians in May 2006 were \$43,010. The middle 50 percent earned between \$29,270 and \$65,590. The lowest 10 percent earned less than \$21,050, and the highest 10 percent earned more than \$90,770.

Median annual earnings of radio operators in May 2006 were \$37,890. The middle 50 percent earned between \$28,860 and \$48,280. The lowest 10 percent earned less than \$20,790, and the highest 10 percent earned more than \$57,920.

**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 screen incoming calls; these workers have responsibilities similar to those 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, 9182 North Meridian St., Suite 150, Indianapolis, IN 46260. Internet: <http://www.sbe.org>

For information on audio and video equipment technicians, contact:

► InfoComm International, 11242 Waples Mill Rd., Suite 200, Fairfax, VA 22030. Internet: <http://www.infocomm.org>

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## Commercial and Industrial Designers

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(O\*NET 27-1021.00)

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### Significant Points

- Commercial and industrial designers usually work closely with a range of specialists including engineers, materials scientists, marketing and corporate strategy staff, cost estimators, and accountants.
- About 30 percent are self-employed; many designers work for services firms.
- A bachelor's degree is usually required to start; many designers pursue a master's degree.
- Keen competition for jobs is expected; those with strong backgrounds in engineering and computer-aided design and extensive business expertise will have the best prospects.

### Nature of the Work

Commercial and industrial designers combine the fields of art, business, and engineering to design the products people use every day. In fact, these designers are responsible for the style, function, quality, and safety of almost every manufactured good. Usually designers specialize in one particular product category, such as automobiles and other transportation vehicles, appliances, technology goods, medical equipment, furniture, toys, tools and construction equipment, or housewares.

The first steps in developing a new design, or altering an existing one, are to determine the requirements of the client, the purpose of the product, and to the tastes of customers or users. When creating a new design, designers often begin by researching the product user or the context in which the product will be used. They ascertain desired product characteristics, such as size, shape, weight, color, materials used, cost, ease of use, fit, and safety. To gather this information, designers meet with clients, conduct market research, read design and consumer publications, attend trade shows, and visit potential users, suppliers and manufacturers.

Next, designers prepare conceptual sketches or diagrams—by hand or with the aid of a computer—to illustrate their vision of the product. After conducting research and consulting with a creative director or other members of the product development team, designers then create detailed sketches or renderings. Many designers use computer-aided design (CAD) tools to create these renderings. Computer models make it easier to adjust designs and to experiment with a greater number of alternatives, speeding and improving the design process. Industrial designers who work for manufacturing firms also use computer-aided

industrial design (CAID) tools to create designs and machine-readable instructions that can direct automated production tools to build the designed product to exact specifications. Often, designers will also create physical models out of clay, wood, and other materials to give clients a better idea of what the finished product will look like.

Designers present the designs and prototypes to their client or managers and incorporate any changes and suggestions. Designers often work with engineers, accountants, and cost estimators to determine if a product can be made safer, easier to assemble or use, or cheaper to manufacture. Before a product is completed and manufactured, designers may participate in usability and safety tests, watching consumers use prototypes and then making adjustments based on those observations.

Increasingly, designers are working with corporate strategy staff to ensure that their designs fit into the company's business plan and strategic vision. They work with marketing staff to develop plans to best market new product designs to consumers. They work to design products that accurately reflect the company's image and values. And although designers have always tried to identify and design products that fit consumers' needs, more designers are now focused on creating that product before a competitor does. More of today's designers must also focus on creating innovative products as well as considering the style and technical aspects of the product.



*Most commercial and industrial designers use computer-aided software to prepare conceptual diagrams.*

**Work environment.** 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, may work under a contract to do specific tasks or designs. They frequently adjust their workday to suit their clients' schedules and deadlines, meeting with the clients evenings or weekends when necessary. Consultants and self-employed designers tend to work longer hours and in smaller, more congested, environments. Additional hours may be required to meet deadlines.

Designers may work in their own offices or studios or in clients' homes or offices. They also may travel to other locations, such as testing facilities, design centers, clients' exhibit sites, users' homes or workplaces, and manufacturing facilities. With the increased speed and sophistication of computers and advanced communications networks, designers may form international design teams and serve a more geographically dispersed clientele.

### Training, Other Qualifications, and Advancement

A bachelor's degree is required for most entry-level commercial and industrial design positions. Many designers also pursue a master's degree to increase their employment opportunities.

**Education and training.** A bachelor's degree in industrial design, architecture, or engineering is required for most entry-level commercial and industrial design jobs. Coursework includes principles of design, sketching, computer-aided design, industrial materials and processes, manufacturing methods, and some classes in engineering, physical science, mathematics, psychology, and anthropology. Many programs also include internships at design or manufacturing firms.

Many aspiring commercial and industrial designers earn a master's degree in industrial design. Some already have a bachelor's degree in the field, but an increasing number have degrees and experience in other areas, such as marketing, information technology, or engineering, and are hoping to transfer into a design occupation.

Also, because of the growing emphasis on strategic design and how products fit into a firm's overall business plan, an increasing number of designers are pursuing a master's degree in business administration to gain business skills.

The National Association of Schools of Art and Design accredits approximately 250 postsecondary colleges, universities, and private institutes with programs in art and design. About 45 of these schools award a degree in industrial design; some offer a bachelor's of art, some a bachelor's of science. Many schools require the successful completion of 1 year of basic art and design courses before entry into a bachelor's degree pro-

gram. Applicants also may be required to submit sketches and other examples of their artistic ability.

**Other qualifications.** Creativity and technical knowledge are crucial in this occupation. People in this field must have a strong sense of the esthetic—an eye for color and detail and a sense of balance and proportion. Despite the advancement of computer-aided design, sketching ability remains an important advantage. Designers must also understand the technical aspects of how products function. Most employers also expect new designers to know computer-aided design software. The deciding factor in getting a job often is a good portfolio—examples of a person's best work.

Designers must also be imaginative and persistent and must be able to communicate their ideas visually, verbally, and in writing. Because tastes and styles 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 also 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.

As strategic design becomes more important, employers will seek designers with project management skills and knowledge of accounting, marketing, quality assurance, purchasing, and strategic planning. Good business sense and sales ability are important, especially for those who freelance or run their own business.

**Advancement.** Beginning commercial and industrial 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 design firms.

### Employment

Commercial and industrial designers held about 48,000 jobs in 2006. About 30 percent were self-employed. Another 15 percent of designers were employed in either engineering or specialized design services firms. Manufacturing firms and service providing companies employed most of the rest of commercial and industrial designers.

### Job Outlook

Employment is expected to grow about as fast as average. Keen competition for jobs is expected; those with strong backgrounds in engineering and computer-aided design and extensive business expertise will have the best prospects.

### Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Commercial and industrial designers.....	27-1021	48,000	51,000	3,400	7

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

**Employment change.** Employment of commercial and industrial designers is expected to grow 7 percent between 2006 and 2016, about as fast as the average for all occupations. Employment growth will arise from an expanding economy and from an increase in consumer and business demand for new or upgraded products.

Increasing demand for commercial and industrial designers will also stem from the continued emphasis on the quality and safety of products, the increasing demand for new products that are easy and comfortable to use, and the development of high-technology products in consumer electronics, medicine, transportation, and other fields. But increasingly, manufacturers have been outsourcing design work to design services firms to cut costs and to find the most qualified design talent, increasing employment in these firms and reducing it in others, such as manufacturing. Additionally, some companies use design firms overseas, especially for the design of high-technology products. These overseas design firms are located closer to their suppliers, which reduces the time it takes to design and sell a product—an important consideration when technology is changing quickly. This offshoring of design work could continue to slow employment growth of U.S. commercial and industrial designers.

Despite the increase in design work performed overseas, most design jobs, particularly jobs not related to high-technology product design, will still remain in the U.S. Design is essential to a firm's success, and firms will want to retain control over the design process.

**Job prospects.** Competition for jobs will be keen because many talented individuals are attracted to the design field. The best job opportunities will be in specialized design firms which are used by manufacturers to design products or parts of products. Designers with strong backgrounds in engineering and computer-aided design and extensive business expertise will have the best prospects.

As the demand for design work becomes more consumer-driven, designers who can closely monitor, and react to, changing customer demands—and who can work with marketing and strategic planning staffs to come up with new products—will also improve their job prospects.

Employment of designers can be affected by fluctuations in the economy. For example, during periods of economic downturns, companies may cut research and development spending, including new product development.

### Earnings

Median annual wage-and-salary earnings for commercial and industrial designers were \$54,560 in May 2006. The middle 50 percent earned between \$41,270 and \$72,610. The lowest 10 percent earned less than \$31,510, and the highest 10 percent earned more than \$92,970. Earnings information for the self-employed are not available. Median annual earnings of salaried commercial and industrial designers in the largest industries that employed them in May 2006 were:

Management of companies and enterprises .....	\$64,700
Architectural, engineering, and related services .....	61,890
Engineering services .....	60,440
Specialized design services.....	52,500

### Related Occupations

Workers in other art and design occupations include artists and related workers; fashion designers; floral designers; graphic designers; and interior designers. Some other occupations that require computer-aided design skills are architects, except landscape and naval; computer software engineers; desktop publishers; drafters; and engineers.

### Sources of Additional Information

For general career information on commercial and industrial design, contact:

► Industrial Designers Society of America, 45195 Business Court, Suite 250, Dulles, VA 20166.

Internet: <http://www.idsa.org>

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>

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## Dancers and Choreographers

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

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### Significant Points

- Many dancers stop performing by their late thirties, but 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, including opera, musical theater, and other musical productions, and may present folk, ethnic, tap, jazz, and other popular kinds of dance. They also perform in 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.

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 usually are involved in auditioning performers.



**Work environment.** 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 most of their lives.

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.

### Training, Other Qualifications, and Advancement

Most dancers need long-term on-the-job training to be successful. Some earn a bachelor's degree or attend dance school, although neither is required. Becoming a choreographer usually requires years of dancing experience.

**Education and training.** 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 technique before selecting a particular dance style. Ballet training for girls 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. Boys often begin their ballet training between the ages of 10 and 15. Students who demonstrate potential in their early teens may seek out 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 cultur-



*Most dancers need long-term on-the-job training to be successful.*

ally 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 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 sometimes 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 dance, theater, or fine arts. The National Association of Schools of Dance accredits 65 programs in dance. Many programs concentrate on modern dance, but some also offer courses in jazz, culturally specific dance, ballet, or classical techniques. Courses in dance composition, history and criticism, and movement analysis are also available.

A college education is not essential for 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 usually essential 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 prefer teachers to have experience as performers.

**Other qualifications.** 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, and grace, a sense of rhythm, a feeling for music, and a creative ability to express themselves through movement.

Because dancers typically perform as members of an ensemble made up of other dancers, musicians, and directors or choreographers, they must be able to function as part of a team. They also should be highly motivated and prepared to face the anxiety of intermittent employment and rejections when auditioning for work.

**Advancement.** For dancers, advancement takes the form of a growing reputation, more frequent work, bigger and better roles, and higher pay. Some dancers may take on added responsibilities, such as by becoming a dance captain in musical theater or ballet master/ballet mistress in concert dance companies, by leading rehearsals, or by working with less experienced dancers in the absence of the choreographer.

Choreographers typically are experienced dancers with years of practice working in the theater. Through their performance

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Dancers and choreographers .....	27-2030	40,000	43,000	2,400	6
Dancers .....	27-2031	20,000	22,000	1,900	9
Choreographers .....	27-2032	20,000	21,000	500	2

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

as dancers, they develop reputations that often lead to opportunities to choreograph productions.

**Employment**

Professional dancers and choreographers held about 40,000 jobs in 2006. 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 include dance, theater, and opera companies; and amusement and recreation venues, such as casinos and theme parks. About 17 percent of dancers and choreographers were self-employed.

Most major cities serve as home to major dance companies; however, many smaller communities across the Nation also support home-grown, full-time professional dance companies.

**Job Outlook**

Employment of dancers and choreographers is expected to grow more slowly than the average for all occupations. Dancers and choreographers face intense competition for jobs. Only the most talented find regular employment.

**Employment change.** Employment of dancers and choreographers is expected to grow 6 percent during the 2006-16 decade, more slowly than the average for all occupations. The public's continued interest in dance will sustain large and mid-size dance companies, but funding from public and private organizations is not expected to keep pace with rising production costs. For many small organizations, the result will be fewer performances and more limited employment opportunities.

**Job prospects.** Because many people enjoy dance and would like to make their careers in dance, dancers and choreographers face intense competition for jobs. Only the most talented find regular employment. However, there are always some jobs available.

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 likely will continue to provide jobs in this field. Opera companies and dance groups affiliated with television and motion pictures also will offer some opportunities. Moreover, the growing popularity of dance for recreational and fitness purposes has resulted in increased opportunities to teach dance, especially for older dancers who may be transitioning to another field. Finally, music video channels will provide opportunities for both dancers and choreographers.

**Earnings**

Median hourly earnings of dancers were \$9.55 in May 2006. The middle 50 percent earned between \$7.31 and \$17.50. The lowest 10 percent earned less than \$6.62, and the highest 10 percent earned more than \$25.75. Annual earnings data for dancers were not available, because of the wide variation in the number of hours worked by dancers and the short-term nature of many jobs—which may last for 1 day or 1 week—make it rare for dancers to have guaranteed employment that exceeds a few months. Median hourly earnings in the industries employing the largest number of dancers were as follows:

Theater companies and dinner theaters.....	\$15.28
Other schools and instruction.....	11.71
Other amusement and recreation industries.....	8.58
Drinking places (alcoholic beverages).....	7.76
Full-service restaurants.....	7.13

Median annual earnings of salaried choreographers were \$34,660 in May 2006. The middle 50 percent earned between \$21,910 and \$49,810. The lowest 10 percent earned less than \$15,710, and the highest 10 percent earned more than \$64,070. Median annual earnings were \$34,460 in “other schools and instruction,” a North American Industry Classification System category that includes dance studios and schools.

Dancers who were on tour usually received an additional allowance for room and board, as well as extra compensation for overtime. Earnings from dancing are usually low because employment is 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 dancers at many of the largest companies and in commercial settings 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.

Most salaried dancers and choreographers covered by union contracts receive some paid sick leave and various health and pension benefits, including extended sick pay and family-leave benefits provided by their unions. Employers contribute toward

these benefits. Dancers and choreographers 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>

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## Fashion Designers

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(O\*NET 27-1022.00)

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### Significant Points

- Almost one-fourth are self-employed.
- In 2006, the highest concentrations of fashion designers were employed in New York and California.
- Employers usually seek designers with a 2- or 4-year degree who are knowledgeable about textiles fabrics, ornamentation, and fashion trends.
- Slower-than-average job growth is projected, and competition for jobs is expected to be keen.

### Nature of the Work

Fashion designers help create the billions of dresses, suits, shoes, and other clothing and accessories purchased every year by consumers. Designers study fashion trends, sketch designs of clothing and accessories, select colors and fabrics, and oversee the final production of their designs. *Clothing designers* create and help produce men's, women's, and children's apparel, including casual wear, suits, sportswear, formalwear, outerwear, maternity, and intimate apparel. *Footwear designers* help create and produce different styles of shoes and boots. *Accessory designers* help create and produce items such as handbags, belts, scarves, hats, hosiery, and eyewear, which add the finishing touches to an outfit. (The work of jewelers and precious stone and metal workers is described elsewhere in the *Handbook*.) Some fashion designers specialize in clothing, footwear, or accessory design, but others create designs in all three fashion categories.

The design process from initial design concept to final production takes between 18 and 24 months. The first step in cre-

ating a design is researching current fashion and making predictions of future trends. Some designers conduct their own research, while others rely on trend reports published by fashion industry trade groups. Trend reports indicate what styles, colors, and fabrics will be popular for a particular season in the future. Textile manufacturers use these trend reports to begin designing fabrics and patterns while fashion designers begin to sketch preliminary designs. Designers then visit manufacturers or trade shows to procure samples of fabrics and decide which fabrics to use with which designs.

Once designs and fabrics are chosen, a prototype of the article using cheaper materials is created and then tried on a model to see what adjustments to the design need to be made. This also helps designers to narrow their choices of designs to offer for sale. After the final adjustments and selections have been made, samples of the article using the actual materials are sewn and then marketed to clothing retailers. Many designs are shown at fashion and trade shows a few times a year. Retailers at the shows place orders for certain items, which are then manufactured and distributed to stores.

Computer-aided design (CAD) is increasingly being used in the fashion design industry. Although most designers initially sketch designs by hand, a growing number also translate these hand sketches to the computer. CAD allows designers to view designs of clothing on virtual models and in various colors and shapes, thus saving time by requiring fewer adjustments of prototypes and samples later.

Depending on the size of their design firm and their experience, fashion designers may have varying levels of involvement in different aspects of design and production. In large design firms, fashion designers often are the lead designers who are responsible for creating the designs, choosing the colors and fabrics, and overseeing technical designers who turn the designs into a final product. They are responsible for creating the prototypes and patterns and work with the manufacturers and suppliers during the production stages. Large design houses also employ their own patternmakers, tailors, and sewers who create the master patterns for the design and sew the prototypes and samples. Designers working in small firms, or those new to the job, usually perform most of the technical, patternmaking,



*Designers visit manufacturers or trade shows to procure samples of fabrics.*



## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Fashion designers.....	27-1022	20,000	21,000	1,000	5

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

and sewing tasks, in addition to designing the clothing. (The work of pattern makers, hand sewers, and tailors is covered in the statement on textile, apparel, and furnishings occupations elsewhere in the *Handbook*.)

Fashion designers working for apparel wholesalers or manufacturers create designs for the mass market. These designs are manufactured in various sizes and colors. A small number of high-fashion (haute couture) designers are self-employed and create custom designs for individual clients, usually at very high prices. Other high-fashion designers sell their designs in their own retail stores or cater to specialty stores or high-fashion department stores. These designers create a mixture of original garments and those that follow established fashion trends.

Some fashion designers specialize in costume design for performing arts, motion picture, and television productions. The work of costume designers is similar to other fashion designers. Costume designers, however, perform extensive research on the styles worn during the period in which the performance takes place, or they work with directors to select and create appropriate attire. They make sketches of designs, select fabric and other materials, and oversee the production of the costumes. They also must stay within the costume budget for the particular production item.

**Work environment.** Fashion designers employed by manufacturing establishments, wholesalers, or design firms generally work regular hours in well-lighted and comfortable settings. Designers who freelance generally work on a contract, or by the job. They frequently adjust their workday to suit their clients' schedules and deadlines, meeting with the clients during evenings or weekends when necessary. Freelance designers tend to work longer hours and in smaller, more congested, environments, and are under pressure to please clients and to find new ones in order to maintain a steady income. Regardless of their work setting, all fashion designers occasionally work long hours to meet production deadlines or prepare for fashion shows.

The global nature of the fashion business requires constant communication with suppliers, manufacturers, and customers all over the United States and the world. Most fashion designers travel several times a year to trade and fashion shows to learn about the latest fashion trends. Designers also may travel frequently to meet with fabric and materials suppliers and with manufacturers who produce the final apparel products.

### Training, Other Qualifications, and Advancement

In fashion design, employers usually seek individuals with a 2- or 4-year degree who are knowledgeable about textiles, fabrics, ornamentation, and fashion trends.

**Education and training.** Bachelor's of fine arts and associate degree programs in fashion design are offered at many colleges, universities, and private art and design schools. Some

fashion designers also combine a fashion design degree with a business, marketing, or fashion merchandising degree, especially those who want to run their own business or retail store. Basic coursework includes color, textiles, sewing and tailoring, pattern making, fashion history, computer-aided design (CAD), and design of different types of clothing such as menswear or footwear. Coursework in human anatomy, mathematics, and psychology also is useful.

The National Association of Schools of Art and Design accredits approximately 250 postsecondary institutions with programs in art and design. Most of these schools award degrees in fashion design. Many schools do not allow formal entry into a program until a student has successfully completed basic art and design courses. Applicants usually have to submit sketches and other examples of their artistic ability.

Aspiring fashion designers can learn these necessary skills through internships with design or manufacturing firms. Some designers also gain valuable experience working in retail stores, as personal stylists, or as custom tailors. Such experience can help designers gain sales and marketing skills while learning what styles and fabrics look good on different people.

Designers also can gain exposure to potential employers by entering their designs in student or amateur contests. Because of the global nature of the fashion industry, experience in one of the international fashion centers, such as Milan or Paris, can be useful.

**Other qualifications.** Designers 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. Fashion designers also need excellent communication and problem-solving skills. Despite the advancement of computer-aided design, sketching ability remains an important advantage in fashion design. A good portfolio—a collection of a person's best work—often is the deciding factor in getting a job.

In addition to creativity, fashion designers also need to have sewing and patternmaking skills, even if they do not perform these tasks themselves. Designers need to be able to understand these skills so they can give proper instruction in how the garment should be constructed. Fashion designers also need strong sales and presentation skills to persuade clients to purchase their designs. Good teamwork and communication skills also are necessary because increasingly the business requires constant contact with suppliers, manufacturers, and buyers around the world.

**Advancement.** Beginning fashion designers usually start out as pattern makers or sketching assistants for more experienced designers before advancing to higher level positions. Experienced designers may advance to chief designer, design department head, or another supervisory position. Some designers may start their own design company, or sell their designs in their own retail stores. A few of the most successful designers

can work for high-fashion design houses that offer personalized design services to wealthy clients.

**Employment**

Fashion designers held about 20,000 jobs in 2006. About 28 percent of fashion designers worked for apparel, piece goods, and notions merchant wholesalers; and the remainder worked for corporate offices involved in the management of companies and enterprises, clothing stores, performing arts companies, and specialized design services firms. Another 24 percent were self-employed.

Employment of fashion designers tends to be concentrated in regional fashion centers. In 2006, the highest concentrations of fashion designers were employed in New York and California.

**Job Outlook**

Slower-than-average job growth is projected. Competition for jobs is expected to be keen as many designers are attracted to the creativity and glamour associated with the occupation.

**Employment change.** Employment of fashion designers is projected to grow 5 percent between 2006 and 2016, more slowly than the average for all occupations. Job growth will stem from a growing population demanding more clothing, footwear, and accessories. Demand is increasing for stylish clothing that is affordable, especially among middle income consumers. However, employment declines in cut and sew apparel manufacturing are projected to offset job increases among apparel wholesalers.

Job opportunities in cut and sew manufacturing will continue to decline as apparel is increasingly manufactured overseas. However, employment of fashion designers in this industry will not decline as fast as other occupations because firms are more likely to keep design work in-house.

**Job prospects.** Job competition is expected to be keen as many designers are attracted to the creativity and glamour associated with the occupation. Relatively few job openings arise because of low job turnover and the small number of new openings created every year.

The best job opportunities will be in design firms that design mass market clothing sold in department stores and retail chain stores, such as apparel wholesale firms. Few employment opportunities are expected in design firms that cater to high-end department stores and specialty boutiques as demand for expensive, high-fashion design declines relative to other luxury goods and services.

**Earnings**

Median annual earnings for salaried fashion designers were \$62,610 in May 2006. The middle 50 percent earned between \$42,140 and \$87,510. The lowest 10 percent earned less than \$30,000, and the highest 10 percent earned more than \$117,120. Median annual earnings of salaried fashion designers in the largest industries that employed them in May 2006 were:

Management of companies and enterprises .....	\$70,570
Cut and sew apparel manufacturing.....	69,810
Apparel, piece goods, and notions merchant wholesalers.....	62,910

Earnings in fashion design can vary widely based on the employer and years of experience. Starting salaries in fashion design tend to be very low until designers are established in the industry. Salaried fashion designers usually earn higher and more stable incomes than self-employed or freelance designers. However, a few of the most successful self-employed fashion designers may earn many times the salary of the highest paid salaried designers. Self-employed fashion designers must provide their own benefits and retirement.

**Related Occupations**

Workers in other art and design occupations include artists and related workers, commercial and industrial designers, floral designers, graphic designers, and interior designers. Jewelers and precious stone and metal workers also design wearable accessories. Other common occupations in the fashion industry include demonstrators, product promoters, and models; photographers; purchasing managers, buyers, and purchasing agents; retail salespersons; and textile, apparel, and furnishings occupations.

**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 general information about careers in fashion design, contact:

➤ Fashion Group International, 8 West 40th St., 7th Floor, New York, NY 10018. Internet: <http://www.fgi.org>

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**Fitness Workers**

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(O\*NET 39-9031.00)

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**Significant Points**

- Many fitness and personal training jobs are part time, but many workers increase their hours by working at several different facilities or at clients' homes.
- Night and weekend hours are common.
- Most fitness workers need to be certified.
- Job prospects are expected to be good.

**Nature of the Work**

Fitness workers lead, instruct, and motivate individuals or groups in exercise activities, including cardiovascular exercise, strength training, and stretching. They work in health clubs, country clubs, hospitals, universities, yoga and Pilates studios, resorts, and clients' homes. Increasingly, fitness workers also are found in workplaces, where they organize and direct health and fitness programs for employees of all ages. Although gyms and health clubs offer a variety of exercise activities such as weightlifting, yoga, cardiovascular training, and karate, fitness workers typically specialize in only a few areas.

*Personal trainers* work one-on-one with clients either in a gym or in the client's home. They help clients assess their level of physical fitness and set and reach fitness goals. Trainers also demonstrate various exercises and help clients improve their exercise techniques. They may keep records of their clients' exercise sessions to monitor clients' progress toward physical fitness. They may also advise their clients on how to modify their lifestyle outside of the gym to improve their fitness.

*Group exercise instructors* conduct group exercise sessions that usually include aerobic exercise, stretching, and muscle conditioning. Cardiovascular conditioning classes are often set to music. Instructors choose and mix the music and choreograph a corresponding exercise sequence. Two increasingly popular conditioning methods taught in exercise classes are Pilates and yoga. In these classes, instructors demonstrate the different moves and positions of the particular method; they also observe students and correct those who are doing the exercises improperly. Group exercise instructors are responsible for ensuring that their classes are motivating, safe, and challenging, yet not too difficult for the participants.

*Fitness directors* oversee the fitness-related aspects of a health club or fitness center. They create and oversee programs that meet the needs of the club's members, including new member orientations, fitness assessments, and workout incentive programs. They also select fitness equipment; coordinate personal training and group exercise programs; hire, train, and supervise fitness staff; and carry out administrative duties.

Fitness workers in smaller facilities with few employees may perform a variety of functions in addition to their fitness duties, such as tending the front desk, signing up new members, giving tours of the fitness center, writing newsletter articles, creating posters and flyers, and supervising the weight training and cardiovascular equipment areas. In larger commercial facilities, personal trainers are often required to sell their services to members and to make a specified number of sales. Some fitness workers may combine the duties of group exercise instructors and personal trainers, and in smaller facilities, the fitness director may teach classes and do personal training.

**Work environment.** Most fitness workers spend their time indoors at fitness centers and health clubs. Fitness directors



*Personal trainers usually must have certification to begin working with clients.*

and supervisors, however, typically spend most of their time in an office. Those in smaller fitness centers may split their time among office work, personal training, and teaching classes. Directors and supervisors generally engage in less physical activity than do lower-level fitness workers. Nevertheless, workers at all levels risk suffering injuries during physical activities.

Since most fitness centers are open long hours, fitness workers often work nights and weekends and even occasional holidays. Some may travel from place to place throughout the day, to different gyms or to clients' homes, to maintain a full work schedule.

Fitness workers generally enjoy a lot of autonomy. Group exercise instructors choreograph or plan their own classes, and personal trainers have the freedom to design and implement their clients' workout routines.

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

For most fitness workers, certification is critical. Personal trainers usually must have certification to begin working with clients or with members of a fitness facility. Group fitness instructors may begin without a certification, but they are often encouraged or required by their employers to become certified.

**Education and training.** Fitness workers usually do not receive much on-the-job training; they are expected to know how to do their jobs when they are hired. Workers may receive some organizational training to learn about the operations of their new employer. They occasionally receive specialized training if they are expected to teach or lead a specific method of exercise or focus on a particular age or ability group. Because the requirements vary from employer to employer, it may be helpful to contact your local fitness centers or other potential employers to find out what background they prefer before pursuing training.

The education and training required depends on the specific type of fitness work: personal training, group fitness, or a specialization such as Pilates or yoga each need different preparation. Personal trainers often start out by taking classes to become certified. They then may begin by working alongside an experienced trainer before being allowed to train clients alone. Group fitness instructors often get started by participating in exercise classes until they are ready to successfully audition as instructors and begin teaching class. They also may improve their skills by taking training courses or attending fitness conventions. Most employers require instructors to work toward becoming certified.

Training for Pilates and yoga instructors is changing. Because interest in these forms of exercise has exploded in recent years, the demand for teachers has grown faster than the ability to train them properly. However, because inexperienced teachers have contributed to student injuries, there has been a push toward more standardized, rigorous requirements for teacher training.

Pilates and yoga teachers need specialized training in their particular method of exercise. For Pilates, training options range from weekend-long workshops to year-long programs, but the trend is toward requiring more training. The Pilates Method Alliance has established training standards that rec-



teachers are certified group exercise instructors who attend short Pilates workshops; currently, many fitness centers hire people with minimal Pilates training if the applicants have a fitness certification and group fitness experience.

Training requirements for yoga teachers are similar to those for Pilates teachers. Training programs range from a few days to more than 2 years. Many people get their start by taking yoga; eventually, their teachers may consider them ready to assist or to substitute teach. Some students may begin teaching their own classes when their yoga teachers think they are ready; the teachers may even provide letters of recommendation. Those who wish to pursue teaching more seriously usually pursue formal teacher training.

Currently, there are many training programs through the yoga community as well as programs through the fitness industry. The Yoga Alliance has established training standards requiring at least 200 training hours, with a specified number of hours in areas including techniques, teaching methodology, anatomy, physiology, and philosophy. The Yoga Alliance also registers schools that train students to its standards. Because some schools may meet the standards but not be registered, prospective students should check the requirements and decide if particular schools meet them.

An increasing number of employers require fitness workers to have a bachelor's degree in a field related to health or fitness, such as exercise science or physical education. Some employers allow workers to substitute a college degree for certification, but most employers who require a bachelor's degree also require certification.

**Certification and other qualifications.** Most personal trainers must obtain certification in the fitness field to gain employment. Group fitness instructors do not necessarily need certification to begin working. The most important characteristic that an employer looks for in a new fitness instructor is the ability to plan and lead a class that is motivating and safe. However, most organizations encourage their group instructors to become certified over time, and many require it.

In the fitness field, there are many organizations—some of which are listed in the last section of this statement—that offer certification. Becoming certified by one of the top certification organizations is increasingly important, especially for personal trainers. One way to ensure that a certifying organization is reputable is to see that it is accredited by the National Commission for Certifying Agencies.

Most certifying organizations require candidates to have a high school diploma, be certified in cardiopulmonary resuscitation (CPR), and pass an exam. All certification exams have a written component, and some also have a practical component. The exams measure knowledge of human physiology, proper exercise techniques, assessment of client fitness levels, and development of appropriate exercise programs. There is no particular training program required for certifications; candidates may prepare however they prefer. Certifying organizations do offer study materials, including books, CD-ROMs, other audio and visual materials, and exam preparation workshops and

seminars, but exam candidates are not required to purchase materials to take exams.

Certification generally is good for 2 years, after which workers must become recertified by attending continuing education classes or conferences, writing articles, or giving presentations. Some organizations offer more advanced certification, requiring an associate or bachelor's degree in an exercise-related subject for individuals interested in training athletes, working with people who are injured or ill, or advising clients on general health.

Pilates and yoga instructors usually do not need group exercise certifications to maintain employment. It is more important that they have specialized training in their particular method of exercise. However, the Pilates Method Alliance does offer certification.

People planning fitness careers should be outgoing, excellent communicators, good at motivating people, and sensitive to the needs of others. Excellent health and physical fitness are important due to the physical nature of the job. Those who wish to be personal trainers in a large commercial fitness center should have strong sales skills. All personal trainers should have the personality and motivation to attract and retain clients.

**Advancement.** A bachelor's degree in exercise science, physical education, kinesiology (the study of muscles, especially the mechanics of human motion), or a related area, along with experience, usually is required to advance to management positions in a health club or fitness center. Some organizations require a master's degree. As in other occupations, managerial skills are also needed to advance to supervisory or managerial positions. College courses in management, business administration, accounting, and personnel management may be helpful, but many fitness companies have corporate universities in which they train employees for management positions.

Personal trainers may advance to head trainer, with responsibility for hiring and overseeing the personal training staff and for bringing in new personal training clients. Group fitness instructors may be promoted to group exercise director, responsible for hiring instructors and coordinating exercise classes. Later, a worker might become the fitness director, who manages the fitness budget and staff. Workers might also become the general manager, whose main focus is the financial aspects of an organization, particularly setting and achieving sales goals; in a small fitness center, however, the general manager is usually involved with all aspects of running the facility. Some workers go into business for themselves and open their own fitness centers.

**Employment**

Fitness workers held about 235,000 jobs in 2006. Almost all personal trainers and group exercise instructors worked in phys-

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Fitness trainers and aerobics instructors .....	39-9031	235,000	298,000	63,000	27

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

ical fitness facilities, health clubs, and fitness centers, mainly in the amusement and recreation industry or in civic and social organizations. About 8 percent of fitness workers were self-employed; many of these were personal trainers, while others were group fitness instructors working on a contract basis with fitness centers. Many fitness jobs are part time, and many workers hold multiple jobs, teaching or doing personal training at several different fitness centers and at clients' homes.

### Job Outlook

Jobs for fitness workers are expected to increase much faster than the average for all occupations. Fitness workers should have good opportunities due to rapid job growth in health clubs, fitness facilities, and other settings where fitness workers are concentrated.

**Employment change.** Employment of fitness workers is expected to increase 27 percent over the 2006-2016 decade, much faster than the average for all occupations. These workers are expected to gain jobs because an increasing number of people are spending time and money on fitness, and more businesses are recognizing the benefits of health and fitness programs for their employees.

Aging baby boomers are concerned with staying healthy, physically fit, and independent. Moreover, the reduction of physical education programs in schools, combined with parents' growing concern about childhood obesity, has resulted in rapid increases in children's health club membership. Increasingly, parents are also hiring personal trainers for their children, and the number of weight-training gyms for children is expected to continue to grow. Health club membership among young adults also has grown steadily, driven by concern with physical fitness and by rising incomes.

As health clubs strive to provide more personalized service to keep their members motivated, they will continue to offer personal training and a wide variety of group exercise classes. Participation in yoga and Pilates is expected to continue to increase, driven partly by the aging population that demands low-impact forms of exercise and seeks relief from arthritis and other ailments.

**Job prospects.** Opportunities are expected to be good for fitness workers because of rapid job growth in health clubs, fitness facilities, and other settings where fitness workers are concentrated. In addition, many job openings will stem from the need to replace the large numbers of workers who leave these occupations each year. Part-time jobs will be easier to find than full-time jobs.

### Earnings

Median annual earnings of fitness trainers and aerobics instructors in May 2006 were \$25,910. The middle 50 percent earned between \$18,010 and \$41,040. The bottom 10 percent earned less than \$14,880, while the top 10 percent earned \$56,750 or more. These figures do not include the earnings of the self-employed. Earnings of successful self-employed personal trainers can be much higher. Median annual earnings in the industries employing the largest numbers of fitness workers in 2006 were as follows:

General medical and surgical hospitals.....	\$29,640
Local government .....	27,720
Fitness and recreational sports centers.....	27,200
Other schools and instruction.....	22,770
Civic and social organizations .....	22,630

Because many fitness workers work part time, they often do not receive benefits such as health insurance or retirement plans from their employers. They are able to use fitness facilities at no cost, however.

### Related Occupations

Other occupations that focus on physical fitness include athletes, coaches, umpires, and related workers. Physical therapists also do related work when they create exercise plans to improve their patients' flexibility, strength, and endurance. Dietitians and nutritionists advise individuals on improving and maintaining their health, like fitness workers do. Also like fitness workers, many recreation workers lead groups in physical activities.

### Sources of Additional Information

For more information about fitness careers and universities and other institutions offering programs in health and fitness, contact:

- IDEA Health and Fitness Association, 10455 Pacific Center Court., San Diego, CA 92121-4339.
- National Strength and Conditioning Association, 1885 Bob Johnson Drive, Colorado Springs, CO 80906.

Internet: <http://www.nasca-lift.org>

For information about personal trainer and group fitness instructor certifications, contact:

- American College of Sports Medicine., P.O. Box 1440, Indianapolis, IN 46206-1440. Internet: <http://www.acsm.org>
- American Council on Exercise., 4851 Paramount Dr., San Diego, CA 92123. Internet: <http://www.acefitness.org>
- National Academy of Sports Medicine., 26632 Agoura Rd., Calabasas, CA 91302. Internet: <http://www.nasm.org>
- NSCA Certification Commission, 3333 Landmark Circle, Lincoln, NE 68504. Internet: <http://www.nasca-cc.org>

For information about Pilates certification and training programs, contact:

- Pilates Method Alliance, P.O. Box 370906, Miami, FL 33137-0906.

Internet: <http://www.pilatesmethodalliance.org>

For information on yoga teacher training programs, contact:

- Yoga Alliance, 7801 Old Branch Ave., Suite 400, Clinton, MD 20735. Internet: <http://www.yogaalliance.org>

To find accredited fitness certification programs, contact:

- National Commission for Certifying Agencies, 2025 M St., NW., Suite 800, Washington, DC 20036.

Internet: <http://www.noca.org/ncca/accredorg.htm>

For information about health clubs and sports clubs, contact:

- International Health, Racquet, and Sportsclub Association, 263 Summer St., Boston, MA 02210.

Internet: <http://www.ihrsa.org>

## Floral Designers

(O\*NET 27-1023.00)

### Significant Points

- Despite the projected decline in employment, job opportunities should be good because of relatively high replacement needs.
- Floral design is the only design specialty that does not require formal postsecondary training.
- Many floral designers work long hours on weekends and holidays, filling orders and setting up decorations for weddings and other events.
- About one-third are self-employed.

### Nature of the Work

Floral designers, or florists, cut live, dried, or silk flowers and other greenery and arrange them into displays of various sizes and shapes. These workers design these displays by selecting flowers, containers, and ribbons and arranging them into bouquets, corsages, centerpieces of tables, wreaths, and the like for weddings, funerals, holidays, and other special occasions. Some floral designers also use accessories such as balloons, candles, toys, candy, and gift baskets as part of their displays.

Job duties often vary by employment setting. Most floral designers work in small independent floral shops that specialize in custom orders and also handle large orders for weddings, caterers, or interior designers. Floral designers may meet with customers to discuss the arrangement or work from a written order. They note the occasion, the customer's preferences, the price of the order, the time the floral display or plant is to be ready, and the place to which it is to be delivered. For special occasions, floral designers usually will help set up floral decorations. Floral designers also will prearrange a few displays to have available for walk-in customers or last-minute orders. Some floral designers also assist interior designers in creating live or silk displays for hotels, restaurants, and private residences.

A number of floral designers, also known as florists, work in the floral departments of grocery stores or for Internet florists, which specialize in creating prearranged floral decorations and bouquets. These floral retailers also may fill small custom orders for special occasions and funerals, but some grocery store florists do not deliver to clients or handle large custom orders.

Florists who work for wholesale flower distributors assist in the selection of different types of flowers and greenery to purchase and sell to retail florists. Wholesale floral designers also select flowers for displays that they use as examples for retail florists.

Self-employed floral designers must handle the various aspects of running their own businesses, such as selecting and purchasing flowers, hiring and supervising staff, and maintaining financial records. Self-employed designers also may run gift shops or wedding consultation businesses in addition to providing floral design services. Some conduct design work-



*Floral designers cut live, dried, or silk flowers and other greenery and arrange them into displays of various sizes and shapes.*

shops for amateur gardeners or others with an interest in floral design.

**Work environment.** Most floral designers work in comfortable and well-lit spaces in retail outlets or at home, although working outdoors sometimes is required. Designers also may frequently make short trips delivering flowers, setting up arrangements for special events, and procuring flowers and other supplies.

Floral designers have frequent contact with customers and must work to satisfy their demands, including last-minute holiday and funeral orders. Because many flowers are perishable, most orders cannot be completed too far in advance. Consequently, some designers work long hours before and during holidays. Some also work nights and weekends to complete large orders for weddings and other special events.

Floral designers may suffer muscle strain from long periods of standing and from repeated finger and arm movements required to make floral arrangements. They are susceptible to back strain from lifting and carrying heavy flower arrangements. Designers also may suffer allergic reactions to certain types of pollen when working with flowers. In addition, they frequently use sharp objects—scissors, knives, and metal wire—that can cause injuries if handled improperly.



## Training, Other Qualifications, and Advancement

Floral design is the only design occupation that does not require formal postsecondary training; most floral designers learn their skills on the job. Employers generally look for high school graduates who have creativity, a flair for arranging flowers, and a desire to learn.

**Education and training.** Floral design is the only design occupation that does not require formal postsecondary training; most floral designers learn their skills on the job. Private floral schools, vocational schools, and community colleges award certificates in floral design. These programs generally require a high school diploma for admission and last from several weeks to 1 year. Floral design courses teach the basics of arranging flowers, including the different types of flowers, their color and texture, cutting and taping techniques, tying bows and ribbons, proper handling and care of flowers, floral trends, and pricing.

Some floral designers also may earn an associate or bachelor's degree at a community college or university. Some programs offer formal degrees in floral design, while others offer degrees in floriculture, horticulture, or ornamental horticulture. In addition to floral design courses, these programs teach courses in botany, chemistry, hydrology, microbiology, pesticides, and soil management.

Since many floral designers manage their own business, additional courses in business, accounting, marketing, and computer technology can be helpful.

**Certification and other qualifications.** The American Institute of Floral Designers offers an accreditation examination as an indication of professional achievement in floral design. The exam consists of a written part covering floral terminology and an onsite floral-arranging part in which candidates have 4 hours to complete five floral designs: funeral tributes, table arrangements, wedding arrangements, wearable flowers, and a category of the candidate's choosing.

Floral designers must be creative, service oriented, and able to communicate their ideas visually and verbally. Because trends in floral design change quickly, designers must be open to new ideas and react quickly to changing trends. Problem-solving skills and the ability to work independently and under pressure also are important traits. Individuals in this field need self-discipline to budget their time and meet deadlines.

**Advancement.** Many florists gain their initial experience working as cashiers or delivery people in retail floral stores. 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.

Advancement in the floral field is limited. After a few years of on-the-job training, designers can either advance to a supervisory position or open their own floral shop.

## Employment

Floral designers held about 87,000 jobs in 2006. Approximately 33 percent were self-employed. About 45 percent of all floral designers worked in florist shops. Another 10 percent worked in the floral departments of grocery stores. Others were employed by miscellaneous nondurable goods merchant wholesalers, other general merchandise stores, and in lawn and garden equipment and supply stores.

## Job Outlook

Despite the projected decline in employment, job opportunities are expected to be good because of the need to replace workers who leave the occupation.

**Employment change.** Employment of floral designers is expected to decline moderately, 9 percent, between 2006 and 2016. The demand for floral decorations will continue to grow as flower sales increase with the population and the lavishness of weddings and other special events that require floral decorations. As disposable incomes rise, more people also will demand fresh flowers in their homes and offices. Increased spending on interior design also is expected to create more demand for stylish artificial arrangements for homes and businesses.

Despite growing demand for floral decorations, few job opportunities are expected in floral wholesalers, primarily because an increasing number of shops are purchasing flowers and supplies directly from growers in order to cut costs. In addition, the growth of electronic commerce in the floral industry will make it easier for retail florists to locate their own suppliers. Discretionary spending on flowers and floral products is highly sensitive to the state of the economy, and during economic downturns employment may fall off as floral expenditures decline.

**Job prospects.** Job opportunities should be good because of the relatively high replacement needs in retail florists. Many people leave the occupation after a time because of its comparatively low starting pay and limited opportunities for advancement. Opportunities should be good in grocery store and Internet floral shops as sales of floral arrangements from these outlets grow. The prearranged displays and gifts available in these stores appeal to consumers because of the convenience and because of prices that are lower than can be found in independent floral shops.

As mass marketers capture more of the small flower orders, independent floral shops are increasingly finding themselves under pressure to remain profitable. Many independent shops have added online ordering systems in order to compete with Internet florists. Others are trying to distinguish their services by specializing in certain areas of floral design or by combining floral design with event planning and interior design services. Some florists also are adding holiday decorating ser-

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Floral designers .....	27-1023	87,000	79,000	-7,700	-9

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

VICES in which they will set up decorations for businesses and residences.

### Earnings

Median annual earnings for wage and salary floral designers were \$21,700 in May 2006. The middle 50 percent earned between \$17,690 and \$27,330. The lowest 10 percent earned less than \$15,040, and the highest 10 percent earned more than \$33,650. Median annual earnings were \$23,990 in grocery stores and \$21,210 in florists.

### Related Occupations

Other art and design occupations include artists and related workers, commercial and industrial designers, fashion designers, graphic designers, and interior designers. Landscape architects also create designs involving plants and flowers. Other occupations involved directly with plants and flowers include soil and plant scientists; and farm workers and laborers, crop, nursery, and greenhouse.

### Sources of Additional Information

For information about careers in floral design, contact:

► American Institute of Floral Designers, 720 Light St., Baltimore, MD 21230. Internet: <http://www.aifd.org>

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

To learn more about designing flowers for weddings and funerals, see “Jobs in weddings and funerals: Working with the betrothed and the bereaved,” in the winter 2006 Occupational Outlook Quarterly and online at:

<http://www.bls.gov/opub/ooq/2006/winter/art03.pdf>.

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## Graphic Designers

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(O\*NET 27-1024.00)

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### Significant Points

- About 25 percent are self-employed; many do freelance work in addition to holding a salaried job in design or in another occupation.
- A bachelor’s degree is required for most entry-level positions; however, an associate degree may be sufficient for some technical positions.
- Job seekers are expected to face keen competition; individuals with a bachelor’s degree and knowledge of computer design software, particularly those with Web site design and animation experience will have the best opportunities.

### Nature of the Work

Graphic designers—or graphic artists—plan, analyze, and create visual solutions to communications problems. They find the most effective way to get messages across in print, electronic, and film media using a variety of methods such as color, type, illustration, photography, animation, and various print and

layout techniques. Graphic designers develop the overall layout and production design of magazines, newspapers, journals, corporate reports, and other publications. They also produce promotional displays, packaging, 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 also develop material for Internet Web pages, interactive media, and multimedia projects. Graphic designers also may produce the credits that appear before and after television programs and movies.

The first step in developing a new design is to determine the needs of the client, the message the design should portray, and its appeal to customers or users. Graphic designers consider cognitive, cultural, physical, and social factors in planning and executing designs for the target audience. Designers gather relevant information by meeting with clients, creative or art directors, and by performing their own research. Identifying the needs of consumers is becoming increasingly important for graphic designers as they continue to develop corporate communication strategies in addition to creating designs and layouts.

Graphic designers prepare sketches or layouts—by hand or with the aid of a computer—to illustrate their vision for the design. They select colors, sound, artwork, photography, animation, style of type, and other visual elements for the design. Designers also select the size and arrangement of the different elements on the page or screen. They may create graphs and charts from data for use in publications, and they often consult with copywriters on any text that accompanies the design. Designers then present the completed design to their clients or art or creative director for approval. In printing and publishing firms, graphic designers also may assist the printers by selecting the type of paper and ink for the publication and reviewing the mock-up design for errors before final publication.

Graphic designers use specialized computer software packages to help them create layouts and design elements and to program animated graphics.

Graphic designers sometimes supervise assistants who follow instructions to complete parts of the design process. Designers



*Graphic designers use specialized software packages to create layouts and graphics.*

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Graphic designers.....	27-1024	261,000	286,000	26,000	10

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

who run their own businesses also may devote a considerable time to developing new business contacts, choosing equipment, 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 graphic designers.

**Work environment.** Working conditions and places of employment vary. Graphic designers employed by large advertising, publishing, or design firms generally work regular hours in well-lighted and comfortable settings. Designers in smaller design consulting firms and those who freelance generally work on a contract, or job, basis. They frequently adjust their workday to suit their clients' schedules and deadlines. Consultants and self-employed designers tend to work longer hours and in smaller, more congested, environments.

Designers may work in their own offices or studios or in clients' offices. Designers who are paid by the assignment are under pressure to please existing clients and to find new ones 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. Graphic designers may work evenings or weekends to meet production schedules, especially in the printing and publishing industries where deadlines are shorter and more frequent.

### Training, Other Qualifications, and Advancement

A bachelor's or an associate degree in graphic design is usually required for a job as a graphic designer. Creativity, communication, and problem solving skills and familiarity with computer graphics and design software also are important.

**Education and training.** A bachelor's degree is required for most entry-level and advanced graphic design positions; although some entry-level technical positions may only require an associate degree. Bachelor's degree programs in fine arts or graphic design are offered at many colleges, universities, and private design schools. Most curriculums include studio art, principles of design, computerized design, commercial graphics production, printing techniques, and Web site design. In addition to design courses, a liberal arts education that includes courses in art history, writing, psychology, sociology, foreign languages and cultural studies, marketing, and business are useful in helping designers work effectively.

Associate degrees and certificates in graphic design also are available from 2-year and 3-year professional schools. These programs usually focus on the technical aspects of graphic design and include few liberal arts courses. Graduates of 2-year programs normally qualify as assistants to graphic designers or for positions requiring technical skills only. Individuals who wish to pursue a career in graphic design—and who already possess a bachelor's degree in another field—can complete a 2-

year or 3-year program in graphic design to learn the technical requirements.

The National Association of Schools of Art and Design accredits about 250 postsecondary institutions with programs in art and design. Most of these schools award a degree in graphic 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.

Increasingly, employers expect new graphic designers to be familiar with computer graphics and design software. Graphic designers must keep up with new and updated software, on their own or through software training programs.

**Other qualifications.** In addition to postsecondary training in graphic design, creativity, communication, and problem-solving skills are crucial. Graphic designers must be creative and able to communicate their ideas visually, verbally, and in writing. They also must have an eye for details. Designers show employers these traits by putting together a portfolio—a collection of examples of a person's best work. A good portfolio often is the deciding factor in getting a job.

Because consumer tastes can change quickly, designers also need to be well read, open to new ideas and influences, and quick to react to changing trends. The ability to work independently and under pressure are equally 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 firms.

**Advancement.** Beginning graphic designers usually receive on-the-job training and normally need 1 to 3 years of training before they can advance to higher positions. Experienced graphic designers in large firms may advance to chief designer, art or creative director, 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 or choose to specialize in one area of graphic design.

### Employment

Graphic designers held about 261,000 jobs in 2006. Most graphic designers worked in specialized design services; advertising and related services; printing and related support activities; or newspaper, periodical, book, and directory publishers. Other designers produced computer graphics for computer systems design firms or motion picture production firms. A small number of designers also worked in engineering services or for management, scientific, and technical consulting firms.



About 25 percent of designers were self-employed. Many did freelance work—full time or part time—in addition to holding a salaried job in design or in another occupation.

### Job Outlook

Employment of graphic designers is expected grow about as fast as average. Keen competition for jobs is expected; individuals with a bachelor's degree and knowledge of computer design software, particularly those with Web site design and animation experience will have the best opportunities.

**Employment change.** Employment of graphic designers is expected to grow 10 percent, about as fast as the average for all occupations from 2006 to 2016, as demand for graphic design continues to increase from advertisers, publishers, and computer design firms. Some of this increase is expected to stem from the expansion of the video entertainment market, including television, movies, video, and made-for-Internet outlets.

Moreover, graphic designers with Web site design and animation experience will especially be needed as demand increases for design projects for interactive media—Web sites, video games, cellular telephones, personal digital assistants, and other technology. Demand for graphic designers also will increase as advertising firms create print and Web marketing and promotional materials for a growing number of products and services.

In recent years, some computer, printing, and publishing firms have outsourced basic layout and design work to design firms overseas. This trend is expected to continue and may have a negative impact on employment growth for low-level, technical graphic design workers. However, most high-level graphic design jobs will remain in the U.S. Strategic design, the work of developing communication strategies for clients and firms to help them to gain competitive advantages in the market, requires close proximity to the consumer in order to identify and target their needs and interests.

**Job prospects.** Graphic designers are expected to face keen competition for available positions. Many talented individuals are attracted to careers as graphic designers. Individuals with a bachelor's degree and knowledge of computer design software, particularly those with Web site design and animation experience will have the best opportunities.

Graphic designers with a broad liberal arts education and experience in marketing and business management will be best suited for positions developing communication strategies.

### Earnings

Median annual earnings for wage and salary graphic designers were \$39,900 in May 2006. The middle 50 percent earned between \$30,600 and \$53,310. The lowest 10 percent earned less than \$24,120, and the highest 10 percent earned more than \$69,730. May 2006 median annual earnings in the industries employing the largest numbers of graphic designers were:

Specialized design services.....	\$43,410
Advertising and related services .....	41,600
Newspaper, periodical, book, and directory publishers .....	34,290
Printing and related support activities.....	33,930
Newspaper publishers .....	31,540

According to the American Institute of Graphic Arts, median annual total cash compensation for entry-level designers was \$35,000 in 2007. Staff-level graphic designers earned a median of \$45,000. Senior designers, who may supervise junior staff or have some decision-making authority that reflects their knowledge of graphic design, earned a median of \$62,000. Solo designers who freelanced or worked under contract to another company reported median earnings of \$60,000. Design directors, the creative heads of design firms or in-house corporate design departments, earned \$98,600. Graphic designers with ownership or partnership interests in a firm or who were principals of the firm in some other capacity earned \$113,000.

### Related Occupations

Workers in other occupations in the art and design field include artists and related workers; commercial and industrial designers; fashion designers; floral designers; and interior designers. Other occupations that require computer-aided design skills include computer software engineers, drafters, and desktop publishers. Other occupations involved in the design, layout, and copy of publications include advertising, marketing, promotions, public relations, and sales managers; photographers; writers and editors; and prepress technicians and workers.

### 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 20190-5248.

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 workshops, scholarships, internships, and competitions for graphic design students interested in advertising careers, contact:

► Art Directors Club, 106 West 29th St., New York, NY 10001.

Internet: <http://www.adcglobal.org>

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## Interior Designers

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(O\*NET 27-1025.00)

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### Significant Points

- Keen competition is expected for jobs because many talented individuals are attracted to this occupation.
- About 26 percent are self-employed.
- Postsecondary education—especially a bachelor's degree—is recommended for entry-level positions; some States license interior designers.

### Nature of the Work

Interior designers draw upon many disciplines to enhance the function, safety, and aesthetics of interior spaces. Their main concerns are with how different colors, textures, furniture, light-

ing, and space work together to meet the needs of a building's occupants. Designers plan interior spaces of almost every type of building, including offices, airport terminals, theaters, shopping malls, restaurants, hotels, schools, hospitals, and private residences. Good design can boost office productivity, increase sales, attract a more affluent clientele, provide a more relaxing hospital stay, or increase a building's market value.

Traditionally, most interior designers focused on decorating—choosing a style and color palette and then selecting appropriate furniture, floor and window coverings, artwork, and lighting. However, an increasing number of designers are becoming involved in architectural detailing, such as crown molding and built-in bookshelves, and in planning layouts of buildings undergoing renovation, including helping to determine the location of windows, stairways, escalators, and walkways.

Interior designers must be able to read blueprints, understand building and fire codes, and know how to make space accessible to people who are disabled. Designers frequently collaborate with architects, electricians, and building contractors to ensure that designs are safe and meet construction requirements.

Whatever space they are working on, almost all designers follow the same process. The first step, known as programming, is to determine the client's needs and wishes. The designer usually meets face-to-face with the client to find out how the space will be used and to get an idea of the client's preferences and budget. For example, the designer might inquire about a family's cooking habits if the family is remodeling a kitchen or ask about a store or restaurant's target customer in order to pick an appropriate motif. The designer also will visit the space to take inventory of existing furniture and equipment and identify positive attributes of the space and potential problems.

Then, the designer formulates a design plan and estimates costs. Today, designs often are created with the use of computer-aided design (CAD), which provides more detail and easier corrections than sketches made by hand. Once the designer completes the proposed design, he or she will present it to the client and make revisions based on the client's input.

When the design concept is decided upon, the designer will begin specifying the materials, finishes, and furnishings required, such as furniture, lighting, flooring, wall covering, and artwork. Depending on the complexity of the project, the designer also might submit drawings for approval by a construction inspector to ensure that the design meets building codes. If a project requires structural work, the designer works with an architect or engineer for that part of the project. Most designs also require the hiring of contractors to do technical work, such as lighting, plumbing, or electrical wiring. Often designers choose contractors and write work contracts.

Finally, the designer develops a timeline for the project, coordinates contractor work schedules, and makes sure work is completed on time. The designer oversees the installation of the design elements, and after the project is complete, the designer, together with the client, pay follow-up visits to the building site to ensure that the client is satisfied. If the client is not satisfied, the designer makes corrections.

Designers who work for furniture or home and garden stores sell merchandise in addition to offering design services. In-store designers provide services, such as selecting a style and

color scheme that fits the client's needs or finding suitable accessories and lighting, similar to those offered by other interior designers. However, in-store designers rarely visit clients' spaces and use only a particular store's products or catalogs.

Interior designers sometimes supervise assistants who carry out their plans and perform administrative tasks, such as reviewing catalogues and ordering samples. Designers who run their own businesses also may devote considerable time to developing new business contacts, examining equipment and space needs, and attending to business matters.

Although most interior designers do many kinds of projects, some specialize in one area of interior design. Some specialize in the type of building space—usually residential or commercial—while others specialize in a certain design element or type of client, such as health care facilities. The most common specialties of this kind are lighting, kitchen and bath, and closet designs. However, designers can specialize in almost any area of design, including acoustics and noise abatement, security, electronics and home theaters, home spas, and indoor gardens.

Three areas of design that are becoming increasingly popular are ergonomic design, elder design, and environmental—or green—design. Ergonomic design involves designing work spaces and furniture that emphasize good posture and minimize muscle strain on the body. Elder design involves planning inte-



*Interior designers often review a large number of samples in order to choose an appropriate design for interior spaces.*

rior space to aid in the movement of people who are elderly and disabled. Green design involves selecting furniture and carpets that are free of chemicals and hypoallergenic and selecting construction materials that are energy efficient or are made from renewable resources

**Work environment.** Working conditions and places of employment vary. Interior designers employed by 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 clients during evening or weekend hours when necessary. Consultants and self-employed designers tend to work longer hours and in smaller, more congested environments.

Interior designers may work under stress to meet deadlines, stay on budget, and please clients. Self-employed designers also are under pressure to find new clients to maintain a steady income.

Designers may work 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. With the increased speed and sophistication of computers and advanced communications networks, designers may form international design teams, serve a more geographically dispersed clientele, research design alternatives by using information on the Internet, and purchase supplies electronically.

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

Postsecondary education, especially a bachelor's degree, is recommended for entry-level positions in interior design. Two-year and 3-year programs also are available. Some States license interior designers.

**Education and training.** Postsecondary education, especially a bachelor's degree, is recommended for entry-level positions in interior design. Training programs are available from professional design schools or from colleges and universities and usually take 2 to 4 years to complete. Graduates of 2-year or 3-year programs are awarded certificates or associate degrees in interior design and normally qualify as assistants to interior designers upon graduation. Graduates with a bachelor's degree usually qualify for a formal design apprenticeship program.

The National Association of Schools of Art and Design accredits approximately 250 postsecondary institutions with programs in art and design. Most of these schools award a degree in interior design. Applicants may be required to submit sketches and other examples of their artistic ability. Basic coursework includes computer-aided design (CAD), drawing, perspective, spatial planning, color and fabrics, furniture design, architecture, ergonomics, ethics, and psychology.

The National Council for Interior Design Accreditation also accredits interior design programs that lead to a bachelor's degree. In 2007, there were 145 accredited bachelor's degree programs in interior design in the United States; most are part of schools or departments of art, architecture, and home economics.

After the completion of formal training, interior designers will enter a 1-year to 3-year apprenticeship to gain experience before taking a licensing exam. Most apprentices work in design or architecture firms under the supervision of an experienced designer. Apprentices also may choose to gain experience working as an in-store designer in furniture stores. The National Council of Interior Design offers the Interior Design Experience Program, which helps entry-level interior designers gain valuable work experience by supervising work experience and offering mentoring services and workshops to new designers.

**Licensure.** Twenty-three States, the District of Columbia, and Puerto Rico register or license interior designers. The National Council administers the licensing exam for Interior Design Qualification. To be eligible to take the exam, applicants must have at least 6 years of combined education and experience in interior design, of which at least 2 years must be post-secondary education in design.

Once candidates have passed the qualifying exam, they are granted the title of Certified, Registered, or Licensed Interior Designer, depending on the State. Continuing education is required to maintain licensure.

**Other qualifications.** Membership in a professional association is one indication of an interior designer's qualifications and professional standing. The American Society of Interior Designers is the largest professional association for interior designers in the United States. Interior designers can qualify for membership with at least a 2-year degree and work experience.

Employers increasingly prefer interior designers who are familiar with computer-aided design software and the basics of architecture and engineering to ensure that their designs meet building safety codes.

In addition to possessing technical knowledge, interior designers must be creative, imaginative, and persistent and must be able to communicate their ideas visually, verbally, and in writing. Because tastes in style 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 additional 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.

**Certification and advancement.** Optional certifications in kitchen and bath design are available from the National Kitchen and Bath Association. The association offers three different levels of certification for kitchen and bath designers, each achieved through training seminars and certification exams.

Beginning interior designers 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 some other supervisory position. Some experienced designers open their own firms or decide to specialize in one aspect of interior design. Other designers leave the occupation to become teachers in schools of design or in colleges and universities. Many



## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Interior designers .....	27-1025	72,000	86,000	14,000	19

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

faculty members continue to consult privately or operate small design studios to complement their classroom activities.

### Employment

Interior designers held about 72,000 jobs in 2006. Approximately 26 percent were self-employed. About 26 percent of interior designers worked in specialized design services. The rest of the interior designers provided design services in architectural and landscape architectural services, furniture and home-furnishing stores, building material and supplies dealers, and residential building construction companies. Many interior designers also performed freelance work in addition to holding a salaried job in interior design or another occupation.

### Job Outlook

Employment of interior designers is expected to be faster than average; however, keen competition for jobs is expected.

**Employment change.** Employment of interior designers is expected to grow 19 percent from 2006 to 2016, faster than the average for all occupations. Economic expansion, growing homeowner wealth, and an increasing interest in interior design will increase demand for designers.

Recent increases in homeowner wealth and the growing popularity of home improvement television programs have increased demand for residential design services. Homeowners have been using the equity in their homes to finance new additions, remodel aging kitchens and bathrooms, and update the general décor of the home. Many homeowners also have requested design help in creating year-round outdoor living spaces.

However, this same growth in home improvement television programs and discount furniture stores has spurred a trend in do-it-yourself design, which could hamper employment growth of designers. Nevertheless, some clients will still hire designers for initial consultations.

Demand from businesses in the hospitality industry—hotels, resorts, and restaurants—is expected to be high because of an expected increase in tourism. Demand for interior design services from the health care industry also is expected to be high because of an anticipated increase in demand for facilities that will accommodate the aging population. Designers will be needed to make these facilities as comfortable and homelike as possible for patients.

Some interior designers choose to specialize in one design element to create a niche for themselves in an increasingly competitive market. The demand for kitchen and bath design is growing in response to the growing demand for home remodeling. Designs using the latest technology in, for example, home theaters, state-of-the-art conference facilities, and security systems are expected to be especially popular. In addition, demand for home spas, indoor gardens, and outdoor living space should continue to increase.

Extensive knowledge of ergonomics and green design are expected to be in demand. Ergonomic design has gained in popularity with the growth in the elderly population and workplace safety requirements. The public's growing awareness of environmental quality and the growing number of individuals with allergies and asthma are expected to increase the demand for green design.

**Job prospects.** Interior designers are expected to face keen competition for available positions because many talented individuals are attracted to this profession. Individuals with little or no formal training in interior design, as well as those lacking creativity and perseverance, will find it very difficult to establish and maintain a career in this occupation.

As the economy grows, more private businesses and consumers will request the services of interior designers. However, design services are considered a luxury expense and may be subject to fluctuations in the economy. For example, decreases in consumer and business income and spending caused by a slow economy can have a detrimental effect on employment of interior designers.

### Earnings

Median annual earnings for wage and salary interior designers were \$42,260 in May 2006. The middle 50 percent earned between \$31,830 and \$57,230. The lowest 10 percent earned less than \$24,270, and the highest 10 percent earned more than \$78,760. Median annual earnings in the industries employing the largest numbers of interior designers in May 2006 were:

Architectural, engineering, and related services .....	\$46,750
Architectural services.....	46,750
Specialized design services.....	43,250
Furniture stores .....	38,980
Building material and supplies dealers .....	36,650

Interior design salaries vary widely with the specialty, type of employer, number of years of experience, and reputation of the individuals. Among salaried interior designers, those in large specialized design and architectural firms tend to earn higher and more stable salaries. Interior designers working in retail stores usually earn a commission, which can be irregular.

For residential design projects, self-employed interior designers and those working in smaller firms usually earn a per-hour consulting fee, plus a percentage of the total cost of furniture, lighting, artwork, and other design elements. For commercial projects, they might charge a per-hour consulting fee, charge by the square footage, or charge a flat fee for the whole project. Also, designers who use specialty contractors usually earn a percentage of the contractor's earnings on the project in return for hiring the contractor. Self-employed designers must provide their own benefits.

## Related Occupations

Workers in other occupations who design or arrange objects to enhance their appearance and function include architects, except landscape and naval; artists and related workers; commercial and industrial designers; fashion designers; floral designers; graphic designers; and landscape architects.

## Sources of Additional Information

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

➤ American Society of Interior Designers, 608 Massachusetts Ave. NE., Washington, DC 20002.

Internet: <http://www.asid.org>

For a list of schools with accredited bachelor's degree 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 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 State licensing requirements and exams, and the Interior Design Experience Program, contact:

➤ National Council for Interior Design Qualification, 1200 18th St. NW., Suite 1001, Washington, DC 20036-2506.

Internet: <http://www.ncidq.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>

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## Interpreters and Translators

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### Significant Points

- About 22 percent of interpreters and translators are self-employed.
- Work is often sporadic, and many of these workers are part time.
- In addition to needing fluency in at least two languages, many interpreters and translators need a bachelor's degree. Many also complete job-specific training programs.
- Job outlook varies by specialty.

### 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 in order to accurately convert information from one language, known as the source language, into another, the target language. In addition, they must be 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 must be fluent in at least two languages—a native, or active, language and a secondary, or passive, language; a small number of interpreters and translators are fluent in two or more passive languages. Their active language is the one that they know best and into which they interpret or translate, and their passive language is one for which they have nearly perfect knowledge.

Although some people do both, interpretation and translation are different professions. Interpreters deal with spoken words, translators with written words. Each task 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 discuss, 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 periods. 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 is positioned near both parties.

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

Assignments may vary in length, writing style, and subject matter. When translators first receive text to convert into another language, they usually read it in its entirety to get an idea of the subject. Next, they identify and look up any unfamiliar words. Multiple additional readings are usually needed before translators begin to actually write and finalize the translation. Translators also might do additional research on the subject matter if they are unclear about anything in the text. They 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 advances 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 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 have non-English-speaking attendees. This work includes international business and diplomacy, although conference interpreters interpret for any organization that works with foreign language speakers. Employers prefer high-level interpreters who have the ability to translate from at least two passive languages into one active (native) language—for example, the ability to interpret from Spanish and French into English. 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 interpreter generally 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, an aspect of the job that 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 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 with writers, finding a publisher and maintaining a network of contacts in the publishing industry is a critical part of the job. Most aspiring literary translators begin



*Interpreters and translators need fluency in at least two languages and, in many cases, a bachelor's degree.*



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. The goal of these specialists is to make the product to appear as if it were originally manufactured in the country where it will be sold and supported.

*Medical interpreters and translators* provide language services to health care patients with limited English proficiency. 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 in 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 people who lip-read instead of sign. Other specialties include tactile signing, which is interpreting for people who are blind as well as deaf by making manual signs into a person's hands; cued speech; and signing exact English.

Self-employed and freelance interpreters and translators need general business skills to successfully manage their finances and careers. They must set prices for their work, bill customers, keep financial records, and market their services to attract new business and build their client base.

**Work environment.** 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 in a neighboring town or on the other side of the world—where their services are needed. Interpreters who work over the telephone generally work 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 for 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 almost anywhere.

Because many interpreters and translators freelance, their schedules are often erratic, with extensive periods of no work interspersed with periods 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 work can be stressful and exhausting, and translation can be lonesome. 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.

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

Interpreters and translators must be fluent in at least two languages. Their educational backgrounds may vary widely, but most have a bachelor's degree. Many also complete job-specific training programs.

**Education and training.** The educational backgrounds of interpreters and translators vary. Knowing at least two languages is essential. 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 prepare for these careers by taking a broad range of courses that include English writing and comprehension, foreign languages, and basic computer proficiency. Other helpful pursuits include spending time abroad, engaging in direct contact with foreign cultures, and reading extensively 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 often required, interpreters and translators note that it is acceptable to major in something other than a language. An educational background in a particular field of study provides a natural area of subject matter expertise. However, specialized training in how to do the work is generally required. 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.

**Other qualifications.** 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 translation company; however, such jobs are not very numerous. People seeking to enter interpreter or translator jobs should begin by getting expe-

rience whatever way they can—even if it means doing informal or unpaid work.

Volunteer opportunities are available through community organizations, hospitals, and sporting events, such as marathons, that involve international competitors. The American Translators Association works with the Red Cross to provide volunteer interpreters in crisis situations. All translation can be used as examples for potential clients, even translation done as practice.

Paid or unpaid internships and apprenticeships are other ways for interpreters and translators to get started. 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.

Whatever path of entry they pursue, new interpreters and translators should establish mentoring relationships to build their skills, confidence, and a professional network. Mentoring may be formal, such as through a professional association, or informal with a coworker or an acquaintance who has experience as an interpreter or translator. Both the American Translators Association and the Registry of Interpreters for the Deaf offer formal mentoring programs.

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. 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 to have computer-related work experience.

**Certification and advancement.** There is currently no universal form of certification required of 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 certification 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, Navajo, 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 (for escort work), simultaneous interpreting (for court or seminar work), and conference-level interpreting (for 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.

The National Association of the Deaf and the Registry of Interpreters for the Deaf (RID) jointly offer certification for general sign interpreters. In addition, the registry offers specialty tests in legal interpreting, speech reading, and deaf-to-deaf interpreting—which includes interpreting between deaf speakers with different native languages and from ASL to tactile signing.

Once interpreters and translators have gained sufficient experience, they may then move up to more difficult or prestigious assignments, may seek certification, may be given editorial responsibility, or may eventually manage or start a translation agency.

Many self-employed interpreters and translators start businesses by submitting resumes and samples to many different 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 may receive enough work from a few clients to stay busy, and they often hear of subsequent jobs by word of mouth or through referrals from existing clients.

**Employment**

Interpreters and translators held about 41,000 jobs in 2006. However, the actual number of interpreters and translators is probably significantly higher because many work in the occupation only sporadically. Interpreters and translators are employed in a variety of industries, reflecting the diversity of employment options in the field. About 33 worked in public and private educational institutions, such as schools, colleges, and universities. About 12 worked in health care and social assistance, many of whom worked for hospitals. Another 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.

About 22 percent of interpreters and translators are self-employed. Many who freelance in the occupation work only part time, relying on other sources of income to supplement earnings from interpreting or translation.

**Job Outlook**

Interpreters and translators can expect much faster than average employment growth over the next decade. Job prospects vary by specialty.

**Employment change.** Employment of interpreters and translators is projected to increase 24 percent over the 2006-16 decade, much faster than the average for all occupations. This growth will be driven partly by strong demand in health care settings and work related to homeland security. Additionally, higher demand for interpreters and translators results directly from the broadening of international ties and the increase in

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Interpreters and translators.....	27-3091	41,000	51,000	9,700	24

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

the number of 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.

Current events and changing political environments, often difficult to foresee, will increase the need for people who can work with other languages. For example, homeland security needs are expected to drive increasing demand for interpreters and translators of Middle Eastern and North African languages, primarily in Federal Government agencies.

Demand will remain strong for translators of the languages referred to as “PFIGS”—Portuguese, French, Italian, German, and Spanish; Arabic and other Middle Eastern languages; and the principal Asian languages—Chinese, Japanese, and Korean. Demand for American Sign Language interpreters will grow rapidly, driven by the increasing use of video relay services, which allow individuals to conduct video calls using a sign language interpreter over an Internet connection.

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.

**Job prospects.** Urban areas, especially Washington D.C., New York, and cities in California, 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. There should be demand for specialists in localization, driven by imports and exports and the expansion of the Internet; however, demand may be dampened somewhat by outsourcing of localization work to other countries. Demand is expected to be strong in other technical areas, such as medicine and law. Given the shortage of interpreters and translators meeting the desired skill level of employers, interpreters for the deaf will continue to have favorable employment prospects. On the other hand, job opportunities are expected to be limited for both conference interpreters and literary translators.

### Earnings

Salaried interpreters and translators had median hourly earnings of \$17.10 in May 2006. The middle 50 percent earned between \$12.94 and \$22.60. The lowest 10 percent earned less than \$9.88, and the highest 10 percent earned more than \$30.91.

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 who know languages for which there is a greater demand, or which relatively few people can translate, often have higher earnings as do those with specialized expertise, such as those working in software localization. Individuals classified as language specialists for the Federal Government earned an average of \$76,287 annually in 2007. Limited information suggests that some highly skilled interpreters and translators—for example, high-level conference interpreters—working full time can earn more than \$100,000 annually.

For those who are not salaried, earnings may fluctuate, depending on the availability of work. 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 preschool, kindergarten, elementary, middle, and secondary school teachers; postsecondary school teachers; special education teachers; adult literacy and remedial education teachers; and self-enrichment education teachers. The work of interpreters, particularly guide or escort interpreters, is similar to that of tour guides and escorts, in that they accompany individuals or groups on tours or to places of interest.

The work of translators is similar to that of writers and editors, in that they communicate information and ideas in writing and prepare texts for publication or dissemination. Furthermore, interpreters or translators working in a legal or health care 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 to people interested in learning more about interpretation and translation. The language services division of local hospitals or courthouses also may have information about available opportunities.

For general career information, contact the organizations listed below:

- ▶ American Translators Association, 225 Reinekers Ln., Suite 590, Alexandria, VA 22314. Internet: <http://www.atanet.org>

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

- ▶ American Literary Translators Association, The University of Texas at Dallas, Box 830688 Mail Station JO51, Richardson, TX 75083-0688. Internet: <http://www.literarytranslators.org>

- ▶ Localization Industry Standards Association, Domaine en Prael, CH-1323 Romainmôtier, Switzerland.

Internet: <http://www.lisa.org>

- ▶ National Association of Judiciary Interpreters and Translators, 603 Stewart St., Suite 610, Seattle, WA 98101.

Internet: <http://www.najit.org>

- ▶ National Council on Interpreting in Health Care, 270 West Lawrence St., Albany, NY 12208.

Internet: <http://www.ncihc.org>

- ▶ Registry of Interpreters for the Deaf, 333 Commerce St., Alexandria, VA 22314. Internet: <http://www.rid.org>

For information about testing to become a contract interpreter or translator with the U.S. State Department, contact:

- ▶ U.S. Department of State, Office of Language Services, 2401 E St.NW., SA-1, Room H1400, Washington, DC 20520-2204.

Information on obtaining positions as interpreters and translators with the Federal Government is available from the Office of Personnel Management through USAJOBS, the Federal Government’s official employment information system. This resource for locating and applying for job opportunities can be accessed through the Internet at <http://www.usajobs.opm.gov>



or through an interactive voice response telephone system at (703) 724-1850 or TDD (978) 461-8404. These numbers are not toll free, and charges may result. For advice on how to find and apply for Federal jobs, see the Occupational Outlook Quarterly article “How to get a job in the Federal Government,” online at:

<http://www.bls.gov/pub/ooq/2004/summer/art01.pdf>.

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## Musicians, Singers, and Related Workers

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(O\*NET 27-2041.00, 27-2041.01, 27-2041.04, 27-2042.00, 27-2042.01, 27-2042.02)

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### Significant Points

- Part-time schedules—typically at night and on weekends—intermittent unemployment, and rejection when auditioning for work are common; many musicians and singers supplement their income with earnings from other sources.
- Aspiring musicians and singers begin studying an instrument or training their voices at an early age.
- Competition for jobs is keen; talented individuals who can play several instruments and perform a wide range of musical 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; others perform in recording or production studios. Regardless of the setting, musicians, singers, and related workers spend considerable time practicing, alone and with their bands, orchestras, or other musical ensembles.

*Musicians* play one or more musical instruments. Many musicians learn to play several related instruments and can perform equally well in several musical styles. 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 and text, 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, for example—or by the type of music they sing, such as rock, pop, folk, opera, rap, or country.

*Music directors* and *conductors* conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. 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 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, and 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.

**Work environment.** Musicians typically perform at night and on weekends. They spend much additional 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 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 festivals. In some nightclubs and restaurants, smoke and odors may be present and lighting and ventilation may be poor.

### Training, Other Qualifications, and Advancement

Long-term on-the-job training is the most common way people learn to become musicians or singers. Aspiring musicians begin



*Keen competition is expected for jobs as musicians and singers.*

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. Composers and music directors usually require a bachelor's degree in a related field.

**Education and training.** Musicians need extensive and prolonged training and practice to acquire the necessary skills and knowledge to interpret music at a professional level. Like other artists, musicians and singers continually strive to improve their abilities. Formal training may be obtained through private study with an accomplished musician, in a college or university music program, or in a music conservatory. An audition generally is necessary to qualify for university or conservatory study. The National Association of Schools of Music accredits more than 600 college-level programs in music. Courses typically include music 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.

A master's or doctoral degree usually is 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.

**Other qualifications.** Musicians must be knowledgeable about a broad range of musical styles as well as the type of music that interests them most. Having a broader range of interest, knowledge, and training can help expand employment opportunities and musical abilities. Voice training and private instrumental lessons, especially when taken at a young age, 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. Self-discipline is vital because producing a quality performance on a consistent basis requires constant study and practice. 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 also must be prepared to face the anxiety of intermittent employment and of rejection when auditioning for work.

**Advancement.** Advancement for musicians usually means becoming better known, finding work more easily, and per-

forming for higher earnings. Successful musicians often rely on agents or managers to find them performing engagements, negotiate contracts, and develop their careers.

## Employment

Musicians, singers, and related workers held about 264,000 jobs in 2006. Around 35 percent worked part time; 48 percent were self-employed. Many found jobs in cities in which entertainment and recording activities are concentrated, such as New York, Los Angeles, Las Vegas, Chicago, and Nashville.

Musicians, singers, and related workers are employed in a variety of settings. Of those who earn a wage or salary, 35 percent were employed by religious organizations and 11 percent 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 U.S. Armed Forces also offer careers in their bands and smaller musical groups.

## Job Outlook

Employment is expected to grow about as fast as the average for all occupations. Keen competition for jobs, especially full-time jobs, is expected to continue. Talented individuals who are skilled in multiple instruments or musical styles will have the best job prospects.

**Employment change.** Overall employment of musicians, singers, and related workers is expected to grow 11 percent during the 2006-16 decade, about as fast as the average for all occupations. Most new wage-and-salary jobs for musicians will arise in religious organizations. Five percent growth is expected for self-employed musicians, who generally perform in nightclubs, concert tours, and other venues. The Internet and other new forms of media may provide independent musicians and singers alternative methods to distribute music.

**Job prospects.** Growth in demand for musicians will generate a number of job opportunities, and 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 singers, or for other reasons.

Competition for jobs as musicians, singers, and related workers is expected to be keen, especially for full-time jobs. The vast number of people with the desire to perform will continue to greatly exceed the number of openings. New musicians or singers will have their best chance of landing a job with smaller, community-based performing arts groups or as freelance artists. Talented individuals who are skilled in multiple instruments or

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Musicians, singers, and related workers .....	27-2040	264,000	293,000	29,000	11
Music directors and composers.....	27-2041	68,000	77,000	8,800	13
Musicians and singers.....	27-2042	196,000	216,000	20,000	10

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

musical styles will have the best job prospects. However, 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 a hardship.

### Earnings

Median hourly earnings of wage-and-salary musicians and singers were \$19.73 in May 2006. The middle 50 percent earned between \$10.81 and \$36.55. The lowest 10 percent earned less than \$7.08, and the highest 10 percent earned more than \$57.37. Median hourly earnings were \$23.37 in performing arts companies and \$13.57 in religious organizations. Annual earnings data for musicians and singers were not available because of the wide variation in the number of hours worked by musicians and singers and the short-term nature of many jobs. It is rare for musicians and singers to have guaranteed employment that exceeds 3 to 6 months.

Median annual earnings of salaried music directors and composers were \$39,750 in May 2006. The middle 50 percent earned between \$23,660 and \$60,350. The lowest 10 percent earned less than \$15,210, and the highest 10 percent earned more than \$110,850.

For self-employed musicians and singers, earnings typically reflect the number of jobs a freelance musician or singer played or the number of hours and weeks of contract work, in addition to a performer's professional reputation and setting. Performers who can fill large concert halls, arenas, or outdoor stadiums generally command higher pay than those who perform in local clubs. Soloists or headliners usually receive higher earnings than band members or opening acts. The most successful musicians earn performance or recording fees that far exceed the median earnings.

The American Federation of Musicians negotiates minimum contracts for major orchestras during the performing season. Each orchestra works out a separate contract with its local union, but individual musicians may negotiate higher salaries. In regional orchestras, minimum salaries are often less because fewer performances are scheduled. Regional orchestra musicians often are paid for their services, without any guarantee of future employment. Community orchestras often have more limited funding and offer salaries that are much lower for seasons of shorter duration.

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 for music 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 the precision instrument and equipment repairers occupation) require technical knowledge of musical instruments. Others whose work involves the performing arts include actors, producers, and directors; announcers; and dancers and choreographers. School teachers and self-enrichment education teachers who teach music often use some of the same knowledge and skills as musicians and singers.

### 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 20190.

Internet: <http://nasm.arts-accredit.org>

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## News Analysts, Reporters, and Correspondents

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

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### Significant Points

- Competition will be keen for jobs at large metropolitan and national newspapers, broadcast stations, and magazines; small publications and broadcast stations and online newspapers and magazines should provide the best opportunities.
- Most employers prefer individuals with a bachelor's degree in journalism or mass communications and experience gained at school newspapers or broadcasting stations or through internships with news organizations.
- Jobs often involve long, irregular hours and pressure to meet deadlines.

### Nature of the Work

News analysts, reporters, and correspondents 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, interest groups, and others who exercise power.

*News analysts*—also called *newscasters* or *news anchors*—examine, interpret, and broadcast news received from various sources. News anchors present news stories and introduce videotaped news or live transmissions from on-the-scene reporters. *News correspondents* report on news occurring in the large U.S. and foreign cities where they are stationed.

In covering a story, *reporters* investigate leads and news tips, look at documents, observe events at the scene, and interview





*Large newspapers and radio and television stations assign reporters to cover specific topics.*

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 using 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.

Newscasters at large stations and networks usually 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.

General-assignment reporters write about newsworthy occurrences—such as accidents, political rallies, visits of celebrities, or business closings—as assigned. Large newspapers and radio and television stations assign reporters to gather news about specific topics, 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 each reporter one specific topic, 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.

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.

**Work environment.** The work of news analysts, reporters, and correspondents is usually hectic. They are under great pressure to meet deadlines. Broadcasts sometimes are aired 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. Because many stations and networks are on the air 24 hours a day, newscasters can expect to work unusual hours.

### **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 at 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.

**Education and training.** More than 1,500 institutions offer programs in communications, journalism, and related programs. In 2007, 109 of these were accredited by the Accrediting Council on Education in Journalism and Mass Communications. Most 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 stories for online media, they need to learn to use computer software to combine online story text with audio and video elements and graphics.

Some schools also offer a master’s or Ph.D. degree in journalism. 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. A graduate degree may help those looking to advance more quickly.

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.

Employers report that practical experience is the most important part of education and training. Upon graduation many students already have 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.

**Other qualifications.** Reporters typically need more than 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.

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.

**Advancement.** Most reporters start at small publications or broadcast stations as general assignment reporters or copy editors. They are usually assigned to cover court proceedings and civic and club meetings, summarize speeches, and write obituaries. With experience, they report more difficult assignments or specialize in a particular field. Large publications and

stations hire few recent graduates; as a rule, they require new reporters to have several years of experience.

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.

## Employment

News analysts, reporters, and correspondents held about 67,000 jobs in 2006. About 59 percent worked for newspaper, periodical, book, and directory publishers. Another 23 percent worked in radio and television broadcasting. About 11 percent of news analysts, reporters, and correspondents were self-employed (free lancers or stringers).

## Job Outlook

There is expected to be little or no change in employment through 2016. Competition will continue to be keen for jobs on large metropolitan and national newspapers, broadcast stations and networks, and magazines. Small broadcast stations and publications and online newspapers and magazines should provide the best opportunities. Talented writers who can handle highly specialized scientific or technical subjects will have an advantage.

**Employment change.** Employment of news analysts, reporters, and correspondents is expected to grow 2 percent between 2006 and 2016, which is considered to be little or no change in employment. Many factors will contribute to the limited job growth in this occupation. Consolidation and convergence should continue in the publishing and broadcasting industries. As a result, companies will be better able to allocate their news analysts, reporters, and correspondents to cover news stories. Constantly improving technology also is allowing workers to do their jobs more efficiently, another factor that will limit the number of workers needed to cover a story or certain type of news. However, the continued demand for news will create some job opportunities. 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.

**Job prospects.** Competition will continue to be keen for jobs on large metropolitan and national newspapers, broadcast stations and networks, and magazines. Job opportunities will be best for applicants in the expanding world of new media, such as online newspapers or magazines. Small, local papers and

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
News analysts, reporters and correspondents .....	27-3020	67,000	68,000	1,200	2
Broadcast news analysts.....	27-3021	7,700	8,200	500	6
Reporters and correspondents .....	27-3022	59,000	60,000	700	1

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

news stations also will provide greater job prospects for potential reporters and news analysts. For beginning newspaper reporters, freelancing will supply more opportunities for employment as well. Students with a background in journalism as well as another specific subject matter, such as politics, economics, or biology, will have an advantage over those without additional background knowledge.

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 upswings and downturns because these industries depend on advertising revenue.

### Earnings

Salaries for news analysts, reporters, and correspondents vary widely. Median annual earnings of reporters and correspondents were \$33,470 in May 2006. The middle 50 percent earned between \$24,370 and \$51,700. The lowest 10 percent earned less than \$19,180, and the highest 10 percent earned more than \$73,880. Median annual earnings of reporters and correspondents were \$31,690 in newspaper, periodical, book, and directory publishing, and \$38,050 in radio and television broadcasting.

Median annual earnings of broadcast news analysts were \$46,710 in May 2006. The middle 50 percent earned between \$30,080 and \$83,370. The lowest 10 percent earned less than \$22,430, and the highest 10 percent earned more than \$145,600. Median annual earnings of broadcast news analysts were \$48,790 in radio and television broadcasting.

### 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, those in 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 Third 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.

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## Photographers

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(O\*NET 27-4021.00)

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### 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, a much higher proportion than for most occupations.

### 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 technical expertise, creativity, and the appropriate professional equipment. Producing a successful picture requires choosing and presenting a subject to achieve a particular effect, and selecting the right cameras and other photographic enhancing tools. For example, photographers may enhance the subject’s appearance with natural or artificial light, shoot the subject from an interesting angle, draw attention to a particular aspect of the subject by blurring the background, or use various lenses to produce desired levels of detail at various distances from the subject.

Today, most photographers use digital cameras instead of traditional silver-halide film cameras, although some photographers use both types, depending on their own preference and the nature of the assignment. Regardless of the camera they use, photographers also employ an array of other equipment—from lenses, filters, and tripods to flash attachments and specially constructed lighting equipment—to improve the quality of their work.

Digital cameras capture images electronically, allowing them to be edited on a computer. Images can be stored on portable memory devices such as compact disks or on smaller storage devices such as memory cards used in digital cameras and flash drives. Once the raw image has been transferred to a computer, photographers can use processing software to crop or modify the image and enhance it through color correction and other specialized effects. As soon as a photographer has finished editing the image, it can be sent anywhere in the world over the Internet.



Photographers also can create electronic portfolios of their work and display them on their own webpage, allowing them to reach prospective customers directly. 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. Photographers who process their own digital images need to be proficient in the use of computers, high-quality printers, and editing software.

Photographers who use cameras with silver-halide film often 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 develop and print their own photographs using their own fully equipped darkrooms, especially if they use black and white film or seek to achieve special effects. Photographers who do their own film developing must invest in additional developing and printing equipment and acquire the technical skills to operate it.

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 own and operate their own business have many responsibilities in addition to taking pictures. They must arrange for advertising, schedule appointments, set and adjust equipment, purchase supplies, keep records, bill customers, pay bills, and—if they have employees—hire, train, and direct their workers. Many also process their own images, design albums, and mount and frame the finished photographs.

*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 oil 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.

*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 usually specialize in one of the above fields. In addition to carrying out assignments under direct contract with clients, they may license the use of their photographs through stock-photo agencies or market their work directly to the public. Stock-photo agencies sell

magazines and other customers the right to use photographs, and pay the photographer a commission. These agencies require an application from the photographer and a sizable portfolio of pictures. Once accepted, photographers usually are required to submit a large number of new photographs each year. Self-employed photographers must also have a thorough understanding of copyright laws in order to protect their work.

Most photographers spend only a small portion of their work schedule actually taking photographs. Their most common activities are editing images on a computer—if they use a digital camera—and looking for new business—if they are self-employed.

**Work environment.** Working conditions for photographers vary considerably. Photographers employed in government and advertising studios 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 on 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.

### 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. Photojournalists or industrial or scientific photog-



*Technical expertise, imagination and creativity, and a “good eye” are important for photographers.*

raphers generally need a college degree. Freelance and portrait photographers need technical proficiency, gained through a degree, training program, or experience.

**Education and training.** Entry-level positions in photojournalism or in industrial or scientific photography generally require a college degree in photography or in a field related to the industry in which the photographer seeks employment. Entry-level freelance or portrait photographers need technical proficiency. Some complete a college degree or vocational training programs.

Photography courses are offered by many universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools. Basic courses in photography cover equipment, processes, and techniques. Learning good business skills is important and some bachelor's degree programs offer courses focusing on them. Art schools offer useful training in photographic design and composition.

Photographers may start out as assistants to experienced photographers. Assistants acquire the technical knowledge needed to be a successful photographer and also learn other skills necessary to run a portrait or commercial photography business.

Some photographers enter the field by submitting unsolicited a portfolio of photographs to magazines and to art directors at advertising agencies; for freelance photographers, a good portfolio is essential.

Individuals interested in a career in photography should try to develop contacts in the field by subscribing to photographic newsletters and magazines, joining camera clubs, and seeking summer or part-time employment in camera stores, newspapers, or photo studios.

**Other qualifications.** Photographers need good eyesight, artistic ability, and good hand-eye coordination. They should be patient, accurate, and detail-oriented and should be able to work well with others, as they frequently deal with clients, graphic designers, and advertising and publishing specialists. Photographers need to know how to use computer software programs and applications that allow them to prepare and edit images, and those who market directly to clients should know how to use the Internet to display their work.

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 must not only be good with a camera, but also 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 business, or freelance, need business skills as well as talent. These individuals must know how to prepare a business plan; submit bids; write contracts; keep financial records; 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; and secure copyright protection for their work. To protect their rights and their work, self-employed photographers require basic knowledge of licensing and copyright laws, as well as knowledge of contracts and negotiation procedures.

Freelance photographers also should develop an individual style of photography to differentiate themselves from the competition.

**Advancement.** 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.

## Employment

Photographers held about 122,000 jobs in 2006. More than half were self-employed, a much higher proportion than for most occupations. Some self-employed photographers have contracts with advertising agencies, magazine publishers, or other businesses to do individual projects for a set fee, while others operate portrait studios or provide photographs to stock-photo agencies.

Most salaried photographers work in portrait or commercial photography studios; most of the others work for newspapers, magazines, and advertising agencies. Photographers work in all areas of the country, but most are employed in metropolitan areas.

## Job Outlook

Employment of photographers is expected to grow about as fast as the average for all occupations through 2016. Photographers can expect keen competition for job openings because the work is attractive to many people.

**Employment change.** Demand for portrait photographers should increase as the population grows. Moreover, growth of Internet versions of magazines, journals, and newspapers will require increasing numbers of commercial photographers to provide digital images. The Internet and improved data management programs also should make it easier for freelancers to market directly to their customers, increasing opportunities for self-employment and decreasing reliance on stock photo agencies. As a result, employment of photographers is expected to grow 10 percent over the 2006-16 projection period, about as fast as the average for all occupations.

Job growth, however, will be constrained somewhat by the widespread use of digital photography and the falling price of digital equipment. 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. Photojournalists may be adversely affected by the increase in "citizen journalism"—when newspapers buy images taken by non-professionals who happen to be at

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Photographers .....	27-4021	122,000	135,000	13,000	10

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

the scene of an event. Declines in the newspaper industry also will reduce demand for photographers to provide still images for print.

**Job prospects.** 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. Salaried jobs in particular may be difficult to find as more companies contract with freelancers rather than hire their own photographers. Those who succeed in landing a salaried job or attracting enough work to earn a living by freelancing are likely to be adept at operating a business and to be among the most creative. They will be able to find and exploit the new opportunities available from rapidly changing technologies. Related work experience, job-related training, or some unique skill or talent—such as a background in computers or electronics—also improve a photographer’s job prospects.

### Earnings

Median annual earnings of salaried photographers were \$26,170 in May 2006. The middle 50 percent earned between \$18,680 and \$38,730. The lowest 10 percent earned less than \$15,540, and the highest 10 percent earned more than \$56,640. Median annual earnings in the industry employing the largest numbers of salaried photographers were \$22,860 in the photographic services industry.

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; commercial and industrial designers, fashion designers, and graphic designers; and television, video, and motion picture camera operators and editors. Photojournalists are often required to cover news stories much the same as news analysts, reporters, and correspondents. The processing work that photographers do on computers is similar to the work of prepress technicians and workers and desktop publishers.

### 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.

Internet: <http://www.ppa.com>

► National Press Photographers Association, Inc., 3200 Croasdaile Dr., Suite 306, Durham, NC 27705.

Internet: <http://www.nppa.org>

► American Society of Media Photographers, Inc., 150 North Second St., Philadelphia, PA 19106.

Internet: <http://www.asmp.org>

## Public Relations Specialists

(O\*NET 27-3031.00)

### Significant Points

- Although employment is projected to grow 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 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; and employee and investor relations. They do more than “tell the organization’s story.” They must



*Public relations specialists draft press releases and contact people in the media who print or broadcast their material.*



understand the attitudes and concerns of community, consumer, employee, and public interest groups and establish and maintain cooperative relationships with them and with representatives from print and broadcast journalism.

Public relations 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, and what an organization does to advance that issue.

Public relations 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 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 efforts.

**Work environment.** Public relations specialists work in busy offices. The pressures of deadlines and tight work schedules can be stressful.

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

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

There are no defined standards for entry into a public relations career. A college degree in a communications-related field combined with public relations experience is excellent preparation for public relations work.

**Education and training.** Many entry-level public relations specialists have a college degree 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 care, 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. Membership in local chapters of the Public Relations Student Society of America (affiliated with the Public Relations Society of America) or in student chapters of 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.

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 the 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 plan 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.

**Other qualifications.** Public relations specialists must show creativity, initiative, and good judgment and have the ability to communicate thoughts clearly and simply. 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 be open to new ideas.

**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Public relations specialists .....	27-3031	243,000	286,000	43,000	18

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

**Certification and advancement.** The Universal Accreditation Board accredits public relations specialists who are members of the Public Relations Society of America and who participate in the Examination for Accreditation in Public Relations process. This process includes both a readiness review and an examination, which are designed for candidates who have at least 5 years of full-time work or teaching experience in public relations and who have earned a bachelor’s degree in a communications-related field. The readiness review includes a written submission by each candidate, a portfolio review, and dialogue between the candidate and a three-member panel. Candidates who successfully advance through readiness review and pass the computer-based examination earn the Accredited in Public Relations (APR) designation.

The International Association of Business Communicators (IABC) also has an accreditation program for professionals in the communications 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 and a bachelor’s degree in a communications field and must pass written and oral examinations. They also must submit a portfolio of work samples demonstrating involvement in a range of communications projects and a thorough understanding of communications planning.

Employers may consider professional recognition through accreditation as a sign of competence in this field, which could be especially helpful in a competitive job market.

Promotion to supervisory jobs may come to public relations specialists who 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.)

**Employment**

Public relations specialists held about 243,000 jobs in 2006. They are concentrated in service-providing industries such as advertising and related services; health care and social assistance; educational services; and government. Others work for communications firms, financial institutions, and government agencies.

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.

**Job Outlook**

Employment is projected to grow faster than average; however, keen competition is expected for entry-level jobs.

**Employment change.** Employment of public relations specialists is expected to grow by 18 percent from 2006 to 2016, faster than average for all occupations. The need for good public relations in an increasingly competitive business environment should spur demand for these workers in organizations of all types and sizes. Those with additional language capabilities also are in great demand.

Employment in public relations firms should grow as firms hire contractors to provide public relations services rather than support full-time staff.

Among detailed industries, the largest job growth will continue to be in advertising and related services.

**Job prospects.** Keen competition likely will 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 because of 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.

Additional job opportunities should result from the need to replace public relations specialists who retire or leave the occupation for other reasons.

**Earnings**

Median annual earnings for salaried public relations specialists were \$47,350 in May 2006. The middle 50 percent earned between \$35,600 and \$65,310; the lowest 10 percent earned less than \$28,080, and the top 10 percent earned more than \$89,220. Median annual earnings in the industries employing the largest numbers of public relations specialists in May 2006 were:

Management of companies and enterprises .....	\$52,940
Business, professional, labor, political, and similar organizations .....	51,400
Advertising and related services .....	49,980
Local government .....	47,550
Colleges, universities, and professional schools .....	43,330

## Related Occupations

Public relations specialists create favorable attitudes among various organizations, 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 an online brochure entitled *Where Shall I Go to Study Advertising and Public Relations?*, are available from:

► Public Relations Society of America, Inc., 33 Maiden LaNE., New York, NY 10038-5150. Internet: <http://www.prsa.org>

For information on accreditation for public relations professionals and the IABC Student Web site, contact:

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

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## Recreation Workers

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(O\*NET 39-9032.00)

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### Significant Points

- The recreation field offers an unusually large number of part-time and seasonal job opportunities.
- Educational requirements range from a high school diploma to a graduate degree.
- Opportunities for part-time, seasonal, and temporary recreation jobs will be good, but competition will remain keen for full-time career positions.

### Nature of the Work

People spend much of their leisure time participating in a wide variety of organized recreational activities, such as arts and crafts, the performing arts, camping, and sports. Recreation workers plan, organize, and direct these activities in local playgrounds and recreation areas, parks, community centers, religious organizations, camps, theme parks, and tourist attractions. Increasingly, recreation workers also are found in businesses where they organize and direct leisure activities for employees.

Recreation workers hold a variety of positions at different levels of responsibility. Workers who provide instruction and coaching in art, music, drama, swimming, tennis, or other activities may be called *activity specialists*.

*Camp counselors* lead and instruct children and teenagers in outdoor recreation, such as swimming, hiking, horseback riding, and camping. In addition, counselors teach campers special subjects such as archery, boating, music, drama, gymnastics,

tennis, and computers. In residential camps, counselors also provide guidance and supervise daily living and socialization. *Camp directors* typically supervise camp counselors, plan camp activities or programs, and perform the various administrative functions of a camp.

*Recreation leaders*, who are responsible for a recreation program's daily operation, primarily organize and direct participants. They may lead and give instruction in dance, drama, crafts, games, and sports; schedule the use of facilities; keep records of equipment use; and ensure that recreation facilities and equipment are used properly.

*Recreation supervisors* oversee recreation leaders and plan, organize, and manage recreational activities to meet the needs of a variety of populations. These workers often serve as liaisons between the director of the park or recreation center and the recreation leaders. Recreation supervisors with more specialized responsibilities also may direct special activities or events or oversee a major activity, such as aquatics, gymnastics, or performing arts.

*Directors of recreation and parks* develop and manage comprehensive recreation programs in parks, playgrounds, and other settings. Directors usually serve as technical advisors to State and local recreation and park commissions and may be responsible for recreation and park budgets. (Workers in a related occupation, *recreational therapists*, help individuals to recover from or adjust to illness, disability, or specific social problems; this occupation is described elsewhere in the *Handbook*.)

**Work environment.** Recreation workers may work in a variety of settings—for example, a cruise ship, a woodland recreational park, a summer camp, or a playground in the center of a large urban community. Regardless of the setting, most recreation workers spend much of their time outdoors and may work in a variety of weather conditions. Recreation directors and supervisors, however, typically spend most of their time in an office, planning programs and special events. Directors and



*Many recreation workers are only seasonally employed.*



**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Recreation workers .....	39-9032	320,000	360,000	41,000	13

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

supervisors generally engage in less physical activity than do lower level recreation workers. Nevertheless, recreation workers at all levels risk suffering injuries during physical activities.

Some recreation workers work about 40 hours a week. However, many people entering this field, such as camp counselors, may have some night and weekend work, irregular hours, and seasonal employment.

**Training, Other Qualifications, and Advancement**

The educational and training requirements for recreation workers vary widely depending on the type of job. Full-time career positions usually require a college degree. Many jobs, however, can be learned with only a short period of on-the-job training.

**Education and training.** Educational requirements for recreation workers range from a high school diploma—or sometimes less for those seeking summer jobs—to graduate degrees for some administrative positions in large public recreation systems. Full-time career professional positions usually require a college degree with a major in parks and recreation or leisure studies, but a bachelor's degree in any liberal arts field may be sufficient for some jobs in the private sector. In industrial recreation, or “employee services” as it is more commonly called, companies prefer to hire those with a bachelor's degree in recreation or leisure studies and a background in business administration. Some college students work part time as recreation workers while earning degrees.

Employers seeking candidates for some administrative positions favor those with at least a master's degree in parks and recreation, business administration, or public administration. Most required at least an associate degree in recreation studies or a related field.

An associate or bachelor's degree in a recreation-related discipline and experience are preferred for most recreation supervisor jobs and are required for most higher level administrative jobs. Graduates of associate degree programs in parks and recreation, social work, and other human services disciplines also enter some career recreation positions. High school graduates occasionally enter career positions, but this is not common.

Programs leading to an associate or bachelor's degree in parks and recreation, leisure studies, or related fields are offered at several hundred colleges and universities. Many also offer master's or doctoral degrees in the field. In 2006, about 100 bachelor's degree programs in parks and recreation were accredited by the National Recreation and Park Association (NRPA). Accredited programs provide broad exposure to the history, theory, and practice of park and recreation management. Courses offered include community organization; supervision and administration; recreational needs of special populations, such as the elderly or disabled; and supervised fieldwork. Students may specialize in areas such as therapeutic recreation,

park management, outdoor recreation, industrial or commercial recreation, or camp management.

Specialized training or experience in a particular field, such as art, music, drama, or athletics, is an asset for many jobs. Some jobs also require certification. For example, a lifesaving certificate is a prerequisite for teaching or coaching water-related activities.

The large number of seasonal and part-time workers learn through on-the-job training.

**Licensure and certification.** The NRPA certifies individuals for professional and technical jobs. Certified Park and Recreation Professionals must pass an exam; earn a bachelor's degree with a major in recreation, park resources, or leisure services from a program accredited by the NRPA or earn a bachelor's degree and have at least 5 years of relevant full-time work experience. Continuing education is necessary to remain certified.

Many areas require lifeguards to be certified. Training and certification details vary from State to State and county to county. Information on lifeguards is available from your local Parks and Recreation Department.

**Other qualifications.** People planning recreation careers should be outgoing, good at motivating people, and sensitive to the needs of others. Excellent health and physical fitness are often required, due to the physical nature of some jobs. Volunteer experience, part-time work during school, or a summer job can lead to a full-time career as a recreation worker.

**Advancement.** Recreation workers with experience and managerial skills may advance to supervisory or managerial positions.

**Employment**

Recreation workers held about 320,000 jobs in 2006, and many additional workers held summer jobs in the occupation. About 32 percent of recreation workers worked for local governments, primarily in park and recreation departments. About 16 percent of recreation workers were employed by nursing and residential care facilities and another 10 percent were employed in civic and social organizations, such as the Boy Scouts or Girl Scouts or the Red Cross.

**Job Outlook**

Jobs opportunities for part-time, seasonal, and temporary recreation workers will be good, but competition will remain keen for career positions as recreation workers. Average growth is expected.

**Employment change.** Overall employment of recreation workers is projected to increase by 13 percent between 2006 and 2016, which is about as fast as the average for all occupations. Although people will spend more time and money on recreation, budget restrictions in State and local government will moderate the number of jobs added. Many of the new jobs

will be in social assistance organizations and in nursing and residential care facilities.

Growth will be driven by retiring baby boomers who, with more leisure time, high disposable income, and concern for health and fitness, are expected to increase the demand for recreation services.

**Job prospects.** Applicants for part-time, seasonal, and temporary recreation jobs should have good opportunities, but competition will remain keen for career positions because the recreation field attracts many applicants and because the number of career positions is limited compared with the number of lower-level seasonal jobs. Opportunities for staff positions should be best for people with formal training and experience in part-time or seasonal recreation jobs. Those with graduate degrees should have the best opportunities for supervisory or administrative positions. Job openings will stem from growth and the need to replace the large numbers of workers who leave the occupation each year.

### Earnings

In May 2006, median annual earnings of recreation workers who worked full time were \$20,470. The middle 50 percent earned between \$16,360 and \$27,050. The lowest paid 10 percent earned less than \$14,150, while the highest paid 10 percent earned \$35,780 or more. However, earnings of recreation directors and others in supervisory or managerial positions can be substantially higher. Most public and private recreation agencies provide full-time recreation workers with typical benefits; part-time workers receive few, if any, benefits. In May 2006, median annual earnings in the industries employing the largest numbers of recreation workers were as follows:

Nursing care facilities .....	\$21,510
Individual and family services .....	20,410
Local government .....	20,100
Other amusement and recreation industries .....	18,810
Civic and social organizations .....	17,920

The large numbers of temporary, seasonal jobs in the recreation field typically are filled by high school or college students, generally do not have formal education requirements, and are open to anyone with the desired personal qualities. Employers compete for a share of the vacationing student labor force, and although salaries in recreation often are lower than those in other fields, the nature of the work and the opportunity to work outdoors are attractive to many.

Part-time, seasonal, and volunteer jobs in recreation include summer camp counselors, craft specialists, and after-school and weekend recreation program leaders. In addition, many teachers and college students accept jobs as recreation workers when school is not in session. The vast majority of volunteers serve as activity leaders at local day camp programs, or in youth organizations, camps, nursing homes, hospitals, senior centers, and other settings.

### Related Occupations

Recreation workers must exhibit leadership and sensitivity when dealing with people. Other occupations that require simi-

lar personal qualities include counselors; probation officers and correctional treatment specialists; psychologists; recreational therapists; teachers—self enrichment education; athletes, coaches, umpires, and related workers; and social workers.

### Sources of Additional Information

For information on jobs in recreation, contact employers such as local government departments of parks and recreation, nursing and personal care facilities, the Boy Scouts or Girl Scouts, or local social or religious organizations.

For career, certification, and academic program information in parks and recreation, contact:

➤ National Recreation and Park Association, 22377 Belmont Ridge Rd., Ashburn, VA 20148-4501.

Internet: <http://www.nrpa.org>

For career information about camp counselors, contact:

➤ American Camping Association, 5000 State Road 67 North, Martinsville, IN 46151-7902.

Internet: <http://www.acacamps.org>

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

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

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### Significant Points

- Workers acquire their skills through on-the-job or formal postsecondary training.
- Keen competition for jobs is expected due to the large number of people who wish to enter the broadcasting and motion picture industries, where many camera operators and editors are employed.
- Those with the most experience and the most advanced computer skills will have the best job opportunities.

### 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.

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. This material is constructed from many different shots by film and video editors. With the increase in digital technology, much of the editing work is now done on a computer. Many camera operators and editors are employed by independent television stations; local affiliate stations of television networks; large cable and television networks; or smaller, independent production companies.

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 a steady hand to ensure smooth, natural movement of the camera.

Some camera operators film or videotape private ceremonies and special events, such as weddings and conference program sessions. Those who record these images on videotape are often called *videographers*. *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 sometimes 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 also are known as *cinematographers*. Some specialize in filming cartoons or special effects. Cinematographers may be an integral part of the action, using cameras in any of several different mounts. For example, the camera can be stationary and shoot whatever passes in front of the lens, or it can be mounted on a track, with the camera operator responsible for shooting the scene from different angles or directions. Wider use 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.

**Work environment.** ENG operators and those who cover major events, such as conventions or sporting events, frequently travel locally and stay overnight 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.

Hours of work and working schedules for camera operators and editors vary considerably. Those employed by television and cable networks and advertising agencies usually work a 5-day, 40-hour week; however, they may work longer hours to meet production schedules. 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.

### Training, Other Qualifications, and Advancement

Television, video, and motion picture camera operators and editors usually acquire their skills through formal postsecondary



*Film and video editors use computers to create a finished product.*

training at vocational schools, colleges, universities, or photographic institutes. A bachelor's degree may be required for some positions, particularly those for film and video editors. Employers usually seek applicants with a good eye, imagination, and creativity, as well as a good technical understanding of how the camera operates.

**Education and training.** Many universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools offer courses in camera operation and videography. Basic courses cover equipment, processes, and techniques. It is increasingly important for camera operators to have a good understanding of computer technology. Bachelor's degree programs, especially those including business courses, provide a well-rounded education. Film schools also may provide training on the artistic or aesthetic aspects of filmmaking.

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

To enter the occupation, many camera operators first become production assistants to learn how film and video production works. In entry-level jobs they learn to set up lights, cameras, and other equipment. They also 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.

**Other qualifications.** 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 do freelance work, 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



## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Television, video, and motion picture camera operators and editors	27-4030	47,000	53,000	5,700	12
Camera operators, television, video, and motion picture.....	27-4031	27,000	30,000	3,100	12
Film and video editors .....	27-4032	21,000	23,000	2,600	13

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

the public, obtain releases to use film or tape of people, price their services, secure copyright protection for their work, and keep financial records.

**Advancement.** With 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.

### Employment

Television, video, and motion picture camera operators and editors held about 47,000 jobs in 2006. About 27,000 were camera operators and film and video editors held about 21,000 jobs.

Many are employed by independent television stations, local affiliate stations of television networks or broadcast groups, large cable and television networks, or smaller independent production companies. About 17 percent of camera operators and film editors 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 set fee, often at a daily rate.

Most of the salaried camera operators and editors 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.

### Job Outlook

Keen competition for jobs is expected due to the large number of people who wish to enter the broadcasting and motion picture industries, where many camera operators and editors are employed. Those with the most experience and the most advanced computer skills will have the best job opportunities. Employment is expected to grow about as fast as the average.

**Employment change.** Employment of camera operators and editors is expected to grow 12 percent over the 2006-16 decade, which is about as fast as the average for all occupations through 2016. 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. Camera operators will be needed to film made-for-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 as streaming video over the Internet. Growth will be tempered, however, by the increased offshore production of mo-

tion pictures. Job growth in television broadcasting will be tempered by the use of automated cameras under the control of a single person working either on the studio floor or in a director's booth.

**Job prospects.** Television, video, and motion picture camera operators and editors can expect keen competition for job openings because of the large number of people who wish to enter the broadcasting and motion picture industries, where many of these workers are employed. 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 and highly motivated people, able to adapt to rapidly changing technologies and adept at operating a business. The change to digital cameras has increased the importance of strong computer skills. Those with the most experience and the most advanced computer skills will have the best job opportunities.

### Earnings

Median annual earnings for television, video, and motion picture camera operators were \$40,060 in May 2006. The middle 50 percent earned between \$26,930 and \$59,440. The lowest 10 percent earned less than \$18,810, and the highest 10 percent earned more than \$84,500. Median annual earnings were \$44,010 in the motion picture and video industries and \$32,200 in radio and television broadcasting.

Median annual earnings for film and video editors were \$46,670 in May 2006. The middle 50 percent earned between \$30,610 and \$74,650. The lowest 10 percent earned less than \$22,710, and the highest 10 percent earned more than \$110,720. Median annual earnings were \$53,580 in the motion picture and video industries, which employed 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, graphic designers, and photographers.

### Sources of Additional Information

For information about careers as a camera operator, contact:

► International Cinematographer's Guild, 80 Eighth Ave., 14th Floor, New York, NY 10011.

► National Association of Broadcast Employees and Technicians, 501 Third St.NW., 6th floor, Washington, DC 20001. Internet: <http://www.nabetcwa.org>

Information about career and employment opportunities for camera operators and film and video editors also 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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(O\*NET 23-2091.00, 27-3041.00, 27-3042.00, 27-3043.00, 27-3043.04, 27-3043.05)

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### Significant Points

- Most jobs in this occupation require a college degree preferably in communications, journalism, or English, but 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 are attracted to the occupation.
- Online publications and services are growing in number and sophistication, spurring the demand for writers and editors with Web or multimedia experience.

### Nature of the Work

Writers and editors produce a wide variety of written materials delivered to an audience in an increasing number of ways. They develop content using any number of multimedia formats for readers, listeners, or viewers. Although many people write as part of their primary job, or on on-line chats or blogs, only writers and editors who are paid for their work are included in this occupation. (News analysts, reporters and correspondents, who gather information and prepare stories about newsworthy events, are described elsewhere in the *Handbook*.)

Writers fall into two main categories—writers and authors and technical writers. *Writers and authors* develop original written materials for books, magazines, trade journals, online publications, company newsletters, radio and television broadcasts, motion pictures, and advertisements. Their works are classified broadly as either fiction or nonfiction and writers often are identified by the type of writing they do—for example, novelists, playwrights, biographers, screenwriters, and textbook writers. Some freelance writers may be commissioned by a sponsor to write a script; others may be contracted to write a book on the basis of a proposal in the form of a draft or an outline. Writers may produce materials for publication or performance, such as songwriters or scriptwriters.

Writers work with editors and publishers throughout the writing process to review edits, topics, and production schedules. Editors and publishers may assign topics to staff writers or review proposals from freelance writers. All writers conduct research on their topics, which they gather through per-

sonal observation, library and Internet research, and interviews. 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. Writers and authors then select the material they want to use, organize it, and use the written word to express story lines, ideas, or to convey information. With help from editors, they may revise or rewrite sections, searching for the best organization or the right phrasing.

*Copy writers* are a very specialized type of writer. They prepare advertising copy for use in publications or for broadcasting and they write other materials to promote the sale of a good or service. They often must work with the client to produce advertising themes or slogans and may be involved in the marketing of the product or service.

*Technical writers* put technical information into easily understandable language. They prepare product documentation, such as operating and maintenance manuals, catalogs, assembly instructions, and project proposals. Technical writers primarily are found in the information technology industry, writing operating instructions for online Help and documentation for computer programs. 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. Technical writers also may serve as part of a team conducting usability studies to help improve the design of a product that still is in the prototype stage. They plan and edit technical materials and oversee the preparation of illustrations, photographs, diagrams, and charts.

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 editions of newspapers or magazines, create short fiction or poetry, or produce technical documentation that is available only online. These writers also may prepare text for Web sites. As a result, they should be knowledgeable about graphic design, page layout, and multimedia software. In addition, they should be familiar with interactive technologies of the Web so that they can blend text, graphics, and sound together. Bloggers who are paid to write may be considered writers.

Many writers are considered *freelance writers*. They are self-employed and sell their work to publishers, publication enterprises, manufacturing firms, public relations departments, or advertising agencies. Sometimes, they contract with publishers first to write a book or an article. Others may be hired to complete specific short-term or recurring assignments, such as writing about a new product or contributing to an organization's quarterly newsletter.

*Editors* review, rewrite, and edit the work of writers. They also may 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 review story ideas proposed by staff and freelance writers then decide what material will appeal to readers. They 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 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*, and generally has the final say about what stories are published and how they are covered. Assistant editors have responsibility for particular subjects, such as local news, international news, feature stories, or sports. 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—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 with freelance writers, sometimes called “stringers” in the news industry.

Editors often have assistants, many of whom hold entry-level jobs. These assistants, frequently called copy editors, 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 and paragraphs, to improve clarity or accuracy. They also carry out research for writers and verify facts, dates, and statistics. In addition, they may 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, proofread printers' galleys, and answer letters about published material. Assistants on



Writers and editors use reference books and other resources to research or verify information.

small newspapers or in radio stations compile articles available from wire services or the Internet, answer phones, and make photocopies.

**Work environment.** While some writers and editors work in comfortable, private offices, others work in noisy rooms filled with the sounds of keyboards and the voices of other writers tracking down information or interviewing sources. The search for information sometimes requires that writers travel to diverse workplaces, such as factories, offices, or laboratories, but many find their material through telephone interviews, the library, and the Internet.

Advances in electronic communications have changed the work environment for many writers. Laptop computers and wireless communications technologies allow growing numbers of writers to work from home and on the road. The ability to e-mail, transmit and download stories, research, or review materials using the Internet allows writers and editors greater flexibility in where and how they complete assignments.

Some writers keep regular office hours, either to maintain contact with sources and editors or to establish a writing routine, but most writers set their own hours. Many writers—especially freelance writers—are paid per assignment; therefore, they work any number of hours necessary to meet a deadline. As a result, writers must be willing to work evenings, nights, or weekends to produce a piece acceptable to an editor or client by the publication deadline. Those who prepare morning or weekend publications and broadcasts also may regularly work nights, early mornings, and weekends.

While many freelance writers enjoy running their own businesses and the advantages of working flexible hours, most routinely face the pressures of juggling multiple projects with competing demands and the continual need to find new work. Deadline pressures and long, erratic work hours—often part of the daily routine in these jobs—may cause stress, fatigue, or burnout. In addition, the use of computers for extended periods may cause some individuals to experience back pain, eyestrain, or fatigue.

### Training, Other Qualifications, and Advancement

A college degree generally is required for a position as a writer or editor. Good facility with computers and communications equipment is necessary in order to stay in touch with sources, editors, and other writers while working on assignments, whether from home, an office, or while traveling.

**Education and training.** Some employers look for a broad liberal arts background, while others prefer to hire people with degrees in communications, journalism, or English. For those who specialize in a particular area, such as fashion, business, or law, additional background in the chosen field is expected. Increasingly, technical writing requires a degree in, or some knowledge about, a specialized field—for example, engineering, business, or one of the sciences. Knowledge of a second language is helpful for some positions. A background in web design, computer graphics, or other technology field is increasingly practical, because of the growing use of graphics and representational design in developing technical documentation. In many cases, people with good writing skills may transfer from jobs as technicians, scientists, or engineers into jobs as writers



**Projections data from the National Employment Matrix**

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Writers and editors.....	27-3040	306,000	336,000	30,000	10
Editors.....	27-3041	122,000	124,000	2,800	2
Technical writers.....	27-3042	49,000	59,000	9,600	20
Writers and authors.....	27-3043	135,000	153,000	17,000	13

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

or editors. Others begin as research assistants or as trainees in a technical information department, develop technical communication skills, and then assume writing duties.

**Other qualifications.** Writers and editors must be able to express ideas clearly and logically and should enjoy writing. 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. In addition, the ability to concentrate amid confusion and to work under pressure often is essential. Editors also need tact and the ability to guide and encourage others in their work.

Familiarity with electronic publishing, graphics, and video production increasingly is needed. Use of electronic and wireless communications equipment to send e-mail, transmit work, and review copy often is necessary. 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.

**Advancement.** In small firms, beginning writers and editors hired as assistants may actually begin writing or editing material right away. Opportunities for advancement and also full-time work can be limited, however. 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.

In larger businesses, jobs usually are more formally structured. Beginners generally do research, fact check articles, or copy edit drafts. 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.

Advancement for writers, especially freelancers, often means working on larger, more complex projects for better known publications or for more money. Building a reputation and establishing a track record for meeting deadlines also makes it easier to get future assignments. Experience, credibility, and reliability often lead to long-term freelance relationships with the same publications and to contacts with editors who will seek you out for particular assignments.

The growing popularity of blogging could allow some writers to get their work read. For example, a few well-written blogs may garner some recognition for the author and may lead to a few paid pieces in other print or electronic publications. Some established staff writers contribute to blogs on the on-line versions of publications in conjunction with their routine work. However, most bloggers do not earn a considerable amount of money writing their blogs.

**Employment**

Writers and editors held about 306,000 jobs in 2006. More than one-third were self-employed. Writers and authors held about 135,000 jobs; editors, about 122,000 jobs; and technical writers, about 49,000 jobs. About one-third of the salaried jobs for writers and editors were 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 professional, scientific, and technical services. Other salaried writers and editors work in computer systems design and related services, public and private educational services, and religious 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. However, many writers work outside these cities and travel regularly to meet with personnel at the headquarters. Jobs with newspapers, business and professional journals, and technical and trade magazines are more widely dispersed throughout the country. Technology permits writers and editors to work from distant and remote locations and still communicate with editors and publishers. As a result, geographic concentration is less of a requirement for many writing or editing positions than it once was.

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

**Job Outlook**

Employment of writers and editors is expected to grow about as fast as the average for all occupations. Competition is expected for writing and editing jobs because many people with the appropriate training and talent are attracted to the occupation.

**Employment change.** Employment of writers and editors is expected to grow 10 percent, or about as fast as the average for

all occupations, from 2006 to 2016. Employment of salaried writers and editors is expected to increase as demand grows for web-based publications. Technical writing, blogging, and other writing for interactive media that provide readers with nearly real-time information will provide opportunities for writers. Print magazines and other periodicals increasingly are developing market niches, appealing to readers with special interests, and making Internet-only content available on their websites. Businesses and organizations are developing newsletters and websites, and more companies are 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. Professional, scientific, and technical services firms, including advertising and public relations agencies, also are growing and should be another source of new jobs.

**Job prospects.** Opportunities should be best for technical writers and those with training in a specialized field. Demand for technical writers and writers with expertise in 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. Legal, scientific, and technological developments and discoveries 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 not only are technically skilled as writers, but also are 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 because many freelancers leave because they cannot earn enough money.

### Earnings

Median annual earnings for salaried writers and authors were \$48,640 in May 2006. The middle 50 percent earned between \$34,850 and \$67,820. The lowest 10 percent earned less than \$25,430, and the highest 10 percent earned more than \$97,700. Median annual earnings were \$50,650 in advertising and related services and \$40,880 in newspaper, periodical, book, and directory publishers.

Median annual earnings for salaried editors were \$46,990 in May 2006. The middle 50 percent earned between \$35,250 and \$64,140. The lowest 10 percent earned less than \$27,340, and the highest 10 percent earned more than \$87,400. Median annual earnings of those working for newspaper, periodical, book, and directory publishers were \$45,970.

Median annual earnings for salaried technical writers were \$58,050 in May 2006. The middle 50 percent earned between \$45,130 and \$73,750. The lowest 10 percent earned less than \$35,520, and the highest 10 percent earned more than \$91,720. Median annual earnings in computer systems design and related services were \$59,830.

According to the Society for Technical Communication, the median annual salary for entry level technical writers was \$40,400 in 2005. The median annual salary for midlevel non-supervisory technical writers was \$52,140, and for senior non-supervisory technical writers, \$69,000.

### 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>