

Jewelers and Precious Stone and Metal Workers

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Significant Points

- About one-fourth of all jewelers were self-employed.
- Jewelers usually learn their trade in vocational or technical schools, through distance-learning centers, or on the job.
- Prospects for new jewelers should be excellent; many employers have difficulty finding and retaining workers with the right skills to replace those who retire or who leave the occupation for other reasons.

Nature of the Work

Jewelers and precious stone and metal workers use a variety of common and specialized handtools and equipment to design and manufacture new pieces of jewelry; cut, set, and polish gem stones; and repair or adjust rings, necklaces, bracelets, earrings, and other jewelry. Jewelers usually specialize in one or more of these areas and may work for large jewelry-manufacturing firms, for small retail jewelry shops, or as owners of their own businesses. Regardless of the type of work done or the work setting, jewelers require a high degree of skill, precision, and attention to detail.

Some jewelers design or make their own jewelry. Following their own designs or those created by designers or customers, they begin by shaping the metal or by carving wax to make a model for casting the metal. The individual parts then are soldered together, and the jeweler may mount a diamond or other gem or may engrave a design into the metal. Others do finishing work, such as setting stones, polishing, or engraving. Typical repair work includes enlarging or reducing ring sizes, resetting stones, and replacing broken clasps and mountings.

In larger manufacturing businesses, jewelers usually specialize in a single operation. *Mold and model makers* create models or tools for the jewelry that is to be produced. *Assemblers* solder or fuse jewelry and their parts; they also may set stones. *Engravers* etch designs into the metal using specialized tools, and *polishers* bring a finished luster to the final product.

In small retail stores or repair shops, jewelers may be involved in all aspects of the work. Jewelers who own or manage stores or shops also hire and train employees; order, market, and sell merchandise; and perform other managerial duties.

Jewelers typically do the handiwork required to produce a piece of jewelry, while *gemologists* study the quality, characteristics, and value of gem stones. Gemologists usually sell jewelry and provide appraisal services. A few gemologists are employed by insurance companies that offer their own appraisal services for those customers who wish to insure certain pieces of jewelry. Many jewelers also study gemology in order to become familiar with the physical properties of the gem stones with which they work.

New technology is helping to produce jewelry of higher quality at a reduced cost and in a shorter amount of time. For example, lasers are often used for cutting and improving the quality of stones, for applying intricate engraving or design work, and for inscribing personal messages or identification on jewelry. Jewelers also use

lasers to weld metals together in milliseconds with no seams or blemishes, improving the quality and appearance of the jewelry.

Some manufacturing firms use computer-aided design and manufacturing (CAD/CAM) to facilitate product design and automate some steps in the mold- and modelmaking process. CAD allows jewelers to create a virtual-reality model of a piece of jewelry. Using CAD, jewelers can modify the design, change the stone, or try a different setting and see the changes on a computer screen before cutting a stone or performing other costly steps. Once they are satisfied with the model, CAM produces it in a wax-like or other material. After the mold of the model is made, it is easier for manufacturing firms to produce numerous copies of a given piece of jewelry, which are then distributed to different retail establishments across the country. Similar techniques may be used in the retail setting, allowing individual customers to review their jewelry designs with the jeweler and make modifications before committing to the expense of a customized piece of jewelry.

Working Conditions

A jeweler's work involves a great deal of concentration and attention to detail. Working on precious stones and metals, while trying to satisfy customers' and employers' demands for speed and quality, can cause fatigue or stress. However, the use of more ergonomically correct jewelers' benches has eliminated most of the strain



Jewelers and precious stone and metal workers must have excellent hand-eye coordination.

and discomfort caused by spending long periods bending over a workbench in one position.

Lasers require both careful handling, to avoid injury, and steady hands, to direct precision tasks. In larger manufacturing plants and some smaller repair shops, chemicals, sharp or pointed tools, and jewelers' torches pose safety threats and may cause injury if proper care is not taken. Most dangerous chemicals, however, have been replaced with synthetic, less toxic, products to meet safety requirements.

In repair shops, jewelers usually work alone, with little supervision. In retail stores, they may talk with customers about repairs, perform custom design work, and even do some selling. Because many of their materials are valuable, jewelers must observe strict security procedures, including working behind locked doors that are opened only by a buzzer, working on the other side of barred windows, making use of burglar alarms, and, in larger jewelry establishments, working in the presence of armed guards.

Employment

Jewelers and precious stone and metal workers held about 40,000 jobs in 2002. About one-fourth of these workers were self-employed; many operated their own store or repair shop, and some specialized in designing and creating custom jewelry.

About 3 out of 10 jobs for jewelers and precious stone and metal workers were in other miscellaneous manufacturing, which includes jewelry and silverware manufacturing. Another 3 out of 10 jobs were in retail trade, primarily in jewelry, luggage, and leather goods stores. A small number of jobs were in miscellaneous durable goods merchant wholesalers and in repair shops providing personal and household goods repair and maintenance. Although jewelry stores and repair shops were found in every city and in many small towns, most jobs were in larger metropolitan areas. In 2002, many jewelers employed in manufacturing worked in Rhode Island, New York, or California.

Training, Other Qualifications, and Advancement

Jewelers usually learn their trade in vocational or technical schools, through distance-learning centers, or on the job. Colleges and art and design schools also offer programs that can lead to a Bachelor of Fine Arts or Master of Fine Arts degree in jewelry design. Formal training in the basic skills of the trade enhances one's employment and advancement opportunities. Many employers prefer jewelers with design, repair, and sales skills.

For those interested in working in a jewelry store or repair shop, vocational and technical training or courses offered by public and private colleges are the best sources of training. In these programs, which can vary in length from 6 months to 1 year, students learn the use and care of jewelers' tools and machines and basic jewelry-making and -repairing skills, such as design, casting, stone setting, and polishing. Technical school courses also cover topics such as blueprint reading, math, and shop theory. To enter some technical school, and most college, programs, a high school diploma or its equivalent is required. However, some schools specializing in jewelry training do not require graduation from high school. Because computer-aided design is used increasingly in the jewelry field, it is recommended that students—especially those interested in design and manufacturing—obtain training in CAD.

Various institutes offer courses and programs in gemology and jewelry manufacturing and design. Programs cover a wide range of topics, including the identification and grading of diamonds and gem stones.

Most employers feel that vocational- and technical-school graduates need several more years of supervised on-the-job training or apprenticeship, in order to refine their repair skills and learn more about the operation of the store or shop. In addition, some employers encourage workers to improve their skills by enrolling in short-term technical school courses such as fabricating, jewelry design, jewelry manufacturing, wax carving, or gemology. Employers may pay all or part of the cost of this additional training.

In jewelry-manufacturing plants, workers traditionally develop their skills through informal apprenticeships and on-the-job training. The apprenticeship or training period lasts 3 to 4 years, depending on the difficulty of the specialty. Training usually focuses on casting, stone setting, modelmaking, or engraving. In recent years, a growing number of technical schools have begun to offer training designed for jewelers working in manufacturing. As a result, those in manufacturing now prefer graduates of these programs because they are familiar with the production process, requiring less on-the-job training.

The precise and delicate nature of jewelry work requires finger and hand dexterity, good hand-eye coordination, patience, and concentration. Artistic ability and fashion consciousness are major assets, because jewelry must be stylish and attractive. Those who work in jewelry stores have frequent contact with customers and should be neat, personable, and knowledgeable about the merchandise. In addition, employers require workers of good character, because jewelers work with valuable materials.

Advancement opportunities are limited and depend greatly on an individual's skill and initiative. In manufacturing, some jewelers advance to supervisory jobs, such as master jeweler or head jeweler, but, for most, advancement takes the form of higher pay for doing the same job. Jewelers who work in jewelry stores or repair shops may become managers; some open their own businesses.

Those interested in starting their own business should first establish themselves and build a reputation for their work within the jewelry trade. Once they obtain sufficient credit from jewelry suppliers and wholesalers, they can acquire the necessary inventory. Also, because the jewelry business is highly competitive, jewelers who plan to open their own store should have experience in selling, as well as knowledge of marketing and business management. Courses in these areas often are available from technical schools and community colleges.

Job Outlook

Employment of jewelers and precious stone and metal workers is expected to grow more slowly than the average through 2012. Employment opportunities, however, should be excellent, because jewelry sales are increasing. New jewelers also will be needed to replace those who retire or who leave the occupation for other reasons. When master jewelers retire, they take with them years of experience that require substantial time and financial resources to replace. Many employers have difficulty finding and retaining jewelers with the right skills and the necessary knowledge. Some technological advances have made jewelrymaking more efficient; however, many tasks cannot be fully automated. Jewelry work is a labor-intensive process that requires excellent handiwork.

The increasing numbers of affluent individuals, working women, double-income households, and fashion-conscious men are expected to keep jewelry sales strong. The population aged 45 and older, which accounts for a major portion of jewelry sales, also is on the rise.

Nontraditional jewelry marketers, such as discount stores, mail-order and catalogue companies, television shopping networks, and Internet retailers, have expanded the number of buying options and increased their sales volume. However, these establishments require fewer sales staff, limiting employment opportunities for jewelers and precious stone and metal workers who work mainly in sales. Because these marketers enjoy increases in sales, however, they will need highly skilled jewelers to make and repair the jewelry they sell.

Opportunities in jewelry stores and repair shops will be best for graduates from training programs for jewelers or gemologists. Despite an increase in sales by nontraditional jewelry marketers, traditional jewelers should not be affected greatly. Traditional jewelers have the advantage of being able to build client relationships based on trust. Many clients prefer to work directly with a jeweler, to ensure that the product is of the highest quality and meets their specifications. Many traditional jewelers expand their businesses as clients recommend their services to friends and relatives.

The jewelry industry can be cyclical. During economic downturns, demand for jewelry products and for jewelers tends to decrease. However, demand for repair workers should remain strong, even during economic slowdowns, because maintaining and repairing jewelry is an ongoing process. In fact, demand for jewelry repair may increase during recessions, as people repair or restore existing pieces rather than purchase new ones. Also, many nontraditional vendors typically do not offer repair services.

Within manufacturing, increasing automation will adversely affect employment of low-skilled occupations, such as assemblers and polishers. Automation will have a lesser impact on more creative, highly skilled positions, such as mold- and modelmakers. Furthermore, small manufacturers, which typify the industry, will have an increasingly difficult time competing with the larger manufacturers when it comes to supplying large retailers. Because of recent international trade agreements, exports are increasing modestly as manufacturers become more competitive in foreign markets. However, imports from foreign manufacturers are increasing more rapidly than exports, due to these same agreements.

Earnings

Median annual earnings for jewelers and precious stone and metal workers were \$26,260 in 2002. The middle 50 percent earned between \$19,550 and \$35,310. The lowest 10 percent earned less than \$15,030, and the highest 10 percent earned more than \$45,620. In 2002, median annual earnings in the industries employing the largest numbers of jewelers and precious stone and metal workers were \$30,000 in jewelry, luggage, and leather goods stores and \$22,650 in other miscellaneous manufacturing.

Most jewelers start out with a base salary, but once they become more proficient, they may begin charging by the number of pieces completed. Jewelers who work in retail stores may earn a commission for each piece of jewelry sold, in addition to their base salary. Many jewelers also enjoy a variety of benefits, including reimbursement from their employers for work-related courses and discounts on jewelry purchases.

Related Occupations

Jewelers and precious stone and metal workers do precision handwork. Other skilled workers who do similar jobs include precision instrument and equipment repairers; welding, soldering, and brazing workers; and woodworkers. Some jewelers and precious stone and metal workers create their own jewelry designs. Other occupations that require visual arts abilities include artists and related work-

ers, and designers. Finally, some jewelers and precious stone and metal workers are involved in the buying and selling of stones and metals or of the finished piece of jewelry. Similar occupations include retail salespersons and sales representatives in wholesale trade.

Sources of Additional Information

Information on job opportunities and training programs for jewelers is available from:

► Gemological Institute of America, 5345 Armada Dr., Carlsbad, CA 92008. Internet: <http://www.gia.org>

General career information is available from:

► Manufacturing Jewelers and Suppliers of America, 45 Royal Little Dr., Providence, RI 02904. Internet: <http://mjasa.polygon.net>

To receive a list of accredited technical schools that have programs in jewelry design, contact:

► Accrediting Commission of Career Schools and Colleges of Technology, 2101 Wilson Blvd., Suite 302, Arlington, VA 22201. Internet: <http://www.accsct.org>