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Certificates: A fast track to careers

No time or money to earn a college degree? No problem. An educational certificate may be a good option, but do your homework first. That way, you'll know if a certificate is the best choice for you.

Certificates are nondegree awards for completing an educational program of study after high school. Typically, students finish these programs to prepare for a specific occupation. And they do so in a relatively short period of time: Most certificates take less than a year to complete, and almost all are designed to take less than 2 years.

Among the questions about certificates that you'll need to have answered are the following:

- What occupations can certificates prepare me for?
- What are some benefits and drawbacks to getting a certificate?
- How can I find a program that's right for me?

This article answers these and other questions about certificates and certificate programs.

The first section of the article describes certificates and some of the occupations that require them. The second section explains some potential benefits and drawbacks to these educational awards. The third section offers advice on evaluating certificate programs. The final section provides additional sources of information.

Occupations and certificates

Certificates are one of the most popular types of postsecondary education awards. According to the National Center for Education Statistics (NCES), in 2010–11, U.S. schools awarded more than 1 million certificates—more than the number of associate's (942,000), master's (731,000), or doctoral degrees (164,000). About 1.7 million bachelor's degrees were awarded in that same year.

Certificates and certificate programs differ in many ways. Knowing about certificates,

and whether an occupation requires one, is the key to choosing the right program.

What to know about certificates

Before enrolling in a certificate program, it helps to understand who earns certificates, how certificates differ from licensing and certification, and how school options and costs vary.

Who earns certificates. People of varied ages and educational backgrounds earn certificates. Most certificate programs are designed for people who have at least a high school diploma or general equivalency diploma (GED).

People usually earn certificates to help them prepare for a specific occupation; in other words, certificates are for people who want to train for a job rather than to earn a college degree. In some cases, however, a certificate can pave the way to college because certain programs' credits count toward a future degree. And for some people, certificate programs help them prepare for licensure, certification, or other career-related qualifications.

Elka Torpey

Elka Torpey is an economist in the Office of Occupational Statistics and Employment Projections, BLS. She is available at torpey.elka@bls.gov.

In 2010–11, certificate programs related to healthcare occupations were more popular than any other.

Certificates versus licenses and certification. Certificates are not the same as—and typically do not lead directly to—professional licenses and certification.

Certificates show that a person has completed a course of study. Licenses are required to practice in some occupations, including teaching and cosmetology. And certifications, which often involve assessments and documentation of experience, show that workers have attained competency in an occupation. Sometimes, state licensing requirements are based on professional certification standards.

Schools issue certificates, states or other governments issue licenses, and professional or industry organizations usually issue certifications.

Prospective certificate enrollees should find out what is typically required to get a job in the occupation they hope to enter. Then, they should learn whether the program they are considering will help them meet those requirements.

How school options and costs vary. According to NCES, private for-profit schools and public community colleges award most certificates. Private nonprofit schools and other types of public schools award certificates in much smaller numbers.

Where people earn certificates varies by field of study. For example, people were more likely to earn certificates in business or information technology at public community colleges, while they were more likely to earn certificates in cosmetology and in healthcare at private, for-profit schools.

School costs vary, too, especially by institution type. Public school programs are usually less expensive than private school programs. Average tuition and fees for all first-time in-state students at public community colleges, for example, were $3,384 in 2011–12, according to NCES. That compares with $13,204 at 2-year private nonprofit schools and $14,131 at 2-year private for-profit schools. And at $6,888, costs for students attending a public school program outside their home state were higher than for in-state students but still lower than the average cost for students at private schools.

Certificate occupations

The U.S. Bureau of Labor Statistics (BLS) has identified 33 occupations as typically requiring a certificate or other postsecondary nondegree award for people entering those occupations.

In 2010–11, according to NCES, the most popular disciplines for certificate programs were healthcare, personal and culinary services, and mechanic and repair technologies and technicians. But people also earned certificates in a wide range of other occupational areas, such as computer and information sciences and protective services.

Tables 1–5 show occupations within selected broad career areas. For each occupation, the tables list the percentage of workers who reported needing a postsecondary certificate, along with those who said they needed a high school diploma or GED, associate's degree, or bachelor's degree. These data come

from a survey conducted by the Occupational Information Network (O*NET), which asked workers or occupational experts what the required level of education was for a specific job. The occupations are arranged from largest to smallest in terms of the percentage who reported that a certificate was needed.

Each section also includes a discussion of BLS data on job outlook, employment, and median annual wages for some of the occupations in the tables. Where detailed data aren't available, information is for a broader occupational title.

Wages for workers in these occupations varied significantly. Whether to consider an occupation as having high or low wages depends on how it compared with the May 2011 median annual wage of $34,460 for all wage and salary workers.

Healthcare. Health professions and related healthcare programs accounted for nearly half of all certificates earned in 2010–11: about 463,000 certificates. Table 1 shows selected occupations related to healthcare in which a certificate may be needed.

The job outlook for healthcare occupations is good: BLS projects that employment growth for most of these occupations will be faster than average or much faster than average between 2010 and 2020. Some of the largest of these occupations are licensed practical and licensed vocational nurses, medical assistants, and pharmacy technicians. The May 2011 median annual wages within these selected healthcare occupations ranged from $22,830 for veterinary assistants and laboratory animal caretakers to $55,120 for radiologic technologists and technicians.

Other healthcare occupations not shown in the table that may require a certificate include phlebotomists, home health aides, dispensing opticians, endoscopy technicians, medical equipment preparers, and diagnostic medical sonographers.

Personal and culinary services. About 131,000 certificates were awarded in fields related to personal and culinary services in

Table 1: Healthcare-related occupations in which a certificate may be needed

Occupations	Percent of workers who reported needing the credential			
	Postsecondary certificate	High school diploma or equivalent	Associate's degree	Bachelor's degree
Selected healthcare practitioners and technical				
Surgical technologists	44%	10%	27%	0%
Emergency medical technicians and paramedics	41	15	5	12
Pharmacy technicians	39	16	1	0
Radiologic technologists	26	5	46	10
Licensed practical and licensed vocational nurses	31	5	23	5
Selected healthcare support				
Massage therapists	88	3	0	0
Dental assistants	68	14	7	0
Medical transcriptionists	29	34	1	0
Veterinary assistants and laboratory animal caretakers	23	44	0	0
Medical assistants	23	41	22	1

Source: O*NET17

Firefighters led among protective service occupations that may require a certificate.

2010–11. Table 2 shows selected personal care and service and food preparation and serving related occupations that may require a certificate.

Employment growth for occupations in the table is projected to be at least average between 2010 and 2020, with personal care aides, fitness trainers and aerobics instructors, and childcare workers having even faster growth. Some of the largest of these occupations are personal care aides and hairdressers, hairstylists, and cosmetologists. In May 2011, median annual wages for workers in these occupations ranged from $19,430 for childcare workers to $31,030 for fitness trainers and aerobics instructors.

Other personal and culinary services occupations not shown in the table that may require a certificate include skincare specialists, shampooers, private household cooks, barbers, and theatrical and performance makeup artists.

Homeland security, law enforcement, and fire fighting. Fields related to homeland security, law enforcement, and fire fighting accounted for about 32,000 of the certificates earned in 2010–11. Table 2 shows selected protective service occupations that may require a certificate.

All of the occupations in the table are projected to have slower than average employment growth between 2010 and 2020. Some of the largest of these occupations are police and sheriffs' patrol officers, correctional officers and jailers, and firefighters. Median annual wages in these occupations ranged from

Table 2: Personal care and protective service occupations in which a certificate may be needed

Occupations	Percent of workers who reported needing the credential			
	Postsecondary certificate	High school diploma or equivalent	Associate's degree	Bachelor's degree
Selected personal care and service and food preparation and serving related				
Hairdressers, hairstylists, and cosmetologists	74%	6%	0%	0%
Manicurists and pedicurists	43	34	0	0
Nannies	30	48	4	4
Personal care aides	22	59	1	0
Fitness trainers and aerobics instructors	17	17	17	25
Selected protective service				
Municipal firefighters	31	26	2	0
Municipal fire fighting and prevention supervisors	22	35	19	12
Sheriffs and deputy sheriffs	21	55	19	1
Criminal investigators and special agents	16	42	15	3
Correctional officers and jailers	15	57	5	0

Source: O*NET17

$38,990 for correctional officers and jailers to $71,770 for detectives and criminal investigators in May 2011.

Other occupations in this group that are not shown in the table but sometimes require a certificate include fire inspectors and investigators, gaming surveillance officers and gaming investigators, private detectives and investigators, lifeguards, ski patrol, and other recreational protective service workers, and bailiffs. Homeland security related occupations that may need a higher level certificate, in addition to a bachelor's degree, include business continuity planners, emergency management directors, and risk management specialists.

Mechanic and repair technologies and technicians. In 2010–11, about 89,000 awards were conferred in mechanic and repair technologies and technician fields. Selected occupations for installation, maintenance, and repair occupations are in table 3.

All of the occupations in the table are projected to have average employment growth between 2010 and 2020, except for heating and air conditioning mechanics and installers which are projected to have much faster than average employment growth. Some of the largest of these occupations are general maintenance and repair workers, automotive service technicians and mechanics, and heating, air conditioning, and refrigeration mechanics and installers. Median annual wages in May 2011 ranged from $35,030 for general maintenance and repair workers to $53,960 for telecommunications equipment installers and repairers, except line.

Other mechanic and repair occupations not shown in the table that may require a certificate include commercial divers, motorboat mechanics and service technicians, electronic home entertainment equipment installers and repairers, electrical power-line installers

Table 3: Repair and production occupations in which a certificate may be needed

Occupations	Percent of workers who reported needing the credential			
	Postsecondary certificate	High school diploma or equivalent	Associate's degree	Bachelor's degree
Selected installation, maintenance, and repair				
Automotive master mechanics	72%	8%	4%	0%
Heating and air conditioning mechanics and installers	72	16	3	0
Mobile heavy equipment mechanics, except engines	57	15	14	0
Telecommunications equipment installers and repairers, except line installers	51	15	21	0
Maintenance and repair workers, general	42	44	3	0
Selected production				
Tool and die makers	68	11	17	0
Machinists	50	34	5	0
Welders, cutters, and welder fitters	41	40	0	0
Computer-controlled machine tool operators, metal and plastic	32	48	3	1
Electromechanical equipment assemblers	24	53	0	0

Source: O*NET17

Welders, one of the largest of the production occupations, may need a certificate to work in some jobs.

and repairers, and electronic motor vehicle equipment installers and repairers.

Precision production. There were about 29,000 certificates awarded in precision production in 2010–11. Selected production occupations that may require a certificate are in table 3.

Employment in these occupations is projected to grow at rates that are about average or lower between 2010 and 2020. Some of the largest of these occupations are machinists; welders, cutters, solderers, and brazers; and metal and plastic computer-controlled machine tool operators. In May 2011, median annual wages for these occupations ranged from $31,730 for electromechanical equipment assemblers to $46,650 for tool and die makers.

Other production occupations that may require a certificate include metal and plastic machine tool setters, operators, and tenders; patternmakers; gas plant operators; model makers; and jewelers.

Business, management, marketing, and support services. In 2010–11, about 66,000 certificates were awarded in fields related to business, management, marketing, and support services. Table 4 shows selected occupations in these areas that may require a certificate.

Employment growth in these occupations is projected to be about average or slower than average between 2010 and 2020. Some of the largest of these occupations are claims adjusters, examiners, and investigators and industrial production managers. Median annual wages for these occupations in May 2011 ranged from $37,640 for procurement clerks to $88,190 for industrial production managers.

Other business occupations in which some workers reported needing a certificate include property, real estate, and community association managers, farm products buyers and purchasing agents, medical or legal secretaries, assessors, and tax preparers.

Engineering technologies and engineering-related fields. In 2010–11, about 37,000 certificates were awarded in fields related to engineering and engineering technologies. Table 4 shows selected occupations in these fields that may require a certificate.

BLS projects slower than average employment growth in most of these occupations between 2010 and 2020. Some of the largest of these occupations are electrical and electronics engineering technicians, architectural and civil drafters, and mechanical drafters. May 2011 median annual wages ranged from $47,250 for architectural and civil drafters to $58,670 for engineering technicians, except drafters, all other.

Other engineering occupations that may require a certificate include electrical and electronics drafters, civil engineering technicians, electromechanical technicians, surveying and mapping technicians, and electromechanical engineering technologists. A higher level certificate, in addition to a bachelor's degree, may be needed for occupations such as marine engineer, industrial safety and health engineer, and validation engineer.

Computer and information sciences and support services. People earned about 28,000 certificates in this field in 2010–11. Table 4 shows selected computer occupations that may require a certificate.

Employment growth for most of these occupations is projected to be average or faster than average between 2010 and 2020. Some of the largest of these occupations are computer support specialists; computer programmers; and information security analysts, Web developers, and computer network architects. In May 2011, median annual wages ranged from $47,660 for computer support specialists to $79,930 for computer occupations, all other.

Workers in computer-related occupations more often reported needing a degree than a certificate.

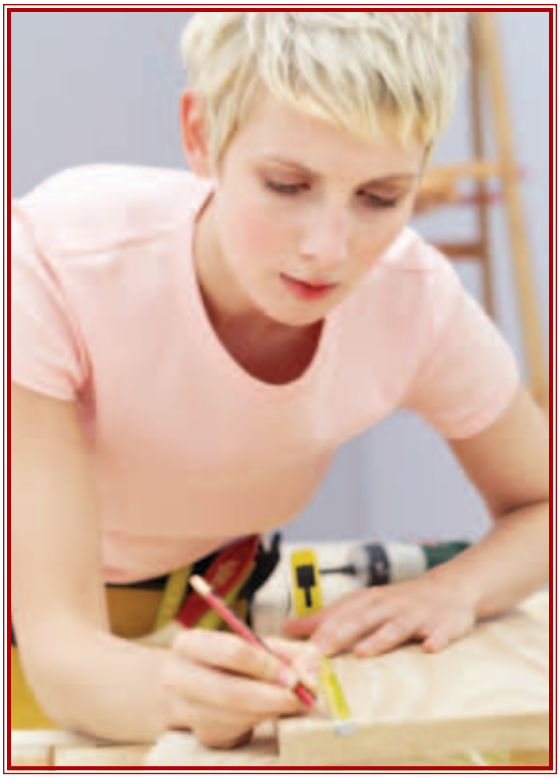
Other occupations in this group that had small percentages of workers who reported needing a certificate include information security analysts, network and computer systems administrators, computer systems analysts, systems software developers, and geospacial information scientists and technologists.

Table 4: Business, engineering, and computer occupations in which a certificate may be needed

Occupations	Percent of workers who reported needing the credential			
	Postsecondary certificate	High school diploma or equivalent	Associate's degree	Bachelor's degree
Selected management, business and financial operations, and office and administrative support				
Government property inspectors and investigators	41%	29%	*	6%
Energy auditors	33	33	25	4
Procurement clerks	27	33	16	12
Insurance adjusters, examiners, and investigators	25	6	13	35
Industrial production managers	24	25	3	29
Selected architecture and engineering				
Manufacturing production technicians	32	9	27	27
Civil drafters	29	0	57	5
Mechanical drafters	22	1	40	23
Industrial engineering technicians	18	8	*	29
Electronics engineering technicians	15	7	66	13
Selected computer				
Web administrators	26	0	9	39
Computer user support specialists	15	12	18	29
Web developers	13	10	20	43
Computer systems engineers/architects	13	0	0	61
Computer programmers	11	6	5	78

* O*NET recommends supressing due to a high standard error.
Source: O*NET17

Certificates may be required in many of the fast-growing construction trades occupations.



Construction trades. The number of certificates awarded in construction trades totaled about 30,000 in 2010–11. Selected construction and extraction occupations that may require a certificate are shown in table 5.

Employment for most occupations in the table is projected to grow faster than the average or much faster than the average between 2010 and 2020. Among the largest of these occupations are carpenters and plumbers, pipefitters, and steamfitters. May 2011 median annual wages ranged from $27,010 for helpers of pipelayers, plumbers, pipefitters, and steamfitters to $47,750 for plumbers, pipefitters, and steamfitters.

Other construction and extraction occupations in which workers may need a certificate include electricians, elevator installers and repairers, segmental pavers, stonemasons, and boilermakers.

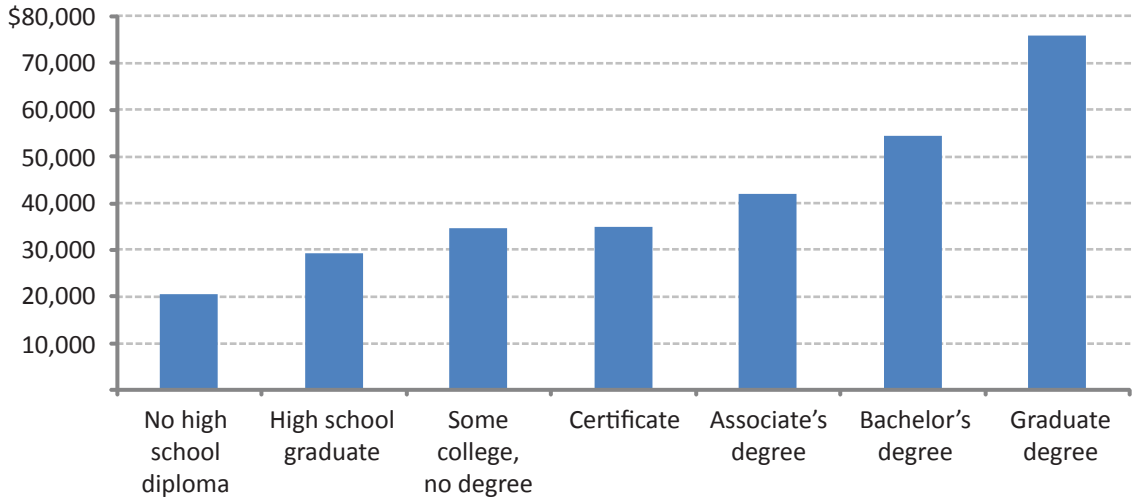
Transportation and material moving. Certificates awarded in transportation and

Table 5: Construction and transportation occupations in which a certificate may be needed

Occupations	Percent of workers who reported needing the credential			
	Postsecondary certificate	High school diploma or equivalent	Associate's degree	Bachelor's degree
Selected construction and extraction				
Pipe fitters and steamfitters	69%	26%	0%	0%
Sheet metal workers	39	52	0	0
Plumbers	33	52	7	0
Rough carpenters	28	39	3	0
Helpers—Pipelayers, plumbers, pipefitters, and steamfitters	27	*	0	0
Selected transportation and material moving				
Bus drivers, transit and intercity	18	74	0	1
Heavy and tractor-trailer truck drivers	15	53	0	0
Automotive and watercraft service attendants	14	53	0	0
Industrial truck and tractor operators	13	74	0	0
First-line supervisors of transportation and material-moving machine and vehicle operators	13	48	3	18

* O*NET recommends supressing due to a high standard error.
Source: O*NET17

Median annual earnings of U.S. workers, by highest level of educational attainment



Source: Center for Education and the Workforce analysis of Survey of Income and Program Participation (SIPP) data using the combined 2004 and 2008 panels

material moving fields numbered about 24,000 in 2010–11. Selected occupations in this group that may require a certificate are shown in table 5.

Employment growth in these occupations is projected to be average or faster than average between 2010 and 2020. The largest of these occupations are heavy and tractor trailer truck drivers and industrial truck and tractor operators. May 2011 median annual wages in these occupations ranged from $19,930 for automotive and watercraft service attendants to $52,950 for first-line supervisors of transportation and material moving machine and vehicle operators.

Other transportation and material moving occupations that might require a certificate include ship engineers; crane and tower operators; motorboat operators; ship, boat, and barge mates; and transportation vehicle, equipment, and systems inspectors, except aviation.

Benefits and drawbacks to certificates

There are many reasons why people choose to earn certificates. These awards give people career-related skills and might help them get a job.

In addition, data show that workers who have a certificate often enjoy earnings premiums. A June 2012 report by the Center on Education and the Workforce (CEW), which used 2004 and 2008 Survey of Income and Program Participation (SIPP) data, found that people who have a certificate as their highest level of education earned, on average, 20 percent more than those whose highest education level is a high school diploma. (See chart above.)

But the payoff for earning a certificate isn't the same for everyone. People who work in the occupation in which they earned their certificate usually benefit more financially than those who work outside their certificate field. And a certificate isn't always the most direct path to entering an occupation.

Certificate-related employment

To reap the benefits of a certificate, people typically must work in an occupation related to the award. Those who do, the CEW report says, earn 37 percent more than workers with a high school diploma and almost as much as workers with an associate's degree. In contrast, those who work in an occupation

Table 6: In-field earnings and earnings premiums of certificate holders, by percent in field

Certificate field	Percent in field	In-field earnings	In-field earnings premium
Business/office management	62%	$40,000	66%
Transportation and material moving	58	44,336	38
Healthcare	54	30,577	35
Metalworking	49	45,040	2
Police/protective services	46	55,499	68
Auto mechanics	46	45,586	30
Drafting	44	59,592	56
Electronics	42	61,668	60
Construction trades	42	50,989	25
Aviation	40	65,642	73
Refrigeration, heating, and air conditioning	38	53,850	18
Food service	31	17,600	-41
Cosmetology	23	25,217	9
Agriculture/forestry/horticulture	20	47,800	8
Computer and information services	15	70,400	115

Source: Center for Education and the Workforce analysis of Survey of Income and Program Participation (SIPP) data using the combined 2004 and 2008 panels.

unrelated to their certificate earn about the same as workers whose highest level of education is a high school diploma.

Almost half of certificate holders worked in an occupation related to their certificate in 2010, the CEW analysis shows. (See table 6.) As the table shows, people with a certificate in business and office management, transportation and material moving, or healthcare were most likely to work in an occupation related to their certificate. For workers with a certificate in agriculture, forestry, and horticulture or in cosmetology, fewer worked in the occupation related to their certificate.

Computer and information services had the smallest proportion of certificate holders working in their field, but those workers enjoyed the best payoff for doing so: They earned 115 percent more than those who did not. The payoff is so high, in part, because these workers have specialized skills that are used in few occupations. But in food services, wages are typically low, so people who worked in occupations other than what they held a certificate in had higher earnings than those who worked in this field.

No certificate required?

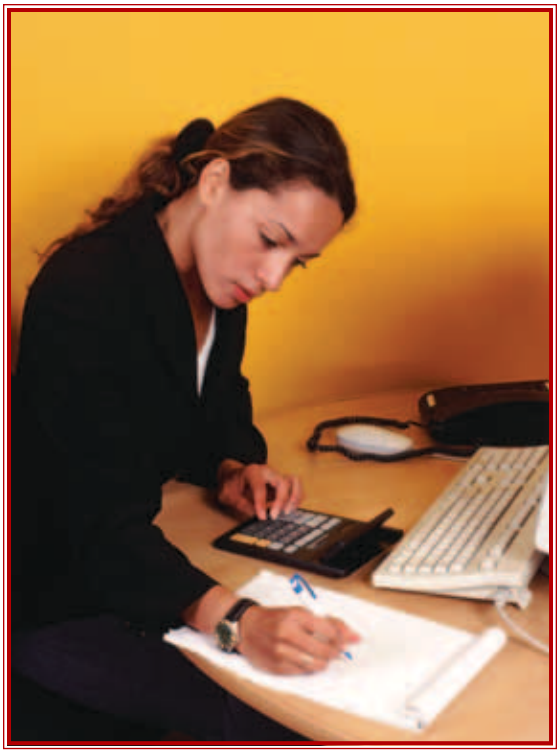
There are many reasons why people might not work in a field associated with their certificate. Sometimes, for example, jobs in a particular field may be limited and, therefore, competitive for the workers qualified to fill those jobs. Other times, this nondegree award might be less desirable than an associate's or bachelor's degree or other qualifications. Or perhaps a certificate holder may not meet the certification or licensure requirements for the occupation.

Furthermore, workers in some occupations are hired without having a certificate, so earning one might not be necessary. Some schools, for example, offer programs in accounting, early childhood education, human

resources management, marketing, or paralegal studies. But O*NET data show that only small percentages of workers in these occupations reported needing a certificate. (See table 7 below.) More commonly, workers in these occupations reported needing a bachelor's degree, associate's degree, or high school diploma.

The expense associated with earning a certificate might not be worth it if wages in the related occupations are low, jobs are scarce, or employers do not generally require workers to have the award. Prospective students should do their homework about the kind of certificate they need, if any, for the occupation that interests them—and not be duped into getting a credential they do not need. (For information about avoiding scams and certificate mills, see page 14.)

(Continued on page 15)



In some occupations, such as accountants, a certificate is available—but workers may not need one.

Table 7: Occupations in which certificates are available but are not commonly required, by level of educational attainment (percent)

Occupation	Percent of workers who reported needing the credential			
	Postsecondary certificate	High school diploma or equivalent	Associate's degree	Bachelor's degree
Accounting				
Accountants	2%	0%	5%	79%
Bookkeeping, accounting, and auditing clerks	4	38	12	18
Early childhood education				
Kindergarten teachers	6	0	4	67
Preschool teachers	6	19	22	21
Human resources management				
Human resources assistants, except payroll and timekeeping	6	26	30	12
Human resources managers	0	0	5	68
Marketing				
Market research analysts and marketing specialists	0	0	0	71
Marketing managers	0	4	0	84
Paralegal studies				
Paralegals	8	5	30	44

Source: O*NET17

For-profit institutions: Proceed with caution

If you're considering a for-profit certificate program, beware of some institutions that may be trying to scam you. Many for-profit schools in recent years have been identified as having aggressive recruiting practices, high costs, and poor student outcomes. The main goal of some of these schools is to take your money, not to give you a high-quality education.

Some for-profit schools spend a lot of money on marketing and recruiting—and much less on instruction and career services. This imbalance negatively affects the quality of the education they provide. As a result, students may fail to get the jobs they expected to get after completing their studies.

And with the average cost of tuition at for-profit schools more than four times the cost of in-state tuition at public community colleges, default rates on student loans for students of for-profit schools are often higher than those for students at other institutions. Before signing up, think about the costs involved with earning a certificate and how much you will need to repay in student loans.

Also, carefully research an occupation's requirements, relevant schools and programs, and the job market. Talk to people who work in the job you are interested in about where and how they got their training.

Prospective students should be aware of diploma mills, too. These programs boast certificates, diplomas, or degrees that are of little or no value in the workplace. Warning signs that a school might be a diploma mill include the following:

- A school is not accredited or has been accredited by an organization not recognized by the U.S. Department of Education or the Council for Higher Education Accreditation
- Credits awarded for "real world" experience
- Little or no academic work
- Minimal professor interaction
- Payment of a flat fee for the certificate
- Students can earn a certificate unusually quickly
- The school's mailing address is a post office box or suite number.

State departments of higher education often provide lists of accredited schools. Some states even publish lists of known scammers. These resources are available online from the Council for Higher Education Accreditation at **www.chea.org/degreemills/frmStates.htm**.

Some schools may mention state licensing to imply that their programs are state-approved education programs that meet the requirements for professional licensure in an occupation. Always read these claims carefully, and check with your state to be sure that the program is recognized and approved for licensure.

The U.S. Department of Education has more information about education fraud, including diploma mills, at **www2.ed.gov/students/prep/college/diplomamills/diploma-mills.html**.

(Continued from page 13)

Finding the right program

There are several ways to evaluate whether a certificate is necessary for a particular occupation and how reputable individual programs are. Study occupational requirements, schools and programs, and the job market for an occupation to make an informed decision.

Occupational requirements

Each occupation has specific requirements. But it may be difficult to learn what those requirements are. One source for finding out about how to meet the requirements for an occupation is the *Occupational Outlook Handbook*.

Research occupations by contacting workers directly or by visiting the websites of professional associations. These sources should be able to explain what training is needed and why. And keep in mind that occupational requirements may change over time, so make sure the information is current.

Schools and programs

When considering a certificate program and its reputation, prospective students should look closely at each school. Good ways to verify the quality of a certificate program include checking out a school's accreditation status or whether a program has been state or industry approved, reading gainful employment disclosures, and talking to alumni or teachers.

Accreditation and other approval. Any school can be accredited, but only legitimate ones are accredited by valid, independent, third-party organizations. Accreditation shows that a school or its programs have met established standards of quality. To be accredited, a school or program usually is measured against set performance standards, is evaluated onsite, and is monitored or reevaluated periodically.

Lists of nationally recognized accrediting organizations are available from the U.S. Department of Education and the Council for Higher Education Accreditation.

Government licensing agencies also have lists of programs that have been approved

Legitimate certificate schools and programs are accredited by nationally recognized organizations.

as meeting the educational requirements for licensure. And professional or industry organizations may endorse certain programs, such as those that can help people prepare for certification. If an occupation requires licensure or certification, it is especially important that the school's certificate program is approved by the relevant licensing body or certifying organization.

Gainful employment disclosure. A program's cost-effectiveness is also verifiable through its Gainful Employment Disclosure. This document, required by the U.S. Department of Education for certain types of programs that receive federal funding, often includes the cost of tuition, books, and fees; the amount of debt students are likely to take on; graduation and job-placement rates; and information about which occupations the program prepares students for.

Schools should report this information voluntarily, but it is sometimes hard to find on their websites. If it isn't readily available, call an admissions counselor at the school or try searching online for performance measures by school. (See the Grab bag item "Online tools for comparing colleges," elsewhere in this issue of the *Quarterly*, for suggested search tools.)

Alumni and teachers. Other sources of program information are the people who know it. Talk to alumni or teachers to get a sense of the employment outcomes of recent graduates. Ask alumni whether they think the program helped them get a job. Find out from teachers whether employers actively recruit a program's graduates or how difficult it typically is for graduates to get jobs in the field of their certificate.

Direct discussion with alumni and teachers can provide other insight into programs, too. Are instructors knowledgeable about the subjects they teach? Do students feel prepared to enter the occupation at the end of training? However helpful these conversations are, though, they should supplement—not replace—other types of verification.

The job market

Many certificates are offered in career areas that are in high demand. But that's not always the case. And the job market for workers with

Assessing the quality of instructors is a good way to evaluate programs—as long as it's not the only type of evaluation.

a certificate might be different from that for workers with a degree or other credentials.

Whether jobs are likely to be available for people with a certificate also depends on where they live and if employers there are hiring workers with this type of credential. To learn more about the job market, contact trade associations and talk to workers in the occupation. Find out what employers look for when hiring—and if they expect to have jobs.

For more information

This article covers a portion of the occupations in which certificates are earned. The *Occupational Outlook Handbook* (*OOH*) describes different educational paths workers can take to enter an occupation, including earning a certificate. For education, outlook, wage, and more information about occupations, see the *OOH* online at **www.bls.gov/ooh**.

BLS also assigns occupations to one level of education based on what is typically required for entry. To search for occupations that typically require a certificate or other postsecondary non-degree award, visit **data.bls.gov/oep/noeted?Action=empeduc**.

CareerOneStop's short-term training finder locates certificate or other programs that take less than 2 years to complete. Visit **careerinfonet.org/ShortTermTraining**.

Another CareerOneStop site, **www.careeronestop.org/WiaProviderSearch.asp**, directs you to your state's list of training providers (including other types of certificate program providers) that are certified to receive students using funds from the Workforce Investment Act.

For occupations that require a license, this CareerOneStop tool gives contact information for state licensing agencies that can verify whether a certificate program counts toward occupational licensing requirements: **www.careeronestop.org/credentialing/credentialinghome.asp**. For occupations in which certification is common, use the certification finder (on the same page) to get names and contact information for the professional or industry organizations that certify workers.

All of this CareerOneStop information is integrated into two websites: **MyNextMove.org** (for people new to the workforce) and **MySkillsMyFuture.org** (for people with work experience). Career explorers can visit these sites to see relevant credentials information in a single occupational report.

To find public 2-year schools that offer certificates, try the American Association of Community Colleges' community college finder online at **www.aacc.nche.edu/Pages/CCFinder.aspx**.

For lists of nationally recognized accrediting organizations, visit the U.S. Department of Education's accreditation database site at **ope.ed.gov/accreditation** or the Council for Higher Education Accreditation's chart at **www.chea.org/pdf/chea_usde_allaccred.pdf**.

My career

Group fitness instructor

Tammy Kenney
Falls Church, Virginia

BLS fast facts: Fitness trainers and aerobics instructors

- May 2011 wage and salary employment: 231,500
- 2010–20 projection: 24 percent growth (faster than average)
- May 2011 median wage: $31,030 annually, $14.92 hourly
- Typical education and training: High school diploma or equivalent
- May 2011 top employing industries: Other amusement and recreation industries, civic and social organizations, other schools and instruction, local government, and other personal services.

What do you do?

I teach a yoga-Pilates class in several different gyms. I have my own classes, and I also sub for other instructors.

Before each class, I welcome everyone, describe the class if I have new participants, and might show them postures that they won't be able to see once class starts. During class, as I cue (explain) and demonstrate what we're doing, I also look around to see if anyone needs to make adjustments or corrections. I'll cue modifications or options as needed to make sure everyone is safe. Proper form is very important for safety.

How did you get started in this occupation?

While taking group fitness classes about 10 years ago, I discovered the class I now teach. It struck a chord with me because it blends three things I like in a workout: strength, flexibility, and balance. It's a class based on movement and breath, which makes it incredibly stress reducing.

I had been a member and took classes at the gym where I was initially hired as an instructor, and that gym sponsored my training. Several instructors there helped guide me in getting certified.

To get hired at a gym, you may have to audition by teaching a portion of a class. But many instructors know each other, and there's a lot of networking. If you work in one gym and other instructors there know you, they can sometimes vouch for you at another gym. I've gotten most of my jobs through networking.

What are your qualifications?

I had to get certified to teach this specific class, which meant going to a 3-day training, putting that knowledge to use, and then submitting a video to the certifying organization of myself teaching the material I had learned. To teach group fitness, my gym also required that I be certified in both CPR (cardiopulmonary resuscitation) and use of an AED (automated external defibrillator) and by a reputable general group fitness organization.

Do you have other education that ties in with this?

I have more credit hours than I need for a bachelor's degree, but I changed my major from social work to accounting and went to several different colleges. I basically had to start over when I switched to accounting, and I never finished.

But studying social work gave me an appreciation for people and a willingness to listen in a nonjudgmental way. I know that everyone gets something different out of my class. Before they walk in, they're all coming in with different needs, so the class can't be one-size-fits-all. I have to tailor it to meet the needs of the people who are there, so each class might end up with a different feel.

Describe your career path.

Out of college, I worked as an executive secretary to the president of a nonprofit organization, then as an accountant. As my jobs got more stressful, I found that exercise helped reduce my stress.

I've been active most of my life—I was a gymnast growing up and did competitive powerlifting in high school and college. I understand the importance of exercise in living a healthy life. But I got more into group fitness when my work got stressful. I needed the outlet, and I needed the camaraderie to keep me coming back. I developed a deep appreciation of how critical exercise is not only to physical health, but to mental health as well.

I often felt so much relief from taking a group exercise class that I wanted to hug the instructor afterward, and that's when I realized: I want to give this, to *be* this, for someone else. I asked the instructor about it, got all the information, and started looking into it.

Any surprises?

I don't like to be the center of attention. I never took a public speaking class. I am a shy person. The thought of getting up in front of people, of *exercising* in front of people and telling them what to do, is something I never would've imagined myself doing. But now, I not only feel comfortable doing this, I'd like to get certified in other disciplines along the yoga spectrum.

What's your best advice for someone who wants to teach group fitness?

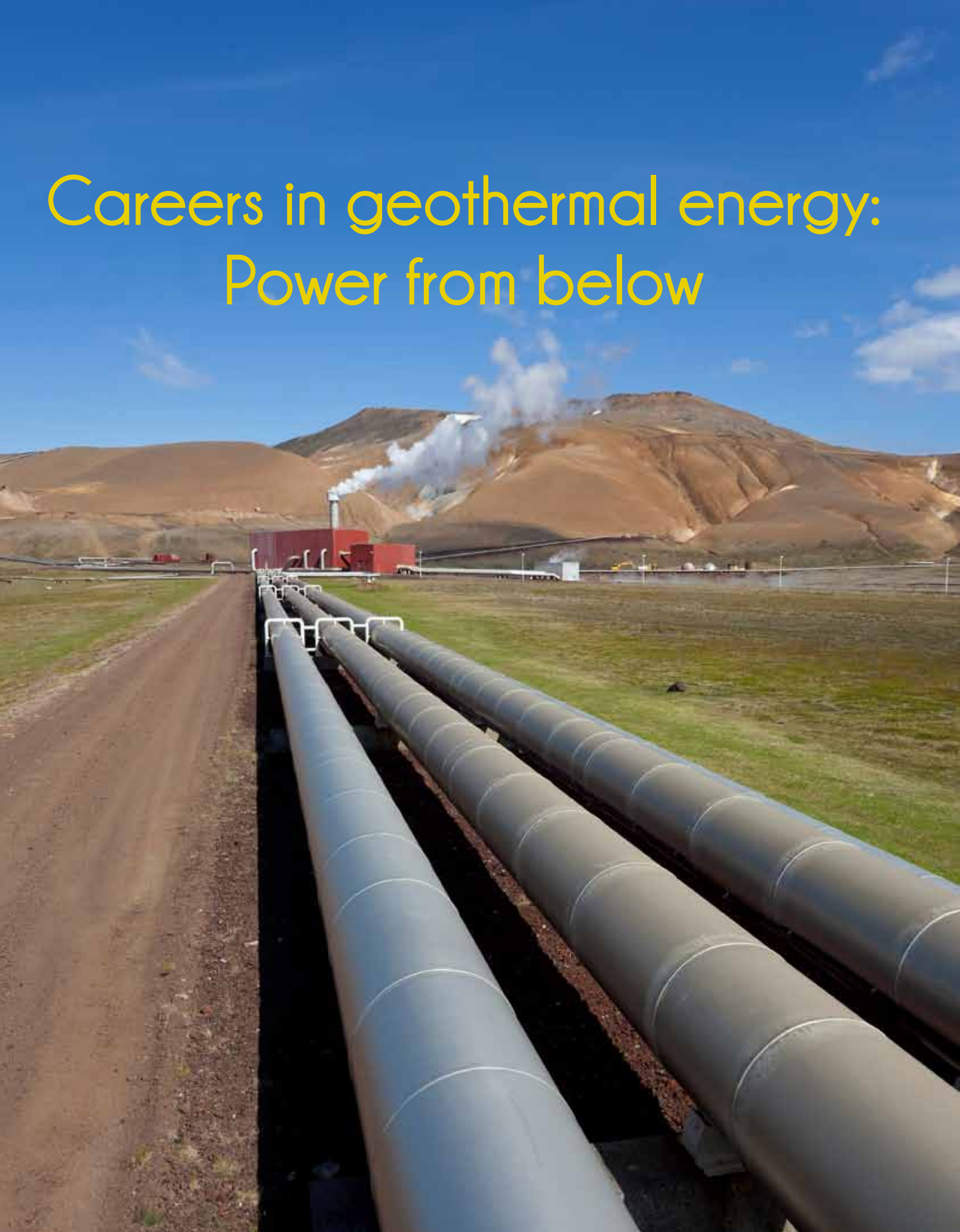
You have to love it yourself before you can teach it to others. Go to a variety of classes. Find what you love. Be able to see yourself completely immersed in it. I took classes for years in the specialty I chose. You might not need to do it that long, but definitely start with some foundation.

After you figure out what you want to teach, find an organization you respect to get certified. There are all different kinds of general and specific certifications, and new ones are popping up all the time. Do your research so you find the best fit for your needs.

But even after you get certified, you have to keep taking classes, going to advanced trainings, striving to improve and to learn. You can't just settle at a certain point and say, "I'm there." ∞

Tammy Kenney was interviewed by Kathleen Green, an economist in the Office of Occupational Statistics and Employment Projections, BLS. Kathleen can be reached at (202) 691-5717 or at green.kathleen@bls.gov.

Careers in geothermal energy: Power from below



In the search for new energy resources, scientists have discovered ways to use the Earth itself as a valuable source of power. Geothermal power plants use the Earth's natural underground heat to provide clean, renewable energy.

The geothermal energy industry has expanded rapidly in recent years as interest in renewable energy has grown. In 2011, the U.S. Bureau of Labor Statistics (BLS) counted about 1,050 jobs in geothermal power generation. And the Geothermal Energy Association estimates that there were about 5,200 jobs directly related to geothermal power production and management in the United States in 2010.

Geothermal energy production is expected to continue to grow, and with it the demand for workers in associated occupations. In 2012, the geothermal industry was developing 130 geothermal projects in 15 states, according to the association.

This article describes geothermal energy and career opportunities in the industry, focusing on geothermal projects that generate electricity for power grids. The first two sections explain geothermal energy and how it works, and the third section discusses the different steps necessary to construct a geothermal plant. The fourth section highlights occupations that are critical to the geothermal industry. Each occupational overview includes information on job duties; occupational wage and employment data; and the credentials needed to work in these occupations, such as education, training, certification, and licensure. Sources for more information are listed at the end of the article.

Underground power: The background

As far back as the 1800s in the United States, people extracted water from geothermal hot springs to heat homes or businesses. But it wasn't until 1960 that the first large-scale geothermal electricity generation plant began operating in California.

Drew Liming

Today, the United States has more geothermal generating capacity than any other country in the world. Despite this, geothermal energy accounted for only 3 percent of renewable energy-based electricity consumption in 2010.

Geothermal may be a small part of power generation in the United States, but it's an attractive energy source. Geothermal power plants provide baseload power, which means that the power they generate does not vary. This distinguishes geothermal from other renewable sources, such as solar and wind, which produce power only when sunlight or wind are sufficiently steady and strong.

Despite its potential as a clean, steady energy source, geothermal power faces challenges in expanding development. Geothermal projects are expensive, and it takes years to build a working geothermal plant. In addition, geothermal plants are often located in remote areas. The most accessible geothermal sites

Drew Liming is an economist. He worked in the Office of Occupational Statistics and Employment Projections, BLS, at the time he wrote this article.

are concentrated in the Western United States, so jobs that involve working with geothermal energy are usually located near these sites.

How does geothermal power work?

Geothermal energy uses groundwater that has been heated in cracks and reservoirs deep in the Earth's core. This heat can be captured and used as residential or utility power.

Residential geothermal power uses water running through underground pipes to regulate a building's internal temperature. In winter, the water in these pipes carries heat from the Earth into the building. In summer, the pipes carry excess heat out of the building.

Utility geothermal power uses energy from heated groundwater to generate electricity. The occupations discussed in this article are usually associated with utility-scale geothermal projects. There are three common types of geothermal power plants: dry steam, flash steam, and binary cycle.

Dry steam plants are the simplest and most common. They rely on steam released from underground sources to turn turbines and generate electricity.

Flash steam plants mine hot water through long pipes that extend into deep underground reservoirs. The water is piped up to holding tanks. When the high-pressure hot water enters these low-pressure tanks, it becomes steam. This steam powers turbines to generate electricity.

In a *binary cycle* plant, hot water is piped from underground reservoirs, but a different fluid with a lower boiling point is used to capture the water's heat through a heat exchanger. The vapor from this other fluid turns the plant's turbines and generates electricity.

All types of geothermal plants release the cooled water back into the ground, where it seeps back into the underground reservoir, is reheated by the earth, and can be reused. Through this cycle, geothermal power provides a renewable and inexhaustible source of energy.

Building a geothermal plant

Geothermal energy plants must be located near sufficient hot groundwater. Scientists analyze charts, satellite imagery, and seismic studies to find appropriate underground reservoirs. Workers then drill exploratory wells to

verify a site's usability. After an underwater reservoir is found, groundwater is pumped up to the surface, where scientists analyze it to determine its suitability.

Workers determine the best location from which to tap the underground reservoir and then drill the main well. For flash steam and binary cycle plants, geothermal drilling projects require machinery and workers similar to those used in drilling projects in the oil and gas industry. Drilling is extremely expensive and poses a risk of huge financial loss if sites are unsuitable. Many geothermal companies hire specialized drilling firms to do this work. Once drillers reach the underground reservoir, they install pipes in the well to carry the groundwater up to the surface.

While the main well is being completed, construction crews build the plant structure. They use heavy equipment to clear the land and lay the plant's foundation. Electricians install a power plant's electrical components, and pipefitters build the pipe infrastructure to carry the hot groundwater and steam through the geothermal plant. Construction crews build roads and transmission lines.

The geothermal plant becomes operational once it has been constructed and connected to the power grid. A plant operator and technicians remain on site to monitor the plant and resolve problems. Because geothermal energy is a stable source of power, these plants operate more efficiently and use less labor than other types of plants.

Working with geothermal energy

Many different types of workers are needed for each phase of a geothermal plant's development. The occupations highlighted in this section are not specific to the geothermal industry. Often, workers' experiences in other industries are applicable to geothermal projects.

Science occupations

Scientific research is an important component of geothermal development. Scientists study maps of geothermal resources and might also visit potential geothermal sites. They often work on teams with other scientists in various disciplines. Geothermal companies employ some scientists full-time and hire others as consultants.

Environmental scientists work with geothermal plant developers to help them comply with environmental regulations and policies and to ensure that sensitive parts of

the ecosystem are protected. These workers use their knowledge of the natural sciences to minimize hazards to the health of the environment and the nearby population. They also prepare the environmental impact studies that are needed for a geothermal project to secure its building permits.

Geologists spend a large part of their time in the field, identifying and examining the topography and geologic makeup of a geothermal site. They also study maps to ensure that a site will be able to supply adequate geothermal energy. Geologists use their knowledge of different kinds of rock to make recommendations on the most cost-effective areas to drill. Some specialized geologists might help to monitor a plant's location for seismic activity and attempt to predict the threat of earthquakes.

Hydrologists study the movement, distribution, and other properties of water and analyze how these properties influence the surrounding environment. Hydrologists use their expertise to solve problems that relate to water quality and availability. On geothermal projects, hydrologists study the water below the earth's surface. They help decide where to drill wells and analyze the groundwater that is pumped from the underground reservoirs to the surface.

Wildlife biologists evaluate a geothermal plant's effect on local animal life. Geothermal plants are not inherently destructive, but construction of the related infrastructure—such as plants, roads, and transmission towers—can disrupt the natural environment. Biologists ensure that the plant's impact on local animal populations is minimal. They spend a lot of time outdoors at the site, cataloging the surrounding wildlife and recommending how to avoid interfering with local ecosystems.

Employment and wages. BLS does not currently have occupational wage or employment data specific to the geothermal industry. However, BLS does have these data for the electric power generation, transmission, and distribution industry group, which includes the operation of geothermal plants. Table 1 shows May 2011 BLS employment and wage data for the science occupations in this industry group.

Preparation. Employers often prefer that geologists, environmental scientists, and wildlife biologists have a master's degree. Depending on the specialty, however, a bachelor's degree is typically sufficient for an entry-level position in these disciplines. Hydrologists typically enter the occupation with a master's degree. A Ph.D. is recommended for scientists who oversee environmental impact and site suitability studies.

Excellent computer skills are a must for scientists because they use computers frequently for data analysis, digital mapping, remote sensing, and computer modeling. Some scientists, such as geologists, are usually certified or licensed by a state licensing board.

Engineering occupations

Designing geothermal plants or new drilling equipment requires the skills of engineers.

Table 1: Employment and wages in selected science occupations in the electric power generation, transmission, and distribution industry, May 2011

Occupations	Employment	Median annual wages
Environmental scientists and specialists, including health	1,200	$87,160
Geoscientists, except hydrologists and geographers	60	77,460
Hydrologists*	6,960	75,680
Zoologists and wildlife biologists*	18,380	57,420

* Industry-specific data are not available for this occupation. These data represent employment and wages for the occupation as a whole.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

Most engineers work in offices, laboratories, or industrial plants, but some work outdoors at construction sites, where they monitor or direct operations or solve problems at the site.

Civil engineers design geothermal plants and supervise the construction phase. Many geothermal plants are on rocky, difficult terrain, which require special procedures to build. Civil engineers also have to consider potential hazards, such as earthquakes, and build plants to withstand them. These engineers are also responsible for designing access roads that lead to the plants.

Electrical engineers design, develop, test, and supervise manufacturing of geothermal plants' electrical components, including machinery controls, lighting, wiring, generators, communications systems, and electricity transmission systems.

Electronics engineers are responsible for electrical components that control plant systems or signal processes. Electrical engineers work primarily with power generation and distribution; electronics engineers develop the complex electronic systems used to operate the geothermal plant.

Environmental engineers deal with the potential environmental impacts of geothermal plants. Although geothermal energy is an environmentally friendly source of electricity, environmental engineers must consider a site's potential impact on local plants and wildlife.

Mechanical engineers research, design, develop, and test tools and a variety of machines and mechanical devices. Many of these engineers supervise the manufacturing processes of drilling equipment or generator or turbine components.

Employment and wages. BLS does not currently have occupational wage or employment data specific to the geothermal industry. However, BLS does have data for the electric power generation, transmission, and distribution industry group, which includes the operation of geothermal plants. Table 2 shows May 2011 BLS employment and wage data for the engineering occupations in this industry group.

Preparation. Engineers typically have at least a bachelor's degree in an engineering specialty. However, some jobs require more education, such as a master's or doctoral degree. Additionally, an engineer typically must be licensed as a professional engineer

Table 2: Employment and wages in selected engineering occupations in the electric power generation, transmission, and distribution industry, May 2011

Occupations	Employment	Median annual wages
Civil engineers	1,400	$84,950
Electrical engineers	15,310	84,730
Electronics engineers, except computer	400	90,790
Environmental engineers	560	79,530
Mechanical engineers	920	82,230

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

and must complete continuing education to keep current with new technologies.

Entry-level engineers may be hired as interns or junior team members to work under the close supervision of more senior engineers. As they gain experience and knowledge, they are assigned more difficult tasks and given greater independence.

Engineers are usually required to be certified as competent to carry out specific work, depending on the systems used by a particular geothermal power company.

Drilling occupations

To reach hot water far below the earth's surface, geothermal plants use wells that descend into underground reservoirs. Drilling these wells requires specialized machinery and workers. Drilling crews first drill exploratory wells to confirm the locations of underground reservoirs. After discovering the best locations, they drill the geothermal plant's main well.

Drilling crews typically use a derrick—a large, metal framed crane hanging over a well—to guide drilling equipment. Because drilling equipment is so heavy, derricks are necessary to control and maneuver drilling bits, pipes, and other equipment. Fluids that help to break up the rock are pumped into the well through a pipe connected to the drill bit. The pipe also carries debris and mud out of the well and to the surface, where it can be disposed of.

As the well gets deeper, new pipe sections are connected to those already in the ground, and the drill continues until it taps the underground reservoir. Depending on a project's location and the type of rock that needs to be drilled through, drilling crews use different drill bits and drill fluid mixtures.

In addition to the workers who drill the wells, drilling crews might include some support personnel, such as workers who transport the drilling rigs and fuel to project sites.

Derrick operators control and inspect drilling derricks. These workers can raise or lower the drill bits and pipes into or out of the well. Derrick operators also maintain their machinery and ensure that it operates correctly.

Rotary drill operators control the drill itself. They determine a drill's pressure and speed as it penetrates rock. To keep drill sites safe, rotary driller operators use gauges that monitor drill pump pressure and other data, such as how much drill mud and debris are being pumped from the well. Rotary drill operators also keep records of where they've drilled and how many layers of rock they've penetrated.

Roustabouts do much of the basic labor on drilling sites. They clean equipment and keep work areas free of the debris and drilling mud that the drill pipes carry up from the wells. Roustabouts also install new pipe sections that allow the drill to reach deeper underground.

Employment and wages. BLS does not currently have occupational wage or employment data specific to the geothermal industry. However, BLS does have data for drilling crew workers across all industries. Table 3 shows May 2011 BLS employment and wage data for drilling occupations.

Preparation. There are few formal educational requirements for drilling crew workers, but employer preferences vary. For example, although drilling crew workers are not required to have a high school diploma, some employers might prefer to hire workers who do. Drilling crew workers can enroll in vocational programs to learn skills such as basic mechanics, welding, and heavy equipment operations.

Most drilling crew workers start as helpers to experienced workers and are trained on the job. But formal training is becoming more common with the use of new and more advanced machinery and methods. Drilling crew workers usually must be at least 18 years old, be in good physical condition, and pass a drug test.

Construction occupations

Construction workers build the geothermal power plant and necessary supporting infrastructure, such as roads and transmission lines. Depending on where a plant is located, construction crews might operate specialized equipment to build plants in rocky, difficult terrain.

Carpenters build, install, and repair fixtures made from wood or other materials, including plastic, fiberglass, and drywall, on geothermal construction sites. Following construction drawings, carpenters measure, mark, and arrange their materials. They use hand and power tools—such as planes, saws, and drills—to cut and shape the materials, which are frequently joined together with nails, screws, or other fasteners. After completing an installation, carpenters check the accuracy of their work with instruments, such as levels or rulers, before making any necessary adjustments.

Construction equipment operators use machinery to clear earth, trees, and rocks at geothermal plant construction sites. They also use machines to grade the land and build roads before construction starts. Construction

Table 3: Employment and wages in selected drilling occupations, all industries, May 2011

Occupations	Employment	Median annual wages
Derrick operators, oil and gas	19,480	$45,220
Rotary drill operators, oil and gas	21,650	51,310
Roustabouts, oil and gas	51,540	32,980

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

equipment operators use their machinery to hoist heavy construction materials for other workers to use.

Construction laborers do many tasks on geothermal plant construction sites. They use a variety of equipment, including jackhammers and small mechanical hoists. For some jobs, construction laborers use computers and other high-tech input devices to control robotic pipe cutters and cleaners. They often assist carpenters, electricians, and other specialty trades workers.

Construction managers plan, direct, coordinate, and budget geothermal projects. They may supervise an entire project or, depending on the size of a plant, part of one. As coordinators of the design and construction processes, construction managers select, hire, and oversee specialty trades workers, such as carpenters and electricians.

Construction managers are involved in a plant's development from its original conceptual designs through its final construction. They help to ensure that geothermal plants are built on time and within budget. Construction managers often meet with engineers, architects, and other workers building the plant.

Electricians both install and maintain work on the energy systems of geothermal plants. When constructing plants, electricians check the construction drawings to determine where to place equipment such as circuits and outlets. After finding the proper locations, they install and connect wires to systems such as circuit breakers, transformers, and outlets.

Electricians also install the electrical equipment and wiring that connects the geothermal plant to the electrical grid. They must be familiar with computer systems that regulate the flow of electricity and be experienced working with high-voltage systems.

Plumbers, pipefitters, and steamfitters install, maintain, and repair the pipe systems

in geothermal plants that carry hot, high-pressure fluids from the well and into low-pressure tanks. They also are responsible for a plant's other pipes, including those that carry steam from the tanks to the turbines.

Plumbers, pipefitters, and steamfitters must frequently lift heavy pipes, stand for long periods of time, and work in uncomfortable and cramped positions. In their work, they face a number of possible hazards, including falls from ladders, cuts from sharp objects, and burns from hot pipes or soldering equipment.

Employment and wages. BLS does not currently have occupational wage or employment data specific to the geothermal industry. However, BLS does have data for the electric power generation, transmission, and distribution industry, which includes the operation of geothermal plants. Table 4 shows May 2011 BLS employment and wage data for the construction occupations in this industry group.

Preparation. Construction managers typically have completed an associate's degree or higher in construction management, business management, or engineering. They also usually have experience working on construction projects. Because experience is so important for construction managers, it may be substituted in some cases for educational requirements. But large, complex projects such as building a geothermal plant require specialized education. Workers who have a degree

Table 4: Employment and wages in selected construction occupations in the electric power generation, transmission, and distribution industry, May 2011

Occupations	Employment	Median annual wages
Carpenters*	578,910	$58,000
Operating engineers and other construction equipment operators	2,120	57,630
Construction laborers	1,030	43,480
Construction managers	490	95,630
Electricians	7,120	60,310
Plumbers, pipefitters, and steamfitters	1,130	68,800

* Industry-specific data are not available for this occupation. These data represent employment and wages for the occupation as a whole.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

in construction management or engineering but do not have significant experience may be hired as assistants to project managers.

Most construction laborers are trained on the job. Laborers typically work under the direction of a foreman. As they gain more experience and improve their abilities, laborers may become foremen themselves.

Equipment operators typically enter the occupation with a high school diploma or equivalent. They may learn on the job, complete a formal training program, or have a combination of both. Certain equipment requires that operators be certified, which involves some training and testing to ensure competence and safety.

Electricians, carpenters, plumbers, pipefitters, and steamfitters typically enter the occupation with a high school diploma or equivalent. They are usually trained through apprenticeship programs, which typically last 3 or 4 years for electricians and carpenters and 4 or 5 years for plumbers, pipefitters, and steamfitters. Electricians, carpenters, plumbers, pipefitters, and steamfitters may also attend specialized training programs on the systems with which they work.

Plant operators

A completed geothermal plant needs staff to operate and monitor it. Power plant operators prevent or resolve any problems that would stop the plant from operating correctly.

Working in control rooms, power plant operators monitor power generation and distribution at a geothermal plant. They oversee the geothermal plant's pipes, generators, and instruments that regulate voltage and

electricity flows. They also communicate with electrical distribution centers on the regional power grid to match production with system load.

Power plant operators go on inspection rounds to confirm that everything in the plant is operating correctly and keep records of switching operations as well as loads on generators, lines, and transformers. They use computers to report unusual incidents, malfunctioning equipment, or maintenance performed during their shifts.

Employment and wages. BLS does not currently have occupational wage or employment data specific to the geothermal industry. However, BLS does have data for the electric power generation, transmission, and distribution industry group, which includes the operation of geothermal plants. In May 2011, BLS data show, there were 29,730 wage and salary power plant operators in this industry group, and they earned a median annual wage of $66,340.

Preparation. Power plant operators typically need a high school diploma or equivalent and on-the-job training. Related work experience, such as a line worker or a laborer in a power plant, can be helpful in getting a job. They need strong mechanical, technical, and computer skills to operate a power plant. Certification by the North American Energy Reliability Corporation is necessary for positions that could affect the power grid. Companies also require that individuals seeking highly technical jobs have a strong math and science background.

For more information

To learn more about many of the occupations in this article, as well as hundreds of others, refer to the *Occupational Outlook Handbook* (*OOH*). The *OOH* is available online at **www.bls.gov/ooh**.

For more information about green careers, visit the BLS Green Jobs webpage at **www.bls.gov/green/greencareers.htm**. This article was adapted from a recent BLS report on the geothermal energy industry. To read that report, visit **www.bls.gov/green/geothermal_energy/geothermal_energy.htm**.

For information about careers working with geothermal power, visit your local One Stop Career Center. You can find a nearby career center online at **www.servicelocator.org**.

For more information about the geothermal energy industry, contact:

Geothermal Energy Association
209 Pennsylvania Ave. SE
Washington, DC 20003
(202) 454-5261
www.geo-energy.org

For more information about geothermal and other types of renewable energy, visit the U.S. Department of Energy's Energy Efficiency and Renewable Energy Program online at **www.eere.energy.gov** or the National Renewable Energy Laboratory online at **www.nrel.gov**.

Career info on the go

Carry all the career information you need, wherever you go! Now you can easily browse the *Occupational Outlook Handbook* (*OOH*) on your mobile phone or tablet.

The mobile version of the *OOH*, a publication of the U.S. Bureau of Labor Statistics, provides quick links to occupations and occupational groups. You'll find the same information in this platform that you're familiar with online. Learn about an occupation's job duties, what it pays, its projected growth between 2010 and 2020, how to become a worker in the occupation, and much more.

To read the *OOH* from your handheld or mobile device, visit **www.bls.gov/ooh/mobile**.

Online tools for comparing colleges

If you're planning to continue your education after high school, you may be wondering: how do 2- or 4-year colleges and universities stack up against each other? Are they affordable? How likely are their students to transfer—or to graduate? How diverse are the faculty and student populations?

Several websites have tools for comparing data from public and private postsecondary schools. The sites allow users to search by state, school name, school type, and other variables. These sites include the following:

- College InSight (**college-insight.org**) highlights data on schools' affordability, diversity, and student success. Users can browse and compare data from four sources at the college, state, and national levels, choosing search criteria to focus in greater depth.
- College Measures (**collegemeasures.org**) aims to improve higher education through better access to information. The site draws from multiple data sources to show schools' performances in areas such as student success, school efficiency and productivity, and graduates' pay and debt.
- College Navigator (**nces.ed.gov/collegenavigator**) can help college-bound students find the right school. Using data primarily from a program for the National Center for Education Statistics, the website allows users to build and compare lists of schools, export search results to a spreadsheet, find schools using an interactive map, and more.
- College Results Online (**collegeresults.org**), a Web tool from the Education Trust, provides information about college graduation rates. The site lets users compare colleges by many criteria, including graduation rates, financial aid, student cost, and admissions data.

Data on each of these sites is available for free, without registration. Other sites, however, require registration for some searches or may filter search results to benefit their advertisers or sponsors. As with using any online search engine, consider the source when evaluating results.

More education for better access to paid leave

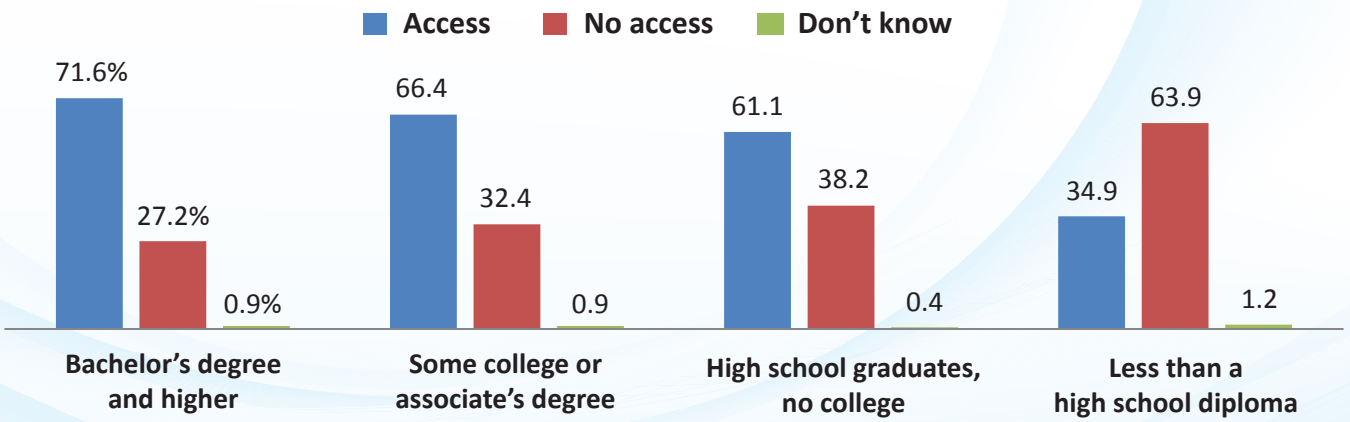
Here's another reason to finish high school: Workers who stay in school have more access to paid leave compared with workers who drop out.

As the chart shows, workers' access to paid leave increased as educational attainment rose, according to the U.S. Bureau of Labor Statistics (BLS). In 2011, workers with a high school diploma, some college, or a college degree were more likely than not to have access to paid leave at their main job. That contrasts sharply with workers who did not finish high school, most of whom had no access to paid leave.

The data were collected directly from wage and salary workers age 25 and over. They come from questions about access to leave, use of leave, and ability to adjust work schedules that were asked as part of the 2011 American Time Use Survey and sponsored by the U.S. Department of Labor's Women's Bureau. (For another look at leave and benefits data, see the OOChart, "Best bets for job perks," elsewhere in this issue of the *Quarterly*.)

For more information or to see more of the data from this Time Use survey, visit **www.bls.gov/news.release/pdf/leave.pdf**. To contact the BLS American Time Use Survey program, write 2 Massachusetts Avenue NE, Suite 4675, Washington, D.C. 20212; call (202) 691-6339; or visit **www.bls.gov/tus**.

Wage and salary workers with access to paid leave at their main job, by educational attainment, 2011 (percent)



Source: U.S. Bureau of Labor Statistics, American Time Use Survey.

Learn about fire sprinklers, enter to win a scholarship

When activated during a fire, automatic sprinklers save lives and property. The American Fire Sprinkler Association does its part each year to spread this message by awarding $20,000 in scholarships to high school seniors.

Here's how it works: High school seniors read an essay, available online and for download from the association's website, about automatic fire sprinklers. Then, they take a 10-question, open-book, multiple-choice test on the information. Each correct answer counts as one entry into a drawing for a $2,000 scholarship; 10 correct answers equal 10 drawing entries.

Eligibility requirements include U.S. citizenship or legal residency and enrollment in an accredited college, university, or trade or technical school by fall semester 2013. The contest ends April 3, 2013, and winners' names will be posted online the following month.

Ten students will be awarded scholarships of $2,000 each, paid directly to the accredited postsecondary school they plan to attend. Accepting a scholarship does not obligate the recipient to study fire safety or a related subject.

For more information or to enter the contest, visit **www.afsascholarship.org/highschool.html**.

No jobs like homes:

Careers in helping home buyers and sellers

Millions of people buy and sell homes each year. And because these transactions are often complex, many home buyers and sellers turn to workers who can help with the search or the sale—or both.

From preparing to put a home on the market to filing the sales documents, many workers are involved in helping a home change hands. In May 2011, the real estate industry accounted for about 1.4 million jobs, data from the U.S. Bureau of Labor Statistics (BLS) show. Other key industries that employ workers involved in home-sale transactions include banking and insurance.

This article focuses on eight occupations—including home inspectors, loan officers, and title examiners—whose workers provide services for buying or selling a home. The first section has details about these workers' job duties and includes data from the BLS. The second section describes pros and cons of the work. The third section explains how workers prepare for these occupations. And the final section gives sources for more information.

Occupations for helping a home change hands

Occupations that typically involve direct contact with home buyers and sellers are concentrated in four main areas: home marketing and sales, inspection and repair, loans and insurance, and appraisal and law. The descriptions in this section focus on how these workers help home buyers or sellers, but people in these occupations may also do tasks that are not directly related to the buying and selling of property.

The table on page 36 shows employment and wages for workers in these occupations. As the table shows, 2011 median annual wages for these workers ranged from $29,270 for secretaries and administrative assistants in the real estate industry to $59,340 for real estate brokers. The median annual wage for all workers in 2011 was $34,466.

Home marketing and sales

Prospective and existing homeowners often seek help when buying or selling a property. Real estate brokers, sales agents, and their assistants promote homes for sellers, help buyers find homes, and take care of the many details involved.

Real estate brokers and sales agents. Experts on the housing market, real estate brokers and sales agents manage the process of buying or selling a home. They meet with clients, negotiate offers, prepare purchase and sale agreements, coordinate the final sale, and ensure that buyers and sellers fulfill the terms of their agreements. Real estate brokers and sales agents usually must find their own clients and often rely on networking and referrals from previous clients to generate new business.

When working with buyers, real estate brokers and sales agents search databases for properties the buyers might be interested in, walk through those homes with buyers,

Elka Torpey

Elka Torpey is an economist in the Office of Occupational Statistics and Employment Projections, BLS. She is available at torpey.elka@bls.gov.

present buyers' offers to sellers, and refer buyers to workers who provide loans, inspections, or other services.

When working with sellers, real estate brokers and sales agents study sales of comparable properties, propose a price for listing the seller's home, and suggest improvements the seller can make so the home is more appealing to buyers. They also take photos and write descriptions of a home to promote it through multiple listing services, in advertisements, and by hosting open houses.

Some real estate brokers and sales agents have expertise in a particular type of home sale, such as new construction or short sales—ones in which the lender agrees to sell a property for less than is owed on the loan.

Real estate sales agents must work under the supervision of brokers, who have additional experience and a special license to run their own business. More than half of real estate brokers and sales agents were self-employed in 2010, according to BLS, including those who worked as independent contractors for real estate firms.

Real estate assistants. Some real estate brokers and sales agents hire assistants to help them with a variety of tasks. Real estate assistants make flyers, post online advertisements, enter property information into multiple listing service systems, and set up automatic alerts to let clients know when properties with their criteria are put on the market. They may also update websites, including taking and uploading photos or videos so prospective buyers can tour a home online.

Real estate assistants organize paperwork related to the purchase or sale of a home. In addition, they communicate with clients to help set up inspections or receive the clients' deposits or other money needed to buy a home. Some assistants research and manage leads for new customers.

BLS data on these assistants is included with secretaries and administrative assistants, except legal, medical, and executive. Some

Employment and wages for workers who help with home buying and selling

Occupations	Employment, 2010[1]	Median annual wage, May 2011[2]
Home marketing and sales		
Real estate brokers	98,600	$59,340
Real estate sales agents	367,500	39,070
Secretaries and administrative assistants, except legal, medical, and executive[3]	66,300	29,270
Inspection and repair		
Construction and building inspectors	102,400	53,180
General maintenance and repair workers[3]	237,500	30,950
Loans and insurance		
Loan officers	289,400	58,030
Insurance claims and policy processing clerks	248,100	35,210
Appraisal and law		
Appraisers and assessors of real estate	77,800	48,870
Title examiners, abstractors, and searchers	59,000	40,760

[1] Employment data are for wage-and-salary and self-employed workers.
[2] Wage data are for wage-and-salary workers only.
[3] Data are for workers in the real estate industry only.
Sources: BLS National Employment Matrix (employment data), BLS Occupational Employment Statistics (wage data).

real estate assistants reportedly work part time.

Inspection and repair

Before making such a large purchase, buyers want to be aware of any existing problems with a home—and to have the seller fix them prior to the sale. Sellers often prefer to find and fix problems themselves while readying their home for sale, so they can maximize their asking price. Home inspectors and general repairers identify and address a broad range of problems that might otherwise impede a successful home sale.

Home inspectors. Before purchasing a home, many buyers hire a home inspector to inform them about a home's structure and overall condition. Sellers occasionally hire these workers to inspect a home before putting it on the market.

Home inspectors typically spend about 2 to 4 hours carefully examining all aspects of a dwelling, including the roof, foundation, and plumbing. They identify any problems or building code violations that they find and then record their findings in a comprehensive report. In addition, inspectors give clients tips on operating the home's systems and on its proper upkeep.

Some home inspectors provide additional services, such as quality testing for air or water. They may also refer clients to other workers, such as those who inspect septic tanks or sewer pipes, for specialized checks.

BLS data on home inspectors is included with construction and building inspectors. About 11 percent of workers in this broader occupation are self-employed, BLS data show. Anecdotal information suggests that many home inspectors are self-employed.

General repairers. These workers complete odd jobs around a home to help prepare it for sale. General repairers do preventive maintenance and general home upkeep, such as cleaning gutters or installing attic insulation. They also fix problems with the interior or exterior of a building and its grounds, such as securing stair railings or replacing broken stone in a walkway.

Home inspectors examine homes to identify and report problems to homeowners or prospective buyers.

Before starting work, general repairers usually meet with clients to discuss the tasks that need to be done and to estimate the cost and time required to finish the job. Repairers may also purchase supplies, which are billed to the client later, and do the agreed-upon work.

BLS counts general repairers as general maintenance and repair workers. Although BLS data show that most general maintenance and repair workers aren't self-employed, general repairers who perform odd jobs for homeowners or buyers often are. Some people do home repair work in addition to holding another full-time job.

Loans and insurance

A home is the biggest purchase most people make. Getting a loan to help finance the purchase and insurance to protect against losses

When meeting with prospective home buyers, mortgage loan officers discuss the different types and terms of mortgages available.

are essential for most home buyers. Mortgage loan officers and insurance policy processing clerks help home buyers with these tasks.

Mortgage loan officers. To buy a home, many people take out a mortgage—a type of loan used for real estate. Mortgage loan officers help home buyers find and qualify for a suitable mortgage.

These workers meet with prospective home buyers and discuss different types of mortgages and their terms. Mortgage loan officers collect personal and financial information from applicants and gather all of the documents required by the lender, such as pay stubs and bank statements. Some mortgage loan officers evaluate whether to make a loan based on applicants' credit scores, income levels, and other factors that would affect their ability to repay the loan. Others forward the information to underwriters, who make the final decision about whether to lend the money.

Mortgage loan officers work either for one lender—a savings and loan association, credit union, or mortgage bank, for example—or for a mortgage brokerage firm that represents more than one lender. Mortgage brokers choose from a variety of loans to find their clients the best interest rates and terms.

In some of these jobs, especially those for mortgage brokers, workers must find their own clients. They do this by developing relationships with real estate firms and other sources of referrals. BLS data on mortgage loan officers are combined with other types of loan officers.

Insurance policy processing clerks. When buying a home, people usually buy homeowners' insurance to protect against losses from damages, such as a fire or theft. In fact, most lenders require proof of insurance before they agree to finance a mortgage. Insurance policy processing clerks work with home buyers to see that they get proper insurance coverage.

Before issuing a policy on a property, insurance policy processing clerks gather information about it, including the year in which it was built, the square footage, and characteristics such as carpeting and outbuildings. They document this information; answer

applicants' questions; and explain types, levels, and costs of coverage.

Processing clerks also review insurance applications and communicate with underwriters and sales agents about home buyers' requests for new policies. Insurance sales agents may want to visit a property before approving coverage. If they find anything objectionable, insurance policy processing clerks explain to applicants what to do to fix the problem and gain coverage. After a policy is approved, processing clerks inform home buyers and collect the first payment.

BLS counts insurance policy processing clerks along with insurance claims clerks. Most of these workers are employed by insurance carriers and agencies and brokerages.

Appraisal and law

Transferring ownership of a property involves many details. Real estate appraisers and title examiners are among the workers who ensure that these details are in order before a home sale.

Real estate appraisers. Buyers and lenders want be sure that the home they are buying or selling is worth the price. Real estate appraisers verify that a property's price is in line with its value in the local housing market.

Most real estate appraisers use standards to determine how much a property is worth. They usually do analyses of the site's land and structures, the neighborhood where it is located, and the price of similar properties on the market. Other factors may influence appraisers' valuations. For example, adverse site conditions, such as nearby power lines or home deterioration, might lead to a lower assessment value.

These workers usually visit a home to inspect its interior and exterior, taking photos and making notes. They research comparable

Real estate appraisers analyze properties to determine their value in the local housing market.

Most workers who help home buyers and sellers enjoy meeting people.

homes and local real estate trends. They consult county records to confirm the legal description of the property. And they check building codes and zoning laws for anything that might impact the property's value.

Real estate appraisers sometimes make more than one estimate of a property's value. For example, they might determine the value of the land and the cost to rebuild the home, minus its depreciation. Appraisers then write a report that includes estimates of the property's value and explains the estimates.

BLS counts real estate appraisers and real estate assessors together. Nearly 18 percent of real estate appraisers and assessors was self-employed in 2010. Other appraisers and assessors work for real estate appraisal firms, state and local governments, and banks and mortgage companies.

Title examiners. When homeowners have title to a property, they have a legal right to own and use that property. Title problems may occur for a variety of reasons, such as failing to pay taxes or to register ownership. Title examiners make sure that sellers are able to transfer full title to the property and that there are no limits to the new owner's use of it.

These workers search public and private real estate records for information about a property's title history. They summarize legal documents that are related to the property's land and buildings, such as mortgages, liens, judgments, or easements. They also may communicate with buyers, sellers, lenders, surveyors, courthouse workers, and others to convey title information and try to resolve any problems.

Title examiners, abstractors, and searchers—the occupation under which title examiners fall—may work for title insurance companies, real estate agencies, and law firms. About 14 percent of these workers was self-employed in 2010, BLS data show.

Charms and challenges

Ups and downs in the housing market aren't limited to price. Workers who help home buyers and sellers also have positive and negative experiences in their jobs.

Working directly with home buyers and sellers involves a lot of human contact, and most workers in these jobs enjoy meeting and helping people. Networking is especially important, as many workers rely on referrals to get new clients or jobs.

Success in these occupations can take time. But experienced workers often have high earnings. Real estate brokers and sales agents, for example, typically work on commission; they earn a percentage of the sale price of a home, so the more sales they make, the higher their earnings. Other workers, such as home inspectors, are often paid by the job—so the more inspections they do, the more they earn.

Real estate industry employment fluctuates with changes in the economy. And, according to BLS, all of these occupations are

projected to have average or below-average job growth between 2010 and 2020. People will continue to buy and sell homes, and population growth and mobility are expected to spur demand for the workers who help with these transactions.

Employment growth in these occupations has been curbed in recent years by the bursting of the housing bubble and the subsequent 2007–09 recession. As the housing market slowly recovers, employment is expected to increase again. Increased worker productivity due to changes in technology—such as the use of loan underwriting software, which reduces the need for loan officers—is also projected to temper employment growth in some occupations. Still, numerous job openings are expected in many of these occupations, as older workers retire and need to be replaced.

Because many current and prospective homeowners work during the day, they typically prefer to focus their house-hunting and -selling efforts on evenings and weekends. Workers in jobs associated with buying and selling homes must be available at those times to meet with clients or answer questions, although they often have some control over their work schedules. Travel to visit clients or see a property is common, and many of these jobs allow workers to do tasks outside of an office.

The real estate business can be competitive, demanding, and involve tight deadlines, all of which make the work stressful at times. But working toward a goal and resolving problems within a set time to finalize a home sale is also exciting.

And, workers concur, helping others complete one of the biggest transactions of their lives—buying or selling a home—is often its own reward.

Qualifications

Although job tasks differ, many of these occupations have similar requirements for skills, education, licensing, training, and work experience.

Skills in communication and organization are among the most important for workers in these occupations.

People who directly aid home buyers or sellers must be able to communicate well with a variety of people. Being organized, detail oriented, and adept at managing multiple tasks is also helpful. Independent contractors and self-employed workers must be highly motivated and goal oriented.

According to BLS, workers entering any of these occupations typically need at least a high school diploma. In some occupations, such as home appraiser, workers may need an associate's or bachelor's degree.

Workers who deal with home buyers and sellers may be required to have a state-issued license. Real estate brokers and sales agents, home inspectors, mortgage loan officers, and appraisers, for example, typically must be licensed. Some real estate assistants or general repairers who work as home improvement contractors also need a license.

Licensing requirements vary by occupation and state but usually involve passing an exam and completing courses related to the work. Other requirements may include passing a background or credit check.

Most people in these occupations gain knowledge through on-the-job training. They might learn from experienced workers, attend employer-sponsored training classes, or both. The length of training required for workers to become competent in their occupations ranges from several weeks for real estate assistants and title examiners to a year or more for real estate brokers and sales agents.

Many home-buying-and-selling occupations—such as insurance policy processing clerks, loan officers, home inspectors, and general repairers—require between 1 and 12 months of on-the-job training. Real estate appraisers typically complete an apprenticeship consisting of technical training and at least 2,000 supervised work hours.

To enter almost all of these occupations, workers usually do not need work experience in a related occupation. The exception is real estate brokers, who generally must have worked as a real estate agent for 1 to 3 years.

Even if not required, however, some experience or credentials may be helpful. Loan officers, for example, benefit from having had other jobs in banking, lending, sales, or customer service. Home inspectors often earn certification from professional organizations. And general repairers might have construction experience or a passion for fixing up old homes.

For more information

The *Occupational Outlook Handbook* (*OOH*) describes job duties, wages, job outlook, and more for the occupations in this article—and hundreds of others. Access the *OOH* online at **www.bls.gov/ooh**.

To read about another occupation related to home buying and selling, see "You're a *what*? Home stager" in the summer 2008 *Occupational Outlook Quarterly*, available online at **www.bls.gov/ooq/2008/summer/yawhat.htm**.

Occupation-specific information is available from professional associations.

For information about occupations in home marketing and sales, contact:

The National Association of Realtors
430 N. Michigan Ave.
Chicago, IL 60611
Toll-free: 1 (800) 874-6500
www.realtor.org

For information about occupations in inspection and repair, contact:

American Society of Home Inspectors, Inc.
932 Lee St., Suite 101
Des Plaines, IL 60016
(847) 759-2820
www.homeinspector.org

National Association of Home Inspectors, Inc.
4426 5th St. W.
Bradenton, FL 34207
Toll-free: 1 (800) 448-3942
www.nahi.org
info@nahi.org

For information about occupations in lending and insurance, contact:

American Bankers Association
1120 Connecticut Ave. NW.
Washington, DC 20036
Toll-free: 1 (800) 226-5377
www.aba.com
custserv@aba.com

Insurance Information Institute
110 William St.
New York, NY 10038
(212) 346-5500
www.iii.org

Mortgage Bankers Association
1717 Rhode Island Ave. NW., Suite 400
Washington, DC 20036
(202) 557-2700
www.mbaa.org

Nationwide Mortgage Licensing System & Registry Resource Center
(240) 386-4444
mortgage.nationwidelicensingsystem.org

For information about legal, appraisal, and land careers, contact:

American Escrow Association
211 N. Union St., Suite 100
Alexandria, VA 22314
(703) 519-1240
www.a-e-a.org
hq@a-e-a.org

Appraisal Institute
200 W. Madison St., Suite 1500
Chicago, IL 60606
Toll-free: 1 (888) 756-4624
www.appraisalinstitute.org
aiservice@appraisalinstitute.org

Appraisal Foundation
1155 15th St. NW., Suite 1111
Washington, DC 20005
(202) 347-7722
www.appraisalfoundation.org
info@appraisalfoundation.org

National Association of Land Title Examiners and Abstractors
7490 Eagle Rd.
Waite Hill, OH 44094
www.naltea.org
info@naltea.org

American Land Title Association
1828 L St. NW., Suite 705
Washington, DC 20036
(202) 296-3671
www.alta.org
service@alta.org

American Society of Appraisers
11107 Sunset Hills Rd., Suite 310
Reston, VA 20190
Toll-free: 1 (800) 272-8258
(703) 478-2228
www.appraisers.org
asainfo@appraisers.org

You're a *what*?

Santa Claus

Sara Royster

For Phil Wenz, playing Santa Claus is not play at all. It's his job.

Phil has been dressing up as Santa Claus for nearly 50 years. "It started when I was 4 years old," he says. "I asked my mother to make a Santa suit for me. I've worn one every year since." As a teenager, Phil dressed up as Santa to visit patients at a local hospital. He continued to play Santa in parades and other events, eventually landing a full-time Santa job at a Christmas theme park in Dundee, Illinois.

Professional Santas like Phil entertain children and adults during the holiday season at all types of events. They work at shopping malls or stores; entertain crowds at parades and tree lightings; and make appearances at holiday parties, charity events, and people's homes.

Most Santas work during the Christmas holiday season, which usually lasts from late November through December 25. Santas at shopping malls or department stores often work 10-hour shifts and see more than 150 children each day, according to the International Council of Shopping Centers. Phil estimates that he sees between 350 and 400 kids each day at the theme park during the Christmas season.

In the off season, Phil still works at the theme park. He also does other Santa-related work. For example, Phil has used his Santa expertise to consult for movies and television. He's also participated in a Santa Claus documentary and writes books on the subject.

Phil's year-round work makes him different from most other professional Santas. Some Santas might do other Santa-related work throughout the year, such as playing Santa in print or television advertising or in acting roles. But because the holiday season is so short, many Santas have other, unrelated jobs.

Professional Santas spend a lot of time getting ready for the part. The physical transformation into Santa can take up to 2 hours. First, Santas apply makeup to highlight their rosy cheeks. Next, they make sure to have clean teeth and fresh breath. Santas then groom or apply their whiskers. Naturally bearded Santas must trim and sometimes bleach their beards, whereas clean-shaven Santas apply fake beards with special glue. Phil has six fake beard sets that he rotates; each is handmade and cost up to $1,500.

Finally, Santas put on the famous red suit—which can have up to 100 pounds of padding. The suit includes pants, suspenders, a coat, boots, and, of course, the Santa hat. "When you walk out of that dressing room," says Phil, "you have to *be* Santa."

And although they are known for their bowl-full-of-jelly physiques, it is important that Santas keep in shape. Their work can involve hours of sitting with few opportunities to move around or stretch. Long periods of inactivity can lead to health risks, meaning that physical fitness must be a priority. "Nutrition is important," stresses Phil. "You have to take care of yourself and be healthy."

There are no formal educational requirements for becoming a professional Santa. However, aspiring Santas often develop their skills by attending schools, conventions, or workshops. Santa schools typically last a few days, charge tuition, and include detailed instruction on topics such as beard maintenance, communication skills, and sleigh flying. Santa conventions take place all over the world and offer both beginner and

Sara Royster is an economist in the Office of Occupational Statistics and Employment Projections, BLS. She can be reached at (202) 691-5645 or royster.sara@bls.gov.

experienced Santas the opportunity to mix and mingle.

Santa workshops occur throughout the year and offer classes and lectures on a variety of Christmas-related topics. Phil directs a free Santa workshop in appropriately named Santa Claus, Indiana. The workshop brings together several hundred first-time and veteran Santas from around the world to share their experiences and learn new skills. It features carol singing, guest speakers, and presentations. Phil presents a lecture on the history of Santa Claus and gives tips on how to deal with feisty children.

Part of the value in attending these events is the opportunity for newer Santas to pick up ideas from veteran ones. "Aspiring Santas can learn from the people who are good at this and have been doing this for a long time," says Phil.

One thing aspiring professional Santas must learn is good communication skills. Another is being able to improvise and think quickly—"a little bit vaudeville, a little bit creativity," as Phil puts it. Professional Santas also should be enthusiastic about the holiday season and aware of Christmas traditions from around the world.

In addition, the best professional Santas are jovial and love to be around people, especially children. Santas must be patient and understanding when dealing with crowds of all ages—including parents. "Remember, you are the world's oldest senior citizen," Phil says. "Everyone is a child to you."

Expert knowledge of Santa is important, because curious children often ask questions about Santa and Mrs. Claus, the elves, the reindeer, and the North Pole. "Santa is 1,700 years old," says Phil, who is an expert in Santa history. Other crucial knowledge for Santas includes familiarity with the latest toys that kids might be asking for.

Most professional Santas like the freedom that comes with being their own boss and setting their own hours. But working independently requires a lot of motivation and self-discipline. As self-employed workers, professional Santas are responsible for promoting themselves and finding their own jobs. They also incur a lot of business expenses, such as getting professional photographs and buying personal liability insurance. However, making these investments can help Santas find work more easily.

Photo courtesy of Phil Wenz.

Sharing his knowledge about Santa history and traditions is one of Phil Wenz's favorite work activities.

The U.S. Bureau of Labor Statistics does not specifically track the employment and wages of professional Santas. Most find seasonal work in shopping malls, stores, or photography companies. Professional Santas are often hired through referrals, so meeting other Santas can be an important source of work. "Get involved with a Santa group or charity," says Phil. "They are great networking opportunities."

Anecdotal evidence suggests that the earnings of professional Santas vary considerably, depending on the type of employer and duration of the work. The most lucrative work reportedly comes from contracts with shopping malls and photography companies, from which a professional Santa can earn up to $20,000 in one holiday season.

But after almost half a century of playing Santa, it is not about the money for Phil. He still finds it incredibly rewarding. "If you've had a good day," he says, "you have made countless people happy and created a lot of memories."

2008–12 Index

2008–12 Index

Outlook and trends

You're a *what*?

My career

OOChart

Best bets for job perks

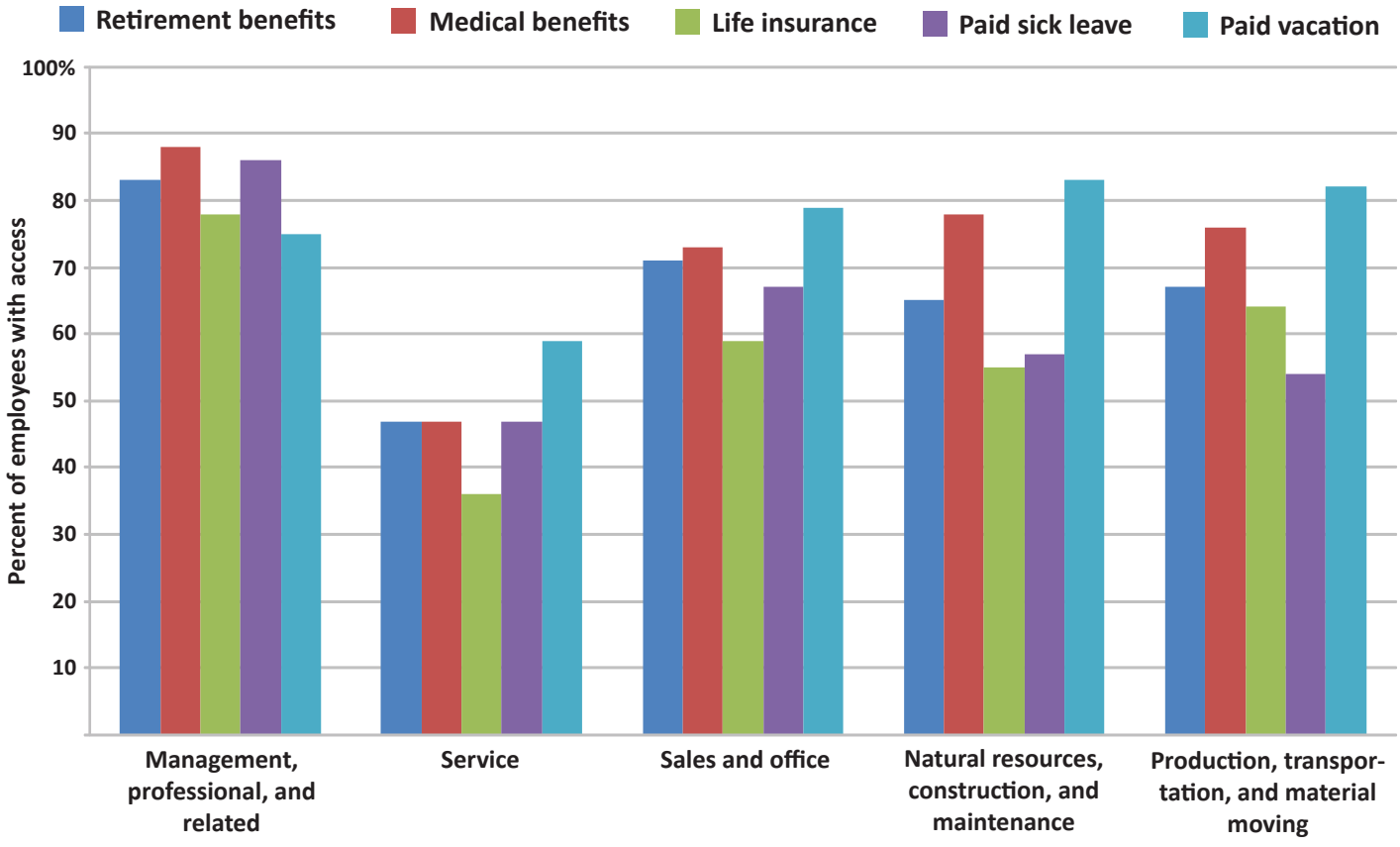
What types of occupations provide the most access to employee benefits? Recent data from the Bureau of Labor Statistics (BLS) show that workers in the management, professional, and related occupations were the most likely to have access to these benefits.

Employers usually offer employee benefits in addition to salaries as a way to attract and retain workers. Common types of benefits include retirement or pension plans, medical plans, life insurance coverage, paid sick leave, and paid vacation. Access, in this case, is defined as the employee being offered the benefit by his or her employer, regardless of whether the employee chooses to participate.

As the chart shows, paid vacation time, retirement plans, and medical plans were the most accessible benefits for all occupational groups. Life insurance benefits and paid sick leave were among the least accessible for most occupational groups. The chart also shows that, overall, workers in service occupations had the lowest access to employee benefits. (For another look at leave and benefits data, see the Grab Bag item "More education for better access to paid leave," elsewhere in this issue of the *Quarterly*.)

These data come from the National Compensation Survey (NCS), which collects information on compensation costs and employee benefits for more than 120 million workers. To see the full report, visit **www.bls.gov/news.release/pdf/ebs2.pdf**. For more information, write to the BLS Office of Compensation and Working Conditions, 2 Massachusetts Avenue NE, Suite 4175, Washington, D.C. 20212. Or, check out the National Compensation Survey website at **www.bls.gov/ncs**, call (202) 691-6199, or email *ncsinfo@bls.gov*.

Access to benefits for civilian workers, by occupational group, March 2012



Source: U.S. Bureau of Labor Statistics, National Compensation Survey

Always a good idea!

Read at **www.bls.gov/ooq**

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f.	Total Distribution (Sum of 15c and 15e)	4,465	4,465
g.	Copies Not Distributed	399	399
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17.	Signature and Title of Editor, Publisher, Business Manager, or Owner	Date
	(signed) Kathleen T. Green	12/03/2012

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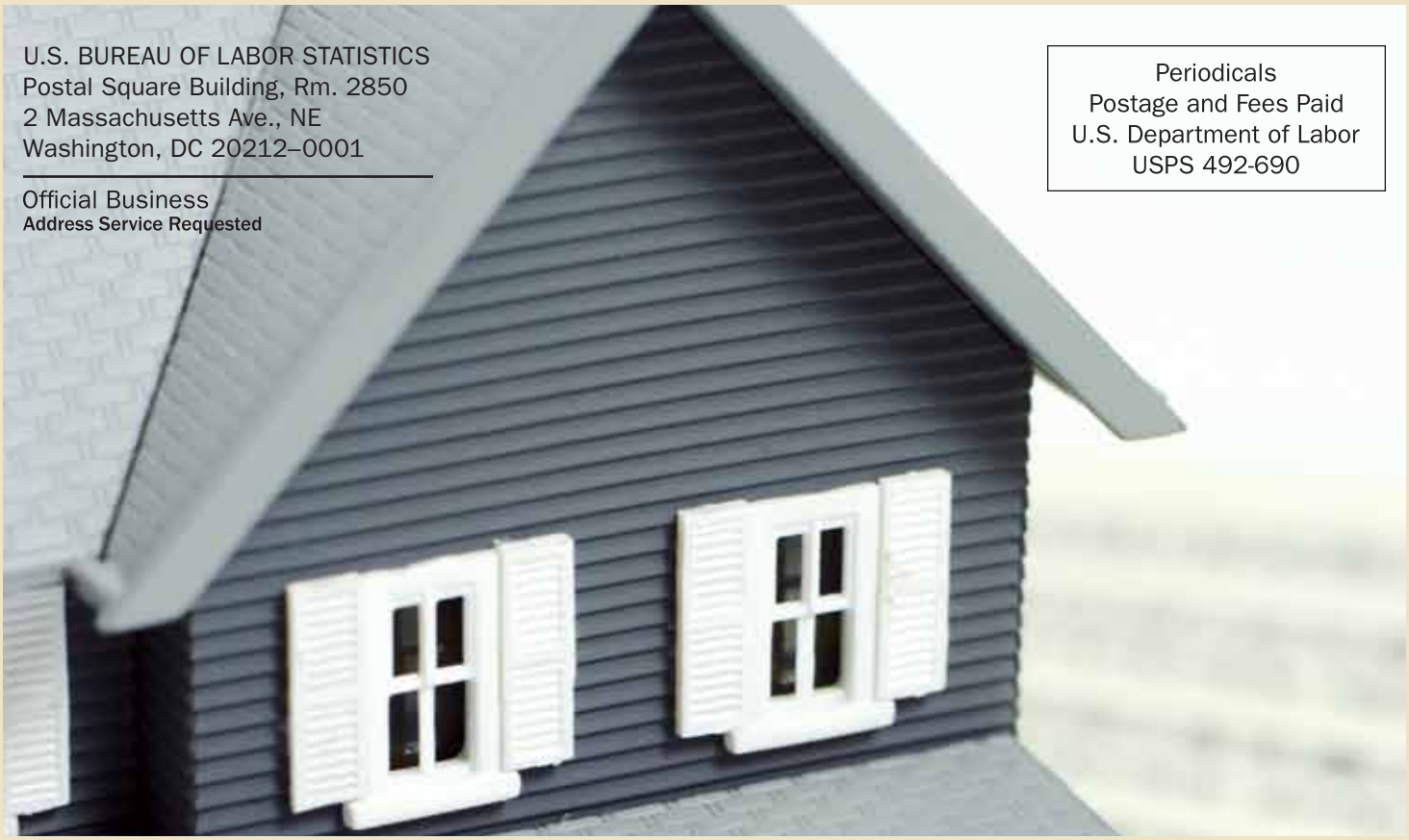

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