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HOT careers for College Graduates 2010

A Special Report for Recent and Mid-Career College Graduates

As U.S. unemployment is showing signs of recovering from a 25-year high, a new trend study from the University of California San Diego Extension reveals some of the hottest career options for college graduates in this recession.

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Acknowledgements

This is the second edition of this special report on hot careers for college graduates. At a time when U.S. unemployment is showing signs of recovering from a 25-year high, this updated trend study from the top academics at UC San Diego Extension reveals some of the hottest career options for recent and mid-career college graduates in this recession. The study is based on enrollment figures, national employment statistics and interviews with San Diego business executives. The overall advice of the study is to enrich your job prospects, go niche. Knowing where to look and honing your skills just might be the right strategy for finding the career that is best for you.

As the continuing education and public programs arm of the university, UC San Diego Extension educates approximately 54,000 enrollees annually, which translates to more than 22,600 students in over 4,600 courses. UC San Diego Extension is recognized nationally and internationally for linking the public to expert professionals and the knowledge resources of the University of California. Through UCSD-TV, 1 million San Diego homes enjoy daily access to an abundance of useful ideas, creative minds and provocative thinkers. Although a part of the university since 1966, Extension receives no state support and relies on the funding generated from fees, contracts, grants, sponsors and donors for its annual budget of approximately $35 million.

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14 Hot Careers for College Graduates

1. Health Information Technology

When a patient visits the hospital, the staff creates a detailed medical report. Whether the condition is severe — such as a heart attack or broken arm — or a routine check-up, the patient's details are documented. This medical record also contains all the physician's notes, X-rays, lab results, recommended treatment plans and current medications.

Health information technicians are responsible for organizing these medical records, ensuring that the charts are accurate and complete. These technicians also update patients' files electronically.[1]

In the past, all medical records were kept as paper documents stored in file cabinets. Reports were cumbersome to access. Information could not be easily shared, and files could be misplaced or lost. Yet, this was the medical filing system for millions of patients across the U.S.

Due to government initiatives in recent years, the healthcare industry adopted an advanced technology system for managing and utilizing health information.[2] With this national initiative, medical establishments have the goal of transferring all healthcare information to an advanced technology-driven database within the next decade. This is fueling a demand for health information technicians who can support medical record reform.[3]

As technology increases, so does the need for health information technicians to use and maintain patient data that is vital for quality healthcare and to keep all medical records organized and confidential. Electronic health records (EHR) will continue to expand to include patient data from various sources (eventually integrating text, voice, images and handwritten notes).[4]

Technicians are needed for emerging jobs such as healthcare integration engineer, healthcare systems analyst, clinical IT consultant, and technology support specialist.

"Jobs and needs in the healthcare information technology field are a critical component of plans for positive change in the healthcare industry," said Mary Walshok, associate vice chancellor of public programs and dean, UC San Diego Extension.[5]

Typical coursework in health information technology includes medical terminology, anatomy and physiology, health data requirements and standards, clinical classification and coding systems, data analysis, healthcare reimbursement methods, database security and management, and quality improvement methods.[6]

Job prospects for the health information technology industry should be very good, according to the Bureau of Labor Statistics, and are expected to grow faster than average.

1. Health Information Technology *(continued)*

"Several factors — a growing industry with vast employment needs, a societal concern with federal backing for broad reform, and a solution incorporating advanced knowledge and skills among workers — combine to form a strong base for workforce development and employment opportunity for the coming decade," said Mark Cafferty, San Diego Workforce Partnership president and CEO.

"The injection of skilled knowledge workers into the magnet of healthcare information technology will not only provide solutions to immediate needs, but also will serve as a catalyst for new and emerging types of jobs in the coming years as the impact of healthcare IT takes hold."[7]

According to the Bureau of Labor Statistics, medical records and health information technicians held about 172,500 jobs in 2008 (about 39 percent of jobs were in hospitals). Jobs are expected to grow by 20 percent, or about 35,100 new jobs, for the decade 2008-2018. Health information technicians work at a number of healthcare providers, such as physician offices, nursing care facilities, outpatient care centers and home healthcare services. Technicians also may be employed outside of healthcare facilities, such as at federal government agencies.[8]

2. Clinical Trials Design and Management for Oncology

Biopharmaceutical drug companies have more than doubled investments in research and development in the last decade. Annual sales in the worldwide pharmaceutical market are estimated to more than double by 2020 to $1.3 trillion dollars.[9]

This increase is partially due to an aging and sedentary population. As the population ages, diseases are becoming more prevalent.[10] In addition, new markets for therapeutic and curative drugs are opening in developing countries. To better manage how drugs are developed and brought to market, employees are needed to manage and design clinical trials, in particular trials testing new cancer drugs.[11]

Currently, it takes an average of 12 years for an experimental drug to be approved and brought to market. Researchers must screen thousands of compounds to obtain a handful of drug candidates that will enter preclinical testing in animals and advance to clinical testing in humans. The odds of any new drug making it through to market are slim, about one in 5,000. With a long lag time to market and sometimes billions of dollars in expenses, this business plan is costly, laborious and ineffective. The industry requires innovation to remain viable.[12]

Pharmaceutical companies also face other external pressures. These include less revenue as patents expire on existing blockbuster drugs, fewer new drugs in the pipeline, and increased marketing and regulatory expenses.

In general, returns on pharmaceutical stocks are lagging behind other industries. For example, the Dow Jones World Index during the past few years rose about 35 percent, while the FTSE Global Pharmaceuticals Index rose just over 1 percent.[13]

2. Clinical Trials Design and Management for Oncology *(continued)*

Clinical trials are conducted in hospitals and medical clinics. These trials test whether a new drug or treatment has a beneficial result, compared to an existing treatment or a placebo. Testing has three stages: Phase I, Phase II, and Phase III. Phase I trials are the initial clinical trials in humans. The major objective of a Phase I trial is to evaluate the safety of a new treatment measuring toxicity and side effects.

Phase II trials determine whether the new treatment is effective and warrants further study. Phase III trials are confirmatory studies that typically assign patients to treatment groups. The goal of Phase III is to compare a new treatment to the current best treatment or other control group.[14]

At the heart of any clinical study is proving and confirming the safety and effectiveness of the tested drug. This is true for both general therapeutics and more specifically for oncology studies.

How do scientists find better ways to treat cancer and improve the overall standard of cancer care? Current cancer therapeutics and recent advances have prompted changes in the design and conduct of oncology clinical trials. As cancer treatments improve and survival rates for many types of cancer increase, drug developers need to adjust their methodologies and metrics to account for the new statistics.[15]

Two goals exist in cancer trials: to determine an optimal dose and find safe treatment for the individual patient. Oncology Phase I trials determine the drug's safety profile, including the safe dosage range — or the maximally tolerated dose (MTD). This phase also looks at how the drug is absorbed, distributed, metabolized and excreted (ADME). Phase II determines the efficacy of the MTD by measuring the complete and partial radiography responses. Phase III confirms Phase II findings on a larger scale with more varied treatment groups.[16]

The challenges of oncology clinical trial designs are constantly being evaluated. These include: choosing the appropriate dosage, managing data complexity, designing a treatment plan, overcoming operational challenges, implementing safety requirements, and recruiting patients.[17]

3. Data Mining

Looking for a needle in a haystack is a good analogy for data mining jobs. Data mining is the technique of extracting specific types of information or patterns from large databases, such as data warehouses.

Very advanced statistical methods are used to sift through large volumes of data for analysis, providing answers to questions that were once too time-consuming. It has great potential to help businesses predict future trends and behaviors so that they can make better business and knowledge-driven decisions.[18]

Data mining analysts are responsible for conducting this type of valuable research for industry and government agencies, and career prospects in this industry are bright. Most businesses in every industry collect data, and in the digital age, information is crucial for success. For example, retailers want to know which consumers are using what kinds of products and services.[19]

3. Data Mining *(continued)*

The data mining analyst uses all available historical purchasing behaviors to create a model predicting which customers would likely respond to a new product. The results allow the retailer to directly market to those specific customers — ensuring that the appropriate individuals receive promotional offers tailored to their buying habits.

The Federal Bureau of Investigation uses data mining for security and intelligence screening. Algorithms and regression analysis are used to identify potentially illegal or incriminating electronic information that is distributed over the Internet.[20]

Additional Data Mining industry applications include:

- A pharmaceutical company can analyze its sales activity to improve targeting high-value physicians, by determining which marketing activities will have the greatest impact.
- A credit card company can leverage its vast warehouse of customer transaction data to identify customers most likely to be interested in a new credit product.
- A diversified transportation company with a large direct sales force can apply data mining to identify the best prospects for its services.
- A large consumer package goods company can apply data mining to improve its sales process to retailers.

Data mining technology can be applied to any business that wants to leverage information to improve business. Information can be used to learn about customers, reduce costs, improve efficiencies. It can help companies focus their marketing strategies, so they can appeal to selected customers and know how to reach them.[21]

More importantly, data mining is a rapidly growing industry due to the explosion of available data. A study by students and faculty at the University of California Berkeley found that the amount of data in the world doubles every three years. For this reason, more employees are needed in the data mining industry to drill down, analyze and interpret the data.[22]

Career prospects exist in several areas, such as advertising technology, fraud detection, surveillance, web mining, probabilistic trading, risk management, business intelligence, scientific research and law enforcement. Data mining requires comprehension of algorithms and advanced statistics, and the ability to program and use advanced software. Job hunters with computer science and statistics training, along with good business sense, would be well-suited to this career. Individuals with an understanding of the appropriate math and computer science would also be well qualified.[23]

Data Mining Analysts, Data Mining Researchers, Data Mining Scientists and other Data Mining professionals can expect to earn high wages.[24]

4. Embedded Engineering

We live in a digital technology world where just about everyone owns or uses a device that contains a microchip processor. Devices from phones, appliances and televisions, to automobiles and iPods all use processors to run. These complex digital processors, or computers, are embedded systems, often built around a microprocessor core, that are designed by software engineers.

Embedded systems perform a specific task. They are often located in the controlled device, have operational software with read-only memory, and function with limited user interaction. The systems are used in very simple products, such as electronic greeting cards and toys, to very complex and powerful devices,[25] including entertainment devices, healthcare equipment, automotive items, mobile phones and avionics.

Embedded engineers are deeply involved in creating this complex technology. Embedded engineers are multidisciplinary, bridging the gap between software and hardware design. They have a broad background in electric engineering and computer science (EECS). They also manage projects of various complexities in target systems.[26]

Most companies hire embedded engineers who have at least a bachelor's degree. Candidates must also have a broad knowledge of, and experience with, a variety of computer systems and technologies. The most common majors are applications hardware/software engineering, computer science, mathematics, computer engineering, communications, networking, control systems and other technical disciplines. Graduate degrees are preferred for some of the more complex jobs.[27]

According to the Bureau of Labor Statistics, software engineers can expect rapid employment growth, with an additional 295,200 software engineer jobs over the 2008 to 2018 decade. Overall, software engineering jobs are expected to increase by 32 percent, one of the highest rates for all occupations.[28]

With the continuing convergence of communication and computing functions within devices, embedded systems are becoming more complex. More powerful processors and peripherals are in continuous demand. This rapid growth in technology has led to significant skills shortages in the embedded systems field of engineering. Embedded systems are literally everywhere. Graduates are likely to be employed in a diverse range of industries with above-average salaries compared to traditional software engineers.[29]

5. Feature Writing for the Web

Web/online journalism refers to news content reported, produced and distributed via the Internet. According to University of Southern California's Annenberg Center for the Digital Future 2009 Annual Report, online newspaper Web site readership is the highest ever. The center found Internet users are reading online newspapers for 53 minutes per week, up from 41 minutes the prior year.[30]

"For the first time in 60 years, newspapers are back in the breaking news business," said center director Jeffrey Cole, "except now their delivery method is electronic and not paper. On the Web, newspapers are live, and they can supplement their coverage with audio, video, and the invaluable resources of their vast archives. And, they already have talented teams of reporters and editors who can deliver the news."[31]

5. Feature Writing for the Web *(continued)*

These are exciting times for news journalism reported on the Web. The technology has transformed journalism, creating new ways for how news is reported, delivered and read. The new medium also allows for much more interactivity, as readers respond via comments or blogs. Web/online journalists have the opportunity to shape the future.[32]

To be sure, the journalism industry is currently in flux. Traditional newspapers have seen massive layoffs in recent years, while many online new publications still struggle in start-up phase. The number one question that remains for both veteran and aspiring journalists alike is: What technological skills do I need to stay relevant and employed?

And the answer? "Well, it's the same one I gave some ten years ago," said Robert Hernandez of Online Journalist Review. "Know journalism."[33]

A journalism career usually starts with a bachelor's degree in journalism or mass communications. Liberal arts courses in English, writing, sociology, political science, history, economics and psychology provide exposure to a broad knowledge base for aspiring journalists.[34] Additional skills a journalist needs to develop are in mass media, basic reporting and copy editing, journalist ethics, and broadcasting. Elective courses in foreign language, computer science and business may also be helpful.[35]

Journalism in general is a competitive field, and the skills required for a Web journalist are similar, but with a technology spin. These skills are: good, solid news judgment, strong morals and ethics, ability to meet deadlines, and a mastery of the AP Stylebook. Additional Web skills would be knowledge of HTML, a working understanding of Search Engine Optimization (SEO), social media literacy and the willingness to try new technologies. Web journalists combine these skills to tell stories in all media: Text, photos, audio, video and the combination of all four.[36]

The best Web journalists succeed in the industry going beyond mere reporting and building a person brand. These reporters create value around their individual work, so that employers will want to keep them, and readers want to keep following their work. Savy journalists also promote their stories in Facebook and other social media. Web writers know that when their name is valuable to the public, they become more valuable to employers, investors and advertisers.[37]

6. Geriatric Health Care

The elderly population in the United States is rapidly growing and will have a major impact on families, social services and the U.S. economy. The increasing need for senior care makes this quite evident. According to the last census in 2000, some 14 million seniors 65 and older reported some level of disability. Most ailments were related to chronic health conditions, such as heart disease, hypertension, diabetes, arthritis or respiratory disorders. About 80 percent of seniors have at least one chronic health condition and about 50 percent have at least two.[38]

6. Geriatric Health Care *(continued)*

This increase in the number of seniors accounts for the predicted increase in the geriatric health care industry and the long-term need for health care professionals. Geriatric health care professionals are dedicated to helping older people stay as healthy and independent as possible.

In the U.S., 34 million people are 65 years or older, and it is estimated that this population will more than double to 70 million by 2030.[39] Other estimates indicate that by 2050, one out of every five Americans will join the senior population for a total of 80 million people.[40]

Approximately half the people 65 or older live in nine states, led by California, Florida and New York. The upcoming increases are mainly due to aging of the "baby boomer" generation — persons born between 1940 and 1960. The demand for home care services is expected to increase by 50 percent between 2002 and 2012, according to the Bureau of Labor Statistics.[41]

In 2009, Medicare, the U.S. federal government's health care program, provided for 45.5 million seniors 65 years and older, an increase of $44.8 million from the previous year. By 2030, the number of people covered by Medicare will escalate to about 78.0 million because of baby boomers entering retirement age.[42]

Other contributing factors are changes in family dynamics. Divorce and fewer children may mean less family support, and assistance may be needed from outside resources, which would increase health care spending.[43]

According to the U.S. Department of Labor, geriatric health care is one of the fastest growing sectors of the U.S. economy. The Congressional Budget Office estimates that $135 billion is spent on long-term care for senior citizens.[44] In 40 years, women are expected to live to 93 and men to 86 years of age, an additional eight years longer.

"This will cost the U.S. an additional $8 trillion by the year 2050," said Dr. Sanjay Gupta of CNN."[45]

In 2009, the U.S. hospital care expenditures were about $789.4 billion, of which nursing home and home health care were $213.6 billion.[46]

The geriatric healthcare workforce will require special education and training in caring for older adults, with a focus on preventing and treating disease and disability in later life.[47]

As the U.S. population ages, the number of health care careers that specifically cater to older persons are increasing. Jobs include attending to seniors, managing facilities, and developing care plans for the elderly. Medical professionals are also in growing demand, including: medical doctors, registered nurses, licensed practitioner nurses, geriatric nurses, pharmacists, geriatric care managers, certified home health aides, certified nursing assistants and social workers.[48]

7. Mobile Media

Mobile media is a fast-growing trend of the future. It impacts both the young and the old, as cell phones spread in popularity, particularly Web-friendly smart phones.[49]

The latest Business Confidence Index (BCI) from the Mobile Entertainment Forum is projecting a $36 billion mobile media industry for 2010 — 24 percent growth for mobile media and entertainment industry. Cell phones and other mobile devices have evolved far beyond answering and sending voice calls. They are now multifunction devices that enable users to surf the Web, listen to music, download podcasts, use maps, access global positioning satellites, shoot and send photos and videos, and send text messages. With the hundreds of new software applications for phones, the number of ways to use smart phones is exploding.

Everyday, the Web is getting faster, easier to use and accesses more information. It provides more opportunities for news organizations, the entertainment industry and advertisers to live stream directly to cell phones.[50]

Graphic designers, videographers and video editors, casual game/app developers and software engineers are needed to design and develop Web sites and create video content, software applications, games, interfaces, mobile platforms, and more, as demand continues to increase for Web content and next-generation cell phones.

According to the Bureau of Labor Statistics, graphic designers will see a projected increase of 13 percent over the decade 2008 to 2018. An increasing number of graphic designers are needed to develop material for Internet Web pages, interactive media and multimedia projects.[51]

Employers usually want candidates to have a bachelor's degree in graphic design for most entry-level and advanced graphic design positions. They will also accept two-year degrees, associate degrees and certificates in graphic design from continuing education classes. Individuals who have experience with Web site design and animation will have the best job opportunities.[52]

According to the Bureau of Labor Statistics, software engineers will see an increase of 32 percent, with an expected 295,000 new jobs created over the decade 2008 to 2018 — a much greater increase than other occupations.[53] Massive growth is also expected in mobile video. The BLS predicts more than 23,000 film and video editing jobs will be added through the year 2016.

Demand for software engineers will also continue to grow as technologies, such as the Internet, the increasing number of Web sites, mobile technology and hand-held computers, evolve. These newer technologies, coupled with the expanding number of wireless Internet sites, have created a demand for new products and mobile applications.[54]

In the U.S., 80 percent of adults have cell phones. Of those, 37 percent use their phones to access the Web. About 25 percent get some news via cell phone.[55]

7. Mobile Media *(continued)*

People digest news and information received via cell phone differently than they do on the Web. [56] For example, The Wall Street Journal offers downloadable headlines of every article being published. Cell phone subscribers can scan these headlines quickly and choose to read more.

When a headline is clicked, a summary opens, giving more description about the story. If they choose, readers can then click to read the full article. These few seconds of navigating and scanning are critical in the mobile news experience — it determines whether a subscriber turns something off or keeps reading.[57] For graphic designers and software engineers, this means more opportunity for growth in the mobile media industry.

8. Occupational Health and Safety

"Safety on the job is no accident," goes a popular saying.

Occupational Health and Safety Specialists (OHSS) analyze work environments in order to prevent injury. They are particularly needed in industries involving chemical, physical and biological agents. The specialists' job is to keep the workplace accident-free by researching safer, healthier and more efficient ways of working.

OHSS experts also analyze and research existing data and other sources to identify trends or patterns of injury or illness. They investigate health-related complaints and inspect facilities to ensure compliance with state and federal laws.[58]

Specialists who work in the biological and chemical industries ensure that chemicals and biological agents are stored and disposed of correctly. They also inspect grounds, checking that protective equipment is available, used properly, and in good working condition.

When incidents do occur, these specialists conduct investigations and shape policies to prevent future accidents or injuries. They also often coordinate rehabilitation for injured employees to help them return to work. Some specialists develop and implement training programs to improve conditions or practices that have a high risk and are dangerous. They then monitor the progress of the programs.[59]

OHSS work responsibilities vary by industry. Each workplace has a different set of hazards that may affect the safety of employees. Here is a sampling:

- Environmental health and safety officers evaluate and coordinate the storage and handling of hazardous waste, and the sampling and cleanup of contaminated soil or water.
- Ergonomists analyze the design of industrial and office equipment to improve worker comfort, safety and productivity.
- Health physicists help employees who work around radiation and/or use radioactive material. They protect workers from radiation exposure and from creating a hazard to the environment.

8. Occupational Health and Safety *(continued)*

- Industrial hygienists survey and analyze the workplace for health hazards, such as poor air quality, exposure to lead, asbestos, excessive noise, chemicals, pesticides or communicable diseases.

With environmental concerns increasing, OHSS roles are expanding to encompass ecological balance, and employee emotional and mental health issues associated with increased workloads and stress on the job.[60]

Most OHSS employers require trained specialists. Education can include a bachelor's degree in a science or engineering discipline; a four-year degrees in safety and related subjects; or a Master's degree (M.S. or M.P.H.).[61] Specialists interested in a research career may also pursue a doctoral degree aimed at solving the more fundamental problems in this field.

Related instructional programs include:

- Environmental Health & Safety
- Industrial Safety Technology/Technician
- Occupational Health and Industrial Hygiene
- Occupational Safety and Health Technology/Technician
- Quality Control and Safety Technologies/Technicians
- Other[62]

According to the Bureau of Labor Statistics, OHSS specialists held about 55,800 jobs in 2008. Projected growth is 11 percent, or 62,000 jobs, in 2018. Employment growth is expected to continue due to public demand for a safe and healthy work environment. The majority of jobs found were spread throughout the private sector; while 41 percent of OHSS specialists worked for federal, state, and local government agencies.[63]

The OHSS field is constantly evolving and presents unique challenges and exciting opportunities in technology, national/international workforce demographics and environmental regulations. The specialists are needed wherever the potential for human and ecological health hazards arise.[64]

9. Spanish/English Translation and Interpretation

Spanish is the official language in 21 countries. It is one of the fastest-spreading languages in the world, with more than 350 million Spanish speakers worldwide, including 31 million in the United States.[65] It is estimated by the year 2050, there will be more than 500 million Spanish speakers, of which 100 million will be living in the U.S.[66] The Hispanic population has recently become the largest minority in the United States. They are a major consumer group for Hispanic culture, products and services.

9. Spanish/English Translation and Interpretation *(continued)*

This trend offers tremendous business opportunities in the Spanish translation industry. Translation services are needed in a wide spectrum of industries, including: advertising, aerospace, automotive, business, chemical, contracts, defense, education, entertainment, energy, financial, government, immigration, globalization, law, manufacturing, marketing, media, medical, patents, religion, retail, software, technical and telecommunications fields.[67]

Spanish/English interpreters and translators are needed to convert one language into another. However, there is an art to interpretation and translation. Spanish/English language specialists do more than simply translate the meaning of the words; they convey concepts and ideas between the languages. Translators must have experience and knowledge of the subject matter in order to accurately express the meaning and values from one language and culture into another.[68]

Some Spanish/English language specialists do both interpretation and translation. However, they are two different professions. Specifically, interpreters specialize in the spoken word, while translators deal with written words. Each profession requires a specific and distinct set of skills and abilities.[69]

There are two modes of interpreting: Simultaneous and consecutive. Simultaneous interpreting is unique and complex, and requires interpreters to listen and speak at the same time the speaker is talking. Consecutive interpreting begins only after the speaker has finished a group of words or sentences.[70]

Translators specialize in accurately converting written materials from one language into another. They must have excellent writing, organizational and analytical skills. They must pay close attention to the coherence, style and tone of the written material so that the translation reads as though it came from the original document.[71]

Spanish translators are experiencing many job opportunities due to the growing Hispanic population in the United States. Of the nearly 5.5 million who speak Spanish in California, it is estimated that 650,000 speak very limited English.[72]

In particular, demand is strong for interpreters and translators in the health care and legal fields, due to the critical nature of the information.[73] In California, the outlook for Spanish/English translators and interpreters is particularly rosy due to the immigrant population and close proximity to Mexico. Especially in the San Diego region, which borders Mexico, translation and interpretation services are in high demand.

Growth in employment within this field is projected to increase in the United States by 22 percent between 2008 and 2018.[74]

10. Sustainable Business Practices and the Greening of all Jobs

By the mid-21st century, all jobs will be green jobs.

"Almost every single profession is turning green these days," says Vicki Krantz, UC San Diego Extension's director of business and professional programs. "If you're in accounting, you learn about carbon accounting. If you're in purchasing, you emphasize your ability to buy smarter and work with a 'green supply chain.' If you're in marketing, you focus on responding to the public demand for green."[75]

Green collar jobs can be found in every profession. For example, green engineers are needed in sustainable energy and automotive industries. Accountants are needed to help businesses measure the extent of problems and solutions through analysis of company reports.[76]

Architects, urban planners, designers and construction firms can align themselves with Leadership in Energy and Environmental Design (LEED). LEED is an internationally recognized green building certification system that verifies that a building or community was designed and built to improve a variety of processes, including energy savings, water efficiency, CO2 emissions reduction and improved indoor environmental quality.[77]

Going green will impact every job in every sector. Smart companies are encouraging a bottoms-up emphasis on green and sustainable practices. Many have created a green awareness in day-to-day activities, such as turning off computer monitors or recycling paper. Big and small firms are incorporating green initiatives examining how their business affects the environment.[78]

Some of the biggest employers have on-going green initiatives. Bank of America has reduced its paper use by 32 percent and recycles 30,000 tons of paper each year. Hewlett-Packard and Dell have adopted e-waste recycling programs that shred obsolete computer products, so the raw materials can be recycled. Starbucks uses coffee cup sleeves made of recycled paper, saving roughly 78,000 trees per year since 2006. Wal-Mart has launched a long-term plan to power all its stores with 100-percent renewable energy sources.[79]

According to green entrepreneur Tom Szaky,[80] sustainability should be an integral part of an employee's day-to-day responsibilities. All employers, both large and small should rethink their way of doing business and become more sociably responsible about the environment, he wrote.

Every employee can make a difference by adjusting energy settings for heating and cooling systems, turning off computer monitors when not in use, carpooling to work, purchasing recycled paper and green products, and anything to reduce a company's carbon footprint.[81]

In fact, companies are learning that sustainable business practices not only help the environment but also can improve profitability, efficiency, reduce waste and liability, and contribute to better community relations.[82]

10. Sustainable Business Practices and the Greening of all Jobs *(continued)*

Sustainability practices save money and reduce environmental impact. Employers large and small can set green policies and make changes to everyday business practices, and therefore all employees share in this responsibility. In effect, being fluent in the language of green is rapidly becoming an important part of every professional's vocabulary.[83]

11. Teaching Adult Learners

Adult education is one of the few industries during a tough economy that has seen positive growth. Job seekers unable to find employment in their desired fields are going back to school to further their education in other industries. According to the Bureau of Labor Statistics in 2009, private education was one of only two industries that posted job growth.[84]

An increasing number of post-secondary educators are also providing career-related education to working adults. Instructors are needed to provide these types of programs, which offer flexible work schedules. Many classes are offered nights and weekends, or online, in order to accommodate older students and those who work or have family obligations. In most cases, only a few instructor hours are required during the week for student lectures, consultations and administrative responsibilities. It is expected that post-secondary teaching positions will increase 15 percent by 2018.[85]

Frequently, adult learners take courses for pleasure or self-improvement. As a large number of the population retires and has more time for taking courses, the need for self-enrichment teachers is expected to increase. Self-enrichment educators are expected to increase 32 percent by 2018.[86]

The leading self-enrichment courses encompass life skills, recreation, academic subjects, computer software and hardware, and foreign languages. Students have an increasing demand for topics on self-improvement, personal finance, computers and Internet-related subjects.[87]

The main qualification for employment in this industry is being an expert in the subject area. Formal training may be required for some areas such as art or music. Employment opportunities for self-enrichment education instructors are expected to grow faster than most occupations. Job opportunities appear more often due to the short-term nature of the courses.

Often adult educators can advance from part-time to full-time positions or move into coordinator or administrative positions. Self-enrichment teachers can advance into a supervisory role or start their own programs or schools.

12. Teaching English as a Foreign Language

In the last few years, demand for English teaching positions abroad has spiked. College graduates find lucrative teaching positions abroad in almost any country in Europe, Asia, Africa, and Central and South America, as well as intensive English programs (IEPs) in the U.S. While many U.S. public schools are cutting budgets, teaching abroad is a great opportunity for those who desire to work and travel.[88]

12. Teaching English as a Foreign Language *(continued)*

Students worldwide are eager to learn English, because the language is and will remain the language of technology, international business and academia. The demand for teachers of English as a foreign language (TEFL) and teachers of English as a second language (TESL) is strong, both domestically and abroad. English teachers are also needed in specialized fields, such as engineering, aviation and medical industries.

The soft economy also pushes demand for ESL training. Employers tend to increase employment standards in a weak market. Thus, more job seekers enroll in ESL classes to gain a competitive edge.[89]

Varying levels of expertise and credentials are required to teach ESL, depending upon the class type and students' language abilities. Entry-level ESL teachers need to have a bachelor's degree, as well as certification in teaching English as a foreign or second language. ESL teachers aiming for full-time jobs in higher education at community colleges and universities must have a master's degree.

Teaching overseas requires a TEFL or TESL certificate and a work visa. Presently, many TEFL training certification courses can be completed in just a few weeks. However, the best certification programs last six to 12 months and provide in-depth training in grammar, usage, pronunciation and fluency. The in-depth programs provide information and teaching techniques that substantially increase the teacher's knowledge of English as a foreign language and how to construct and deliver dynamic lesson plans. ESL and EFL teachers have ample opportunities for traveling and teaching abroad. Teachers with prior knowledge of the language and culture of their prospective students generally have the advantage, but it is not mandatory.[90] Despite modest salaries, living and working in a foreign country can make this an attractive career choice.[91]

13. Marine Biodiversity and Conservation

Changes in temperature, sea level and ocean chemistry have enormous implications for marine biodiversity and ecosystem functions.[92] Maintaining the integrity of ocean ecosystems and managing their use in this rapidly-changing global environment is one of the greatest challenges of this century.

Overfishing and destructive fishing techniques worldwide destroy marine mammals and ecosystems. The rate of depletion of the world's fisheries has increased more than four times in the past 40 years. However, proper management of marine resources and habitat conservation can revitalize a depleted marine ecosystem.

Marine scientists have the opportunity to protect the reefs on a large scale by declaring fishing off-limits. Management of declared areas and total closures, which protect against fishing and pollution, allow fish stocks and coral reef fisheries to recover dramatically. Traditional management strategies have resulted in 300 percent more fish and almost double the size of healthy corals in such areas as Papua New Guinea and Indonesia.[93] More investments in conservation projects like these provide more job opportunities for conservation scientists, marine ecologists, fisheries scientists and policy makers for the oceans.

13. Marine Biodiversity and Conservation *(continued)*

Policy makers are taking action to protect high seas biodiversity. Andrew Rosenberg, a fisheries scientist at the University of New Hampshire, says, "In many cases it is not the science that is at issue, but the political reality of making changes in the way we have used and abused natural resources."[94] If a development project is happening in the vicinity of a sensitive marine habitat, scientists need to monitor before, during and after construction to ensure that proper techniques and actions are followed.

The University of California San Diego offers a Master of Advanced Studies (MAS) degree in Marine Biodiversity and Conservation (MBC). This rigorous one-year program integrates science, economics and policy. MAS MBC graduates find opportunities as marine resource managers in all regions of the world. Opportunities are expected to grow for marine science professionals, science policy analysts, advocates, and natural scientists. Jobs are also expected to open for those interested in becoming involved in public policy and economics of marine conservation.[95]

Cali Turner Tomaszewicz, a MAS MBC graduate who works for WSSI, an environmental consulting firm in San Diego, California, states, "I believe that despite the challenges facing our oceans today, there are many things we can do to make a difference that impacts both the condition of our oceans, and our own communities that rely on coastal and ocean resources."[96]

14. Health Law

Legal and medical experts agree that health law is one of the fastest growing areas of legal practice. Medical decisions have become extremely complex and practitioners are looking for ways to influence policy regarding healthcare. Health care reform is just one of several reasons for growth in this sector. Additional reasons include more government regulation of healthcare, the rise of bioethical and biotechnology issues, tort reform related to malpractice, aging of the baby boomer generation and the consequent growth of Medicare.

The specialization of Health Law is a master's degree, abbreviated LL.M., awarded to lawyers after receiving their law degree. LL.M. Health Law programs usually require an additional year of study. Integration of medical-legal issues spans a wide range of career interests, such as healthcare administration, program and policy development, public health, biomedical and biotechnical research, and the pharmaceutical industry.

Primary settings for practicing health care law are non-profit advocacy and public interest organizations, hospitals, health services corporations, health administration and regulatory government agencies, and public interest firms. For example, one non-profit advocacy organization is the National Health Law Project (NHLP), which works to improve health care for the impoverished, uninsured, unemployed, minorities, elderly and disabled. Non-profit corporations are mostly comprised of hospitals and community clinics.[97]

14. Health Law (continued)

Government agencies at both the state and federal levels need health law professionals to develop program policies and to promulgate regulations. The U.S. Department of Health and Human Services (HHS) is the leading federal agency that formulates health care policy and regulations. HHS employs hundreds of lawyers in a wide range of agencies, such as the Food and Drug Administration and Medicare.

In recent years, federal and state legislators have focused on public health care policy. As a result, health care providers, pharmaceutical companies, health insurance and private public interest firms need health law professionals to advocate on their behalf.

The Bureau of Labor Statistics projects fairly strong job growth in coming years for postsecondary teachers and researchers of all kinds.[98] Law school graduates who wish to take the academic route can become health law professors, teachers and researchers.

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