

# HOT CAREERS FOR COLLEGE GRADUATES

# 2011

A Special Report for Recent and Mid-Career College Graduates

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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 still challenging economy.

# Acknowledgements

This is the third edition of this special report on hot careers for college graduates. 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. Niche areas still provide some of the best career opportunities. Knowing where to look and honing your skills just might be the right strategy for finding the career that is best for you.

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# 10 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.<sup>1</sup>

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.<sup>2</sup> 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.<sup>3</sup>

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).<sup>4</sup>

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.<sup>5</sup>

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.<sup>6</sup>

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.

"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."<sup>7</sup>

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.<sup>8</sup>

## 2. Data Mining and Analytics

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.<sup>9</sup>

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.<sup>10</sup>

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.<sup>11</sup>

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.<sup>12</sup>

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.<sup>13</sup>

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.<sup>14</sup>

Data Mining Analysts, Data Mining Researchers, Data Mining Scientists and other Data Mining professionals can expect to earn high wages.<sup>15</sup>

### 3. 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.<sup>16</sup>

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.<sup>17</sup> Other estimates indicate that by 2050, one out of every five Americans will join the senior population for a total of 80 million people.<sup>18</sup>

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.<sup>19</sup>

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.<sup>20</sup>

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.<sup>21</sup>

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.<sup>22</sup> 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.<sup>23</sup>

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.<sup>24</sup>

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.<sup>25</sup>

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.<sup>26</sup>

## 4. 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.<sup>27</sup>

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.<sup>28</sup>

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.<sup>29</sup>

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.<sup>30</sup>

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.<sup>31</sup> 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.<sup>32</sup>

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.<sup>33</sup>

People digest news and information received via cell phone differently than they do on the Web.<sup>34</sup> 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.<sup>35</sup> For graphic designers and software engineers, this means more opportunity for growth in the mobile media industry.

## 5. Occupational Health and Safety

Many employees are adding safety expertise as a “value added” skill to make them more likely to be hired or retained in a tight job market.

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.<sup>36</sup>

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.<sup>37</sup>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.
- 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.<sup>38</sup>

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.).<sup>39</sup> Specialists interested in a research career may also pursue a doctoral degree aimed at solving the more fundamental problems in this field.

## 5. Occupational Health & Safety (*continued*)

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<sup>40</sup>

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.<sup>41</sup> 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.<sup>42</sup>

## 6. 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.<sup>43</sup> 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.<sup>44</sup> 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.

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.<sup>45</sup>

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.<sup>46</sup>

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.<sup>47</sup>

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.<sup>48</sup>



## 6. Spanish/English Translation and Interpretation (*continued*)

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.<sup>49</sup>

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.<sup>50</sup>

In particular, demand is strong for interpreters and translators in the health care and legal fields, due to the critical nature of the information.<sup>51</sup> 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.<sup>52</sup>

## 7. 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.”<sup>53</sup>

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.<sup>54</sup>

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.<sup>55</sup>

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.<sup>56</sup>

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.<sup>57</sup>

According to green entrepreneur Tom Szaky,<sup>58</sup> 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 socially responsible about the environment, he wrote.

## 7. Sustainable Business Practices and the Greening of All Jobs (*continued*)

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.<sup>59</sup>

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.<sup>60</sup>

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.<sup>61</sup>

## 8. 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.<sup>62</sup>

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.<sup>63</sup>

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.<sup>64</sup> Despite modest salaries, living and working in a foreign country can make this an attractive career choice.<sup>65</sup>

## 9. Financial Examiner/Internal Auditor

Financial collapses and scandals in the last few years involving the banking and insurance industries (from the mortgage meltdown to Bernie Madoff's Ponzi scheme) means more companies are having the books scrutinized. Enter the financial examiners, the forensic accountants of the business world. The Bureau of Labor Statistics is predicting 41% growth.<sup>66</sup>

Aspiring financial examiners can expect continued job growth as a result of changes in financial laws, regulations, and requirements. The demand for these individuals will continue to grow as more and more industries comply with current finance laws and regulations. In addition, jobs in this field will become available as financial examiners retire, move into other positions, or leave the field completely.

Financial examiners work in all industries. The biggest employers are: federal, state and local government; securities, commodity contracts, and other financial investments and related activities, banks; insurance carriers, and healthcare services. Financial examiners also work in credit intermediation and Internet service providers, web search portals, and data-processing services. Most financial examiners work a minimum of 40 hours a week, while around 22% work part-time.

Accounting, finance or business backgrounds are a must. For those with a bachelor's degree, the required accounting coursework can be acquired in continuing education classes or by earning a master's degree.

## 10. Healthcare Case Management

Healthcare case managers are advocates who—through a collaborative process of assessment, planning, facilitation, and advocacy—help patients understand their current health status, what they can do about it and why those treatments are important. In this way, case managers guide patients and provide cohesion to other professionals in the healthcare delivery team, enabling their clients to achieve goals more effectively and efficiently.

According to a survey conducted in January 2011 by the Healthcare Intelligence Network, the number of case managers working in hospital admissions offices doubled from 2010 to 2011. Responses provided by 201 healthcare organizations indicate that not only are more organizations utilizing case managers, but “the practice of embedding case managers at the point of care is becoming de rigueur.” Additionally, the contemporary case manager's job description is much more likely to include home visits, crisis management and quality improvement responsibilities in 2011 than it was in 2010.<sup>67</sup>

Most healthcare case managers are registered nurses (RNs). Healthcare case managers without specific work experience may enter the field as interns, working under the direct supervision of an experienced case manager. Some case managers are an agent of the insurance carrier. These case managers may work for a medical case management company, but are hired by and paid for by the employer or insurance carrier. In this instance the case manager's role is to assist the injured worker in understanding and obtaining appropriate medical care. However, because the case manager is an agent and/or employee of the employer or carrier, the case manager may also ask questions or perform activities that are beneficial to the employer and insurance company.

## Endnotes

- <sup>1</sup> Occupational Outlook Handbook, 2010-11 Edition, U.S. Department of Labor Bureau of Labor Statistics <http://www.bls.gov/oco/ocos064.htm>, accessed on March 22, 2010.
- <sup>2</sup> "Guide to College Majors in Health Information Technology," on [www.WorldWideLearn.com](http://www.WorldWideLearn.com), [www.worldwidelearn.com](http://www.worldwidelearn.com), accessed March 24, 2010.
- <sup>3</sup> Ibid
- <sup>4</sup> Author Unknown, on [http://www.medpac.gov/publications/congressional\\_reports/June04\\_ch7.pdf](http://www.medpac.gov/publications/congressional_reports/June04_ch7.pdf), access March 24, 2010.
- <sup>5</sup> Henry DeVries, "Recovery Training Funds Available for Healthcare IT Jobs," on UCSD News, <http://ucsdnews.ucsd.edu/newsrel/general/07-09ARRA.asp> (July 29, 2009).
- <sup>6</sup> Bureau of Labor Statistics, op cit.
- <sup>7</sup> Henry DeVries, op cit.
- <sup>8</sup> Ibid
- <sup>9</sup> Kurt Thearling, Ph.D., "An Introduction to Data Mining," in [www.thearling.com](http://www.thearling.com) <http://www.thearling.com/text/dmwhite/dmwhite.htm>, accessed March 25, 2010.
- <sup>10</sup> "Data Mining," in Exforsys Inc, <http://www.exforsys.com/tutorials/data-mining.html>, accessed March 25, 2010.
- <sup>11</sup> Kurt Thearling, op cit.
- <sup>12</sup> Kurt Thearling, op cit.
- <sup>13</sup> Karen Scamman, "Top careers for college graduates: Data Mining," in [www.Examiner.com](http://www.Examiner.com), <http://www.examiner.com/x-11055-San-Diego-College-Life-Examiner~y2009m6d4-Top-careers-for-college-graduates-Data-Mining>, (June 4, 2009).
- <sup>14</sup> Karen Scamman, op cit.
- <sup>15</sup> Ibid
- <sup>16</sup> "Industry Trends Point to Unprecedented Opportunities," in Interim Healthcare, [http://www.interimhealthcare.com/franchise/info/industry\\_trends.aspx](http://www.interimhealthcare.com/franchise/info/industry_trends.aspx), accessed March 28, 2010.
- <sup>17</sup> "Trends in The Elderly Population," in Aging in the Know, [http://www.healthinaging.org/agingintheknow/chapters\\_ch\\_trial.asp?ch=2#Increasing](http://www.healthinaging.org/agingintheknow/chapters_ch_trial.asp?ch=2#Increasing), accessed March 28, 2010.
- <sup>18</sup> "Industry Trends Point to Unprecedented Opportunities," op cit.
- <sup>19</sup> U.S. Census Bureau Public Information Office, "Census Bureau Projects Doubling Of Nation's Population By 2050," in United States Department of Commerce News, <http://www.census.gov/Press-Release/www/2000/cb00-05.html>, (January 13, 2000).
- <sup>20</sup> Plunkett Research, "U.S. Healthcare Industry Overview," in Plunkett Research Ltd., <http://www.plunkettresearch.com/Industries/HealthCare/HealthCareStatistics/tabid/293/Default.aspx>, accessed March 28, 2010.
- <sup>21</sup> "Industry Trends Point to Unprecedented Opportunities," op cit.
- <sup>22</sup> Ibid
- <sup>23</sup> Ibid
- <sup>24</sup> "Health in Aging Stories," in The AGS Foundation for Health in Aging, <http://www.healthinaging.org/caregiver/geriatric.asp>, accessed March 28, 2010.
- <sup>25</sup> "Trends in The Elderly Population," op cit.
- <sup>26</sup> Ibid

- <sup>27</sup> Jacqueline Howard, "What's coming next in online news?" in OJR: The Online Journalism Review <http://www.ojr.org/ojr/people/JacquelineHoward/201003/1834/> (March 23, 2010).
- <sup>28</sup> Jacqueline Howard, "What's coming next in online news?" in OJR: The Online Journalism Review <http://www.ojr.org/ojr/people/JacquelineHoward/201003/1834/> (March 23, 2010).
- <sup>29</sup> Occupational Outlook Handbook, 2010-11 Edition, U.S. Department of Labor Bureau of Labor Statistics <http://www.bls.gov/oco/ocos303.htm>, accessed on March 22, 2010.
- <sup>30</sup> Chris O'Brien, "Mobilizing for Mobile: Are news organizations lagging?" in News Leadership 3.0, Knight Digital Media Center, Mobilizing for mobile: Are news organizations lagging?, (August 24, 2009).
- <sup>31</sup> Ibid
- <sup>32</sup> Ibid
- <sup>33</sup> Ibid
- <sup>34</sup> "How Internet and Cell Phone Users Have Turned News into a Social Experience," in Journalism.org, Pew Research Center's Project for Excellence in Journalism, [http://www.journalism.org/analysis\\_report/understanding\\_participatory\\_news\\_consumer](http://www.journalism.org/analysis_report/understanding_participatory_news_consumer), (March 01, 2010).
- <sup>35</sup> Chris O'Brien, op cit.
- <sup>36</sup> "Occupational Health and Safety Specialists," in Occupation Profile, America's Career Infonet, [http://www.acinet.org/acinet/occ\\_rep.asp?level=&optstatus=11111111&id=,8&nodeid=2&soccode=299011&stfips=10](http://www.acinet.org/acinet/occ_rep.asp?level=&optstatus=11111111&id=,8&nodeid=2&soccode=299011&stfips=10) accessed March 28, 2010.
- <sup>37</sup> "Occupational Health and Safety Specialists," op cit.
- <sup>38</sup> Ibid
- <sup>39</sup> Occupational and Environmental Epidemiology, in Environmental Health Sciences, University of Michigan School of Public Health, <http://www.sph.umich.edu/ehs/oee/index.html>, accessed March 28, 2010.
- <sup>40</sup> Occupational and Environmental Epidemiology, op cit.
- <sup>41</sup> Bureau of Labor Statistics Occupational Outlook Handbook 2010-11, op cit.
- <sup>42</sup> "Occupational Health and Safety Specialists," op cit.
- <sup>43</sup> "Spanish," in Encyclopedia Britannica eb.com, <http://www.britannica.com/EBchecked/topic/558113/Spanish-language>, accessed on April 2, 2010.
- <sup>44</sup> "Spanish Language," in Trusted Translations, <http://www.trustedtranslations.com/spanish-language>, accessed April 3, 2010.
- <sup>45</sup> Occupational Outlook Handbook, 2010-11 Edition, op cit.
- <sup>46</sup> "Spanish," op cit.
- <sup>47</sup> Occupational Outlook Handbook, 2010-11 Edition, op cit.
- <sup>48</sup> "Spanish," op cit.
- <sup>49</sup> Occupational Outlook Handbook, 2010-11 Edition, op cit.
- <sup>50</sup> Ibid
- <sup>51</sup> Ibid
- <sup>52</sup> Ibid
- <sup>53</sup> Henry DeVries, "Get Them While They're Hot; Study Reveals One Dozen Hot Career Trends," UC San Diego Extension,

<http://extension.ucsd.edu/Student/images/careerTrends.pdf>, accessed March 25, 2010.

<sup>54</sup> "Green Jobs Overview," JobMonkey.com, <http://www.jobmonkey.com/greenjobs/>, accessed March 26, 2010.

<sup>55</sup> "What is LEED?" in LEED Rating Systems, U.S. Green Building Council, <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222>, accessed March 27, 2010.

<sup>56</sup> "The Engaged Organization; Corporate Employee Environmental Education Survey and Case Study Findings," National Environmental Education Foundation, [http://www.neefusa.org/BusinessEnv/EngagedOrganization\\_03182009.pdf](http://www.neefusa.org/BusinessEnv/EngagedOrganization_03182009.pdf) (March 2009).

<sup>57</sup> "25 Big Companies that are Going Green," Business Pundit, <http://www.businesspundit.com/25-big-companies-that-are-going-green/> (July 29, 2008).

<sup>58</sup> Tom Szaky, "Do Green Companies Need Green Employees?" TriplePundit.com, <http://www.triplepundit.com/2008/09/tom-szaky-do-green-companies-need-green-employees/>, (September 25, 2010).

<sup>59</sup> "The Engaged Organization; Corporate Employee Environmental Education Survey and Case Study Findings," op cit.

<sup>60</sup> Deborah S. Hildebrand, "The Greening of the American Workforce; The Importance of Eco-Friendly Employees in Today's Job Market," Suite101.com, [http://careerplanning.suite101.com/article.cfm/the\\_greening\\_of\\_the\\_american\\_workforce](http://careerplanning.suite101.com/article.cfm/the_greening_of_the_american_workforce), (July 29, 2009).

<sup>61</sup> Team Treehugger, "How to Go Green: At Work," PlanetGreen.com, <http://planetgreen.discovery.com/go-green/green-work/>, accessed March 25, 2010.

<sup>62</sup> Occupational Outlook Handbook, 2010-11 Edition, U.S. Department of Labor Bureau of Labor Statistics <http://www.bls.gov/oco/ocos289.htm>, accessed on April 6, 2010.

<sup>63</sup> Occupational Outlook Handbook, 2010-11 Edition, op cit.

<sup>64</sup> Kenneth Beare, "Before You Decide to Become an ESL Teacher," <http://esl.about.com/od/eslflteachertraining/bb/bydecidetefl.htm>, accessed on April 6, 2010.

<sup>65</sup> Kenneth Beare, op cit.

<sup>66</sup> Cecilia Capuzzi Simon, "The Top Ten List" The New York Times, April 17, 2011

<sup>67</sup> 2011 "Benchmarks in Healthcare Case Management" survey results reported on <http://www.hin.com/library/2011BenchmarksInHealthcareCaseManagementPreview.pdf>