

## CAREER INFORMATION BRIEF #36 10 Emerging Career Sectors



The Centre for Career Education is excited to present the 36<sup>th</sup> monthly career information brief. The purpose of these career information briefs is to provide faculty and staff with timely information which they can use to assist students who are inquiring about more career specific information.

### Introduction:

While the world cries slowdown and news of company downsizing is currently making headlines, demand for workers in emerging sectors and entirely new career fields is on the rise.

### New Emerging Career Sectors

#### 1) Organic food Industry

By the end of 2010, organic food and beverage will represent about 10 percent of the total market — a tenfold increase from 1998. Bob Scowcroft, executive director of the Organic Farming Research Foundation states that the industry will soon need more organic food producers, certification experts, retailers and scientists as organic becomes mainstream.

Qualifications: A bachelor's degree in agriculture, science, environmental science, or business and previous organic food experience in farming, business or science.

#### 2) Computational Biology

Leroy Hood, co-founder of the Institute for Systems Biology has identified a growing need to combine computer science, biology and math to make sense of research data in massive quantities. He states that this field may eventually allow physicians to test for a patient's unique genetic markers and tailor the best treatments and medicine for that patient.

Qualifications: A bachelor's degree or higher in bioinformatics, computer science, mathematics, biology or related area; strong software engineering skills.

#### 3) Parallel Programming

Jerry Bautista, co-director of Intel's Tera-scale Computing Research Program says that by 2012, computers will jump from core duo processors to multi-core processors — as many as 80 processors per machine — packing supercomputer power into desktops. The different cores can work in parallel, like a symphony's instruments, cracking complex problems, building lifelike models and anticipating its users' needs, all at breathtaking speed. Parallel programmers who can keep the 'symphony' in tune will be in high demand.

Qualifications: A bachelor's degree or higher in computer science or relevant field, non-linear thinking and creativity.

#### 4) Data Technology

Eric Rodenbeck, founder and creative director at Stamen Design, states that by 2012, radio frequency ID chips, video cameras, computers and sensors will generate incredible amounts of information. Data technologists will be needed to build structures—real and virtual—that turn this mound of data into something meaningful and beautiful,

Qualifications: Experience in virtual environments, imaging and visualization, technical skills, willingness to learn new tools and imagination.

#### 5) Simulation Engineering

By 2012, an increase in processing power and rich data will make simulations more realistic, and user-friendly. Simulation engineers will be working on bringing us closer to "Star Trek's" Holodecks—the ultimate total immersion simulation. Frieder Seible, dean of the Jacobs School of Engineering at the University of California-San Diego predicts these Simulations will be in every industry and every engineering field. Businesses will test products and product releases and forecast markets. Engineers will test designs, from bridges to skyscrapers, by examining life size projections. Historians will be able to recreate the past, like ancient Rome or the moon landing.

Qualifications: A bachelor's degree in computer science, engineering, math, physics or relevant field; analytical skills; and interpersonal skills.

## **6) Boomer Caregiving**

This job may not sound as exciting as some, but it will certainly be in demand. Most retiring baby boomers want to remain in their homes for the rest of their lives. To accomplish that, they will need help with errands, chores and home care. From 2010 to 2014, home health aide will become one of the fastest-growing career fields in Canada and the United States.

Qualifications: A bachelor's degree in nursing or training and certification as a personal support worker or registered practical nurse.

## **7) Genetic Counselling**

Doctors will be able to test for dozens of genetic markers and predict when a person will likely experience a genetically based condition. With more tests and treatments available, genetic counsellors will be needed to help individuals and families make decisions about genetic technologies as it applies to science and personal beliefs.

Qualifications: A master's degree in genetic counselling, critical thinking skills and communication skills.

## **8) Brain Analysts**

Terry Sejnowski, a professor at the Salk Institute of Biological Studies and head of its Computational Neurobiology Laboratory states that with the use of increasingly advanced brain imaging tools, neuroscientists will determine how people feel and react or what they're capable of. People could detect deception, diagnose mental illness, identify intellectual strengths and collect accurate market research and even get help picking careers best suited to their brains.

Qualifications: A bachelor's degree in neuroscience, experience in health care and people skills.

## **9) Space Tourism**

While this one may sound far-fetched, the entire industry of space tourism is poised to "take off". There are already 200 reservations for space flights. The world's first space hotel is also set to open in 2012, which could be the beginning of a whole new sector of jobs which will require the merging of space smarts with great hospitality.

Qualifications: A bachelor's degree in aerospace engineering or a relevant field, a love for sky-high adventure and a strong belief in the benefits of human space exploration.

## **10) Roboticists**

In a way, robots have already taken over the world. The components, processors and sensors for robots are getting cheaper every day. Hundreds of new applications for robots are already being developed. Robots already work in research laboratories, factories, hospitals, daycares and housekeeping, and the trend is only expected to grow as the field progresses.

Qualifications: Experience in computer science, engineering and electronics and a love of tinkering.

## **Summary**

Keeping an eye on trends is a smart career management practice. New technology, business practices, laws or changes in the global economy create needs for new or evolving occupations and career specialties. For students, these emerging careers offer a chance to be on the leading edge of their fields. Knowing about these emerging career possibilities can assist the student in formulating an educational path that will provide a point of focus for their major and future career decisions.

## Resources Available to University of Windsor Students

The Centre for Career Education offers a wide variety of programs and services that can assist students with career development including:

- a. Vocational assessments to help identify potential career paths and choices
- b. 1-1 Career Advising
- c. Experiential learning programs such as Volunteer Internship Program and EXCEL Leadership Program
- d. Assistance with resume and cover letter writing, job search planning, and interview preparation and practice through Mock Interview sessions

For a complete list of services visit our website at <http://www.uwindsor.ca/cce>

To help students prepare for work the Centre for Career Education offers the following resources:

- Resume Clinic – Mon / Tues / Wed / Thurs Room 111 Dillon Hall  
To resume on 10 Jan 2011 (Check CCE website for hours of operation)
- Online resume critique – [resume@uwindsor.ca](mailto:resume@uwindsor.ca)
- Career/Vocational Advising (by appointment) Tuesday / Thursday 9:00 – 1:00PM, Room 111 Dillon Hall  
To register for an appointment go to <https://career.uwindsor.ca> or click on **myCareer** via the student portal at <https://my.uwindsor.ca>, create an account and review and register for appointments on the events calendar.
- 1-1 resume, job search, mock interview with employment advisor. To register for an appointment go to <https://career.uwindsor.ca> or click on **myCareer** via the student portal at <https://my.uwindsor.ca>, create an account and review and register for appointments on the events calendar.
- Pathways to Success instructional workshops focusing on career planning and development of employment readiness skills. To register for workshops go to <https://career.uwindsor.ca> or click on **myCareer** via the student portal at <https://my.uwindsor.ca>, create an account and review and register for workshops on the events calendar.
- CCE Resource Page on myCareer. Interactive modules provide a depth of information on the career planning process, self assessment, research and career exploration, developing a career plan, preparing for a job search, resume writing, interview skills development, salary negotiation, graduate school information etc... To access the CCE resource page, go to <https://career.uwindsor.ca> or click on **myCareer** via the student portal at <https://my.uwindsor.ca>, create an account and click on the resource page tab at the top of the dashboard.
- Optimal Resume and Optimal Interview. Located on the myCareer resource page, these online interactive resources take provide instruction and guidance through all of the steps of preparing an industry specific resume and preparing for an interview. Students can develop resumes and record interviews online which can be submitted to CCE staff for evaluation and critique. To access the Optimal Resume and Optimal Interview programs, go to <https://career.uwindsor.ca> or click on **myCareer** via the student portal at <https://my.uwindsor.ca>, create an account and click on the resource page tab at the top of the dashboard.