Western's New Game Development Program:

Serious Games for Seriously Bright Kids

Ask any parent if they'd send their offspring to university to play video games, and chances are, they aren't going to show a whole lot of enthusiasm. Ask them if they'd like to see their children working in an industry that's currently worth about $30 billion and is growing at a rate of about 16.5% a year – that's jobs and profits - and now you've got their full attention.

In fact, according to the the accounting firm Price Waterhouse Coopers, in its report, Global Entertainment and Media Outlook: 2006-2010, within 5 years the industry will be worth $45 billion.

The University of Western Ontario is announcing the introduction of a new program in Computer Science, a Minor in Game Development. Not only is the program new to Western, it’s one of the first of its kind in Canada.

Students working towards a BSc in Computer Science, who opt for a minor in game development, will learn a whole lot more than where to find the cheat codes for the latest version of Grand Theft Auto. They’ll take courses in software engineering, programming, algorithms, and theory. They’ll study artificial intelligence and graphics. And they’ll design games. Not just the kind of games that have kids developing a Zen-like oneness with their game controller, but games and simulations that have medical, military, and humanitarian applications, games that help resolve some of the world's most urgent problems.

Students in the program will learn how to work in teams, building the kind of skills that create such technologies as, say, a simulation that trains doctors and nurses to respond to emergency situations. Another application might simulate the obstacles an international relief organization will face when delivering food and medicine to a war-torn region.

“Speaking to the industry, we've found that this program is exactly what is needed,” says Assistant Professor Michael Katchabaw of the Department of Computer Science at Western. “We've seen strong demand from both current and prospective students for this program as well.”

This sentiment is also echoed by industry professionals. “Just like when rock and roll came of age everybody wanted to be a rock star, as video games have come of age, everyone wants to be a developer,” according to Carolyn Rauch, senior vice president of the Entertainment Software Association.
Distribute This: An Interview with Dr. Hanan Lutfiyya

by Laura Reid

Dr. Lutfiyya is the Associate Chair of Computer Science at Western, and has been with the Department for over 10 years now. Before completing her PhD at the University of Missouri-Rolla, she completed an undergraduate degree at Yarmouk University, Jordan, and her Masters at the University of Iowa.

What is your favourite programming language? I can’t say that I actually have a favourite programming language. It depends on the situation. If I need a language that allows me to find information on system resources then I prefer C/C++. Otherwise, I prefer Java. Perl is great for string processing.

Are you a UNIX person or a Windows person (or even an Apple person)? This is another thing that depends on the situation. I like UNIX flavoured OSs because I think they give more flexibility. However, Windows makes it easier to install most software.

What is your favourite undergraduate course to teach at Western? Any course that allows me to describe how existing systems are designed and implemented is a lot of fun. For example, in CS 402 I get to talk about how banking systems are organized. This is especially fun since account information is replicated and consistency among the replicas is very important especially in the presence of faults. I also enjoy discussing mathematical modeling of actual systems.

Have you ever taught a course at Western that you hated teaching? If so, what was it and why did you not enjoy teaching it? It would be easy to say that I enjoyed all courses but that isn’t the case. Long ago I taught a formal methods course to 3rd year students. I think formal methods are cool but students didn’t. It was probably a little too advanced for undergrads.

What do you think makes computer science students successful? Hard work

What part of your job as a professor do you hate doing? Proctoring 3 hour exams.

What part of your job as a professor do you love doing? Research, getting my students excited about topics I am excited about!

Where is the coolest place you have ever visited? That’s a tough one. Generally I find that I love visiting places where I can feel that history bustling around me. Wonderful places for this feeling include the Great Wall of China, Petra, Jerusalem, London UK and Rome.

What was your favourite subject in high school? History, believe it or not 😊

Is there a part of the world that you have never visited but would like to someday? Brazil

What are three of your favourite websites? Currently my three favourite websites are the following: www.cbc.ca
http://www.truthout.org/
http://www.slate.com/

What is an interesting book that you have recently read? One interesting book is “The Emperors of Chocolate: Inside the Secret World of Hershey and Mars”. The book describes the history of Mars and Hershey and their rivalry. It makes for intense and fascinating reading. 😊

Laura Reid is an instructor for the Department of Computer Science at Western
Message From The Chair

Welcome to the Summer 2006 edition of Interface. The 2005-2006 academic year has been both exciting and challenging. While enrolment in CS programs across North America, including those at Western, remains low, there is some evidence that we may start to see some increases in the coming year or two.

Regardless, the Department continues to strengthen its undergraduate programs. Efforts to enhance CS026 and CS027 (our primary first year half courses) will continue this year. We are introducing a new first year course in Multimedia Studies this September, CS033. This exciting new course focuses on the various electronic media types and formats, their use in the design of web pages, and their overall application on the Internet. We have also finalized a Minor in Game Development. This Minor has four required courses, two of which are relatively new courses in game development (see the article in this newsletter).

The Faculty of Science has also undergone some major changes. Dean of Science Dr. Fred Longstaffe has become Western’s Vice-President Academic and Provost. His replacement, Dr. David Wardlaw, was the former Chair of Chemistry at Queen’s University. In addition Dr. Roland Haines, long time Associate Dean, Administration, has retired, replaced by Dr. Louise Milligan of Biology. Dr. Haines, who has been Acting Dean until last month, will remain with the Faculty for several months to oversee the transition. The Faculty also has a new Associate Dean Research – Dr. Michael Cottam, of Physics and Astronomy.

Thus, as we begin the 2006-2007 academic year we have, virtually, an entirely new leadership in the Faculty of Science. So far the new senior administration of the Faculty seems understanding of the challenges that the Department faces, and has been very supportive of our undergraduate initiatives. Dr. Wardlaw is particularly supportive of the Department’s efforts to stay in touch with its alumni, efforts we will continue in the months and years to come.

I hope you find this issue of Interface interesting and informative. As always, your comments and suggestions are greatly appreciated.

Mike Bauer
Chair, Department of Computer Science

And the Award Goes To...

David Rogers - UWO Gold Medal Four-Year Degree Program; Bryan Edward Cibulka - UWO Gold Medal Honors Applied Qualitative Information Technology; Yehoshua Gleicher - UWO Gold Medal Honors Computer Science; Richard Leslie Sawyer - UWO Gold Medal Honors Computer Science with Mathematics; Sarah Elizabeth McKenzie - UWO Gold Medal Honors Computer Science with Software Engineering Specialization; Marjorie Elizabeth Osborn Locke - UWO Gold Medal Honors Specialization in Bioinformatics, Computer Science Concentration. Awarded at the Annual Awards Ceremony at the Talbot College Theatre on June 15, 2006.

The new program has the support of Microsoft Canada and ATI Technologies Inc., who want to be a part of the creation of new lab facilities specifically to support the academic study of games and game development.

“These new facilities are great for student projects,” says Katchabaw. “They reflect the support we have from major players in the industry for education in this area.”

The new Minor in Game Development program will be offered to students starting September 2006. This new program, in conjunction with a Major or Specialization in Computer Science combines core computing courses in software engineering, programming, algorithms, and theory with courses in graphics, artificial intelligence, human-computer interaction, and game-specific design and development courses to provide a solid foundation for students. This, combined with interdisciplinary, team-based studies through game development projects, will give graduates all they need to succeed in the highly competitive games industry.

In the developing world, fertility rates vary in inverse proportion with literacy rates. For example, Afghanistan, with a female literacy rate of only eight percent has a fertility rate of 6.9 per 1,000 population. Thailand, in contrast, has a literacy rate of 88% and a fertility rate of 2.6 per 1,000.

SOURCE: United Nations

The first transistor was the size of a golfball. Today millions can be packed into the size of a postage stamp.

The first US census to be tallied was in 1950. Univac did the tallying.
Ali Hamou is a PhD candidate with Western’s Department of Computer Science, and a recipient of the Faculty of Science Graduate Student Teaching Award.

Where did you do your undergraduate degree? The University of Western Ontario.

Why did you consider Western a good choice for your graduate studies?
Aside from the fact that I loved the Western campus, the Computer Science Department offered the graduate field of study that I was interested in.

Recently, you were awarded the Faculty of Science Graduate Student Teaching Award. What do you enjoy about teaching?
My utmost joy in teaching is that wonderful feeling of satisfaction in observing a student transitioning from a state of unawareness to comprehension. I love seeing a student’s mind work and envision fresh ideas whenever I answer a particular question, pose one, or introduce a new concept.

What, if anything, do you think could improve the student learning experience in our undergraduate program?
Each department should provide an open study room, with a TA on duty at least once a week to answer general undergraduate questions (i.e. helpdesk). I vividly remember a service like this in the chemistry department in my first and second year here and wished that it existed for all of my other undergraduate disciplines.

What discipline of Computer Science most interests you, and why?
Medical imaging and its applications to clinical medicine interests me most, since I can help improve the quality of patient testing techniques and physician accuracy on a daily basis. Of course, I would be at a loss if I did not also mention my passion for video gaming…no need for an explanation here!! ;)

As a PhD candidate with a young family, are there any unique challenges you face as a new parent in the graduate program here at Computer Science?
The toughest things to manage are funding and time. With respect to funding, unfortunately student stipends are not always enough to get by. Thankfully though, time is a different matter. As a student, I am able to accomplish my research during the day or night without having to worry about being on campus at regimented hours, giving me more time to spend with my wife and child. However, there is never enough time to accomplish ALL the things I would like to do in one day!!

Western has recently released a draft of its latest Strategic Plan, in which it’s clear that the University will focus considerable energy and resources on recruiting graduate students. In your opinion, what does Western need to do to attract more of the world’s best and brightest to its graduate programs?
Active campaigning to the top notch undergraduate students is a must, and should provide data showing the prowess of Western’s graduate program and success stories of past graduates. Western should provide students with adequate financial support along with a broad range of services and activities that would make it enjoyable to continue studying here. We need to make it clear to students that Western is a world class research facility.

We’d Like to Hear From You!

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Announcements!

Western’s Department of Computer Science, in conjunction with Algoma University, will host Future Play 2006, an academic electronic gaming conference, October 10-12 at the London Convention Centre

The next Combinatorial Pattern Matching Conference, CPM 2007, will be hosted by the Department of Computer Science at Western next July.