

3. Incorporate electronic communications

The Web has provided numerous opportunities to enhance CS education. Communication with students can be greatly improved by adding email and electronic chat opportunities to assignments. Scheduling response days and defining policies are clearly necessary here. Reduced paper handling and greater involvement of shy students are obvious advantages when students send queries and assignments electronically. Effective teaching strategies such as providing common remarks on student projects become easy with electronic communication tools.

4. Use presentation tools

Reuse lectures and discussions by preserving them with special preparation and delivery software. The prepared presentations can then be saved on any suitable medium and accessed from anywhere by both the teacher and students.

5. Courseware on the Web

Posting course material improves its availability and accessibility. The tools for this are now widely available. It is a good idea to post all course materials including the delivery plan and resources. Lectures can be posted as video recordings.

Today's students are part of the Nintendo and the Sony Play Station generation and they expect plenty of action in their learning environments. It is ironic that, with sophisticated and indispensable computing devices all around us, student interest in pursuing CS seems to be diminishing. Computers have become ubiquitous precisely because they are designed to be user-friendly. Maybe it is time to make CS education more student-friendly.

Reference

Fletcher, H.L.G. & Lu, J.J. (2009). Human Computing Skills: Rethinking the K–12 Experience. *Communications of the ACM*, 52 (2), 23-25.

College Connection

The University of Guelph

Editor's note: *This dialog with Julia Baldwin, Computer Science (CS) Liaison Officer at the University of Guelph is a continuation of our series of interviews with CSTA institutional members. Please share with your students these details about the CS programs at the University of Guelph.*

CSTA: Tell us about the University of Guelph.

Baldwin: The University of Guelph is located in Guelph, Ontario, Canada, about an hour southwest of Toronto. Students can earn a Bachelor of Computing with a major in software engineering or CS. At the graduate level, students can earn a Master of Science or Ph.D. in CS.

CSTA: What draws students to your program and what keeps them there?

Baldwin: A supportive environment is a key aspect of our program. Faculty members are committed to providing a solid foundation in the first year, paving the way for success in year two and beyond. We strongly believe in the “personal approach” to education. Professors are accessible to students in all stages of the program, and we take pride in an ethic of support rather than competition.

CSTA: What skills can students acquire before college that will help them succeed in your program?

Baldwin: A good work ethic and the ability to work effectively in team environments will help students thrive. An analytical approach to problem solving will help students succeed in their academic goals. The ability to balance the various aspects of university life is important as well.

CSTA: What cool careers are your graduates prepared for?

Baldwin: Our graduates are in high demand as professionals in the software development industry at a variety of different companies including IBM, Microsoft, RIM, and thousands of other smaller organizations.

CSTA: What topics will students study?

Baldwin: Students will study software development, CS theory, networking, hardware, and databases. In addition, they will learn critical skills in communication and collaboration. Our faculty has a strong background in many cutting-edge areas of CS, including artificial intelligence, bioinformatics, and ubiquitous systems.

CSTA: Tell us a bit about the social environment of the CS program.

Baldwin: Our students are actively involved in two student organizations, which run events and information nights for the students. The program is one that encourages collaboration and sharing of ideas, just like the collaboration seen in the software industry. The ethic of support helps them to achieve great things.

CSTA: What distinguishes your school and/or program from others?

Baldwin: Our school offers a supportive environment, a focus on communication and management skills, as well as a rigorous academic program. Students can also study a second area called an “area of application” which they use to complement their CS knowledge. This second area can often be upgraded to a minor, developing a breadth of knowledge not seen in other CS programs.

For more information visit: www.uoguelph.ca.

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CSTA Members Reside in 102 Countries

CSTA MEMBERSHIP BY CONTINENT

North America	6,147
Asia	775
Europe.....	189
Oceania.....	142
Africa	136
South America	40
TOTAL.....	7,429

Source: Computer Science Teachers Association, 2010