

ILC STUDENT AMBASSADORS – Engineering the Future

You may have heard of us... or maybe you haven't...

We are the ILC Student Ambassadors and we are engineering the future.

The Ambassadors are a group of students from all engineering disciplines, who are actively shaping and promoting curriculum initiatives within Applied Science. This year's Ambassadors, led by Matt Reid (Civil '02) and Todd Garrison (Apple Math '03), have been involved in design sessions with the architects, promotional activities during Alumni weekend and recruiting fairs, and regularly scheduled open discussions with engineering students from all years.

Currently, we are spearheading an initiative that would have engineering students assume responsibility for workplace safety in the ILC. Implementing safe practices that exceed industry standards will ensure the well being of fellow students while raising awareness of safety issues in a professional work environment.

Applied Science students are the driving force behind the continuous improvement and evolution of the engineering program. The Ambassadors have approached departmental curriculum committees to discuss issues such as their anticipated use of the ILC, the identification of courses that



Ambassadors: Angela Chan and Sally Dam working at the Homecoming Event, Sept 01

offer opportunities for cross-disciplinary learning, and the development of course components that might be offered as modules within multiple courses.

Open discussions, led by the Ambassadors, are an opportunity for students to voice their opinions, to make suggestions, and to get involved in the development of the ILC and curriculum reform. These discussions have become an essential tool for the ILC planning team, providing a channel for student input that is vital to the success of the project.

Applied Science students, particularly those



Open discussions with Engineering students.

in their first two years of study, are encouraged to embrace this unique opportunity to make a difference in the future of their education by getting involved. For more information please email us at: ilcamb@ilc.queensu.ca or check out our website: <http://ilc.queensu.ca/Contacts/ambassadors.shtml> 

VISION

The Fundamental vision of the Integrated Learning Centre is to develop a multi-disciplinary learning environment for students, which integrates engineering theory with practice, and promotes team-oriented, problem-solving skills. The ILC will offer both the staff and the structures necessary to improve learning effectiveness and provide markedly enhanced professional skills.



A Message from Industry

Ian D. Baines, P. Eng. Science '74
President and COO,
Canadian Renewable Energy Corporation
www.crec.ca

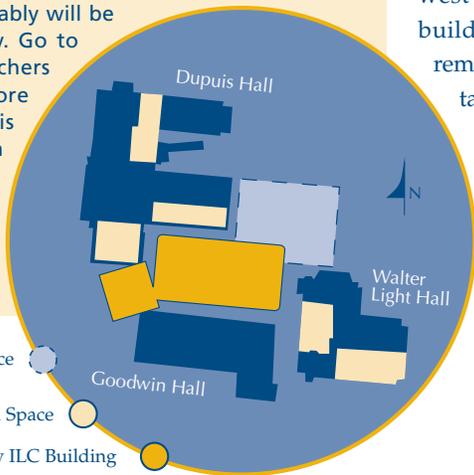
What skills do you need to be successful in business? Boy, if somebody were to ask me that back when I graduated, when dinosaurs still ruled the earth, I would have answered "lots of technical skills." Math and circuits and programming would have been first in my mind, as that was what they taught me at Queen's. Well, I hate to break it to you, these are necessary background tools, but they are not survival in business skills.

First and foremost are people skills. You need to know how to listen, and listen a lot. People like to be heard and they have more to tell you than you can possibly tell them. Business people like to help good listeners. Good listeners become good business people. Second, you have to know how to communicate. Standing in front of a group and getting your point across is the single most valuable tool you can have. Speak articulately and concisely. You will never learn that skill from TV, but always from reading. Read a lot. Read all sorts of topics. Your brain will grow very fast. I am not talking novels or the newspaper. Read the classics, read technologies that you will never use, read business books, read until you feel pure excitement coursing through your veins.

The most useful time I ever spent at Queens was at CFRC. I learned to speak clearly and concisely. The next best time was spent socializing with all sorts of friends. I learned to listen and to learn. The sports I played taught me team skills. The solitary walks taught me to think for myself and reflect on what was important. Oh yeah, I also went to class. I am a Consulting Engineer. I have never used my post-graduate knowledge of math or physics to make money. I make money by having an original idea and selling it to others.

The simple skills were often the most useful. Like typing or doing a good Power Point presentation. Basic accounting is critical as you need to know how to read a financial sheet.

So how do you know if you are learning the right things? You don't. Study everything that you can. Don't take your professors' word that something is useful. If something grabs your interest, study it. It invariably will be useful some day. Go to class. Your teachers teach you more than just what is in the text. Ask a lot of questions.



Future Expansion Space

ILC Reallocated Space

New ILC Building

Online Newsletter

<http://ilc.queensu.ca/News/index.shtml>



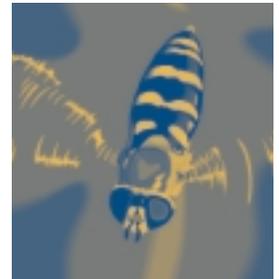
A proposed design of the Integrated Learning Centre to be presented for CPDC approval in March 2002. Designed by Bregman + Hamann Architects (Toronto), construction of the building is scheduled to begin in June 2002.

HOW GREEN IT IS

What's in a word? If the word is "green", a lot! The ILC will be a showcase for a number of innovative and sustainable technologies and one of the first things that meets the eye will be the proposed "Green Wall". Initially it may not look like technology at all, but this vertical array of tropical plants, fish and insects is designed to be a living lung for the west wing of the new building, continuously removing indoor pollutants and generating fresh oxygen for the occupants. Not a typical engineered system, but engineered none-the-less.

Genetron Systems is a company that specializes in designing such miniature, living and breathing ecosystems and its patented design, using a porous lava-rock substrate, has been installed in several locations in and around Toronto. The effectiveness of these installations is acknowledged by researchers who have measured the air quality improvements, and also by occupants of the surrounding space who enjoy the fresh air and pleasant ambience thus created.

Located at the main entrance of the new building, the proposed Green Wall will no doubt draw attention to itself.



As with other technologies in the building, explanatory material and continuous measurements will demonstrate that its attractiveness is indeed more than skin-deep. In this manner the wall will fill an educationally important role as well. Clearly a Green Wall such as this integrates superbly into the form and function of our new Learning Centre!

Architect Selection
Spring '01

Concept Design
Summer '01

Detailed Design
Fall '01

UPCOMING Events

Sci '05 & ILC

Sci'05 students will be the first generation of Queen's engineers to experience the Integrated Learning Centre in operation. This discussion is designed to be an introduction to the concept of Integrated Learning and will focus on the changes students can expect in the future. Students will have an opportunity to view the plans for the ILC while enjoying pizza with the ILC Ambassadors.

Date: Sunday, January 13th, 2002
Time: 5:30pm
Location: Ellis Hall, Room 327

Queen's Engineering Competition

January 18th – 19th, 2002

Please visit their website for more information and an itinerary of events.

<http://engsoc.queensu.ca/qec/genInfo.html> 

Integration: What is it?

Second year students are experiencing the effects of Integrated Learning today. This discussion will investigate the impact of Integrated Learning on second year students and solicit student input on current and future curriculum changes. Join us to discuss your engineering education. Pizza will be provided.

Date: Wednesday, January 23rd, 2002
Time: 5:30pm
Location: Ellis Hall, Room 324

Look for future Open Discussions on the ILC Webpage, under "News". <http://ilc/News/index.shtml> 

QUEEN'S ENGINEERING COMPETITION: A Student Initiated Event

Queen's Engineering Competition, an event that combines elements of a design competition with the opportunity for interaction among engineers from industry, government and academia, will be held **January 18 - 19, 2002** at Queen's University. This internal competition aims to promote engineering excellence within the Faculty of Applied Science, as well as to aid in the selection process of Queen's representatives to the provincial competition, Ontario Engineering Competition.

This provincial competition, initiated by a Queen's student in 1980, has not only motivated internal competitions within universities, but also feeds into a national competition each year. Six different competition categories range from a first year impromptu design competition, to parliamentary debate, to corporate design. These competition categories include:

Entrepreneurial Design	Editorial Communications
Corporate Design	Explanatory Communications
Team Design	Parliamentary Debate

For more information on the competition, see the QEC website at www.engsoc.queensu.ca/qec. 



2001 - 2002

J.W. McConnell Foundation Curriculum Development Awards

In order to develop curricula that promote active learning, broaden students' understanding of related fields, develop team skills and foster independence and innovation, the Faculty of Applied Science administers awards from the *J.W. McConnell Foundation*. The awards assist faculty in devising, testing and implementing curricular innovations.

We are proud to announce this year's recipients of the *J.W. McConnell Foundation Curriculum Development Awards*:

Bruce Anderson, Civil Engineering
Mike Birk, Mechanical Engineering
John Cartledge and **David Lay**, Electrical and Computer Engineering
Bob Erdahl and **Andrew Lewis**, Mathematics and Statistics
Martin Guay, Chemical Engineering
Kevin Hall, Civil Engineering
Geoff Lockwood, Physics, and others
Ron Neufeld and **Annette Bergeron**, Chemical Engineering
Pat Oosthuizen, Mechanical Engineering, and others
Dave Turcke, Civil Engineering, and others

For information on the application process, please visit our website: <http://ilc.queensu.ca/Facilities/mcconnellterms.shtml> 

The Road to the new Integrated Learning Centre

Tender Contract
Winter '02

Construction
Summer '02 to Summer '03

Grand Opening
Jan '04

INTEGRATED LEARNING SPOTLIGHT

This feature highlights outstanding examples of Integrated Learning at Queen's, both present and future



TEAM

TEAMwork pays off for integrated learning program

At Queen's, "success" is spelled T-E-A-M. That's the name of a program (Technology, Engineering and Management), initiated six years ago as a multidisciplinary, project-oriented course where students from Engineering, Commerce, and Science work together on real-life consulting projects.

Today TEAM has expanded its industrial partnerships worldwide: to Singapore, Switzerland, Korea, and the United States. It is also a core, fourth-year course – APSC 400 – of the Applied Science curriculum, and is currently under review by Professional Engineers Ontario (PEO) to determine if the pre-graduation experience students receive through TEAM qualifies toward professional engineering licensure.

Another highly visible sign of success is the program's prestigious Medal for Distinction in Engineering Education, received in 1998 from the Canadian Council of Professional Engineers. The recipient of this award was Chemical Engineering Professor Barrie Jackson. "The medal is of

TEAM Projects Currently Under Way

DuPont Canada Inc.

- Investigate the performance of the Dowtherm vent condenser, in an effort to minimize vapour emissions
- Develop a sustainable solution for the control of a microbiological build up in the spin finishing system

Labatt Canada

Develop a process model for the brewing process

Rutten Engineering Sterile Storage Systems (Switzerland)/Acambis (Boston)

Investigate the mechanism of mixing using the the Softmixer for sensitive biological systems

PSB Corporation (Singapore)

Develop edible coating for microencapsulation of materials

First Pro Shopping Centres

Develop a stormwater management solution, which optimizes the balance between environmental and financial issues

enormous advantage to Queen's, and reflects the measure of TEAM's achievement," says Mr. Jackson.

Developing students' "soft" skills such as teamwork, project management, communication, and awareness of the social impact of their work – while maintaining high academic standards – is the primary focus of the program. Multidisciplinary teamwork with advisors from industry and faculty on a wide array of projects from fee-paying clients. Practical, innovative solutions to engineering design and business

analysis problems are required, and the students bring an infectious enthusiasm to the projects.

"This course allowed us to synthesize knowledge from all four years and apply it to a real-world engineering problem," says Hiran Sandanayake, Sc'00. Business grad, Kimbal Musk, agrees. "While I learned several important things, first and foremost I learned how to better work with engineers."

Looking into the future TEAM anticipates increased participation and "integration" into

other disciplines across the University, such as Fine Arts and Environmental Science.

The concept of taking students beyond classroom learning into the realm of real-life problem-solving – with both deadlines and bottom lines to consider – continues to spell success. As Barrie Jackson notes: "TEAM's accomplishments are not measured in grades, but in applied process, repeat business, and innovative results. I think it's equally significant that the TEAM approach has been used as the template for the Integrated Learning Centre."

Contact Information

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