

Engineering Leadership Development Program

Faculty of Applied Science and Engineering

University of Toronto

First Annual Report 2006-2007

May 1, 2007

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Summary

In December 2005 the Faculty submitted a proposal to the Academic Initiative Fund (AIF) to begin enhancing student experience through a new Leadership Development Program. The proposal was funded and more detailed development of the program began in May 2006. After consultation with stakeholders the name 'Leaders of Tomorrow' (LOT) was adopted.

As proposed, the LOT program responds to two key strategic goals. First, it will strengthen the experience of engineering students by providing coherent, structured and intentional learning opportunities to enhance their leadership development. Second, leadership development in engineering education can enhance the connection between the field of engineering, with all its technical, analytical and problem solving capability, and society, enabling graduates to contribute more fully as engineers and citizens.

The milestones that were set for Year 1 in the proposal have been successfully achieved, namely:

- Striking of Leadership Development Steering Committees
- Appointment of a Leadership Development Professor
- Hiring of a Leadership Development Coordinator and Officer
- Ongoing implementation of LOT in Chemical Engineering (CHE)
- Initiation of LOT in two other departments Electrical and Computer Engineering (ECE), and Mechanical and Industrial Engineering (MIE)
- Development and clarification of the program vision and program mission
- Development of infrastructure to maintain registration and records of participation

In addition to these achievements important collaborative relationships have formed within the Faculty and the broader university, and energy and enthusiasm around leadership development has been ignited within the engineering student body.

Vision and Mission

The Vision and Mission for the Leadership Development Program were developed through extensive discussion and debate, incorporating the perspectives of faculty, staff and students.

Vision

An engineering education that is a lifelong foundation for transformational leaders and outstanding citizens.

Mission

To design, develop, implement, and evaluate the concepts, strategies, and components of a world-class engineering leadership development program that:

- Enables students to gain knowledge, skills, and experience that increase their ability and motivation to effect positive change and benefit society;
- Provides students with opportunities to develop their leadership ability by observing, experiencing and reflecting on the leadership process within their groups and communities;
- Provides extra-curricular, co-curricular and curricular components for students throughout their undergraduate and graduate experience;
- Engages faculty, staff, and alumni

So that it promotes development of exemplary local, national and global citizenship and provides a foundation that will inspire and guide students throughout their lifetimes.

Structure



Components

The Faculty's Leadership Development Program consists of three components:

- Department/ Division Leadership Programs modeled on Chemical Engineering's Leaders of Tomorrow program
- Cross-Faculty Leadership Program, focusing on strengthening leadership through co and extracurricular engagement
- Leadership Development in the Curriculum, introduced through a senior undergraduate/graduate course titled "Leadership and Leading in Groups and Organizations" (APS 501 HI F)

Identity and Awareness

The Leaders of Tomorrow Program has taken significant steps to establish itself throughout the Faculty. As a result of Steering Committee meetings in the summer and fall of 2006, it was decided that the Leaders of Tomorrow brand would be promoted across the Faculty. Customized banners with the LOT logo were developed for each department. The expansion of the LOT brand has led to increased program recognition and credibility among students, faculty and staff.

In addition, the Faculty is designing an LOT website and individual departments are in the process of developing their own distinct WebPages. Website development is intended to boost the profile of LOT both within the Faculty, among current and prospective students and beyond.

Student Recognition, Awards & Scholarships

An essential element of the program is recognition of students who excel as leaders. Entry scholarships with a strong leadership component will aid in attracting students who have demonstrated early aptitude for leadership. The Colcleugh Family Scholarship, awarded for the first time in 2005, offers \$8000 per year for four years to four students who demonstrate scholarship, leadership and volunteerism.

Two Leaders of Tomorrow Awards for in-program students (one in second and one in third year chemical engineering) were awarded for the first time in 2005 and endowed in 2006, respectively, as The Professor James W. Smith - and the Class of 5T9 - Leaders of Tomorrow Awards. They each pay \$5000.

The award selection process is modeled after the Rhodes Scholarship process and seeks students "who have shown the potential to become outstanding leaders", who "have the ability to inspire others to action and to excellence". Establishing a suite of Leaders of Tomorrow Awards in Departments and Divisions across the Faculty is seen as an outstanding way to cultivate leadership.

Alumni and Advancement

Alumni have been exceptionally responsive to the Leaders of Tomorrow concept. They understand leadership through personal experience and immediately see the potential impact of the program. LOT is an excellent vehicle for engaging alumni with our students through events tailored to leverage their leadership experience and to include them in building community.

LOT also provides excellent Advancement opportunities. By way of example, individual alumni on the Chemical Engineering Board of Advisors have been instrumental in endowing the LOT Awards and the Colcleugh Family Scholarship noted above and in providing ten-year funding for LOT programming in the Department.

Program Leaders, Staff and Partners

The on-going development and implementation of the program is led by Professor Greg Evans, Vice Dean Undergraduate, and Professor Doug Reeve, Chair of Chemical Engineering.

Leaders of Tomorrow program staff include:

- The Leadership Development Professor Dr. David Colcleugh (appointed July 2006, 20% FTE), a former CEO of DuPont Canada and Faculty alumnus
- The Leadership Development Coordinator Annie Simpson (hired in March 2007), a professional educator and graduate from the OISE Adult Education and Counseling Psychology program
- The Leadership Development Officer Veena Kumar (hired in August 2006), a graduate of Mechanical Engineering
- An LOT office has been established in WB240

To learn more about program leaders and the mandate of the leadership development office, see Appendices 2 and 4.

As indicated in the organization chart on page 3, the Vice Dean Undergraduate, the Chair of Chemical Engineering and the Leadership Development Professor take the lead on the three different components of the program. The Leadership Development Coordinator and Officer work closely on all aspects of the program, with the role of contributing leadership knowledge gained from resources across the university, and facilitating communication links and collaboration between the three different components.

The Office of Student Affairs is a key partner in the development of this program, with the Director, Susan Addario and staff members, Ian Simmie and Val Cortes participating in the various Steering Committees and Working Groups, and providing on-going support and leadership resources.

Department/Division Programs

Purpose

To support the development of students' interpersonal skills and understanding of leadership and to have leadership development be a unifying activity for building community within the Department/Division.

Process

These programs will be designed and executed by an individual Department/Division utilizing the benefits of networking, collaboration and cooperation across the Faculty. There are several important elements in the process: student contribution to guidance and direction, alumni contribution of their experience of leadership, and faculty/staff guidance and support of execution.

Objectives

A culture of leadership creating a greater sense of community within the Department/Division - including students, faculty, staff and alumni.

Activities

The LOT program has been under development since 2002 in the Department of Chemical Engineering and Applied Chemistry. LOT programs were initiated in Mechanical and Industrial Engineering, and in Electrical and Computer Engineering. Extension of the program into all other departments/divisions is planned for subsequent years.

LOT in the Department of Chemical Engineering and Applied Chemistry

Undergraduate

The Leaders of Tomorrow initiative began in the summer of 2002 to enhance the experience of undergraduate students conducting summer research projects in the Department of Chemical Engineering and Applied Chemistry. Since then, this program has expanded to involve several hundred students through the summer and academic year, and involve many of our alumni, professors and staff. Events are chosen and organized through the Leaders of Tomorrow Student Working Group, and have included in 2006-2007:

- Alumni/ae Career Panels
- Networking Skills Workshops
- "Leaders on Leadership" talks (Alumni)
- Dining Etiquette Tutorials
- Scholarship Workshops
- Leaders of Today (Alumni/ae) meet Leaders of Tomorrow Breakfasts
- Myers-Briggs Working Style Preferences Workshop
- Conflict Resolution and Group Dynamics Workshops
- Community Design Projects
- Tours of local industry, consultancies and research facilities
- Scholars and Leaders Reception
- Cross Cultural Simulation Game for ChemEng LOT Training Day
- Establishment of Student Scholarships, Awards and Recognition

Plans for 2007-2008

- Expansion of LOT summer program to include a greater emphasis on team skills and group process skills. Workshops will be offered to promote greater self-awareness, communication and conflict resolution skills.
- In order to promote a greater connection between the engineering profession and active citizenship, summer group projects have expanded to include an exploration of the underlying social, economic, political, environmental issues related to each design/research project. Students will be given opportunities to reflect and to debate on current social issues and to actively consider their specific role as engineers in affecting change.

Graduate

Created in 2005-2006, the Leaders of Tomorrow Graduate initiative is driven by a Working Group of graduate students as a sub-committee of CEGSA (Chemical Engineering Graduate Students Association).

The program has two major components:

- 1. Workshop/Seminar series focusing on career and professional development issues specific to graduate students (certificate of participation for >80% attendance)
- 2. Project teams will apply leadership and project management skills through completion of projects.

Plans for 2007-2008

• The LOT Graduate program is expanding and next year they will have three LOT speakers/seminars in the fall as well as three in the spring.

LOT in the Department of Mechanical and Industrial Engineering

Undergraduate

The following LOT events took place in MIE in 2006/2007:

- Resume workshop
- Networking workshops
- Mechanical Engineering Career Panel with Alumni
- Industrial Engineering Career Panel with Alumni
- Student/ Alumni Networking Wine and Cheese Reception
- Career Fair with Representatives from 20 Companies (previous workshops in resume writing and networking prepared students for this event)
- Scholars and Leaders Reception
- Joined the Department/Division Program Steering Committee
- Formed a Student Working Group to identify and plan future events

Plans for 2007-2008

- MIE intends to increase student engagement in LOT programming by hosting a number of social events in the summer and fall.
- Students in MIE have identified a desire to develop their leadership skills while engaging in group projects. These design projects can then be used as a springboard to explore leadership competencies such as team skills and group dynamics, self-awareness, communication and conflict resolution skills.

LOT in the Department of Electrical and Computer Engineering

Undergraduate

The Electrical and Computer Engineering Department has made significant progress in establishing its LOT mandate. In 2006/2007, ECE:

- Joined the Department/Division Program Steering Committee
- Established a LOT portfolio within the Undergraduate Studies Office
- Formed an ECE Student Working Group to gain student input into program development

Plans for 2007-2008

- A Leadership Retreat Day for summer student research assistants
- Engineering Entrepreneurship Series (this is offered Faculty-wide, with an average attendance of 60-80 people)
- Student Mentorship Program with the Institute of Electrical Electronics Engineers (IEEE Student Chapter) with upper year students assisting ECE First Year students
- Dining Etiquette Seminar This session will provide our 3rd and 4th year students the opportunity to learn various customs appropriate in the business world
- Alumni Breakfasts (two events, one in each term) to initiate and foster relationships between ECE Alumni and current students

Curricular Program

Purpose

To support the development of students and others in the Faculty through a program that delivers an understanding of the nature of Leading and Leadership.

Process

Raising the potential of engineers as major contributors to society by integrating the teaching of Leading and Leadership Skills and Attributes into their curriculum.

Objectives

Creating a pattern of positive thought and behavior around Leading and Leadership throughout the entire career of the engineering graduate of the Faculty of Applied Science and Engineering.

Leadership Course Description

The Faculty of Applied Science and Engineering has initiated a multi-faceted leadership program that aims to enhance the educational experience of its students by offering them various opportunities to develop leadership and professional development skills. One aspect of the program is the development of this elective course, which will be offered to senior undergraduates and graduate students.

This course will examine leadership in relation to technology and the engineering profession. Topics will include: leadership theories, historic and current leaders, ethical leadership, teaming and networking, productivity and innovation, thinking frameworks, business leadership, and influencing people. Through this course students will explore their own leadership abilities and develop or strengthen their competencies in areas such as managing conflict, team dynamics, running effective meetings, developing others, and creating vision and mission statements. The course will be delivered through lectures, workshops, readings, and guest speakers.

Activities

Working Group Mandate

- Dedicated to meeting the goal of an academic curriculum for the course "Leadership and Leading in Groups and Organizations" for the Fall 2007 term
- · Committed to infusing course content with opportunities for leadership practice and reflection
- Frequent interactions with Steering Committee for guidance
- Membership:
 - David Colcleugh, Leadership Development Professor
 - Markus Bussman, Professor of Mechanical Engineering
 - Ian Simmie, Student Affairs
 - Emma Master, Professor of Chemical Engineering
 - Annie Simpson, Leadership Development Coordinator
 - Veena Kumar, Leadership Development Officer

Plans for 2007-2008

- Student Leadership Development Coordinator and Officer will support the Leadership Development Professor to establish learning outcomes, authentic assessments and opportunities for students to integrate course material through experiential activities.
- Transfer new leadership development training content to the ESP course.

Cross-Faculty Program

Purpose

To execute the program mission through the experiential learning of students engaged in Cross-Faculty extra- and co-curricular activities.

Process

Provide education, support, and services so as to incorporate leadership development into the experience of students participating in Cross-Faculty student societies, clubs, teams, associations, internships, community service, or other experiential activities, and thereby promote their personal growth and understanding of leadership and leading. Offer support, resources and training to student leaders thus enhancing the quality of the student experience by providing leadership training through the club infrastructure.

Objectives

- Students who recognize, understand and value the leadership abilities that they acquire through their participation in Cross-Faculty extra and co-curricular activities.
- An enhanced leadership culture faculty wide that promotes increased engagement of students in co-curricular and extra-curricular activities.
- More effective and stable student organizations through the incorporation of leadership development into their objectives.
- Greater unity within and between the student communities across the Faculty, promoting an increased sense of allegiance and belonging among engineering students.

Activities in 2006-2007

The Cross-Faculty component of the leadership program includes support of leadership events across the Faculty and campus. In 2006-07, this included:

- Team-building activities at the Engineering Society Retreat
- Community-building workshop for Class Representatives
- Presentation on Leadership Styles at Clubs Leadership Event

Other activities promoting leadership in the Faculty included:

- Incorporation of leadership questions into Student Engagement Portfolio
- Incorporation of leadership as a criteria into new application for club funding
- Assessment of leadership development through First Year Survey, Exit Survey, Student Leader Survey

Cross-Faculty Steering Committee

A Cross-Faculty Steering Committee was struck up to advise staff on Cross-Faculty leadership programming. Members include:

- Greg Evans, Vice Dean Undergraduate
- Susan McCahan, First Year Chair
- Sonia DeBuglio, Director Alumni Relations
- Jose Pereira, Director Engineering Career Centre
- Doug Reeve, Chair of Chemical Engineering
- Mei Ling Chen, President Engineering Society

Extra-curricular Working Group

Recruitment and training of Student Leadership Ambassadors to help plan, promote and implement 2007-2008 Cross-Faculty leadership programming.

Plans for 2007-2008

- Leadership Coordinator and Officer to meet with club leaders and members to promote LOT programs and opportunities
- New Leadership Retreat for Club Leaders (Fall 2007)
- Contribute leadership development programming to the Engineering Society retreat
- Monthly Skill-building sessions for students across the faculty
- Partnering with the Career Centre to offer Leadership training for PEY students

Addressing Academic Initiative Fund (AIF) Criteria

- Enhancing Student Experience: The program is promoting the growth and transformational experience of students participating in leadership development activities. Through a three-pronged approach (curricular, co-curricular, extra-curricular), the Faculty is well poised to provide an integrated experience to students in Year 2 of implementation, and send a clear message to students that leadership development is part of an engineering education.
- Enhancing Collaboration: The creation of new leadership positions (professor, coordinator and officer) have allowed consolidation of leadership activities coordinated by the Vice Dean Undergraduate, the Department of Chemical Engineering and other Departments and Divisions. Specifically, the program has enhanced collaboration between departments this year as demonstrated by the Departments of ECE and MIE joining the program. Other departments have been participating in the Departmental Steering Committee meetings, namely Engineering Science, (ESC) Civil, (CIV) and Materials Science (MSE). In addition, program leaders and staff have enhanced collaboration with Student Affairs. In addition to formalizing Student Affairs involvement through an advisory committee structure, the Faculty now participates in the Student Life Professionals Group and its leadership development committee which exist to promote collaboration among divisions.
- **Improving Equity and Diversity:** A key aspect of the leadership events that have taken place this year, and those that are planned for 2007-2008, focuses on providing students with deep and meaningful experiences in cross-cultural communication and collaboration. The focus of the Leadership training day for students in Chemical Engineering was a cross-cultural simulation game that provoked discussion and examination of cultural, linguistic and gender based discrimination. The recent achievements of our chapter of the National Society of Black Engineers (NSBE) provide a second example. In the fall of 2006, NSBE hosted a daylong conference for black high school students that focused on engineering and leadership; over 200 students participated. In March of 2007, NSBE took students to the national conference in the US, an event that received a lot of media attention. Finally, Toronto has been selected to host the 2010 NSBE national conference that will bring over 10,000 black engineers from across North America; leadership and outreach will be focus areas for this conference. The Cross-Faculty program will also enhance the profile, effectiveness and intercommunication between the Faculty's many cultural and gender-related student clubs and organizations such as Women in Science and Engineering (WISE), National Society of Black Engineers (NSBE), Chinese Engineering Student Association (CESA) and Lesbian, Gay, Bisexual, Transgendered of UofT (LGBTOUT).
- Connecting with the Broader Community: The University's efforts to engage students in the life of the city will continue to be strengthened by the leadership development program. The Leaders of Tomorrow program already incorporates community service projects and many of our student groups have a service focus. With support from the Centre for Community Partnerships, the Faculty will continue to provide appropriate training and preparation for students who interact with vulnerable and marginalized populations, and will increase the number of opportunities for students to engage in these projects in Year 2 of implementation.

Milestones for 2007-2008

With the addition of two fulltime Leadership Development Staff, we will increase leadership development programming and student engagement. Ambitions for the year ahead include:

- Initial delivery of the course "Leadership and Leading in Groups and Organizations"
- Launch the LOT website
- Second round of Departments/Divisions will be phased into the LOT program
- LOT Banners displayed in participating Departments/Divisions
- Establish learning objectives and assessment strategies for the three components of the program
- New Retreat for Club Leaders in the fall followed by monthly skill building sessions.
- More frequent and intentional leadership development events in MIE and ECE.
- Incorporate of LOT into our employment internship programs Incorporate leadership development into our first year design course, Engineering Strategies and Practice
- Incorporate leadership development into our high school outreach initiatives and programs.
- Alumni participation at LOT events throughout the year
- Endow four more LOT Awards

Budget

LOT has been supported through approximately \$200,000 in annual funding for four years that was awarded in 2005-06 from the University's Academic Initiatives Fund. An additional \$300,000 and \$250,000 will be contributed by the Faculty and participating Departments over this time period, bring the total commitment to \$1,350,000 over four years.

Measuring Impact

There has been consistent documentation of student participation in LOT programs. Records of attendance and student satisfaction have been collected at each event. We have also distributed surveys to get feedback on individual sessions, and to further refine sessions for subsequent years.

In Year 2 of implementation, a significant goal is to bring more depth to the program evaluation by defining intentional learning objectives and designing assessment strategies to measure the success in achieving those objectives. Annie Simpson, the Student Leadership Development Coordinator is participating in a Learning Outcomes training group and will receive specialized instruction on how to develop and assess the LOT program objectives.

A significant step in this process will be to identify learning objectives for the LOT program as a whole, for the cross-faculty programs and for individual LOT events. These objectives will be consistent with the vision and mission of the university.

This report is co-authored by:

Greg Evans Veena Kumar Doug Reeve Annie Simpson

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APPENDICES

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Program Vision, Mission, Values and Beliefs



Vision

An engineering education that provides a lifelong foundation for transformational leaders and outstanding citizens.

Mission

To design, develop, implement, and evaluate the concepts, strategies, and components of a world-class engineering student leadership development program that:

- Enables students to gain knowledge, skills, and experience that increase their ability and motivation to effect positive change and benefit society;
- Provides students with opportunities to develop their leadership ability by observing, experiencing and reflecting on the leadership process within their groups and communities;
- Provides extra-curricular, co-curricular and curricular components for students throughout their undergraduate and graduate experience;
- Engages faculty, staff, and alumni so as to promote a leadership culture across the Faculty and beyond;

So that it promotes development of exemplary local, national and global citizenship and provides a foundation that will inspire and guide students throughout their lifetimes.

Program Beliefs

- The full potential of our graduates to contribute to society is not being realized.
- The full potential of our students, staff and faculty to contribute while at university is not being realized. This represents a substantial untapped resource for our Faculty.
- The role of the Engineering profession in North America must and is evolving.
- Leadership potential/capacity can be learnt and therefore it can be taught.
- Improving their leadership potential will serve our graduates well throughout their professional and personal lives.
- Offering a leadership program will help attract students with an interest in leadership and this self perpetuating cycle will result in stronger graduates.
- Students who are more engaged will have a better university experience; students who feel they are part of a community will be more engaged. Hence we need to help students to learn how to build communities.
- Engineers with significant leadership skills and attributes contribute more societal value than those without.
- Student engineers exposed to a disciplined, structured learning process in leadership skills/behaviours are more productive contributors to enhanced societal value.
- Today some student engineers gain valuable enhanced leadership skills/behaviours through self-study, volunteering and participating in extracurricular activities and mentoring experiences......this is good.
- A structured leadership development component to the student engineer experience will be an important distinguishing feature for UofT.
- Many student engineers do not appreciate that enhance leadership skills/behaviour will increase their worth to society.

Program Values

- Service: Service to society is a core value of Engineering
- Integrity: Personal and professional integrity is a core value of Engineering
- Social responsibility: responsible use of technology is a core value of Engineering
- Teamwork: Teamwork is a core competency of Engineering
- Structure: Organization (creation of infrastructure) is a core competency of Engineering
- Excellence: is a core value of the University
- Diversity: Recognizing the benefits or diverse views and backgrounds is a core value of the University
- Knowledge: creation and preservation of knowledge is a core value of the University

Mandate for the Student Leadership Development Office

The Mandate of the Student Leadership office includes overall responsibility for creating and maintaining a faculty-wide student leadership development program.

This mandate is achieved in a number of ways:

Leadership Development Programming:

- The Student Leadership Development Office develops and implements initiatives that integrate leadership development through all facets of the engineering student experience: curricular, co-curricular and extra-curricular.
- Designs and delivers intentional, structured and meaningful leadership development programming providing an experience that integrates theory and application, formal and informal learning to all students in the Faculty of Engineering.
- Assists the leadership development professor in the creation of leadership development learning that can be integrated into the curricular course 'Leadership and Leading in Groups and Organizations.' (APS 501)
- Offers Leadership related training, workshops, summer experiences, community service projects and other opportunities across the faculty.
- Offers programming specifically for student leaders and student clubs.
- Designs curriculum and builds a repertoire of workshops on different leadership-related topics that can be facilitated with various departments and student groups across the faculty.
- Maintains a system for documenting, assessing and evaluating student learning and program effectiveness.
- Fulfills administrative duties related to LOT program planning such as organizing events and guest speakers.

Resource Centre:

- The Leadership Development staff members act as consultants with faculty advisors across the Faculty to support the development and integration of the Leaders of Tomorrow program in all departments.
- Through research and professional development, staff of the Student Leadership Development office act as a resource on leadership theory and leadership development education.
- Acts as a regional and national resource on student leadership development for engineers.
- Produces academic research and publications relating to student leadership development.

Partnership Building:

Develops partnerships across the University community and beyond, in order to offer engineering students the expertise of many leadership development professionals. Partnerships include:

- Student Affairs
- Centre for Community Partnerships
- Student Life Professionals Group

Leadership Development Faculty and Staff

Leadership Development Professor

David W. Colcleugh 5T9 Chemical, BASc, MASc, PhD

Dave Colcleugh, retired in 2003, as Chairman, President and CEO of DuPont Canada Inc. after a distinguished career serving the Company in Canada, USA and Asia.

From graduation in 1959, he pursued post-graduate studies leading to a PhD from Toronto followed by post-doctoral research in Cambridge University. In 1963, Dave joined DuPont Canada Inc. as a research engineer, advancing through many functional and business roles culminating in a Senior Vice Presidency in 1994. In 1995 he became President of DuPont in Asia/Pacific. In 1997, Dave returned to Canada as President and CEO of DuPont Canada Inc., becoming Chairman of the Board in 1998.

Accomplishments

- Successful leadership of a large and diverse number of Business and Functional units throughout his career
- A recognized leader in Sustainable growth in shareholder and other stakeholder values.
- Leadership of New Business Development efforts, resulting in growth in numbers of successful units especially in the Food, Safety and Security and Polymer markets.

Recognition

- Daedalus Award, DuPont Canada's highest achievement award for developing strategy and leading the execution of a Sustainable Growth process.
- Awarded the E.I. duPont de Nemours Sustainable Growth Award. This recognized the leadership to achieve superior business financial results while decreasing the environmental footprint of the DuPont Canada Company.

Leadership Development Coordinator

Annie Simpson has a Masters degree in Adult Education and Counseling Psychology and she is beginning her PhD in Education. She has taught in the community college system and has also worked as a counselor, conflict mediator and restorative justice facilitator and trainer. Annie is committed to transformative education; education that engages the whole person. She is inspired to offer opportunities for students to discover their passion, capacity and authenticity.

Leadership Development Officer

Veena Kumar completed a degree in Mechanical Engineering at Queen's University, where she participated in leadership development activities through community service, international exchange, professional experience, residence life and clubs, and continues to be involved in community development activities in Toronto.

Leadership Course Overview

Course Description

The Faculty of Applied Science and Engineering has initiated a multi-faceted leadership program that aims to enhance the educational experience of its students by offering them various opportunities to develop leadership and professional development skills. One aspect of the program is the development of this elective course, which will be offered to 4th year undergrads and open as well to graduate students.

This course will examine leadership in relation to technology and the engineering profession. Topics will include: leadership theories, historic and current leaders, ethical leadership, teaming and networking, productivity and innovation, thinking frameworks, business leadership, and influencing people. Through this course students will explore their own leadership abilities and develop or strengthen their competencies in areas such as managing conflict, team dynamics, running effective meetings, developing others, and creation of vision and mission statements. The course will be delivered through lectures, workshops, readings, and guest speakers.

Course content will be based on five "Chapters":

- A. Leading and Leadership: To discuss the essence of the processes followed by Role Model Leaders, and their competencies and behaviours, so that the student can consider the premise: "Leadership is a learnable skill."
- B. Providing Direction for Positive Change: To discuss the important competency of a Role Model Leader that involves determining singular, clarifying direction for people in the organization... so that, the student can value the notion: Significant value for stakeholders is realized when short and long term goals are provided by an organization.
- C. People Realizing their Potential: To create awareness in the student that a vitally important aspect of leading and leadership is to develop their own and others' spirit, will and capabilities... so that, an environment of personal growth, personal productivity and organizational productivity can be created.
- D. Organizing Effectively: To discuss ways of thinking and doing within groups, teams and organizations that are more effective in realizing the desired goals of personal and organizational growth.
- E. Getting Results: To discuss the importance of, and the ways and means to achieve, superordinate results from work... so that, the student can better understand the linkages among Leading, Managing and Planning.

Sample Event Outlines

ChemEng Leaders of Tomorrow Graduate

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LoTG: Seminar Report							
Seminar Title	How to Coordinate and Facilitate a Group						
Speaker	Veena Kumar, Deanne Fisher						
Speaker contact	Student Leadership and Development Office – Faculty of Engineering						
Date / Time	February 1, 2007 4:00-6:00pm						
Location	WB420						
Attendance	8						
Refreshment Budget	\$60						
Gift Budget	\$0						
General outline of proceedings	This seminar was the third in a series of seminars intended to improve the leadership skills of engineers. It addressed an issue that is very important for engineers, which is how to facilitate a group, which could be translated as how to conduct a meeting. The seminar was very useful in that it provided some useful best practices that could be transferred into a professional setting, such as how to set the stage, how to name and discuss issues, how to effectively make decisions in a group as well as how to close a meeting. Emphasis was placed on keeping members in a group setting included in a decision making process.						
	After the theory was introduced about mid-way through the session, the presenters allowed for the students to practice the skills that they had just learned. The whole group was involved in the scenario and each got to take on the role of a participant in a mock leaders of tomorrow meeting. Overall the seminar was very useful in that it gave some practical skills of being an effective meeting leader, and gave the students the opportunity to practice these skills in a risk-free environment. Shortcomings of the seminar might include low attendance compared to some of the other seminars, as only eight people attended the seminar. This could be attributed to a possible saturation point having been reached within the department in terms of seminars. Provided that the leadership seminars were given as a series, it might be a good idea to space them out a bit more in						
Comments	This seminar provided a good framework for people as it helped to structure one's thinking process. Although many of us use the skills instinctively, one can easily forget how to deal with a conflict when in a heated situation. Practicing the discussed skills definitely helps one to better deal with a conflict.						

CHEMICAL ENGINEERING AND APPLIED CHEMISTRY, UNIVERSITY OF TORONTO

Leadership Training Day Saturday, February 17, 2007, 9:00 am to 5:00 pm Wallberg 238 (Common Room)

Itinerary

Time	Event
9:00 - 9:10	Arrival of participants
9:10 - 9:30	Welcome and Introductions
9:30 - 11:00	Workshop: Leadership Styles
11:00-11:30	Break
11:30 - 1:30	Simulation: Intercultural Communication
1:30 - 2:00	Lunch
2:00 - 2:30	Scavenger Hunt: Groups and Rules of the Game
2:30 - 4:30	The Amazing U of T Scavenger Hunt
4:30 - 5:00	Tally scores and announce winners

Contact Information:

Campus Emergency: 978-2222 Liam Mitchell (Manager of External Relations): 978-8770/Cell: 647-828-4743 Emma Master (Assistant Professor): 946-7861

Brainstorming Workshop for Cross-Faculty LOT

March 21- Brainstorming Workshop for LOT

Objectives:

- Increase student excitement and engagement in LOT programs.
- Gain a greater awareness of the kinds of training/workshop events that are most relevant to students.
- Build community among participants.
- Encourage a broader vision/ understanding of leadership.

Agenda

Introduction of Veena and myself

Energizer: Stand Up If....

You were born in Toronto You play a musical instrument You've lived outside of Canada You speak more than one language You have more than two siblings You rode your bicycle tonight' You like to dance You've participated in previous LOT programs

Student Introductions in small groups: Your name, your department, and what brought you here tonight.

Offer background on LOT-

- has been strongest in Chem-Eng but we are in the midst of developing LOT programs across the departments.
- has been focused on career preparation skills but we are expanding to include skill development and service learning opportunities.

Our purpose and goals for the night: Planning for summer and for next year- wanting to get student input. This is your program- what would you like to see. What kinds of skills would you like to develop?

LOT vision statement:

'An engineering education that is an exceptional foundation for transformational leaders and outstanding citizens.'

Flipchart/ Discussion Questions:

1. What does leadership mean to you? Positive and negative assumptions/ associations. Transformational leadership?

2. What kinds of skills does a leader have? Is there a difference between a leader and a full participant? 'A person of character'- what does this refer to? (ethical, inclusive, empowers others, openness to learning etc)

3. Can leadership be learned? (learning to communicate with people who are very different from you, personally, culturally, religiously, gender, sexual preference)

4. How can knowing about leadership make you more successful in your future career and other endeavors?

Summary of LOT philosophy: building relationships, attentiveness to process, inclusivity, self-awareness, in order to influence others we need to understand others, in order to understand others we need to understand ourselves. Educating the whole person- to be successful in our jobs we need to develop our whole selves.

Questionnaire- few minutes for students to complete.

Discussion:

- Is there anything missing here? What other kinds of programs would you like to see?
- Which of these do you think would interest the students who rarely come to events?

Break Into 4 small groups: 4 corners- pick the question that you're drawn to.

- Club leaders; programming specifically for them- orientation (what kinds of skills would you like to have when you start in your new role?- format? Ongoing support, closure etc.
- Do you have suggestions for how we can engage more students to participate? What are the best ways for us to promote our events? What kinds of events/workshops would be attractive to students who are harder to engage? Do events need to be more career focused ie. How to be a good boss/ project manager.
- In an academic setting where students are focused on marks, what kinds of incentives can be created to encourage students to take advantage of the leadership education that we are offering? ie. Certificates, award ceremonies.
- Part of our vision/mission is to create service learning opportunities for students that would be followed by opportunities to debrief, reflect and learn from these experiences. What kinds of places would you be interested in volunteering, or what kinds of service learning opportunities would interest you. These opportunities do not need to be specific to engineering. ie- homeless shelters, engineers without borders, humane society.

Large Group Share

Closure: Gratitude Circle

Chemical Engineering LOT

Speaker Title	Dress for Success Workshop		
Speaker	Leanne Pepper, Etiquette and Protocol Consultant		
Speaker contact	Leanne.Pepper@utoronto.ca University of Toronto Faculty Club 41 Willcocks St., Toronto, ON, M5S 1C7, Canada Phone: (416) 978-6399 Fax: (416) 971-2062		
Date / Time	Tuesday, March 13th, 2007 12:00 – 2:00pm		
Location	WB420		
Attendance	Approximately 35 students were present at the seminar.		
Refreshment Budget	122.41 food + 21.00 drink + 200.00 speaker's charges		
Gift Budget	No gift was given		
Outline of proceedings	 Proper dressing code at formal, semiformal, business casual events What to wear and what not to wear How to present yourself Posture Where to shop for formal dress Talked about women and men dress codes Talk about proper used of perfume and cologne Talked about colors and color co-ordination Proper style of clothes Talked about cufflink Answered questions from students Talked about proper shoes color and types 		
Comments	It was a very good seminar, with good attendance. I talked to some students after the seminar and they told me they liked it. The seminar was for two hours, I think next time similar seminars will have to be for one hour (12:00 – 1:00 pm) not two hours because this will encourage more students to come.		
	Overall, the speaker was well prepared and the seminar was informative.		

Sample Event Posters



Leaders on Leadership



Paul Godfrey (CHEM 6T2)

President & CEO, Toronto Blue Jays Baseball Club

A veteran civic and business leader, Chemical Engineering alumnus Paul Godfrey offers his insights on leadership in this lunch hour talk. Followed by Q&A.

Friday February 16, 2007 12:00 p.m. - 1:00 p.m. Location: WB 219 Cost: FREE

LUNCH PROVIDED!

Engineering, Entrepreneurship and Citizenship



Charting Your Future Career Panel



- Identify career options available
- Learn how to chart your career path
- Get interview and networking tips
- Discuss how to land "*the*" job

Wednesday March 14, 2007 12:10 - 1:00 p.m. Location: WB 219

FREE PIZZA LUNCH!

Chart your future by charting your career path!

CHEMICAL ENGINEERING AND APPLIED CHEMISTRY, UNIVERSITY OF TORONTO



Dining Etiquette Tutorial

- Increase your confidence at professional functions
- Improve your silverware savvy and table etiquette
- Network with classmates and the Chem Eng Board of Advisors

Join us for a four-course dinner-tutorial at The Faculty Club

Wednesday, January 17, 2007 Reception 5:30-6:30 pm (Cash Bar) Dinner 6:30-9:00 pm

Cost: \$20, includes a 4-course meal and etiquette training by Leanne Pepper, Certified Etiquette and Protocol Consultant

Register at www.chem-eng.utoronto.ca/lot

For payment, please see Cindy Tam in Wallberg, room 420 Final date to reserve a place is: January 15, 2007 - full payment is required (Dress code: Business)

Space is limited, so act now!









Testimonials from Students

"I truly believe that leadership theory is the thread that binds the fabrics of personal improvement and leadership experience mentioned during the retreat. I'd be willing to volunteer my time to ensure that other students in the Faculty have the benefit of similar formal training."

-Paul Kishimoto, 4th Year Engineering Science Student

"I am currently a second year Chemical Engineering student at the University of Toronto. I have been a member of LOT since 2006 summer. I was fortunate to participate in the LOT events during the 2006 summer. I was encouraged by the speakers who addressed the LOT group. Myers-Briggs personality indicator which evaluated my personality type was helpful for me to change some of my goals and make plans to achieve them. The plant tours in INCO and AECL were really interesting. Leaders of Tomorrow has had a great impact in my life. I am looking forward to participating in more events in the future."

-Dan Wickramaisngne, 2nd Year Chemical Engineering Student

"I am a second year undergraduate student in the Department and over the past two years I have been attending a number of the events hosted by the Leaders of Tomorrow (LoT) program. After being enthralled by the vision of the LoT program and the events I attended, I decided to join the LoT Working Group in the middle of the fall semester. I definitely believe that the activities organized by LoT have benefited students in various aspects including being able to acquire skills that would carry them a long way in life such as networking and soft skills. The large attendance at these events speaks of the program's success in being able to deliver what interests students most. One example of the success of the LoT events that I personally observed was at the Annual Chemical Engineering Dinner where a number of students were trying to apply what they learned at the Dining Etiquette and Networking Tutorials. I even saw some students teaching their tablemates about such things as which fork to use when and how to properly introduce themselves and present business cards. The practical aspect of these skills taught in the events held by the Leaders of Tomorrow program have definitely benefited students and will continue to do so over the years."

-Suren Selvaraj, 2nd Year Chemical Engineering Student

Engineering Leadership Development Program

Faculty of Applied Science and Engineering University of Toronto

> Presentation to C&D May 8, 2007















Mission

To design, develop, implement, and evaluate the concepts, strategies, and components of a world-class engineering student leadership development program that:









LEADERS of TOMORROW						
S	structure	e - D/C				
Department/Division LOTLead:Prof Doug ReeveCoordinator:Veena KumarSteering Committee:D/D Faculty and Staff Leads below, and representationfrom Engineering Science, Civil and Materials Science						
Chemical Engineering (CHE) Faculty Lead: Prof Emma Master Staff Lead: Liam Mitchell CHE Student Working Group	Mechanical & Industrial Engineering (MIE) Faculty Lead: Prof Markus Bussman Staff Lead: TBD MIE Student Working Group		Electrical & Computer Engineering (ECE) Faculty Lead: Prof Wai Tung Ng Staff Lead: Jayne Leake ECE Student Working Group			









	GRADUATE STUDENT						
L	EA]	DERS of TOMORROW					
	Seminar Calendar 2007						
JAN	17th	Dining Etiquette (LoT:UG)					
	18th	Leadership Theory and Practice (Seminar 1/3)					
	25th	Communication and Conflict Resolution Skills (2/3)					
FEB	1st	Facilitation and Coordination Skills (3/3)					
MAR	TBD	Leaders on Leadership: Indira Samarsekera, President of Univeristy of Alberta (LoT:UG)					
	9th	Gaining Professional Engineer Status					
	TBD	Dress for Success					
	TBD	Networking Tutorial					
	23rd	22nd Annual Chem. Eng. Dinner					
	26th	Careers in Industry (LoT:UG)					
	TBD	Project Management Workshop					







FACULTY OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONT

Curricular Program

Working Group

- David Colcleugh, Leadership Development Professor
- Markus Bussman, Professor of Mechanical Engineering
- Ian Simmie, Student Affairs
- Emma Master, Professor of Chemical Engineering
- Annie Simpson, Leadership Development Coordinator
- Veena Kumar, Leadership Development Officer







LEADERS of TOMORROW FACULTY OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO Cross-Faculty Program Working Group

• Greg Evans, Vice Dean Undergraduate

- Susan McCahan, First Year Chair
- Sonia DeBuglio, Director Alumni Relations
- Jose Pereira, Director Engineering Career Centre
- Doug Reeve, Chair Chemical Engineering
- Mei Ling Chen, President Engineering Society

LEADERS of TOMORROW Cross-Faculty Program Activities in 2006-2007 Team-building activities at the Engineering Society Retreat Community-building workshop for Class Representatives Presentation on Leadership Styles at Clubs Leadership Event Incorporation of leadership questions into Student Engagement Portfolio Incorporation of leadership as a criteria into new application for club funding Assessment of leadership development through First Year Survey, Exit Survey, Student Leader Survey

DECADERS of TOMORROW EXAMPLE DE CERCE AND ENGINEERING, UNIVERSITY OF TORONTO DECALETA OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO DECALETA OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO DECASE-FACULY PROGRAM DECASE-FACULY DECASE-FACULY PROGRAM DECASE-FACULY DECASE-FACULY





