LEADERS *of* TOMORROW

FACULTY OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO

# Engineering Student Leadership Development Program

Faculty of Applied Science and Engineering

University of Toronto

## Second Annual Report 2007-2008

June, 2008

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# EXECUTIVE SUMMARY

The academic year of 2007-2008 was an exciting and eventful time for leadership development activities in the Faculty of Applied Science and Engineering. Under the Leaders of Tomorrow (LOT) banner there were 142 events with total attendance of 4, 064 students.

Since 2006, the program, which began in Chemical Engineering in 2002, with a mandate and funding from the Provostial Academic Initiatives Fund (AIF), has taken root in four more Departments and Divisions: Electrical and Computer Engineering, Mechanical and Industrial Engineering, Materials Science Engineering, and the Division of Engineering Science. Events included leadership-related workshops and panel discussions, public speaking and networking seminars, industry tours and opportunities to meet with, and learn from, alumni.

A new course, APS 501- Leadership and Leading in Groups and Organizations, was offered for the first time and received exceptional reviews from students. Professor David Colcleugh, former CEO and President of Dupont Canada taught this course with the assistance of Annie Simpson, Engineering Student Leadership Development Coordinator. For this first offering there were 86 applicants. 40 students were selected based on an assessment of their leadership experience and motivation to learn.

The Chemical Engineering LOT summer program, a fifteen-week leadership development program for research students, was expanded to include more success skills workshops on Stages of Team Development, Conflict Resolution, Group Dynamics and Personal Leadership Strengths. Students were encouraged to apply these skills and understanding to their group project experiences.

A Leadership Training Day for female engineering students was offered for the first time. Participants of the training day have organized numerous follow-up meetings and are planning future programs.

A paper entitled ‘Leaders of Tomorrow- A Leadership Development Program for Engineering Students at the University of Toronto’, co-authored by members of the Faculty of Engineering and members of the Student Life Office was presented at a local meeting of the American Society of Engineering Education. This paper and presentation raises the profile of LOT; the only leadership development program for engineering students in Canada.

LOT Co-Leader, Professor Doug Reeve, initiated the formation of a new University of Toronto wide network of leadership development educators, including both faculty and staff. This group met four times and discussed topics ranging from new degree level expectations, leadership development assessment strategies, future leadership development conferences at U of T, and leadership learning outcomes. Working group participants included staff from Student Life St. George and Scarborough campuses, and faculty from The Rotman School of Business, the Ontario Institute for Studies in Education, School of Public Policy and Governance, Faculty of Physical Education, Scarborough’s School of Management and Engineering - and the group continues to grow.

A Co-curricular Certificate Program is to be launched in September 2008. It will be available to all engineering students. To receive a certificate, students will attend four workshops, engage in reflective practices and complete a final presentation. Partners from Student Life and the Centre for Community Partnerships have contributed to the design of this new initiative.

## INTRODUCTION AND PROGRAM HISTORY

In December 2005 the Faculty of Engineering submitted a proposal to the Academic Initiative Fund (AIF) to enhance student experience across the Faculty through a new Leadership Development Program. The proposed program was to follow the example of the Leaders of Tomorrow program that had been started in Chemical Engineering in 2002. Funding of $200,000 per year was granted by the Provost and development of the program began in earnest in May 2006. After consultation with stakeholders the name 'Leaders of Tomorrow' (LOT) was adopted.

As proposed, the LOT program has 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 will 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.

## 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

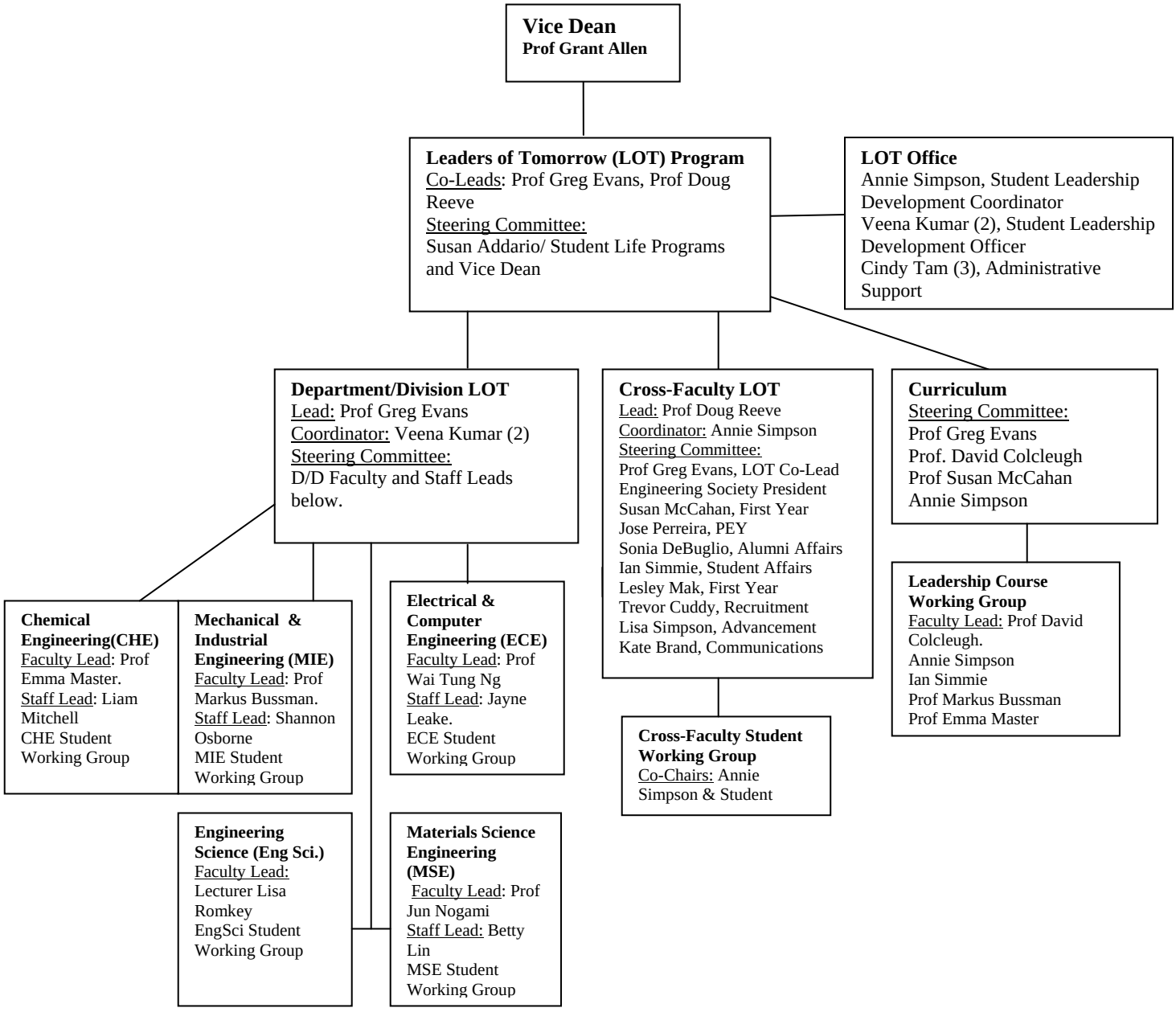
To design, develop, implement, and evaluate the concepts, strategies, and components of a world-class engineering leadership development program that:

- 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.

To learn more about the Leaders of Tomorrow vision, mission, values and beliefs, see Appendix A.

## PROGRAM OVERVIEW AND STRUCTURE




(1) Susan Addario was replaced by Deanne Fisher
(2) Veena Kumar left the program in December 2007 and will be replaced by Anitta Satkunarajah as of June 2, 2008
(3) Cindy Tam will be replaced by Deborah Peart as of June 2, 2008

## LEADERSHIP AND ORGANIZATION

Co-leaders of LOT are Professors Doug Reeve and Greg Evans. (Note that Professor Evans was on leave for six months from July 1, 2007 and Professor Reeve will be on leave for six months from July 1, 2008.) An oversight committee composed of Grant Allen, Vice-Dean and Deanne Fisher, Director of Student Life Programs, the LOT Coordinator, Annie Simpson, and the co-leaders, meets each term to review progress, and consult on program development.

### Leaders of Tomorrow Program Staff

The Leadership Development Coordinator, Annie Simpson, a professional educator and graduate from the OISE Adult Education and Counseling Psychology program started in March 2007. Annie has overall responsibility for developing and implementing initiatives that integrate leadership development through all facets of the engineering student experience: curricular, co-curricular and extra-curricular.

The Leadership Development Officer organizes events, training programs and workshops to help students develop personal, organizational and group-related leadership skills. Veena Kumar occupied this position from September 2006 to December 2007. We recently completed our search for a replacement; Anitta Satkunarajah will be joining us June 2, 2008.

The Leadership Development Professor Dr. David Colcleugh was appointed July 2006, at 20%FTE, he is a former CEO of DuPont Canada and is a Faculty alumnus.

Part-time administrative support has been provided by various members of staff. From June 2, 2008 Deborah Peart will be providing on-going part-time assistance.

As indicated in the organization chart, under the office of the Vice Dean Undergraduate, Professors Doug Reeve and Greg Evans take the lead on the three different components of the program:

- 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 entitled 'Leadership and Leading in Groups and Organizations' (APS 501 HI F)

The Leadership Development Coordinator and Officer work closely on all aspects of the program. They have roles in identifying sources of leadership knowledge and identifying resources from across and beyond the university. They facilitate communication links and collaboration.

The Office of Student Services is a central partner in the development of this program. Many of the staff participates in the various Steering Committees and Working Groups including: former Director, Susan Addario; interim Director Deanne Fisher; and leadership development staff, Ian Simmie and Val Cortes. They provide leadership resources and on-going support.

**Cross-Faculty Steering Committee**

A Cross-Faculty Steering Committee was struck to advise staff on Cross-Faculty leadership programming and to stimulate partnerships across the Faculty. This group meets once per term. In 2007-2008 members included:

- Professor Doug Reeve, Leaders of Tomorrow Co-Leader
- Professor Greg Evans, Leaders of Tomorrow Co-Leader
- Professor Susan McCahan, First Year Chair
- Sonia DeBuglio, Associate Director Alumni Relations
- Jose Pereira, Director Engineering Career Centre
- Alaina Lagrou, President Engineering Society
- Lisa Simpson, Associate Director of Development
- Ian Simmie, Leadership Development Coordinator, Student Life Programs
- Kate Brand, Associate Director Engineering Communications
- Professor Grant Allen, Vice Dean, Undergraduate
- Trevor Cuddy, Director Student Recruitment

**Department / Division Steering Group**

Each participating Department/ Division has an appointed faculty and staff person who host and co-chair a student working group and oversee the planning and coordination of events. This group of faculty and staff meet three or four times each year to share best practices and develop new programming. In 2007-2008 members included:

- Professor Greg Evans, Leaders of Tomorrow Co-Leader
- Professor Doug Reeve, Leaders of Tomorrow Co-Leader
- Annie Simpson, Student Leadership Development Coordinator
- Professor Emma Master, Chemical Engineering
- Professor Markus Bussman, Mechanical and Industrial Engineering
- Lecturer, Lisa Romkey, Division of Engineering Science
- Professor Jun Nogami, Materials Science Engineering
- Professor Wai Tung Ng, Electrical and Computer Engineering
- Liam Mitchell, Chemical Engineering
- Shannon Osborne, Mechanical and Industrial Engineering
- Betty Lin, Materials Science Engineering
- Jayne Leake, Electrical and Computer Engineering

## 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 are 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. It is intended that each Department/Division have a faculty lead and a staff lead. A student Working Group is central to the development and execution of LOT programming.

### Objectives

To create a culture of leadership and a strong sense of community for students, faculty, staff and alumni.

### Activities

In 2007-2008 LOT programs operated in five units: Mechanical and Industrial Engineering; Electrical and Computer Engineering; Materials Science Engineering; the Division of Engineering Science; and Chemical Engineering and Applied Chemistry. Civil Engineering is poised to begin in September 2008. Summaries of activities in each of the five units are offered below.

## LOT in the Department of Chemical Engineering and Applied Chemistry

#### Undergraduate

Events are chosen and organized through the Leaders of Tomorrow Student Working Group, and have included in 2007-2008:

- A ‘Leaders on Leadership’ Panel
- Alumni Breakfasts
- Conflict Transformation Training
- Networking Tutorials 1 and 2
- Structured Debates
- Workshop on the Evolution of Leadership
- Leadership Training Day
- Research Days
- ‘Dress for Success’ tutorial
- Dining Etiquette seminar

## Chemical Engineering Summer Program

The Chemical Engineering summer program offers an intensive leadership development experience for summer research students. Students attend thirteen Friday afternoon sessions where they learn about Self-Leadership, Group Leadership and Societal Leadership. Seminars on topics ranging from 'Engineers and Public Policy' to 'Myers-Briggs Type Indicators,' to 'Transformational Leadership' encourage students to consider current social issues and the important role that engineers can play in affecting positive societal change. For details on the 2007 summer schedule, please see Appendix I.

### Plans for 2008-2009

- Professor Emma Master led the CHEM LOT program for the last two years. She has contributed significantly to the increased depth of the program. On September 1 she will step down and be replaced by Professor Mark Kortschot.
- Part of the LOT vision relates to the development of citizens. This year, as part of the summer program, students will participate in a Habitat for Humanity building project. For details on this initiative, please see Appendix G.
- A further step in the program's evolution involves including graduate students as project supervisors for the group projects completed by summer students. This encourages the leadership development of graduate students, while facilitating stronger relationships between the undergraduate and graduate LOT programs.

### Leaders of Tomorrow: Graduate Initiative

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. Teams of graduate students apply leadership and project management skills through completion of department-based projects

This year the LOT graduate group took significant steps towards expanding across the Faculty. LOTG leaders and members consulted with the Leadership Office and Professor Reeve (LOT Co-Lead) and with Prof. Chris Damaren, Vice-Dean Graduate. To mark the official expansion of LOTG a BBQ is planned for June 2008.

## LOT in the Department of Mechanical and Industrial Engineering

### Undergraduate

The following LOT events took place in MIE in 2007-2008:

- A Student Working Group was formed and met several times
- A number of summer events were held to build community in the Department - welcome lunch, dinner and theatre evening, and multiple planning meetings for future events
- A Conversation on Leadership with Professor David Colcleugh
- A four-week Public Speaking Seminar
- Two Student / Alumni Breakfasts
- Dining Etiquette Tutorial
- Dress for Success Tutorial

### Plans for 2008-2009

- To build a more comprehensive summer program which will include Faculty-wide activities, Habitat for Humanity service days, tours, social outings and self-development workshops
- To develop a larger student working group in the fall and hold monthly meetings
- Greater emphasis on leadership development workshops
- Increased effort towards engaging 1st and 2nd year students

## LOT in the Department of Electrical and Computer Engineering

### Undergraduate

The Electrical and Computer Engineering Department established a student working group and offered programming throughout the year. Highlights include:

- A Leadership Training Day for summer students
- Establishment of a new Leadership Award
- Engineering Entrepreneurship Series – five guest speakers
- Dining Etiquette Tutorial
- Self-Leadership Workshop
- A Leadership Talk with Professor David Colcleugh
- Alumni Breakfasts – to initiate and foster relationships between ECE Alumni and current students

**Plans for 2008-2009**

- To offer two Dining Etiquette seminars
- Additional Alumni Networking Events
- A Leadership seminar will be held in the fall to introduce students to the LOT program
- Myers-Briggs and Self-Awareness workshops
- A welcome lunch for summer research students
- Faculty research seminar

## LOT in the Department of Materials Science and Engineering

The Department of Materials Science and Engineering established a student working-group and offered programming throughout the year. Highlights include:

- Resume and CV Seminar
- MSE Industry Day
- Professor Research Day
- Mentorship Program Social
- Dining Etiquette Seminar
- Networking Tutorial

**Plans for 2008-2009**

- To further engage MSE students in the discussions, brainstorming, planning, and execution of annual MSE events
- To collaborate with the Faculty's Leadership Office; increasing the number of leadership development workshops
- To work more closely with other departmental LOT groups to organize leadership events that can benefit multiple departments and all students
- To host bi-monthly lecture series with invited guest speakers from Industry

## LOT in the Division of Engineering Science

The Division of Engineering Science established a student working-group and offered programming throughout the year. Highlights include:

- A kick-off event and leadership panel with alumni and faculty participants
- Three leadership development workshops, offered by LOT Office staff: 'Discovering Your Leadership Strengths,' 'Self-Leadership,' and 'How to Effectively Facilitate a Group'
- A talk on 'Engineers Becoming Managers' by Peter Hughes

**Plans for 2008 – 2009**

The EngSci LOT group recently had a retreat, to review the past year, develop a vision, define group goals, and discuss initiatives for next year. From its inception, the EngSci LOT group has felt that their primary focus should be encouraging the engagement of first and second year students.

For fall 2008, the group is planning:

- An orientation day for all year 1 students that focuses on leadership & personal development and their "E4TW" (Engineers for the World) theme
- An annual leadership panel
- To offer workshops of interest to engineering science students, in conjunction with the LOT office
- To bring leadership into the curriculum - for example, this group has identified a gap in teamwork training, and so they hope to influence the Praxis series of courses in this regard
- To recruit some new members to their group
- In terms of group structure, the EngSci LOT group will continue to use a rotating chair structure, to share leadership and management responsibilities

## WORKING GROUP APPRECIATION NIGHT

To celebrate the rapid expansion of the LOT Department-based program, the LOT office hosted a Student Working Group Appreciation Night. 70 students attended, all of whom were members of different Department LOT groups. The purpose of this event was to celebrate the growth of LOT, to recognize individual students from each group for their outstanding contributions and to instill in students a sense of the program's scope. We plan to make this an annual event.

## CURRICULAR PROGRAM

### Purpose

To support the development of students in the Faculty through a course or courses that promote an understanding of leadership and leading.

### Process

Raising the potential of engineers as major contributors to society by integrating the teaching of 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.

## Activities

A new course entitled 'Leadership and Leading in Groups and Organizations' APS 501 was offered to senior undergraduate and graduate students. It was taught by Professor David Colcleugh, and received great reviews from students. For APS 501 course details please see Appendix E.

A working group met many times in preparation for the launch; to review course content, and to discuss student assessment strategies and learning outcomes. Plans were made to incorporate experiential leadership development curriculum components led by Annie Simpson, Leadership Development Coordinator. Working group members included:

- 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

Students in the course learned about leadership styles, ethical leadership, business leadership, thinking frameworks, creating vision and mission statements and managing conflict. One course assignment involved interviewing an established leader. Staff of the Leadership Office contacted leaders from various sectors; business, the not-for-profit sector and the academy and arranged for students to interview them. For a detailed list of interviewees please see Appendix F.

**Plans for 2008-2009**

- A tutorial and TA support has been added to the APS 501 course
- Greater infusion of leadership development curriculum into existing academic courses
- Succession planning for APS 501
- Greater collaboration with the Professional Development Centre; contributing leadership development curriculum and the facilitation of professional development training

## 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

The Cross-Faculty component of the leadership program includes support of leadership events across the Faculty and campus. In 2007-2008, this included:

- Co-Coordinating a new Conference for student leaders called 'Toolkit' (Appendix D)
- Four team building and leadership development workshops for Engineering Society Orientation Leaders
- Leadership Development workshops with members of Engineers Without Borders (EWB), National Society for Black Engineers (NSBE), IEEE Mentorship Program and MIE Mentorship Program
- Workshops for U of T Staff - Recruitment Office Team, and LOT Department faculty and staff
- The formation of a new cross-faculty working group composed of students from all departments and divisions of the Faculty. This group will be the Steering Committee for Faculty-wide events
- A First Annual Leadership Training Day for female engineering students. This group continues to meet and is planning future events for female students

- A presentation to the Track One class (110 students in first year) introducing them to the Leadership program
- LOT Staff created a resource guide for affiliated faculty and staff entitled "The Joy of Leading: A Leadership Development Cookbook for Faculty and Staff" This guide contains resources to assist in the facilitation of Leadership Development workshops (Appendix C)

## SKULE MENTORSHIP PROGRAM

A mentorship program, coordinated by the Engineering Alumni Office expanded to involve 122 alumni and 159 students. The purpose of this program was to engage alumni by offering both meaningful connections with engineering students, and professional development opportunities. Students benefited significantly from their relationships with alumni and from the opportunities to ask questions, network and become better prepared for professional life.
2007-2008 Events included:

- Information/ Orientation session (100 students)
- A 'True Colors' Personality Workshop (66 students/ 46 alumni)
- Career Night (55 students/ 30 alumni)
- Dining Etiquette Tutorial (125 students/24 alumni)
- Skule Night Reception and Annual Theatre Production

*For a complete list of 2007-2008 leadership events, please see Appendix B.

## STUDENT RECOGNITION, AWARDS AND 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 one incoming student each year who demonstrates 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. In May 2008, the Edwards S. Rogers Department of Electrical and Computer Engineering also awarded their first $5000 Leaders of Tomorrow Award.

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.

This year, the Faculty introduced the Faculty of Applied Science and Engineering Leadership Award for students already enrolled in Engineering. In July 2007, awards valued at $3000 were awarded to two exceptional students who had demonstrated leadership through their co-curricular and extra-curricular involvement.

The Faculty also introduced an on-line Student Portfolio to track the co-curricular and extra-curricular involvement of each student. A number of categories relating to leadership were incorporated into this Portfolio. Last year, approximately 800 students completed their Portfolio by the deadline in June. This information was used for decisions on scholarships and awards involving non-academic criteria such as leadership and may also become a tool to track the extent of student engagement. We anticipate that participation in the Portfolio will increase this year as a result of the increased awareness and publicity.

## ADDRESSING ACADEMIC INITIATIVE FUND MILESTONES AND CRITERIA

The milestones outlined in the AIF proposal for Year 1 and Year 2 have been achieved, namely:

**Year 1 – 2006-2007**

- Striking of Leadership Development Steering Committees
- Appointment of a Leadership Development Professor
- Hiring of a Leadership Development Coordinator and Officer
- Ongoing implementation and expansion of LOT in Chemical Engineering and Applied Chemistry (CHE)
- Initiation of LOT in two other departments (Electrical and Computer Engineering (ECE), and Mechanical and Industrial Engineering (MIE))
- Delivery of workshops, seminars and events
- Development of infrastructure to maintain registration and records of participation

**Year 2 – 2007-2008**

- Fourth Department phase-in. (Materials Science Engineering (MSE) and the Division of Engineering Science (EngSci) have implemented LOT programs.)
- Delivery of workshops, seminars and events (4,064 participants in 2007-2008 events)
- Initial course delivery: 'Leadership and Leading for Groups and Organizations'

**Addressing AIF Criteria:**

- **Enhancing Student Experience:** The program has directly enhanced the experience of the 4, 064 student participants who attended the 142 events organized through LOT last year. Through a three-pronged approach (curricular, co-curricular, and extra-curricular), the Faculty has begun to provide an integrated

experience to students, and send a clear message that leadership development is an important part of an engineering education.

- **Enhancing Collaboration:** The LOT community continues to grow. The three appointed leadership employees (professor, coordinator and officer) have allowed consolidation of leadership activities coordinated by the program's two Co-Leaders and the Vice Dean Undergraduate. With five departments/ divisions now participating, and strong partnerships developing with the First Year Office as well as with the Professional Development Centre, Engineering Society, Cross-Faculty Steering Committee, and U of T's Student Life staff, a collaborative network has been built. In addition to formalizing Student Life 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. Finally a network of leadership development enthusiasts, both faculty and staff from across the University, has formed to share best practices. LOT has organized four meetings of this group.

- **Improving Equity and Diversity**: A numbers of events and workshops took place this year to address issues relating to diversity and equity. A leadership training day for female students was held for the first time. Students have requested that this day become an annual event, and a group of female students have met numerous times since to plan upcoming programming. There is hope of engaging more female faculty in this initiative.
  Workshops were offered to student groups such as the National Society for Black Engineers and for the executive team of Engineers without Borders. A new co-curricular certificate program will be launched in September 2008. The theme of the first level will be centered on team skills but concerted attention will be placed on infusing awareness of diversity and equity into group work and team decision-making.

- **Connecting with the Broader Community**: 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 3 of implementation. Apart from facilitating greater links between students and the broader community, LOT staff and faculty have developed a community of practitioners and have been raising the profile of the Leaders of Tomorrow Program both nationally and internationally. A paper was presented at a meeting of the American Society for Engineering Education (Appendix H), and a presentation is scheduled in June 2008 for the Canadian Association of College and University Student Services.

## BUDGET

LOT is supported by $200,000 in annual funding from the University's Academic Initiatives Fund starting in May 2006 and running for four years. It is planned that over these four years an additional $500,000 of cash and in-kind support will be phased in, through contributions by the Faculty, participating Departments and Student Life Programs. Thus a total commitment of $1,300,000 is planned for the first four years.

## MEASURING IMPACT

There has been consistent documentation of student participation in the 142 LOT events offered this year. We have maintained records of attendance (4, 064 student contacts) and student satisfaction surveys have been collected at most events. Surveys have been used to get feedback on individual sessions, and to further refine sessions for subsequent years. In Year 2 of implementation, a significant goal has been to bring more depth to the program evaluation by defining intentional learning objectives and designing assessment strategies to measure the program's success in achieving those objectives.

**Chemical Engineering Summer Program**
A pre and post survey was conducted with students in the Chemical Engineering Summer program. Students were asked to rate their perceived skill-level on leadership competencies such as conflict resolution, ethical decision making and self-awareness. Students were asked the same questions 15 weeks later, so we could assess the program's impact.

Students were asked:

1. "On a scale of 1-5, how strongly do you value Personality Theory in your group interactions?" in the pre-program survey and "To what extent has your appreciation of Personality Theory, and its impact on group interaction, advanced as a result of completing the summer program?" in the post-program survey.
(1=very little, 3=somewhat, 5=very much)

The average response to the pre-program question was 2.9 whereas the post-program average response was 3.7 indicating a significant increase in appreciation over the summer.

2. "Rate your capacity/skill level for each of the following skills:" in the pre-survey and "Please rate how your capacity/skill level for each of the following skills has changed as a result of the LOT summer program" in the post-survey. The shift in the question complicates interpretation when comparing before and after but does provide useful assessment of the program impact.
(1=don't have strong capacity, 3=have some capacity, 5=feel very capable)

AVERAGE RESPONSE

| | Pre-program | Post-program |
|---|---|---|
| Listening | 3.5 | 4.1 |
| Conflict resolution | 2.8 | 3.8 |
| Being ethical | 3.6 | 3.9 |
| Acknowledging the contribution of others | 3.5 | 4.3 |
| Consensus-building in decisions | 3.3 | 3.9 |
| Delegating tasks | 3.2 | 4.0 |
| Self-awareness | 3.3 | 4.3 |
| Interpersonal skills | 2.9 | 3.8 |
| Clearly articulating your views | 3.1 | 3.8 |
| Critical thinking | 3.4 | 3.9 |

None of the pre-program skills was rated above 3.6 indicating only modest self-assessed skill level. All of the responses to the post-program question were above 3.8 with four skills rated above 4.0 indicating significant improvement in the students' perception of their own overall skill set.

The lowest rated pre-program skills were Conflict Resolution and Interpersonal Skills. Students indicated significant improvement in these skills over the summer. They also indicated significant improvement in Self-awareness. All other skills increased in rating over the summer.

**APS 501: Leadership and Leading in Groups and Organizations**
Course evaluations forms were distributed for APS 501. Students gave exceptional reviews of both the course and course instructor.

## MILESTONES / OBJECTIVES FOR 2008-2009

**Curriculum Infusion**
The LOT Office is developing 6 lectures which will be presented to students of all levels to inspire engagement and curiosity towards leadership development. Possible lecture topics include: 'Developing Your Personal Potential,' 'Leading in Teams,' 'Engineering Leadership,' and 'Leadership and Citizenship.' LOT staff and Co-Leaders are engaged in conversations with faculty members whose course content offers a good fit for a leadership presentation.

**Launch of the Co-Curricular Certificate Program**
A Certificate program will be launched in September 2008. The theme of this first level of certification is team-skills. Students who attend all four workshops and complete a reflective presentation will receive a certificate.

**Assessment**
In 2008-09 we hope to develop tools for assessment so as to extend the LOT program metrics from participation rates to include more measures of learning outcomes. Specifically we hope to be able to more effectively evaluate the influence of LOT on the development of both individual students and cohorts of students. Initially we intend to focus on assessing student perceptions in regards to increased understanding of the nature of leadership and their development of specific leadership competencies. The four main forums being considered for this assessment will be the certificate program, the curriculum infusion initiative, APS501 and the Department/Division programs.

Over the longer term we hope to move from assessment of outcomes towards research exploring the effectiveness of different mechanisms for teaching leadership and the relationship between leadership related outcomes and broader student attributes such as engagement, self confidence, sense of purpose, career readiness or academic achievement.

**U of T Working Group Expansion**
In 2008-2009 we plan to continue to build on a series of meetings that were held in the 2007-2008 year among leadership development enthusiasts from the broader U of T community. The Engineering Faculty instigated the development of a community of faculty and staff who are engaged in the leadership development of students. Members of this group have led presentations on their work and a half day discussion session is planned for July 2008. The purpose of this half-day session is to continue to build community among members, and to identify university-wide topics relating to leadership that may serve as focal points for this group's work.

**Canadian Association of College and University Student Services Conference (CACUSS)**
In June 2008 Annie Simpson, Student Leadership Development Coordinator and Ian Simmie, Director of Student Life Programs will make a presentation on the unique collaborative relationship that exists between the Leaders of Tomorrow Program and the

Office of Student Life. It is rare that Student Life Professionals have opportunities to work collaboratively with faculty members towards the development of academic courses, as curriculum developers and as facilitators of course development (APS 501). Current literature in the field of higher education promotes a more seamless learning environment where academics and personal development are deeply integrated. The way in which leadership professionals and faculty members are working together in the Faculty of Applied Science and Engineering at U of T is a significant step towards this new paradigm.

**LOTG-Faculty-wide**
Members of the Leaders of Tomorrow Graduate initiative have developed a plan to expand the LOTG program beyond its home in the Department of Chemical Engineering, to include graduate students from all departments and divisions. The LOT Office has been supporting the expansion process and will continue to offer workshops, strategic support, and leadership development opportunities for graduate students.

**LOT Faculty and Staff Retreat**
A retreat is planned for LOT faculty and staff. This is an opportunity for greater community building among LOT affiliates from all sectors of the Faculty as well as an opportunity to engage more faculty members in the program's growth. Marilyn Laiken, Professor and Chair of the Adult Education Department at OISE will facilitate the day. We will reflect on our successes and engage in collaborative planning for the coming years. We are expecting 30 participants.

This report has been prepared by:

| | | |
|---|---|---|
| Professor Doug Reeve | Professor Greg Evans | Annie Simpson, Student Leadership Development Coordinator |
| _____ | _____ | _____ |

Leaders of Tomorrow Annual Report 2007-2008

# APPENDICES

Appendix A: Program Vision, Mission, Beliefs and Values

Appendix B: Leaders of Tomorrow Events and Workshops Brochure

Appendix C: 'The Joy of Leading': A Leadership Development Cookbook for Faculty and Staff

Appendix D: Toolkit Conference Poster

Appendix E: Leadership Course Syllabus: APS 501

Appendix F: APS 501 Leadership Interviewees

Appendix G: Engineering Newsletter

Appendix H: American Society for Engineering Education Conference Paper

Appendix I: Schedule of Chemical Engineering Summer Program

**Appendix A**

**Program Vision, Mission, Values and Beliefs**

LEADERS *of* TOMORROW

FACULTY OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO

## 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.

## Appendix A

*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 Uof T.
- 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

**Appendix B**

LEADERS *of* TOMORROW

FACULTY OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO

**Faculty-Wide Workshops and Events**

| Date | Description | No. of Participants |
|---|---|---|
| June 1, 2007 | Workshop: How to Build a Strong and Successful Team, CHEM LOT | 34 |
| June 6, 2007 | Welcome Lunch, MIE LOT | 36 |
| June 6, 2007 | Workshop: True Colors, Engineering Society | 45 |
| June 29, 2007 | Workshop: Transforming Conflict, CHEM LOT | 34 |
| July 4, 2007 | Leadership Retreat, ECE LOT | 10 |
| July 5, 2007 | Workshop: Conflict Resolution, Don Training | 6 |
| July 10, 2007 | Workshop: Team Building, National Society of Black Engineers | 18 |
| July 11, 2007 | Workshop: Diversity and Equity, Engineering Society | 45 |
| July 13, 2007 | Workshop: Team Tune-Up, CHEM LOT | 34 |
| August 1, 2007 | Workshop: Conflict Resolution, Engineering Society | 45 |
| August 1, 2007 | Summer Leadership Institute, Forum Theatre Training | 15 |
| Aug 17, 2007 | Workshop: Group Roles/Dynamics, CHEM LOT | 34 |
| Sept 2, 2007 | Workshop: Conflict Resolution, Engineering Society | 25 |
| Sept 3, 2007 | Group Building Activity; APS 501 | 40 |

| | | |
|---|---|---|
| Sept 10, 2007 | Value Sort: APS 501 | 40 |
| Sept 17, 2007 | Introversion/Extroversion: APS 501 | 40 |
| Sept 18, 2007 | What is a Peer Mentor: ECE Mentorship Club | 10 |
| Sept 29, 2007 | Toolkit Conference | 150 |
| Oct 3, 2007 | Conflict Resolution: MIE Mentorship Program | 15 |
| Oct 15 | Personal Mission Statement: APS 501 | 40 |
| Oct 17, 2007 | Conflict Resolution, CHEM LOT | 9 |
| Oct 18, 2007 | Leadership Strengths, CHEM GRADS | 12 |
| Oct 22, 2007 | Conflict Resolution: APS 501 | 40 |
| Nov 5, 2007 | Gender and Leadership: APS 501 | 40 |
| Nov 15, 2007 | Self-Awareness, ECE LOT | 10 |
| Nov 21, 2007 | Leadership Strengths: Engineers Without Borders | 12 |
| Dec 7, 2007 | Leadership Strengths, Engineering Recruitment Office Staff | 7 |
| Jan 17, 2008 | Opening Activity for Engineering Science LOT Kick-Off Event | 60 |
| Jan 24, 2008 | Dining Etiquette for Chem LOT & LOT Mentorship Program | 100 |
| Jan 30, 2008 | Workshop: Leadership Strengths, for EngSci. | 25 |
| Jan 31, 2008 | First Meeting of Cross-Faculty Student Working Group | 23 |
| Feb 4, 2008 | Workshop: Self-Leadership, for EngSci | 13 |
| Feb 16, 2008 | Workshop: Effective Facilitation, Chem Leadership Training Day | 24 |
| Feb 16, 2008 | Workshop: Group Motivation, Chem Leadership Training Day | 24 |

| | | |
|---|---|---|
| Feb 23, 2008 | Women's Leadership Training Day | 23 |
| Feb 29, 2008 | Cross-faculty Student Working Group | 12 |
| March 17, 2008 | LOT Certificate Planning Meeting | |
| March 17, 2008 | LOT Grads: Visioning Meeting | 7 |
| March 19, 2008 | Workshop: Group Facilitation for EngSci. | 18 |
| March 20, 2008 | Women's Leadership Training Day Follow-up Meeting | 6 |
| March 25, 2008 | Track One Lecture | 110 |
| March 26, 2008 | Women's Leadership Training Day: Follow –up Session | 12 |
| March 24, 2008 | Hosted/Organized Working Group Appreciation Event | 75 |
| April 1, 2008 | Cross-Faculty Student Working Group | 11 |

**Number of Student Contacts: 1, 389**

**Appendix B**

LEADERS *of* TOMORROW

CHEMICAL ENGINEERING AND APPLIED CHEMISTRY, UNIVERSITY OF TORONTO

**Department of Chemical Engineering**

| Date | Description | No. of Participants |
|---|---|---|
| Sept 19, 2007 | Working Group Meeting | 36 |
| Sept 26, 2007 | Leaders on Leadership Talk | 20 |
| Oct 11, 2007 | Alumni Breakfast | 39 |
| Oct 17, 2007 | Working Group Meeting | 20 |
| Oct 17, 2007 | Leadership Office: Conflict Transformation Training | 9 |
| Oct 24, 2007 | Networking Tutorial I | 25 |
| Oct 24, 2007 | Networking Tutorial II | 18 |
| Nov 6, 2007 | Working Group Meeting | 20 |
| Nov 14, 2007 | Leadership Training Day Planning Meeting | 9 |
| Nov 14, 2007 | Debate | 8 |
| Nov 21, 2007 | Workshop: Evolution of Leadership | 16 |
| Nov 28, 2007 | Working Group Meeting | 30 |
| Jan 9, 2008 | Working Group Meeting | 25 |
| Jan 14, 2008 | Research Day | 65 |
| Jan 16, 2008 | Dress for Success Tutorial | 43 |
| Jan 18, 2008 | Research Day: Graduate School | 28 |
| Jan 21, 2008 | Research Day | 40 |

| | | |
|---|---|---|
| Jan 24, 2008 | Dining Etiquette Seminar | 100 |
| Jan 24, 2008 | LOT Training Day Meeting | 6 |
| Feb 5, 2008 | Working Group Meeting | 15 |
| Feb 16, 2008 | Leadership Training Day | 25 |
| March 5, 2007 | Working Group Meeting | 18 |
| March 5, 2007 | Leaders on Leadership Talk | 30 |
| March 10, 2007 | Graduate School Info Session | 25 |
| March 10, 2007 | Networking Tutorial III | 32 |
| April 2, 2007 | Working Group Meeting | 20 |
| April 4, 2007 | Excursion | 10 |

**Number of Student Contacts: 732**

**Appendix B**

LEADERS *of* TOMORROW

MECHANICAL AND INDUSTRIAL ENGINEERING, UNIVERSITY OF TORONTO

**Department of Mechanical and Industrial Engineering:**

| Date | Description | No. of Participants |
|---|---|---|
| June 6, 2007 | Summer Student Welcome Lunch | 36 |
| June 19, 2007 | Working Group Meeting | 17 |
| July 04, 2007 | Lunch with Prof David Colcleugh | 26 |
| July 26, 2007 | Tour to Hydrogenics (Mississauga) | 33 |
| August 08, 2007 | Dinner and Theatre | 20 |
| August 15, 2007 | Working Group Meeting | 18 |
| September 12, 2007 | Working Group Meeting | 15 |
| November 09, 2007 | Working Group Meeting | 17 |
| November 21, 2007 | Public Speaking Seminar (Toastmasters) | 40 |
| November 28, 2007 | Alumni Breakfast | 44 students + 16 alumni |
| January 17, 2008 | Dining Etiquette Seminar | 113 students and alumni |
| February 04, 2008 | 4 Public Speaking Workshops with Prof Reeve | 20 |
| February 06, 2008 | Dress for Success Tutorial | 40 |
| February 07, 2008 | Working Group Meeting | 8 |
| April 03, 2008 | Student/ Alumni Breakfast | 40 students, 15 alumni |

**Total Number of Student Contacts: 487**

**Appendix B**

LEADERS *of* TOMORROW

ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF TORONTO

**Department of Electrical and Computer Engineering**

| Date | Description | No. of Participants |
|---|---|---|
| May 1, 2007 | Summer Student Welcome Lunch | 80 |
| May 7, 2007 | IEEE Mentorship Program Meeting | 20 |
| July 5, 2007 | Workshop by Leadership Office: Values, Introversion/ Extroversion | 10 |
| August 2, 2007 | Research Talk | 60 |
| September 26, 2007 | Working Group Meeting | 16 |
| Sept 25, Oct 4, Oct 16, Nov 7, Nov 28 | Entrepreneurship Speaker Series | Average attendance 35 |
| October 10, 2007 | Working Group Meeting | 8 |
| October 24, 2007 | Working Group Meeting | 9 |
| November 7, 2007 | Working Group Meeting | 6 |
| November 14, 2007 | Working Group Meeting | 6 |
| November 15, 2007 | Workshop by Leadership Office: Self-Leadership | 10 |
| November 21, 2007 | Working Group Meeting | 4 |
| November 21, 2007 | Alumni Breakfast | 20 students + 3 alumni |

**Number of Student Contacts: 284**

**Appendix B**

LEADERS *of* TOMORROW

MATERIALS SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO

**Department of Materials Science and Engineering**

| Date | Description | No. of Participants |
|---|---|---|
| Sept, 14, 2007 | Working Group Meeting | 18 |
| Sept, 19, 2007 | Working Group Meeting | 14 |
| Sept, 21 2007 | MSE Mentorship Program | 120 |
| Oct 3, 2007 | Working Group Meeting | 19 |
| Oct 19, 2007 | MSE Resume and CV Seminar | 52 |
| Nov 2, 2007 | MSE Industry Day | 120 |
| Nov 7, 2007 | Working Group Meeting | 12 |
| Dec 5, 2007 | Working Group Meeting | 12 |
| Jan 15, 2008 | Working Group Meeting | 13 |
| Feb 13, 2008 | MSE Professor Research Seminar | 68 (+12 professors) |
| Feb 26, 2008 | MSE Mentorship Social | 28 |
| Mar 4, 2008 | Working Group Meeting | 8 |
| Mar 10, 2008 | Dining Etiquette Seminar | 28 (MSE students)<br>48 (CIV/MIN students) |
| March 24, 2008 | Faculty-wide Recognition Event | 7 |
| Mar 27, 2008 | LOT Workshop: Networking Tutorial I | 44 |
| Apr 11, 2008 | Working Group Meeting | 16 |

**Number of Student Contacts: 579**

**Appendix B**

LEADERS *of* TOMORROW

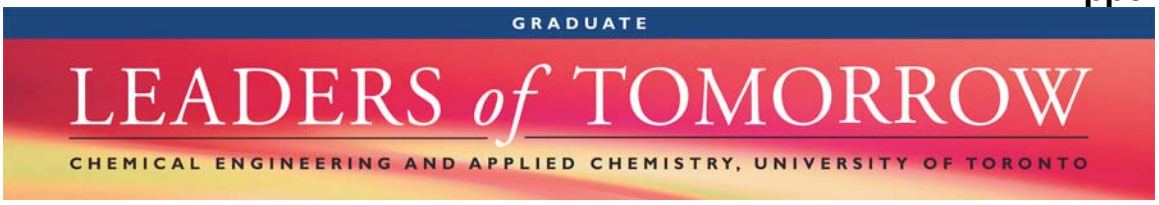
ENGINEERING SCIENCE, UNIVERSITY OF TORONTO

**Division of Engineering Science**

| Date | Description | No. of Participants |
|---|---|---|
| Oct 4, 2007 | Working Group Meeting | 15 |
| Nov 12, 2007 | Working Group Meeting | 15 |
| Dec 3, 2007 | Working Group Meeting | 10 |
| Jan 8, 2008 | Working Group Meeting | 12 |
| Jan 17, 2008 | LOT Kick-Off Event | 65 + 3 Profs, 1 Alumni |
| Jan 30, 2008 | LOT Workshop: Leadership Strengths | 35 |
| Feb 4, 2008 | LOT Workshop: Self-Leadership | 16 |
| Feb 12, 2008 | Working Group Meeting | 12 |
| Feb 12, 2008 | 'Engineers Becoming Managers' with Peter Hughes | 20 |
| March 4, 2008 | Working Group Meeting | 14 |
| March 19, 2008 | LOT Workshop: How to Effectively Facilitate a Group | 20 |
| March 24, 2008 | Faculty-wide Recognition Event | 12 |
| April 1, 2008 | Working Group Meeting | 11 |
| April 14, 2008 | Working Group Meeting | 7 |

**Number of Student Contacts: 264**

**Appendix B**




**Department of Chemical Engineering, Graduate Program**

| Date | Description | No. of Participants |
|---|---|---|
| Sept 18, 2007 | Engineering and Ethics | 22 |
| Oct 18, 2007 | LOT Workshop: Discovering Your Leadership Strengths | 14 |
| Jan 15, 2008 | How to Get your P.Eng | 35 |
| Feb 28, 2008 | Project Management | 31 |
| Feb 29, 2008 | Emotional Intelligence | 40 |
| March 28, 2008 | Starting your Non-Academic Career Search | 28 |

## Leaders of Tomorrow

One of the Faculty's goals is to help students realize their leadership potential while at the University of Toronto and throughout their lives. Our vision: "An engineering education that is a life-long foundation for transformational leaders and outstanding citizens." The Leaders of Tomorrow program offers interested students the opportunity to develop their leadership skills through workshops and special events facilitated by the Engineering Leadership Development Office. The Faculty also offers a senior level leadership course led by a seasoned Canadian business leader: APS501 Leadership and Leading for Groups and Organizations.

## Leadership Development Workshops

***Self Awareness***

Effective leadership begins with self awareness. In this workshop participants will identify and reflect on their values. This is an opportunity to explore the relationship between living your values and expressing your leadership. In the second part of the workshop, participants gain insight into themselves by discovering whether, according to Myers-Briggs personality theory, they are more Introverted or Extroverted. The strengths of both of these preferences are revealed in a fun group activity.

***Discovering your Leadership Strengths***

We all bring different strengths to a team. In this workshop participants are introduced to four different leadership styles and discover their preferred style. Participants share the way their style manifests itself and what they can do to "flex" for other styles. A Team Challenge provides an experiential component to this workshop, and provides plenty of fodder for group discussion and personal reflection.

***Conflict as Opportunity***

Conflict can often be transformed into an experience where relationships are strengthened – if you have the right skills! In this workshop participants practice active listening techniques and other conflict transformation skills. These are skills that can help to build stronger professional and personal relationships, and give participants the confidence to raise concerns constructively.

***Building a Strong and Successful Team Atmosphere***

This workshop offers practical skills, based on team theory, for building a positive and inclusive group atmosphere. Participants practice writing group guidelines and discuss key group values. This workshop is particularly relevant for participants involved in a team project who would like to get off to a good start.

***Understanding Group Dynamics: The Roles We Play***

The foundation for understanding group dynamics is to understand group roles. There are common patterns or roles that people adopt in groups. In this workshop participants learn about the three types of roles in groups and teams: task oriented, group building, and dysfunctional. Participants are given the opportunity to experience the roles in action through a simulation role play. This is a funny and eye-opening workshop for people who engage in a lot of teamwork.

## Other Leadership Development Events

***Dining Etiquette Tutorial***

Participants are given the opportunity to refine their dining etiquette through a formal dinner experience at the Faculty Club. This is a fun event where students can dress up and get prepared for those big interviews.

***Myers Briggs Seminar***

In this three-hour seminar, a corporate therapist and consultant educates participants on their Myers-Briggs personality type, and illustrates how each type can become a more effective leader. Building on information from the results of their MBTI questionnaire, participants are offered insights into how to interact and work with people more effectively.

***Networking Tutorial***

"Networking: Brief interactions with others to exchange basic information and to test the prospects for further interactions." This two-part tutorial gives participants an opportunity to develop their skills and experience in networking among professionals – making introductions, presenting and receiving business cards, and entering and leaving small conversational groups. Understanding the purpose of networking increases students' effectiveness and confidence.

***Leaders on Leadership***

Guest speakers with a variety of professional experiences are invited to share their leadership experiences and insights. These honest interactions with seasoned leaders broaden students' perspectives on what it means to be a leader.

***Alumni Breakfast***

Alumni Breakfasts are held in individual Departments and Divisions. Alumni from the Department or Division are invited to engage in conversations with students over breakfast. Alumni enjoy meeting the next generation of engineering students and students benefit from learning about the vast possibilities out there for them.

**Appendix C**

LEADERS *of* TOMORROW

FACULTY OF APPLIED SCIENCE AND ENGINEERING, UNIVERSITY OF TORONTO

# The Joy of Leading

First Edition

## Recipes for Leadership Development Workshops and Events

Faculty of Applied Science and Engineering
University of Toronto
The Leadership Development Office
Wallberg Building, Suite 240
www.undergrad.engineering.utoronto.ca/students/vice-dean/leaders

**Appendix C**

# *Table of Contents*

**Appendix C**

**Message from the Leaders of Tomorrow Office**

The purpose of this Leadership Development Cookbook is to provide you with a helpful resource in designing your Department or Division LOT programs.

The LOT Working Group is at the core of Department/Division leadership programming and is your first step in developing your program. In this Cookbook we have included all you need to know to get your group off the ground.

This Cookbook also includes recipes of Leaders of Tomorrow House Specials (our well-seasoned workshops!), with details on preparation time required, space needed and the ideal numbers of participants. We look forward to being invited to your Departments and Divisions to work with your students!

Our A La Carte section is a list of events that have proven to be successful in Departments and Divisions. You can use these event ideas as they stand, build on them, or be inspired to come up with new recipes!

We have also provided contact information for the Department and Division LOT Chefs (that's you). You will be great resources for each other as your programs develop, and we welcome your contributions to this Cookbook.

Together we can work towards the LOT Vision: *An engineering education that provides a lifelong foundation for transformational leaders and outstanding citizens.*

Annie Simpson
Leadership Development Coordinator
Ph: 416-978-5053
annie.simpson@utoronto.ca

Veena Kumar
Leadership Development Officer
Ph: 416-978-3018
veena.kumar@utoronto.ca

September 2007

**Appendix C**

# Key Ingredients for your Working Group

The Leaders of Tomorrow Working Group is a mechanism for students to exercise and practice their leadership; the members work with the faculty and staff LOT liaisons to create leadership programming. Each Department/Division should have an LOT Working Group.

The Working Group of 10-25 students meets approximately once per month to discuss leadership programming and decide on the roles and responsibilities of members. The meeting is co-chaired by the faculty liaison and a rotating student co-chair.

How do I set up a Department/Division Working Group?

- Schedule first meeting date.
- Advertise the opportunity to participate in a Working Group at the beginning of each term through posters, announcements, emails, and any other creative ideas you have.
- Use your first meeting to orient students to LOT and drum up excitement for the possibilities in the coming year!

Cooking time

50 minutes starting at 10 minutes past the hour. A regular time of day is a good idea (Chem meets at 8:10 am, MIE meets over lunch)

Preparation time

Notice of meetings should be a few weeks and decided after each meeting. Meetings should be about once per month.

Learning outcomes

1) How to introduce yourself at a professional meeting (Self-introduction)
2) How to participate and become a valued, contributing member of a purposeful group.
3) How to contribute to the shaping of a large-scale, multi-year ongoing program.
4) How to champion an event.

The recipe

The Agenda should be written. Suggested form -

- Welcome
- Self-introduction of all participants at each meeting (As a way of inviting active participation and building an inclusive group, it is important for students to introduce themselves at each meeting. In addition to their names, you may wish to ask a question that solicits more personal information, thus building group cohesion)
- Review and agree on the agenda
- Review of recent events and programs

- Proposals for upcoming events and programs
- Discussion of priorities, calendar, sources, cost of proposed program
- Students self-identify as Champions of specific events/programs
- Agree on next steps
- Agree on next meeting time
- Review of the process of the Working Group
- Thanks for participation

Role of the Chief Cook/ LOT Faculty Liaison

- Co-chair meetings with different student each month (process to be decided between the two of you)
- Prepare agendas for meetings
- Your job is to support and enable the leadership development of students

Role of LOT Staff Liaison

- Attend Working Group meetings to contribute ideas and enthusiasm
- Assist LOT faculty liaison with administration of program including:
  - Registration for events
  - Answering emails from students as needed
  - Booking and setting up the room
  - Ordering refreshments
  - Attend to on-site registration - there should be a sign up sheet at every meeting (name & email address)

Role of LOT Office Representative

- Attend Working Group meetings to:
  - Share programming ideas from other Departments/Divisions in the Faculty and across U of T
  - Create awareness of the resources available across campus
  - Identify potential partnerships for events
- Support LOT faculty and staff liaisons through providing information and guidance as requested

The role of the Student Executive Chef

- Co-chair meetings with faculty liaison
- Prepare meeting minutes
- Assist staff liaison with room set-up, as needed

**Appendix C**

# Our House Specials to Date/ Seasoned Workshops

Here are details on workshops that the Leaders of Tomorrow Office can facilitate for your students. Please contact us to book any of these!

**Our role and your role in LOT workshops:**

- Our role as the Leaders of Tomorrow Office: We will provide the facilitators, workshop material and any equipment required (such as laptop, projector, flipchart paper and flipchart stand)
- Your role as the Department/Division liaisons: You provide the room, invite and register the participants, and provide refreshments.

**Generally, we like to schedule workshops one month in advance.**

## *Self-Awareness Part 1*

*Summary:*
Effective leadership begins with self awareness. In this workshop participants will identify and reflect on their values. This is an opportunity to explore the relationship between living your values and expressing your leadership.
In the second part of this workshop participants discover whether, according to Myers-Briggs, they are more Introverted or Extroverted. We stress that both of these preferences have valuable strengths and are equally needed in high functioning teams. We have a fun activity to encourage both types to share perceptions (both positive and negative) of each other. There is often laughter in this discussion.

Serves 10-40 participants
Cooking Time: 1 ½ to 2 hours

Upon completion of this workshop participants will be able to:

- Identify core personal values and reflect on how those values are 'lived out' and how they impact one's unique leadership style.
- Compare the different strengths of Introverts and Extroverts
- Identify personal preference for Introversion or Extroversion
- Predict common group challenges that result from these two different personality preferences.

**Appendix C**

## *Team Challenge/ Exploration of Group Dynamics*

*Summary:*
Participants work on a team challenge activity in small groups. After completion of the challenge we have a discussion of their group's process; how were decisions made? What role did each team member play? How was conflict handled? Did everyone feel that their voice was heard?

Serves 10-40 participants
Cooking Time: 1 ½ hours

Upon completion of this workshop participants will be able to:

- Understand what is meant by 'good group process.'
- Identify the role/s that they typically play in a group
- Recognize the connection between effective group process and an effective group outcome.

## *How to Build a Strong and Successful Team Atmosphere: Stages of Team Development*

*Summary:*
This workshop offers practical skills, based on team theory, for building a positive and inclusive group atmosphere. Participants practice writing group guidelines and discuss key group values. This workshop is particularly relevant for participants involved in a team project who would like to get off to a good start.

Serves 10-40 participants
Cooking Time: 2 – 2 ½ hours

Upon completion of this workshop participants will be able to:

- Recognize the stages that teams and groups typically progress through.
- Understand the importance of trust-building and learn techniques for building trust in new groups and teams.
- Explain the concept of group guidelines.
- Practice turning values such as Equity, Participation, Empowerment, Accountability and Transparency into action.

**Appendix C**

## *Transforming Conflict: Skills for Resolving Conflict while Strengthening Relationships*

*Summary:*
This is a workshop that was originally developed by St. Stephen's Conflict Resolution Service and we have adjusted it to meet the needs of engineering students. In this workshop participants practice active listening techniques and other conflict transformation skills. This is a workshop that students seem to really enjoy and find relevant both personally and professionally.

Serves 10- 40 participants
Cooking Time: 3 hours is best but can be reduced to 1.5 hours or broken into a series of two

Upon completion of this workshop participants will be able to:

- Name and explain 3 common approaches to conflict
- Understand the attack-defend cycle.
- Identify the skills and practices involved in Active Listening.
- Implement a formula for raising a concern that will not result in defensiveness from the other person.
- Explain the connection between leadership and effective communication

## *Inter-Cultural Communication: Bafa Bafa Simulation Game*

*Summary:*
In this fun simulation game students are given an opportunity to step into the shoes of someone new to a culture. Time will be given to reflect and discuss the feelings that arise during the experience.
Participants are given an initial briefing and then two imaginary cultures are created. After the participants learn the rules of their culture and begin living it, observers and visitors are exchanged. The resulting stereotyping, misperception and misunderstanding becomes the grist for the debriefing.

Serves 10-40 participants
Cooking Time: 2 to 3 hours

Upon completion of this workshop participants will be able to:

- Appreciate that others may belong to a different culture and operate with a different set of rules
- Understand that feelings of apprehension, loneliness and lack of confidence are very common when visiting another culture

**Appendix C**

## *Discovering your Leadership Strengths*

*Summary:*
We all bring different strengths to a team. In this workshop participants discover their preferred leadership style through a behavioral inventory. Four different leadership styles are discussed and participants learn what strengths each of these styles brings to a team. Participants are given the opportunity to share the way their style manifests itself and what they can do to “flex” for other styles.

Serves 10- 40 participants
Cooking Time: 1-2 hours

Upon completion of this workshop participants will be able to:

- Recognize and describe four different leadership styles
- Identify their preferred style.
- Understand how to "flex" their own style to work with other styles

## *Understanding Group Dynamics: the Roles we Play*

*Summary:*
The *f*oundation for understanding group dynamics is to understand group roles. There are common patterns or roles that people adopt in groups. Each of us often plays a similar role in the groups that we participate in. In this workshop students will learn about the 3 types of roles that people play in groups and teams: task-oriented roles, group-building roles and dysfunctional roles. After an introduction to 12 specific roles, participants are given the opportunity to observe the roles in action. We have a simulation role-play where participants are assigned a role to play. This is a very funny and eye-opening workshop for participants who engage in a lot of team work.

Serves: 10-30 participants
Cooking Time: 1 ½ hours

Upon completion of this workshop students will be able to:

- Gain insight into the roles they typically play in groups
- Learn about dysfunctional roles and about how, as facilitators, to respond to challenging behaviour.
- Appreciate the need for both task-oriented participants and group building participants to create a successful group.

**Appendix C**

# A La Carte

Other Successful LOT Events

Here are some events that have been successful in LOT. We have included useful contact information where appropriate. However, if you have any questions about any of these events please contact the Leaders of Tomorrow Office.

## *Alumni Breakfast*

Invite your Department/Division alumni to engage in insightful conversations with students over breakfast. This event has been held several times in Chemical Engineering with great success. Alumni enjoy meeting the next generation of engineering students and students benefit from learning about the vast possibilities out there for them.

## *Leaders on Leadership Talk*

Invite guest speakers to broaden students' perspectives through presenting their experience and thoughts on leadership and responding to students' questions.

## *Dining Etiquette Tutorial*

Give students the opportunity to refine their dining etiquette through a fun dinner experience at the Faculty Club. This is an event where students can dress up and get prepared for those big interviews.

Contact:
Leanne Pepper, General Manager of the Faculty Club, University of Toronto
Ph: 416-978-6399
Email: Leanne.Pepper@utoronto.ca

## *Myers Briggs Seminar*

A favorite event in the Chemical Engineering LOT program is the Myers-Briggs seminar. In this 3 hour seminar, geared towards leadership, Anne Dranitsaris educates students on their Myers-Briggs personality types, and illustrates how each type can become a more effective leader. Participants will take the MBTI test prior to the seminar. Building on information obtained from the MBTI the seminar will teach participants the differences and similarities in personality types, and offer insights on how to interact and work with people more effectively.
Contact: Leaders of Tomorrow Office

**Appendix C**

## *Networking Tutorial*

"Networking - brief interactions with others to exchange basic information and to test the prospects for further interactions". This series of two tutorials gives students an opportunity to develop their skills and experience in networking among professionals - introducing themselves and having other introduce themselves, presenting and receiving business cards, entering and leaving small conversational groups. Understanding the process and purpose of networking increases effectiveness and confidence.

## *Ethics and Leadership*

What does acting ethically mean? How do you go about making ethical decisions in your daily life? This highly interactive workshop explores the meaning of ethics and some key concepts of ethical leadership. Participants are given opportunities to reflect on the decisions they make every day and are introduced to a framework for ethical decision making.

Contact: Leaders of Tomorrow Office

## *Leaders of Tomorrow Training Day*

This is an invitation to dedicate a day to community building and leadership development. Students can plan and participate in a fun day of workshops, team games and outdoor activities. Students benefit from a full-day of relationship building activities, new learning, thoughtful reflection and fun!

Contact: Leaders of Tomorrow Office

**Appendix C**

# Leadership Development at the University of Toronto

The Leaders of Tomorrow Office in the Faculty of Applied Science and Engineering is part of a network of Student Life Professionals at U of T (SLP network). Within this SLP network we participate in a Leadership Development sub-group that works on collaborative projects for students across the campus, an example being an annual September conference for student club leaders. Other members of this network include student life professionals from Student Affairs, Hart House, Victoria College, University College and the Centre for Community Partnerships.

In addition to this broad network, we work in close partnership with the Leadership Office at Student Affairs. This office offers leadership workshops to students across campus and their schedule can be accessed through their website: http://www.studentlife.utoronto.ca/programs/leadership.htm . The Leaders of Tomorrow Office is happy to help you connect to Student Affairs staff and programming to satisfy your leadership development needs!

**Appendix C**

# Simmering Workshops: In the Planning Stage

The following titles are workshops that we plan to develop. If one of the following titles appeals to you then we are happy to develop the curriculum. To book one of these workshops, the Leaders of Tomorrow Office requests a minimum of one months notice. It would also be helpful for us to know the approximate size of your group.

**Please contact the Leaders of Tomorrow Office to request other leadership development workshops not listed here.**

- Gender Dynamics in Groups
- Discovering Your Own Personal Mission Statement: What are your Core Values and How do they Impact your Leadership?
- Group Facilitation: Tips and Techniques for Leading a Group
- Interfaith Communication: Working with People from diverse religious backgrounds
- Diversity and Equity Training
- Creating a trusting environment so that people feel comfortable and inspired to contribute their opinions and views
- Leadership Theory and Practice for the 21st Century
- Consensus Building: Making Decisions so that Everyone's Voice is Heard
- The Art of Giving Effective Feedback and recognizing the contributions of others
- How to be an Effective Mentor
- Rehearsal for Life: Using theatre to educate participants on the complexities of social issues such as gender, class, sexuality, diversity, power and privilege.

APPENDIX D


# BUILDING YOUR STUDENT ORGANIZATION

## September 28th-29th 2007

Register at www.toolkit.utoronto.ca

**Gather the tools you need to build an effective organization!**

Discover the nuts and bolts of

- Event Planning
- Marketing and Promotion
- Sponsorship
- Transition and Succession
- Financial Management
- Budgeting
- Team dynamics

and more

**What?**
A variety of organizational development workshops, group discussions, keynote speaker and social events!

**Where?**
Hart House

**Who?**
For executives and active members of recognized student organizations at UofT

**How much?**
$10 – includes conference materials, opening & closing receptions, coffee breaks, and Saturday's lunch!

Organized by The Student Life Professionals at UofT
Leadership Educators Network

BOX OFFICE
uofttix.ca
(416) 978 8849

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## Appendix E

**Syllabus: APS 501H1F – Leadership and Leading for Groups and Organizations**

This course reflects the Faculty's commitment to promoting the development of leadership skills and attributes in engineering students. The course will be presented by a former President of both the DuPont Company in Canada and in Asia-Pacific, with involvement from the Faculty Leadership Development Office.

The course will draw upon extensive leadership experience in the DuPont Company and various leadership theories and practices. The content covers a wide range of topics from self-leadership to setting strategic direction to implementing change in the business enterprise. The concepts presented will be useful for aspiring leaders of large and small organizations and both profit and not-for-profit organizations.

Students will gain skills and competencies in thinking frameworks applied to leadership, creation of vision and mission statements, understanding leadership character attributes, and effective teamwork, among others.

The course will consist of lectures, in-class discussions and exercises, as well as weekly written assignments and a group project and a final paper.

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**Instructor:**
Professor David Colcleugh
Faculty of Applied Science and Engineering
Email - colcleugh333@rogers.com

**Teaching Assistants:**
Annie Simpson, Leadership Development Coordinator
Email – annie.simpson@utoronto.ca
Veena Kumar, Leadership Development Officer
Email – veena.kumar@utoronto.ca
Faculty Leadership Development Office – Wallberg 240

**Course Website:**
Enter course website through the University of Toronto Portal at: https://portal.utoronto.ca

**Instructor Availability:**
By appointment by email to the Instructor.
Mondays 8-12noon in Wallberg 240 (appointment must be made no later than Friday of the preceding week, by email to the instructor)

**Marking Scheme:**
Participation and Attendance: 15%
Reflection Questions: 30%
Final Paper: 25%
Group Project: 30%

**Required References:** Course readings and reflection questions will be posted each week on the course website.

**Late Assignment Policy:**
The Group Project and Final Paper will be accepted up to one week after the deadline. Any assignments handed in during this week will have 10% deducted from the mark.

Responses to weekly reflection questions are due at the beginning of each lecture and are not accepted beyond this time.

**Requesting Extensions:**
Please approach the Instructor in advance of the deadline if extensions are needed due to situations such as family emergencies, illness, and other situations out of your control.

**Students with Special Needs:** Please approach the Instructor to discuss.

## Appendix E

**Outline: APS501H1F – Leadership and Leading for Groups and Organizations**

| | Date | Section | Topics | Readings for the Lecture | Breakout |
|---|---|---|---|---|---|
| **1** | Sept 10 | A: Leadership and Leading I | • Course Introduction and Review of Syllabus<br>• Everyone a Leader<br>• Leadership Styles | | Group Building |
| **2** | Sept 17 | A: Leadership and Leading II | • What we admire in a leader<br>• Leadership vs. Management | Harvard Business Review<br>HBC Classic<br>March-April 1992<br>"Managers and Leaders – Are They Different"<br>by Abraham Zaleznik | Leadership Styles |
| **3** | Sept 24 | A: Leadership and Leading III | • What successful leaders think about and do | "A Force for Change" by John P. Kotter<br>Chapter 4 – Aligning People<br>Chapter 5 – Motivating and Inspiring | Personal Values and Leadership |
| **4** | Oct 1 | B: Realizing your Potential as a Leader of "Self" I | • Defining Self Leadership and Leading<br>• Self Leading Framework: Function, Being, Will<br>• Thinking completely and effectively | Components of Thought Framework | Thinking Framework<br><br>Introduction of Group Project |
| **5** | Oct 15 | B: Realizing your Potential as a Leader of "Self" II | • Other important Self-Leadership skills/tools | Harvard Business Review<br>November-December 1998<br>"What Makes a Leader"<br>by Daniel Goleman | Personal Mission Statement |
| **6** | Oct 22 | C: Providing direction, Leading change I | • Direction<br>• Change<br>• Values | "Leadership Challenge 3rd Edition"<br>by Kouzes and Posner<br>pages 45-51<br><br>DuPont Company Core Values | Conflict as opportunity |
| **7** | Oct 29 | C: Providing direction, Leading change II | • Vision<br>• Mission | "Leadership Challenge 3rd Edition"<br>by Kouzes and Posner<br>pages 111-130 | Organizational Mission |
| **8** | Nov 5 | C: Providing direction, Leading change III | • Strategy<br>• Culture<br>• Direction and Levels of Thought | "Corporate Cultures – Rites, Rituals of Corporate Life"<br>by Terence Deal, Allen Kennedy<br>pages 3-19 | Myers Briggs |
| **9** | Nov 12 | D: Implementing Change Action/Results | • Implementation of Change Framework | "Execution – the Discipline of Getting Things Done"<br>by Larry Bossidy, Ram Charan<br>pages 57-84 | Teamwork |
| **10** | Nov 19 | E: Leading the Business Enterprise | • Definition of Business, Organization, Enterprise<br>• Leaders role in a business enterprise | "Execution – The Discipline of Getting Things Done"<br>by Larry Rossidy, Ram Charan<br>pages 109-137 | DuPont Case Study<br><br>**Leadership Interview paper due** |
| **11** | Nov 26 | E: Leading the Business Enterprise II | • A Case Study: DuPont Canada | "Transforming the Organization"<br>by Francis J. Guillart, James N. Kelly<br>pages 49-55 | Group presentations I |
| **12** | Dec 3 | Course Review | • Course Review | | Group Presentations II<br><br>**Final Paper due** |

## Appendix E

**Assignments**

**Participation 15%**
Your active participation in large and small groups is necessary for the course to be a meaningful experience. Attendance will be taken each class. Course assignments are based on course material so it is important to attend all sessions. You will be given a mark for participation each week ranging from 0-2.

Marks will be assigned as follows:
0=did not attend, 1=attends and participates minimally, 2=attends and actively participates

**Reflection Questions 30%**
Reflection questions will be assigned every week at the end of class. Reflection questions are due at the beginning of the following class, before the lecture begins. They will not be accepted after this time. They are not to be submitted electronically.

Reflection questions will be returned to students within two weeks of submission. Entries should be typed, double-spaced, and up to a maximum of 250 words in length. These questions offer an opportunity to reflect on topics and concepts covered in the course and to explore your own leadership ideas and development. Some weeks the assignment will involve answering questions based on readings and lecture, other weeks the assignment will be reflective questions related to leadership for you to answer from your own perspective and experience.

Marks will be assigned as follows: 0=not submitted on time, 1=done poorly (very little effort, thought, or depth), 2=done well (understand course content), 3=excellent (not only do you understand the course content but you are able to reflect on it and comment on what it means to you)

**Group Project: (Leadership Interview) 30%**
Pick a leader from the list of leaders provided, and as a group your assignment is to interview that leader. There will be four to five members in each group and each member will be responsible for designing and asking questions related to a specific area of the leader's life and experience. Your interview should be no more than an hour in length.

*Purpose of the assignment*: Practice team work and other group skills discussed in the course, share leadership, each take on a functional role, gain insight by reflecting on a leader's experience.

*Process:* Everyone should be part of the design and execution of the interview and the group presentation.

*Expected Result:* Develop an ability to share knowledge gained from the interview in a group presentation. Groups should also be able to discuss how they worked together as leaders, what each person's role/contribution was, and how decisions were made.

Each group will do a presentation based on their leadership interview. Groups will have up to 10 minutes to present. Questions to consider for the presentation include: What appealed to you about this person's leadership? What did not resonate with you? Would you consider this person to be a role model leader- why, why not?

Marks will be based on:

- Evidence of group cohesion and contribution of all members
- Creativity and Innovation
- Exposure of complexities, insights gained from the interview experience
- Ability to weave course concepts into your presentation
- Acknowledgement/description of the leader's impact on the world.

**20%**

In addition to the group presentation, each group member will submit a transcript of their questions and the interviewee's responses, as well as a summary of key learning, insights, or questions about leadership that emerged

as a result of engaging in this process. In addition, we'd like to hear about your team experience; how you worked together as leaders, how decisions were made, and what each member contributed.
**10%**

**Final Paper 25%**
The final paper is an opportunity to put yourself in a 'real life' situation that allows you to demonstrate your understanding of course content and communicate that understanding. The most important contribution of the role model leader of an enterprise, small or large, is adding value for all stakeholders. This is done by leading change; making things better.

The Situation: You aspire to be a role model agent of change… a leader. You are recently graduated from the Faculty of Applied Science and Engineering at the University of Toronto. You see a situation that needs to be changed for the better; you create an enterprise and an organization of people and get to work.

It is now five years later! Your enterprise is successful and you are being asked by a magazine called "Leaders on Leadership" to describe your success in leading an important change process, which has already received high praise from the Prime Minister of Canada.

The magazine is dedicated to leadership development and is read by students of leadership, leaders in all walks of life determined to learn from successful leaders and their stories.

You are excited by the opportunity to describe your success and describe your growing leadership capability.

The Communication: Formulate your submission to "Leaders on Leadership" using the following guidance as well as the lecture content of the course. Below are some questions to stimulate thought on information you may wish to include. These questions are not meant to limit you or to act as a strict outline, they are meant to inspire your creativity!

- What was the issue/opportunity you recognized, i.e. what was the change you recognized was needed and had a passion to work on?
- Describe your "story" to those who seek to be developed by you, the successful role model leader. Consider:
    - What were the first things you did?
    - Did you think and plan? How did you do this? Did you use the Components of Thought framework? How did you use it?
    - Describe 1-3 key leadership characteristics that you believe are reasons for your personal success as the key leader in the enterprise you created.
    - You put an organization of people together. What qualities did you look for in the people you hired?
    - What was your leadership style and did it change over the five years?
    - You are proud of the organization you created. Why are you proud? Describe the capabilities of the organization that most contribute to the success that has been achieved.
    - Look into the future- the next 5-20 years. Being a visionary, you have begun to recognize the ongoing opportunity to achieve more positive change. Describe how you are developing yourself and the organization for the enterprise to achieve even more.

Expected length is 6-8 pages, not to exceed 2000 words.

APS501 Interviewee List **Appendix F**

Please rank your top five choices for your APS501 Interview Group Project by marking your interviewee choices with 1 (top choice) to 5 in the appropriate boxes.

| | | | |
|---|---|---|---|
| | **Tim Haig**<br>CEO of Biox Corp., a producer and marketer of biodiesel. This young entrepreneur is taking technology developed from work in the Department of Chemical Engineering at the University of Toronto to the market. Tim's office is located in Oakville. | | **Doug Reeve**<br>Doug Reeve is Professor and Chair of Chemical Engineering and Applied Chemistry at the University of Toronto. He is the Founding Director of the University of Toronto Pulp and Paper Centre, Co-Leader of the Faculty's leadership program, and Chair of the Task Force on Engineering and Public Policy. |
| | **Bill White**<br>President of the E.I. DuPont Canada Company, a company that evolved from the privatization of DuPont Canada Inc. Bill has considerable experience in the DuPont Company, both in Canada and worldwide. His office is located in Mississauga. | | **Bonnie Schmidt**<br>Founder and President of Lets Talk Science, a national charitable organization dedicated to improving science literacy. She currently serves as founding Chair of the Science & Technology Awareness Network and as Vice-President of Canadians for Health Research. For her efforts in education, Bonnie has received several awards, including the Top 40 Under 40, Queen's Golden Jubilee Award and YWCA's Woman of Distinction. |
| | **Greg Evans**<br>Professor of Chemical Engineering, former Vice Dean Undergraduate in the Faculty of Applied Science and Engineering at the University of Toronto, and Co-Leader of the Faculty's leadership program. He is Founding Director of the Southern Ontario Centre for Atmospheric Aerosol Research, an interdisciplinary research centre studying the environmental and health impacts of air pollutants. | | **Jane Gaskell**<br>Dean of the Ontario Institute for Studies in Education at the University of Toronto (OISE). OISE is an interdisciplinary professional school of education dedicated to national pre-eminence and international distinction in graduate studies, teacher education, research and field development in education. It is committed to the study and pursuit of education in the context of broad social, political, moral and economic issues, and has a reputation as one of the leading centres in the world for the study of education |
| | **Susan Addario**<br>Director of Student Affairs, University of Toronto, and a member of the Oversight Committee for the leadership program in the Faculty of Applied Science and Engineering. A key player in a number of projects to enhance equity across campus and facilitate the contribution of students to marginalized communities. Initiatives she has led include the establishment of the LGBTQ office, the construction of the Multi-Faith Centre and the founding of the Centre for Community Partnerships. | | **Ilse Truernicht**<br>CEO, MaRS Discovery District. MaRS is a not-for-profit corporation founded by leaders from business and the public sector to improve commercial outcomes from Canadian science and technology research. The MaRS Centre in downtown Toronto houses research labs alongside technology companies and investment capital firms. |
| | **George Roter**<br>Co-CEO of Engineers Without Borders. While completing his Bachelor's degree in engineering at the University of Waterloo, he quickly learned that technology could drive extraordinary change in the lives of the poorest people in the world, and that the engineering community had not been tapped into as a resource. Together with Parker Mitchell, he co-founded Engineers Without Borders. | | **Susan McCahan**<br>Professor of Mechanical and Industrial Engineering at the University of Toronto. She was named a Fellow of the American Association for the Advancement of Science in 2006 for distinguished contributions and innovations to the education of the next generation of engineers and scientists. Her engineering research deals with the thermodynamics of hydrocarbons particularly in flashing spray and rapidly evaporating systems. |

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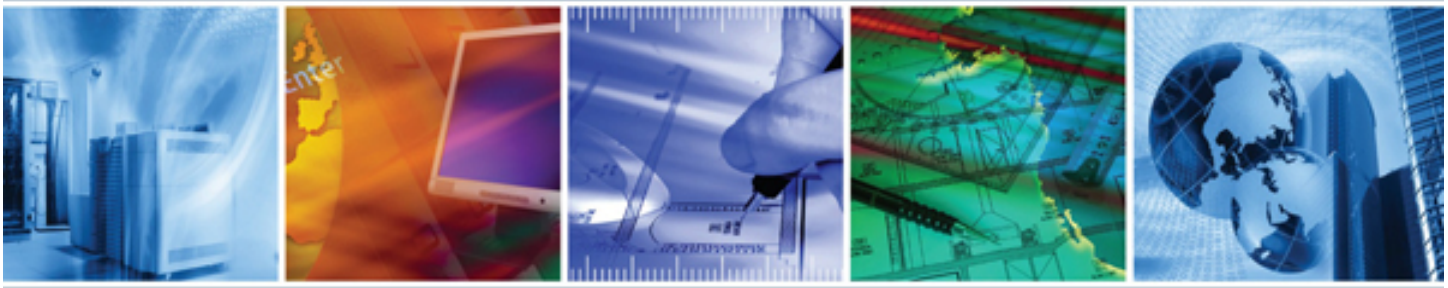

# The ENGINEERING Newsletter

## Building Future Leaders

By Dani Couture

Engineers have a distinct and important role in society. Fulfilling this role requires more than technical expertise it takes sound leadership skills.

Through the Engineering **Leaders of Tomorrow** program, the Faculty is educating young engineers to seek out leadership roles in their professional careers and to make significant contributions at a local, national and international scale. The program intends to equip students, so that they can become successful industry leaders and outstanding citizens.

The Engineering Leaders of Tomorrow initiative began in the summer of 2002 to enhance the experience of undergraduate students who were conducting summer research projects in the Department of Chemical Engineering and Applied Chemistry. Since then, the program has expanded to other Engineering departments and involves hundreds of students.

Shaping the Leaders of Tomorrow: (L - R): Annie Simpson, Prof. Markus Bussmann, Prof. Emma Master. Photo: D. Couture

Through participation in the program, **Annie Simpson**, the Leadership Development Coordinator for the Faculty, hopes that students gain a greater awareness of team skills, group dynamics, self-awareness and how to effectively and respectfully work with others. These are the skills, in combination with a great technical education that will make U of T Engineering students stand out.

Many engineers work in interdisciplinary teams and it's important for them to communicate effectively with individuals who think differently and hold different values. Engineering Leaders of Tomorrow offers students opportunities to develop themselves as full people to compliment their technical expertise with greater self-understanding and the ability to lead and inspire others toward positive change.

### Maximizing Every Opportunity

Professor **Emma Master**, Department of Chemical Engineering and Applied Chemistry, has been involved with the **Chemical Engineering Leaders of Tomorrow program** since 2006. Her main role is to facilitate program events with

the assistance of the students who are part of their Leaders of Tomorrow working group. Professor Master hopes that students learn the enormous value of being intentional about how one conducts oneself, to maximize every learning opportunity and potential to make a beneficial contribution.

The Department of Chemical Engineering and Applied Chemistry aims to provide students with two Engineering Leaders of Tomorrow events per month during the academic year and one event every Friday afternoon during the summer. With activities ranging from networking and dining etiquette tutorials to conflict resolution and group facilitation on the calendar, these sessions are bound to make a lasting impression on the undergraduate students in attendance.

**Habitat for Humanity**

A part of the Engineering Leaders of Tomorrow vision is to develop an engineering education that is an exceptional foundation for transformational leaders and outstanding citizens. This year, 60 Chemical, Industrial and Mechanical Engineering students will participate in a unique Leaders of Tomorrow event.

**Neha Tummala**, a student in the Department of Mechanical and Industrial Engineering, has been an active participant and organizer in the Engineering Leaders of Tomorrow program for the past year. This year, she suggested that students participate in a Habitat for Humanity workday.

Professor **Markus Bussmann**, Department of Mechanical and Industrial Engineering, will organize the event. Split equally over two days in August, 60 students will volunteer their time for an important cause. For some students, it'll be their first volunteer experience, and we think it's important to expose students to that remarks Professor Bussmann. We think this is a great chance to have students work together on a project of real value to the community.

# Leaders of Tomorrow - A Leadership Development Program for Engineering Students at the University of Toronto

**Doug Reeve, Annie Simpson, Veena Kumar, Emma Master, Dave Colcleugh and Greg Evans**
**Faculty of Applied Science and Engineering**
**Ian Simmie and Deanne Fisher**
**Office of Student Affairs**
**University of Toronto**

## Abstract

Leadership development is an important, emerging component of student experience in the Faculty of Engineering and Applied Science at the University of Toronto. Leaders of Tomorrow started in 2002 in the Department of Chemical Engineering and Applied Chemistry and was funded to be implemented Faculty-wide in 2006. The program includes department-based co-curricular activities, a new senior-level course on leadership and support for leadership development in extra-curricular clubs and student government. As an example of Leaders of Tomorrow co-curricular activity, the thirteen-week, Friday-afternoon summer program is described. The Vision, Mission, Values, and Beliefs for Leaders of Tomorrow were developed through extensive discussion and debate, incorporating the perspectives of faculty, staff and students. Our Vision: An engineering education that is a lifelong foundation for transformational leaders and outstanding citizens.

## Introduction

Leaders of Tomorrow, The University of Toronto Faculty of Applied Science and Engineering's Leadership Development Program has three main objectives: first, it strengthens and enriches the experience of engineering students by providing coherent, structured and intentional learning opportunities to enhance their leadership development. Second, through leadership development in engineering education, it will enhance the ability of its graduates to make significant contributions in their work place, their community and society. Third, leadership development can enhance the connection between the field of engineering, with all its technical, analytical and problem solving capability, and the realm of public policy, enabling graduates to contribute more fully to technologically sound public policies.

The program integrates leadership development through all facets of the engineering student experience: curricular, co-curricular and extra-curricular. Pioneering work of the Department of Chemical Engineering starting in 2002 is being extended through co-curricular leadership development training, workshops, summer experiences, community service projects and other opportunities in departments and divisions across the Faculty. The Faculty has already adopted two "columns of integration" in the engineering curriculum, communication and design, and will now move to implement a third, namely leadership. In July 2006, the Faculty appointed its first Leadership Development Professor who has developed a new senior-level course, "Leadership and Leading in Groups and Organizations"; the course is being piloted in the fall of 2007.

Building on the robust tradition of student activity, the Faculty will support student leadership development through programming for leaders involved in student government and a wide range of clubs and groups involved in outreach, orientation, publications, and culture.

This paper will introduce Leaders of Tomorrow - its origins, vision, mission, values and beliefs - and describe one of its important components, the summer program. Other elements that await future presentation are: programming during the academic year, the leadership development course, mobilizing student leaders through working groups, and the leadership development certificate.

**Background**

The scholarship of leadership teaches us that advances in technology combined with the increasing globalization, complexity and interconnectedness of the post-industrial economy demand new approaches to leadership. A definition of leadership as a set of traits or behaviours is no longer sufficient. Rather, leadership is defined as "a relational process of people together attempting to accomplish change or make a difference" (Komives, Lucas, & McMahon, 1998). New ways of leading include collaboration, teamwork and the ability to transform followers into leaders themselves. This is especially true in the field of engineering, where groups and teams have the potential to bring multiple approaches to a single problem or challenge. In order to succeed in this new paradigm, professionals need leadership tools of inclusiveness, empowerment, ethics, purposefulness and process.

The skills of good leadership are not innate; they can be learned. In her recent study on the development of leadership identity among students, Susan Komives (Komives, et al., 2005) identified four key developmental influences: *adult influences*, through external affirmation and as role models; *peer influences*, as role models and collaborators; *meaningful involvement* -- experiences that help students experience diverse peers and develop new skills; and *reflective learning* -- structured opportunities to allow students to uncover their passions, integrity, and commitment.

At the same time as we are learning about the demands of leadership in the 21st century, the Faculty is learning more about its students, their experiences and their development. The National Survey on Student Engagement (NSSE) provided concrete evidence of what many of us have come to understand about our students by observation:

- While more than half of our students participate in the robust array of student clubs and organizations in engineering and the wider campus, more than 48% report spending no time involved in what NSSE calls co-curricular activities.
- Despite the cultural diversity of our student population – almost 64% identify as a member of a visible minority group – a large proportion (34%) say the University does "very little" to encourage interaction across economic, social, racial and ethnic backgrounds and 29% say their experience has done "very little" to contribute to their understanding of people of other racial and ethnic backgrounds.
- Engineering students are more likely to say the University emphasizes learning effectively on your own than working effectively with others.

The NSSE results have served to strengthen the Faculty's commitment to the goals set out in the Faculty's strategic plan. The Faculty's Mission Statement includes: *"To ensure that our students are equipped with the academic, leadership, and communication skills required by the engineering profession and society in general"*. A more explicit statement regarding leadership development can be found in the undergraduate

section of the plan: *"Provide opportunities for soft skills development and professional training in areas such as team building, leadership, citizenship, ethics and social awareness in order to produce graduates fully prepared to embark into leadership roles in corporate, entrepreneurial, or future research careers in a global environment."* The Faculty's record in leadership development is strong. We have integrated collaboration, community outreach and communication skills into the curriculum through such initiatives as the first-year Engineering Strategies and Practice course (McCahan, et al 2004).

The University of Toronto's Academic Initiatives Fund, in early 2006, granted $1 million over five years to implement a Leadership Development Program across the engineering faculty. The mandate of Leaders of Tomorrow is to create intentional, structured and meaningful leadership development programming through the curriculum, the co-curriculum and extra-curricular activities providing, for our students, an experience that integrates theory and application, formal and informal learning. Funding has permitted hiring of two full-time leadership development program staff members and a part-time leadership development professor.

**Vision, Mission, Values and Beliefs**

The Vision, Mission, Values and Beliefs for Leaders of Tomorrow 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.

Values
Leaders of Tomorrow will be built on a foundation of values, drawn from the Faculty, the University, and the engineering profession, specifically:

- Citizenship, service to society, and public stewardship
- Personal and professional integrity
- Social responsibility and responsible use of technology
- Productivity and added value
- Creation of infrastructure and organized processes
- Creativity, innovation, and design
- Pursuit of excellence

- Recognition of the benefits of diverse views and backgrounds
- Education, continuous learning and intellectual pursuit
- Creation, transmission and preservation of knowledge

Beliefs

- Leadership can be learned; therefore it can be taught.
- Engineers with significant leadership ability contribute more value than those without.
- Global and local issues are increasing the need for engineers to realize their full potential to contribute to society.
- Engineers already make enormous contributions to society but are often not appropriately positioned or equipped to achieve their full potential.
- The engineering thought process involves moving from identifying general needs to producing specific outcomes (analysis, problem definition, design, realization, and iterative optimization). This thought process is a natural fit with leadership.
- Current engineering education places inadequate emphasis on the development of the whole individual and human interactions, which should be integrated into an engineering education.
- Many competencies currently emphasized in engineering education, such as communication, teamwork, and social impact, are aligned with leadership competencies.
- Increased leadership ability will broaden the perspective of engineers, making them more receptive to diverse views and more sensitive to the relevance of matters outside the engineering discipline.
- Engineering students need to appreciate that enhanced leadership ability will increase their value to their organizations, communities, and society.
- Some engineering students enhance their leadership ability through self-study, volunteering, and participation in extracurricular activities.
- 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 there is a need to help students learn how to build communities.

Further, we believe that a leadership development component in the student experience will be an important distinguishing feature at the University of Toronto that will attract students with an interest in leadership and thereby reshape and strengthen the candidate pool.

**The Leaders of Tomorrow Summer Program**

The Leaders of Tomorrow summer program began in 2002. The program was initiated to enrich the experience of undergraduate students conducting summer research projects in the Department of Chemical Engineering and Applied Chemistry. The program provided sessions on current research in the Department, industrial tours and leadership development training. Since the summer of 2002 more than two hundred students have enrolled in the program. Sessions are held on Friday afternoons from May to late August. Students who wish to participate, must get approval for release time from their supervisors. Students who attend 80% of the program receive a non-credit, Leaders of Tomorrow Summer Program Certificate.

The team of program organizers has changed over time and now includes the Department Chair, the Faculty lead, Department staff, and staff members from the Faculty's Leadership Office. As student feedback has been incorporated into the planning, and our ability to deliver programming has grown, the program has evolved to intensify leadership development. In the summer of 2007, the leadership development part of the program had three segments: 1) 'Personal Development' - emphasizing the importance of self-awareness to effective leadership; 2)'Group Leadership' - the skills that are needed to contribute to, and lead, teams; and

3) 'Leadership in Society,' promoting the notion of engineers as active citizens and change agents in the world. As well as seminars, speakers and workshops, students participated in design/research project teams and went on tours of industry facilities.

The Leaders of Tomorrow Summer Schedule, 2007

Segment 1 – Personal Development
- Myers-Briggs Type Indicators- External Instructor
- How to Build a Strong and Successful team Atmosphere- Leadership Office Staff
- Tour #1
- An Introduction to Leadership- Leadership Professor

Segment 2 – Group Leadership
- Leadership Styles and Myers-Briggs- External Instructor
- Transforming Conflict: Skills for Resolving Conflict While Strengthening Relationships- Leadership Office Staff
- Tour #2
- Part 1: Team Tune –Up (Reflections on Group Project Teams)- Leadership Office Staff
  Part 2: Debate #1

Segment 3 – Leadership in Society
- Engineering and Public Policy- Internal Instructor
- Tour #3
- Ethics and Leadership- Student Affairs Office Staff
- Debate #2
- Team Reflection- Leadership Office Staff
- Networking lunch with Alumni and Final Team Presentations

The 'Personal Development' segment of the program included a number of workshops where students were given opportunities to reflect more on themselves and on their particular leadership styles and strengths. Students completed the Myers-Briggs questionnaire and an instructor was hired to give in-depth discussion on personality types according to Myers-Briggs Type Indicators. Students learned about the characteristics of their own and others' types. By starting the program with this workshop, students and organizers shared a common language that could be used throughout the summer when exploring team dynamics and differing leadership strengths. Following the Myers-Briggs session was a workshop on team dynamics. Students learned about the stages that teams usually go through. Students discussed group values such as inclusivity, accountability, and transparency and how groups express these values in their behavior. Finally there was a session given by the Leadership Professor on leadership styles, ethical leadership and the attributes of successful leaders.

The second segment focused on skills for working and leading in groups. The Myers-Briggs instructor held another session and Myers-Briggs personality theory was revisited in the context of leadership. Students learned about the leadership styles that corresponded to their personality preferences, and were encouraged to consider the potential blind-spots of their types or potential challenges when leading individuals of different types. The next workshop focused on conflict resolution. This workshop was very experiential and focused on two skills; active listening and how to raise a concern. Students were encouraged to practice these skills in their project teams. The next workshop involved a team challenge where groups were asked to

complete a project in a short time and then reflect on their group process. Discussion focused on the difference between task-oriented and process-oriented roles of members of the group. We hoped to instill in students an appreciation of the need for both, in order to have an effective and satisfying group process. The "Leading in Groups" segment ended with a debate experience. Students were taught a debate format and engaged in a debate on whether the internet diminishes personal communication skills. This experience offered an opportunity for students, in teams, to assemble an argument in a brief time, engage in a healthy intellectual debate regarding the impact of technology on individuals and society, and practice public speaking skills.

The final segment focused on 'Leadership in Society'. It began with a talk on 'Engineers and Public Policy' addressing the leadership role that engineers play in the issues of the day, particularly concerning policy formulation where technology was at the heart of the matter. A session on ethics and leadership challenged students to think about the ethics of their everyday decisions and gave students a framework to use when faced with an ethical dilemma. There was a second debate on the question: "Who is responsible for the current state of science journalism - journalists or scientists?" In the final workshop students were asked to reflect on their progress in understanding themselves and understanding others. Students were guided through a process that focused on their group project experience and drew out the meaningful skills and knowledge that they acquired over the course of the summer.
Another component of the summer program is project work in small groups. Groups are given a design challenge or a research challenge. In 2007, group projects included: green roof design, designing green chemistry labs, designing a compost system for an apartment building, developing a website for recruiting future chemical engineering students, designing an energy efficient home insulation plan, designing a bio-engineering facility, harnessing bio-methane, and organizing student tours. In 2007 the tours visited a municipal waste incinerator, a refinery and a steel mill. The rationale for the projects was to allow students to apply their newly acquired knowledge, self-awareness, and team skills.

As a capstone to the summer program, students presented their group project work to invited alumni and industry leaders. This was a formal event, where students presented and were asked questions about their research and design work. Alumni voted on presentations and the winning presenters were invited to present at the Department Board of Advisors meeting. The opportunity to present to distinguished alumni added an element of excitement and significance to the group projects.

**Pre- and Post-program Survey Results**

Pre-program and post-program surveys were designed and administered to gather feedback from students and to measure new learning. Students in the 2007 summer program were surveyed before and after the program. There were 43 responses to the pre-survey and 31 to the post survey. All were undergraduate engineering students, who had completed one, two or three years of a four-year program. Just over 50% of the participants in the pre-and post-program groups were women; approximately the same as the general undergraduate student body in Chemical Engineering.

Students were asked:

1. "On a scale of 1-5, how strongly do you value Personality Theory in your group interactions?" in the pre-program survey and "To what extent has your appreciation of Personality Theory, and its impact on group interaction, advanced as a result of completing the summer program?" in the post-program survey. (1=very little, 3=somewhat, 5=very much)

The average response to the pre-program question was 2.9 whereas the post-program average response was 3.7 indicating a significant increase in appreciation over the summer.

2. "Rate your capacity/skill level for each of the following skills:" in the pre-survey and "Please rate how your capacity/skill level for each of the following skills has changed as a result of the LOT summer program" in the post-survey. The shift in the question complicates interpretation when comparing before and after but does provide useful assessment of the program impact.
(1=don't have strong capacity, 3=have some capacity, 5=feel very capable)

| | AVERAGE RESPONSE | |
|---|---|---|
| | Pre-program | Post-program |
| Listening | 3.5 | 4.1 |
| Conflict resolution | 2.8 | 3.8 |
| Being ethical | 3.6 | 3.9 |
| Acknowledging the contribution of others | 3.5 | 4.3 |
| Consensus-building in decisions | 3.3 | 3.9 |
| Delegating tasks | 3.2 | 4.0 |
| Self-awareness | 3.3 | 4.3 |
| Interpersonal skills | 2.9 | 3.8 |
| Clearly articulating your views | 3.1 | 3.8 |
| Critical thinking | 3.4 | 3.9 |

None of the pre-program skills was rated above 3.6 indicating only modest self-assessed skill level. All of the responses to the post-program question were above 3.8 with four skills rated above 4.0 indicating significant improvement in the students' perception of their own overall skill set.

The lowest rated pre-program skills were Conflict Resolution and Interpersonal Skills. Students indicated significant improvement in these skills over the summer. They also indicated significant improvement in Self-awareness. All other skills increased in rating over the summer.

3. "Please rate the importance of the following leadership values:"
(1=not very important, 3=somewhat important, 5=very important)

| | AVERAGE RESPONSE | |
|---|---|---|
| | Pre-program | Post-program |
| Empowerment | 3.5 | 3.9 |
| Inclusivity | 3.7 | 4.1 |
| Participation | 4.4 | 4.6 |
| Empathy | 3.8 | 3.7 |
| Integrity | 4.5 | 4.8 |

The results did not change much from pre- to post-program. It is interesting to note that Integrity and Participation were ranked most highly and Empathy and Empowerment ranked lowest.

4. "Please rate from 1-5 the following statements"
(1=not responsible, 3=feel somewhat responsible, 5=strong responsibility)

| | AVERAGE RESPONSE | |
|---|---|---|
| | Pre-program | Post-program |
| As an engineer I have a responsibility to: | | |
| a) Be technologically innovative | 4.0 | 4.1 |
| b) Contribute to the development of public policy | 4.1 | 4.5 |
| c) Communicate the impact of advances in science and engineering to the general public | 4.3 | 4.5 |

It is interesting to note how solidly the students see their responsibility to contribute to public policy and communication of science and engineering to the general public.

## Concluding Remarks

Leaders of Tomorrow offers an enriched experience for engineering students at the University of Toronto and, although it is early in its development, we have made significant progress. Our aspirations are guided by our Vision: An engineering education that is a lifelong foundation for transformational leaders and outstanding citizens.

### References

Komives et al., 2005
Komives, S. R., Owen, J. E., Longerbeam, S. D., Mainella, F. C., and Osteen, L. *Developing a Leadership Identity: A Grounded Theory*. J. College Student Dev. 46, No. 6, November/December 2005, p 593-611.

McCahan, et al, 2004
McCahan, Susan; Bagley, David; Weiss, Peter Eliot; Woodhouse, Kimberly; and Cluett, Will. *Teaching Design, Synthesis and Communication to First Year Engineering Students at the University of Toronto.* Proceedings of the 2004 American Society for Engineering Education Annual Conference and Exposition.

Komives, Lucas, & McMahon, 1998
Komives, S. R., Lucas, L., McMahon, T. *Exploring Leadership: For College Students Who Want to Make a Difference.* San Francisco: Jossey Bass. 1998 [p.21]

## Appendix H

**Biographies**

DAVE COLCLEUGH
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. He was named the first Leadership Development Professor in engineering at the University of Toronto in 2006. He holds a BASc, an MASc and a PhD (Toronto).

GREG EVANS
Greg Evans is a Professor of Chemical Engineering and Applied Chemistry and the Director of the Southern Ontario Centre for Atmospheric Aerosol Research at the University of Toronto. He is Co-leader of Leaders of Tomorrow. He is a licensed engineer (PEng) and holds a BASc, MASc and PhD (Toronto).

DEANNE FISHER
Deanne Fisher is Associate Director (Program & Communication) in the Office of Student Affairs at the University of Toronto. She holds a BA from UBC and has recently completed her MA in Theory & Policy Studies in Education at OISE-UT.

VEENA KUMAR
Veena Kumar is the Leadership Development Officer for Leaders of Tomorrow. She studied engineering at Queen's University, where she participated in leadership development activities through community service, international exchange, professional experience, residence life and clubs. She holds a BASc? (Queens).

EMMA MASTER
Emma Master is an Assistant Professor of Chemical Engineering and Applied Chemistry at the University of Toronto. Her research applies microbial catalysts for the production of renewable bioproducts. She is the Faculty Lead of the Department's Leaders of Tomorrow Program. She holds a BSc (McGill) and a PhD (UBC).

DOUG REEVE
Doug Reeve is Professor and Chair of Chemical Engineering and Applied Chemistry at the University of Toronto. He is Co-leader of Leaders of Tomorrow and Chair of the Task Force on Engineering and Public Policy. He is a licensed Engineer (P.Eng.), holds a BSc (UBC) and an MASc and PhD (Toronto).

IAN SIMMIE
Ian Simmie is Coordinator, Leadership Development in the Office of Student Affairs at the University of Toronto. He works collaboratively with many University partners in designing and delivering leadership education, training and development. He holds a BComm (Guelph) and is completing an MEd at OISE-UT.

ANNIE SIMPSON
Annie Simpson is the Leadership Development Coordinator for Leaders of Tomorrow. She has taught in the community college system and has also worked as a counselor, conflict mediator, restorative justice facilitator and trainer. She holds a BA (Dalhousie) and an MEd (OISE-UT), and is currently a PhD candidate at OISE-UT.

For presentation at
The American Society for Engineering Education
St. Lawrence Section
Toronto
October 19-20, 2007

LEADERS *of* TOMORROW

CHEMICAL ENGINEERING AND APPLIED CHEMISTRY, UNIVERSITY OF TORONTO

# SUMMER PROGRAM 2007

Start time 1:15 pm and completion time 4:15 pm

## Series 1 - Personal Development

| DATE | EVENT | GUEST | PLACE | HOST |
|---|---|---|---|---|
| May 25 | Myers-Briggs Type Indicators | Anne Dranitsaris | WB219 | E. Master |
| June 1 | How to Build a Strong and Successful Team Atmosphere | Annie Simpson and Veena Kumar | WB342 | L. Mitchell |
| June 8 | Tour #1: Hamilton Steel plant (to be confirmed) | Bernie Goldberg | Meet in WB219 | E. Master |
| June 15 | An Introduction to Leadership | Dave Colcleugh | WB219 | L. Mitchell |

## Series 2 - Group Leadership

| DATE | EVENT | GUEST | PLACE | HOST |
|---|---|---|---|---|
| June 22 | Leadership Styles | Anne Dranitsaris | WB219 | L. Mitchell |
| June 29 | Transforming Conflict: Skills for Resolving Conflict while Strengthening Relationships | Annie Simpson and Veena Kumar | WB342 | E. Master |
| July 6 | Tour #2: Algonquin Power Energy from Waste Facility | Janice Hatton | Meet in WB219 | L. Mitchell |
| July 13 | Team Tune Up (Reflection questions and team exercises)<br><br>Debate 1: Is the Internet deteriorating personal communications? | Annie Simpson and Veena Kumar | WB342 | E. Master |

## Series 3 - Leadership in Society

| DATE | EVENT | GUEST | PLACE | HOST |
|---|---|---|---|---|
| July 20 | Engineers and Public Policy | Professor Reeve | WB219 | E. Master |
| July 27 | Ethics and Leadership | Deanne Fischer (Office of Student Affairs) | WB219 | E. Master |
| Aug. 1 or 3 | Tour # 3: Petro Canada Refinery (to be confirmed) | Christine York | Meet in WB219 | E. Master |
| Aug. 10 | Debate 2: Who is responsible for the current state of science journalism? Journalists or Scientists.<br><br>Discussion with Pat Senson | Pat Senson (Producer for "Quirks and Quarks" at CBC Radio) | WB342 | L. Mitchell |
| Aug. 17 | Team Reflection | Annie Simpson | WB342 | E. Master |
| Aug. 24 | **12:00 – 5:00 pm Networking Lunch with Alumni / Final Team Project Presentations (GB202)** | | | |