4. Educating Future Engineers and Student Experience

U of T Engineering has built a global reputation for excellence that attracts the brightest students from around the world to our undergraduate and graduate education and research programs. Our curriculum, experiential learning opportunities, and co-curricular programs show our commitment to develop the next generation of makers, innovators and engineering leaders with global fluency. We have achieved, and in some cases surpassed, our Academic Plan quantitative goals in engineering education and student experience, and continue to evaluate new opportunities that will further these aims.

The number of applications to our undergraduate programs has grown by 65 per cent in the past five years (7.2 per cent in the past year alone), with applications from international students more than doubling in that period. We received more than 12,000 applications for the 2016–2017 academic year — effectively 12 applications for each available spot. Admission to our undergraduate programs have become increasingly competitive. To further assist us in our selection process, we implemented a broad-based admissions system three years ago that uses videos and timed written responses to provide a more comprehensive picture of each applicant and help determine critical success factors. This incoming cohort is among our most diverse and accomplished yet. The Ontario Secondary School average is 93.4 per cent, up from 90.4 per cent in 2011 and 85.5 per cent in 2006. Our strategic recruitment efforts in established and emerging markets are bearing fruit. Events such as Girls' Leadership in Engineering Experience (GLEE), Young Women in Engineering Symposium (YWIES), high school visits by Women in Science & Engineering (WISE) and Engineering Society students, as well as our pre-university outreach activities also help us recruit outstanding young women to our undergraduate programs by providing opportunities to interact with current students, faculty and alumni. As mentioned in our Culture of Excellence chapter, women have comprised more than 30 per cent of our first-year classes for the past three years, with a huge leap to 40.1 per cent this year. International students comprise 27.0 per cent of the first-year cohort, up from 24.2 per cent in 2011 and 13.3 per cent in 2006. Overall, women now make up 30.0 per cent of our undergraduate class while international students are at 27.9 per cent. Our retention rate between first and second year rose to 96.8 per cent in 2015–2016 from 83.1 per cent in 2006–2007. This increase can be attributed both to the quality of students and the support programs we have established to assist students in their transition from high school to university.

Enrolment in our graduate programs has also progressively risen to 2,364 in 2016, surpassing our goal of 2,000 by 2015. We accomplished this three years early, in part because of rising enrolment in our MEng programs, particularly among international

students. Enrolment in our professional master's programs has grown by 427 per cent in the past ten years and now comprises 54 per cent of all master's students (goal was 50 per cent by 2015). Our participation in the Canadian Graduate Engineering Consortium, along with the University of Alberta, University of British Columbia, McGill University and the University of Waterloo, has also enabled us to recruit top domestic graduate students.

We live in an increasingly complex world where engineers make a tremendous impact in solving pressing global challenges. To ensure our students are prepared to contribute to this endeavour, our Faculty has strengthened our curricular, co-curricular and experiential learning opportunities in key areas of design, teamwork, communication, leadership, and entrepreneurial competencies. We established a task force to review the core first-year undergraduate curriculum, and have implemented several of its recommendations over the past two years. These include the development of a new course, APS100 - Orientation to Engineering, that has been specifically designed to assist students with the transition from high school to university and consists of lectures on key topics and tutorials led by upper-year teaching assistants. We have capitalized on the use of technology to create new modalities to engage students in the classroom. We record lectures for all Core 8 first-year courses, offer four first-year courses fully online, two inverted classroom models where students review lectures online ahead of class and use in class time for discussion and interaction, and a Technology Enhanced Active Learning (TEAL) classroom that has been used for various courses and tutorials. MEng students now have the opportunity to participate in distance learning through four online courses, with another in development. We have made progress on incorporating design across the curriculum. All first-year students participate in either Engineering Strategies and Practice or Praxis and culminate with their fourth-year capstone course. The Multidisciplinary Capstone Project course (APS490) provides students with an opportunity to work with their peers in other disciplines on projects proposed by our industry partners. A total of 240 students in 56 teams have participated since the course's inception in 2012, and feedback has been very positive. We expanded this industry project-based learning to MEng students in 2015-2016.

Demand for curricular and co-curricular offerings through the Institute for Leadership Education in Engineering (ILead) continues to grow at both the undergraduate and graduate levels. We offer five undergraduate and five graduate courses in areas ranging from leadership in project management to positive psychology for engineers. These courses can be counted towards the Entrepreneurship, Leadership, Innovation & Technology in Engineering (ELITE) certificate for graduate students or the Engineering Business minor or Engineering Leadership certificate for undergraduates. We also offer co-curricular programs and competitions such as Leadership Labs, The Game, and the ILead Summer Fellowship and Leadership programs.

A major focus of our Faculty has been to expand multidisciplinary education, including undergraduate minors and graduate emphases. We now offer 15 undergraduate minors and certificates, and 12 graduate emphases.

Our Cross-Disciplinary Programs Office continues to develop innovative undergraduate programming both across the Faculty and in partnership with other U of T Faculties. Our students' enthusiasm for the breadth, depth and formal recognition of these offerings is evidenced by the fact that more than 50 per cent of our 2015-2016 undergraduate graduating class completed either a minor or certificate. Our cross-Faculty initiative with the Rotman School of Management has continued to surpass expectations; this past year, 32 per cent of students graduated with either a minor or a certificate in Engineering Business. In 2015, we also launched a new Engineering Science major in Robotics Engineering, championed by several engineering departments and the Department of Computer Science. Student interest in this program has been tremendous, with 66 students entering this major in 2016, twice the number of the first cohort in 2015.

We have created a diverse range of emerging, multidisciplinary areas emphases that have become key recruiting tools for MEng students. Since the creation of the first graduate certificate, ELITE, in 2007, we have developed 11 additional certificates/emphases ranging from Global Engineering to Advanced Water Technologies to Advanced Manufacturing, which launched in 2015. In 2014, we launched an interdisciplinary collaborative graduate program in Engineering Education with the Ontario Institute for Studies in Education (OISE). The synergies created between Engineering and OISE students, as they shape tomorrow's engineering education, will impact our teaching practices and students' learning. In 2016, the first cohort of students enrolled in the MEng in Biomedical Engineering began their studies. This one-year program focuses on the design and commercialization of biomedical devices and was developed for students planning to move directly into industry.

Our two in-house incubators, The Entrepreneurship Hatchery and Start@UTIAS, provide mentoring, networking, seed funding and other resources to undergraduate and graduate students who are interested in developing businesses. The Hatchery has launched 37 start-ups since 2013, and had an increasing number of students and teams apply to its summer program. Throughout the year, it offers speakers series, idea markets and hackathons designed to engage students in the entrepreneurial process. The Hatchery is now moving into the second phase of its evolution by supporting graduate students and researchers with their commercialization plans. Start@UTIAS provides graduate students from UTIAS with similar tools and resources. Seven teams were part of the 2015–2016 cohort after successfully completing two grant processes and pitching their ideas.

Opportunities to enhance technical competencies while gaining valuable work experience resonate strongly with our students and has resulted in a record 790 students participating in our Professional Experience Year (PEY) program, up from 581 in 2011–2012. With more than 70 per cent of PEY students returning from their internships with confirmed or tentative job offers when they graduate, the program is very attractive to our undergraduates. Still, we recognize that we can do more to help our students develop professional competencies. With this in mind, we have appointed an academic director who will work with the executive director of the Engineering Career Centre to better integrate with other areas of the Faculty to provide professional development workshops and skill building sessions. Our goal is to improve the student experience by taking advantage of the expertise that exists throughout the Faculty and working collaboratively with other units.

The Centre for Engineering Innovation & Entrepreneurship (CEIE) embodies these efforts to enhanced multidisciplinary collaboration and innovation. Designed to further enrich student experiential learning and heighten opportunities for cross-disciplinary research, the CEIE will launch the beginning of a new era in U of T Engineering.

4.1 EDUCATING FUTURE ENGINEERS: ACADEMIC PLAN PROGRESS HIGHLIGHTS

4.1.1 Maintain and strengthen our high-quality education through continued review and assessment of our programs and curricula for currency, vision and relevance. Establish desired learning outcomes for graduate and undergraduate students to ensure they are well prepared as future engineers. Evolve our cyclic reviews and plan for continuous quality assessment within the new UTQAP and CEAB Graduate Attribute systems.

- Completed the Canadian Engineering Assessment Board (CEAB) accreditation review: all nine programs received maximum accreditation to 2019.
- Received the final report of the Dean's Task Force for Core First Year Curriculum Review in December 2014 and began implementation of recommendations to integrate our first-year courses, support high-quality teaching and learning, and improve the transition to first year and overall student experience.
- Launched a new first-year course APS100 - Orientation to Engineering, which consists of lectures as well as tutorials led by upper-year undergraduate teaching assistants to help students transition into the engineering academic environment.
- Initiated a review of the content and delivery of Engineering Strategies & Practice (ESP) I and II to better integrate ESP with other first-year courses and departmental curricula, improve assessments within the course, ensure a reasonable course workload, and improve awareness of the purpose and outcomes of these courses within the departments and Faculty.
- Integrated the work of the Graduate Attributes Committee into the Undergraduate Curriculum Committee; collected data through various initiatives for analysis and initiated a curriculum mapping process to align with CEAB requirements.

4.1.2 Further integrate professional competencies, such as global engineering, entrepreneurship, leadership and communication into undergraduate and graduate curricula. Define, assess and measure our programs and curricula successes through the UTQAP UDLEs, GDLEs and cyclic reviews and through the CEAB Graduate Attributes.

- Supported by multi-year start-up funding via the Dean's Strategic Fund, launched initiatives to integrate professional competencies in the areas of global engineering, entrepreneurship, leadership and communication through the Institute for Leadership Education in Engineering (ILead), the Institute for Robotics and Mechatronics (IRM), the Institute for Sustainable Energy (ISE), and the Centre for Global Engineering (CGEN).
- Established undergraduate minors and/or certificates in Engineering Business, Engineering Leadership, and Communication.
- Developed 11 additional graduate certificates/emphases since the creation of the first graduate certificate in Entrepreneurship, Leadership, Innovation and Technology in Engineering (ELITE) in 2007, ranging from Global Engineering to Advanced Water Technologies.
- Created a common database for generating the required curriculum maps for the CEAB review and developed the documentation processes to monitor curriculum changes; reviewed the terms of reference of the Undergraduate Curriculum Committee to ensure this will occur in a systematic and organic approach.

4.1.3 Enrich the quality of undergraduate academic experience by increasing flexibility in the undergraduate curriculum, continuing to develop progressive opportunities for students to pursue their professional interests, and integrating professional competencies throughout the curriculum.

- Increased the number of engineering students participating in the Professional Experience Year (PEY) internships to 790 in 2015–2016 with 79 international placements, from 581 in 2011–2012 and 34 international placements.
- Experienced tremendous growth in minor and certificate program enrolments, with 55 per cent of the 2016 graduating class completing either a minor or a certificate.
- Grew the percentage of undergraduates graduating with either a minor or a certificate in Engineering Business from 2% in 2011-2012 to 34% in 2015–2016.
- Expanded the number of undergraduate minors and certificates offered to 15:
    - Minors include: bioengineering; biomedical; engineering business; environmental engineering; nanoengineering; robotics and mechatronics; and sustainable energy.
    - Certificates include: Communication; Engineering Business; Engineering Leadership; Entrepreneurship; Global Engineering; Mineral Resources; Nuclear Engineering; and Renewable Resources Engineering.
- Developed the multidisciplinary capstone design course (MCP) offered by the University of Toronto Institute for Multidisciplinary Design & Innovation; 240 students participated from across all undergraduate programs since its inception in 2012.
- Introduced a new Engineering Science major in Robotics Engineering. Student interest in this program has been tremendous, with 66 students entering this major in 2016–2017, double the size of the first cohort in 2015–2016.

4.1.4 Continue to support and enhance undergraduate students' opportunities for self-directed learning and study time, and participation in the enriching extracurricular activities within our Faculty, across the University, and beyond.

- Created two massive online courses, with the second one on the Coursera platform, in Wind, Waves and Tides: Alternate Energy Systems, drawing more than 11,000 people. Also created a series of courses for Coursera on iOS App Development that can be taken to earn a specialization.
- Expanded the number of first-year online courses to four, allowing students more choice in how they access education material: APS160 - Mechanics, APS162 and APS163 - Calculus for Engineers I and II, and APS164 - Introductory Chemistry from a Materials Perspective.
- Continued to video capture lectures for most first-year classes to provide more flexibility to students and enable them to review lectures outside of class.
- Used the inverted classroom model, in which students watch lectures online prior to class and use classroom time to engage in experimental learning, in classes such as ECE221 - Electricity and Magnetism and CIV235 - Civil Engineering Graphics.
- Developed four online courses for our ELITE program, each offered annually with our most popular one offered every semester.
- Supported over 100 of student clubs and initiatives annually through the Centralized Student Club Funding Process.

4.1.5 Enhance our instructional space to facilitate innovative teaching methods and create efficiencies on how we share space. This includes flexible interactive teaching space for substantial numbers of students, design and group project space and lecture/lab combination space.

- Piloted a Technology Enhanced Active Learning (TEAL) classroom in 2014. Located in the Sandford Fleming building, this room offers an innovative environment that facilitates collaboration and experiential learning, enhanced by technology and strategic design.
- Began construction on the CEIE in June 2015, which will TEAL rooms, a 500-seat auditorium featuring small-group seating and highly interactive learning and communications technology, and prototyping and light fabrication facilities.
- Supported a joint project by UTIAS and MIE, through the Engineering Instructional Innovation Program, to create parallel classrooms to allow graduate students in each program to participate simultaneously in lectures delivered from either of two locations.
- Expanded the IBBME Teaching and Design Studio laboratories to facilitate the launch Collaboratory on Advanced Learning and Innovation in Bioengineering Education (CALIBRE) program.

4.1.6 Provide reliable, accessible, effective computing services and study spaces within and outside computer laboratories, library and classrooms to enhance efficient interactive learning and socialization where today's student "lives."

- Upgraded and extended wireless internet access in three buildings for complete building coverage, (Galbraith, Sandford Fleming and Bahen Centre).
- Added total of 234 study spaces to engineering buildings in the past five years to enhance interactive learning and socialization for students.
- Provided funding for five Dean's Strategic Fund proposals to improve design, club, and meeting spaces throughout the Faculty.
- Created additional student study spaces through renovation of the library.

4.1.7 Link the quality of student learning, the quality of their education and their improved future performance with teaching effectiveness. Continue to inspire and support the Faculty's culture of teaching excellence and encourage Faculty members and teaching assistants to reflect upon their teaching effectiveness through enhanced feedback mechanisms. Support teaching initiatives and opportunities that will improve their professional development as educators.

- Increased the percentage of teaching and research staff hold either P.Eng or LEL designation to 94%.
- Established two new faculty awards, the Sustained Excellence in Teaching Award and the Research Leader Award.
- Implemented a professionally validated course evaluation system that informs our academic leadership about how well instructors are meeting the teaching needs of our students and provides input on ways to improve.
- Co-lead planning for the biannual Educational Technology Workshop "EdTech" to help instructors share best practices for innovative teaching and learning.
- Received the Ontario Confederation of University Faculty Associations Teaching Award and a President's Teaching Award in recognition of remarkable innovations and commitment to education.
- Held annual First Year Instructors Day to help ensure consistency in student experience and raise awareness among our instructors of supports that are available to first-year students.
- Offered teaching assistant training twice each year to improve quality of tutorials.

4.1.8 Continue to attract and retain diverse, outstanding students from a wide range of backgrounds in order to provide an exceptional education for future global engineers and leaders. In particular, we must strive to attract more female students into our programs.

- Achieved our Academic Plan goal of attracting more female students to our programs:
    - Increased the proportion of women in our undergraduate student body to 30.0% in 2016, from 23.4% in 2011.
    - Women comprised a record high 40.1% of our first-year undergraduate class in 2016 compared to 23.2% in 2011, this is the third year in a row it has exceeded 30%.
- Continued to attract and retain diverse students: increased the proportion of incoming international undergraduate students to 27.9% in 2016, from 24.2% in 2011, and the proportion of international graduate students to 33.6% from 19.1% over the same period.
- Initiated the creation of annual Young Women in Engineering Symposium; now in its third year, which attracted more than 50 top female high school science students from across the Greater Toronto Area.
- Expanded the broad-based admissions process for candidates applying to our undergraduate programs in fall 2014 with videos and timed essays; this pilot project, the first of its kind among Canadian engineering schools, gives our admissions committee more comprehensive knowledge of each applicant.
- Created Girls' Leadership in Engineering Experience (GLEE), a weekend-long program for female students with offers of admission to U of T Engineering. The goal of the program is to inspire these students to learn more about the contributions they can make as engineers and the unique opportunities our Faculty offers. In May 2016, 91 per cent of the 87 students participating in the program accepted our offers of admission.

4.1.9 Strategically award admission scholarships to meet our student recruitment goals.

- Participated in the University-wide President's Scholars of Excellence Program, with unique elements added for engineering students since 2013.
- Introduced an entrance scholarship for international students, the U of T Engineering International Scholar Award covers the full cost of tuition (up to $45,700) and is renewable for four years.

4.1.10 Reduce the dwell time for MASc and PhD students and address time-to-graduation issues.

- Held time to graduation to an average 5.3 years for PhD students, compared to 5.5 years for UofT overall, and 2.0 years for MASc students.
- Implemented measures within departments to track progress of PhD students, including software tracking system in ECE, which will also be available for use in other departments and institutes.
- Shared best practices among graduate associate chairs, adopting particularly successful practices.

4.1.11 Continue to develop vibrant MEng programs and offer a larger variety of courses suitable to MEng students.

- Expanded the ELITE program in 2015–2016 to include five new courses for a total of 37.
- Offered four fully online ELITE courses, with at least one course offered each term.
- Strengthened MEng offerings by launching program emphases in: Sustainable Energy, Advanced Manufacturing, Advanced Water Technologies & Process Design, Sustainable Aviation, and Financial Engineering. Total number of areas of emphasis is now 12.
- Launched Master of Engineering in Cities Engineering and Management (MEngCEM).
- Launched MEng in Biomedical Engineering to focus on medical device design.

4.1.12 Increase graduate student enrolment to reach 2,000 graduate students by 2015, with particular focus on increasing PhD and MEng students and aiming to reach an average of one PhD graduated annually per faculty member. At the same time, we will endeavor to reduce our undergraduate student enrolment to 4,000 by 2015, with 25% of undergraduates consisting of international students. In fall 2010, Full-Time Equivalents (FTEs) were 4,599 undergraduate and 1,527 graduate students, a percentage ratio of 75.1% to 24.9%.

- Surpassed Academic Plan goal of enrolling 2,000 graduate students by 2015 three years ahead of schedule, now at 2,364.
- Increased the proportion of graduate students in our overall student body 32.9%, bringing us closer to our longer term goal of 40%.
- Increased the total number of full-time equivalent professional master's students to surpass the number of full-time equivalent MASc students (56%, goal was 50%).
- Increased total number of students pursuing professional master's degrees (MEng and MHSc) to 882 in 2016–2017, more than triple the enrolment in these programs a decade ago.
- Increased the number of students in our PhD program by 58% over the past decade.
- Grew the number of full-time equivalent MEng students by 600% over the past decade through the development of vibrant programs, including specializations in Sustainable Energy, Robotics & Mechatronics, and Engineering & Globalization.

4.2 STUDENT EXPERIENCE: AP PROGRESS HIGHLIGHTS

4.2.1 Ensure that all our undergraduate curricula provide students with sufficient self-directed time to fully reflect on and understand the material in their program, the vision and relevance to 'learn how to learn,' and the advantage of taking opportunities to experience and engage in University life outside the classroom through extracurricular and co-curricular activities.

- Continue to offer programs such as Success 101, a three-day academic skills mini-course as part of the First Year Foundations Program, several times each summer to help new students prepare for the their studies at U of T Engineering.

- Increased the undergraduate retention rate to a record 93.8% in 2014 from 80.9% a decade ago.
- Held town hall meetings dedicated to open discussion on Faculty program enhancements, offered panel discussion on exchange opportunities; efforts translated to a 68% increase in applications for international summer exchange programs.
- Launched 34 start-ups through The Entrepreneurship Hatchery since 2013.
- Recognized students via the co-curricular record for the competencies they gain through their roles on athletic teams, student government, cultural clubs, design teams or other campus organizations via the co-curricular record (CCR). Students can also access this official U of T document to find activities and organizations that are in line with their personal development goals.
    - In its pilot year (2013–2014), the CCR recognized 15 roles on selected student clubs and teams. In 2014–2015, this was expanded to 215 recognized roles.
- Offered two courses via the inverted classroom model, allowing students more time in class for inquiry, application and assessment of material with instructors.
- Implemented recommendations from the Core Curriculum Task Force to assist with transition from high school to university, including the development of APS100 - Orientation to Engineering.
- Placed 790 students — the largest cohort yet — in PEY internships with leading companies, including 79 outside of Canada in 2015–2016, compared to 581 and 34, respectively in 2011-2012.

4.2.2 Engage more undergraduates in faculty research activities. Enhance summer opportunities for our undergraduates by expanding the Engineering Summer Internship Program (eSIP) and by increasing summer research opportunities both within the Faculty and through agreements with international institutions.

- Increased undergraduate participation in summer research to 307 in 2016, up from 202 students in 2011.
- Created a new credit course, APS299 - Summer Research Abroad, for students who wish to receive degree credit for summer research.
- Increased the number of students participating in international summer research to 76 from 18 in 2011.
- Held the Undergraduate Engineering Research Day (UnERD), a one-day research symposium for students to celebrate undergraduate engineering research carried out over the summer and allow students to gain key competencies in abstract writing and networking. This annual event is held in August and features nearly 100 poster and podium presentations on a wide range of topics.

4.2.3 Enhance our students' access to electives outside technical courses.

- Developed and signed an Interdivisional Teaching Agreement with the Faculty of Arts & Science that includes an academic framework that enables the two Faculties to work together to achieve our educational mission for the benefit of students and faculty, and focus on pedagogy rather than funding. The agreement guarantees a number of course slots in the Faculty of Arts & Science for engineering students.

- Launched a new Faculty-wide Summer Leadership Program through ILead. This eight-week course provides summer research students with opportunities to better understand their strengths and values and gain new perspectives on engineering and its impact on society. ILead also added four new complementary studies courses in subjects from engineering leadership to positive psychology.

4.2.4 Enhance our undergraduate and graduate students' non-traditional educational opportunities, including international academic exchanges and internships, courses offered abroad, field courses, and credit for work in extracurricular activities such as design teams.

- Celebrated the launch of several companies that received support from one or both of our entrepreneurship accelerators, Start@UTIAS and The Entrepreneurship:
    - Kepler Communications, MedChart, Pillsy and TeleHex all received funding from the Ontario Centres of Excellence's SmartStart Seed Fund.
    - teaBOT, a purveyor of customized, robot-blended cups of tea, opened its sixth North American location in Los Angeles.
- Supported students' entrepreneurial interests through idea markets, speaker series and hackathons at The Hatchery.
- Participated in the Globex Program at Peking University (PKU), an intensive four-week summer program with 17 MIE students and 5 faculty taking part since 2012.
- Established a cross-cultural capstone course with PKU, recently expanded to Tsinghua University, where student teams in each institution partner together to solve an industry sponsored problem. ~70 students have participated to date.
- Increased the number of students participated in outgoing exchanges to peer institutions to 89 from 61 in 2013. Institutions included: Massachusetts Institute of Technology, ETH-Zurich Swiss Federal Institute of Technology and National University of Singapore.
- Established a flex-time PhD option in several departments that allows students who are employed full-time and have a master's degree in engineering to pursue a PhD; this specialty degree is a partnership between a student, an employer and a supervising professor.

4.2.5 Continue to inspire the Faculty's culture of teaching excellence and support teaching initiatives that improve student experience, support their connections with course content, increase in-class engagement and strengthen students' understanding of course relevance.

- Launched the Engineering Instructional Innovation Program (EIIP) in 2013, which makes strategic investments that will lead to better pedagogy in selected courses and improvements in the learning experience for our students. In the most recent call for proposals, EIIP supported projects including: Parallel Classrooms; and Re-engineering Mathematics Education.
- Received recommendations from the Dean's Task Force for Core Curriculum Review in December 2014; appointed working group to guide and oversee the implementation of these recommendations to improve our first-year curriculum and overall student experience.

- Established an award for Sustained Excellence in Teaching to recognize exceptional faculty who have taught undergraduate Engineering students for at least 15 consecutive years and have previously won some other form of recognition of teaching excellence within the Faculty.

4.2.6 Promote extracurricular activities through communications, faculty mentoring and suitable space and facilities.

- Installed a large-scale projection system, tied to the Faculty's digital display network, which allows the Engineering Society and its affiliated clubs to display digital banners.
- Streamlined the process for students club funding by creating the Centralized Process for Student Initiation Funding (CPSIF), which allows student groups to apply to various funding resources from within the Faculty of Applied Science & Engineering in a single application.
- Held fourth annual Pink Shirt Day in 2016, to raise awareness about bullying and discrimination, complete with a photo booth where people recorded statements about diversity.
- Featured U of T Engineering Varsity athletes in student news publications.
- Appointed a working group to conduct an audit of the Faculty's makerspaces and develop recommendations for improvements and communication of availability.

4.2.7 Actively engage and support students in their unique academic and non-academic experiences as soon as they enter our Faculty, so they can thrive throughout their studies.

- Offered a wide range of academic supports, such as:
    - First-Year Foundations program, which helps students sharpen their technical skills, become familiar with the campus, meet future classmates and gain valuable advice from current students and professors;
    - embedded counsellors who provide guidance and identify students who may benefit from extra support;
    - Peer-Assisted Study Sessions (PASS), led by highly successful upper-year students; and
    - support for international students, including international student transition advising, online chats from June to September for international students to ask questions and receive assistance, and the International Foundation Program, which allows academically strong students to gain conditional admission as non-degree students while they complete intensive English-language training and the Engineering Strategies and Practice course series.
- Connected students with programs offered by the Centre for International Experience, including:
    - iConnect, an intercultural mentorship program; and
    - Step Up, a week-long, residential pre-orientation program that prepares international students for their studies at U of T, with the Engineering First-Year Office providing engineering-specific input.

4.2.8 Engage Master of Engineering (MEng) students to improve the quality of their experience.

- Initiated departmental MEng-only orientations to meet specific needs of professional graduate students, in addition to the Faculty-wide MEng orientation.
- Moved to a new online course evaluation system for graduate courses in fall 2014 to provide enhanced feedback to instructors on the quality of their teaching.
- Substantially expanded ELITE emphasis, offering 37 courses.
- Strengthened MEng offerings by launching program emphases in: Sustainable Energy, Advanced Manufacturing, Advanced Water Technologies & Process Design, Sustainable Aviation, and Financial Engineering. Total number of areas of emphasis is now 12.
- Created new MEng in Biomedical Engineering, a one-year program focusing on medical device design that received its first cohort in fall 2016.
- Continued to enhance experiential learning and entrepreneurship opportunities for all of our graduate students. Co-curricular incubator programs such as Start@UTIAS and The Entrepreneurship Hatchery offer mentoring, expertise and other resources that help students launch start-ups and bring their innovations to market.
- Provided MEng students with the opportunity to apply their knowledge and skills in multidisciplinary teams and address technical research challenges proposed by industry partners via the Multidisciplinary MEng Project, offered by the University of Toronto Institute for Multidisciplinary Design & Innovation (UT-IMDI).
- Offered MEng students internships with industry partners through UT-IMDI.

4.2.9 Enrich graduate students' academic life and build a stronger sense of community among graduate students across the Faculty.

- Offered Instructor Training Conference to assist teaching assistants involved with DEEP Summer Academy: in 2016, 110 people attended, up from 68 attendees in 2013.
- Created the Collaborative Program in Engineering Education (EngEd) in fall 2014 for master's and doctoral students from U of T Engineering and the Ontario Institute for Studies in Education (OISE) to join the small community of scholars immersed in research and learning at the nexus of education and engineering practice. The program is the first of its kind in Canada. In its second year, the enrolment grew from six to 12 students.
- Offered the Prospective Professors in Training (PPIT) program, which gives PhD candidates who are interested in careers in academia the opportunity to design courses and research programs; develop effective academic curriculum vitae, teaching dossiers and research statements; and prepare for academic job interviews.
- Initiated the development of a series of workshops geared towards professional development for PhD students who do not wish to pursue a career in academia. A formal program is planned for September 2017.