BY THE NUMBERS 2021

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UNIVERSITY OF TORONTO | Engineering

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We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and the Mississaugas of the Credit. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

FACULTY AT A GLANCE

Read U of T Engineering's *Impact Report 2021* at
uofteng.ca/2021

Comparison of U of T Engineering with Ontario and Canada, 2019–2020

	U of T Engineering	Ontario	U of T % of Ontario	Canada	U of T % of Canada
Undergraduate					
Enrolment (FTE)	5,257	40,162	13.1%	88,273	6.0%
% Women	36.7%	24.6%		23.4%	
Degrees Awarded	1,096	7,056	15.5%	18,154	6.0%
% Women	27.5%	22.1%		22.1%	
Master's (MEng, MASc and MHSc)					
Enrolment (FTE)	1,325	7,723	17.2%	18,533	7.1%
Degrees Awarded	763	4,731	16.1%	8,897	8.6%
% Women	29.2%	25.3%		25.7%	
Doctoral (PhD)					
Enrolment (FTE)	934	3,927	23.8%	10,706	8.7%
Degrees Awarded	164	693	23.7%	1,685	9.7%
% Women	26.2%	24.2%		23.4%	
Faculty					
Tenured and Tenure-Stream	240	1,713	14.0%	3,982	6.0%
% Women	19.7%	16.0%		15.9%	
Major Awards					
Major Awards Received	16	38	42.1%	64	25.0%
Research Funding					
NSERC Funding for Engineering	$34.3M	$160.0M	21.4%	$391.3M	8.8%

Note: Because of the lag in reporting from some peer institutions, 2019–2020 is the most recent year for which all comparison data is available. Enrolment and degrees awarded are based on the 2019 calendar year. Faculty data is current as of November 2019. NSERC research funding is based on the 2019–2020 grant year (April-March). Major award counts are based on the 2020 calendar year.

Comparison of U of T Engineering with St. George Campus and University of Toronto, 2020–2021

	U of T Engineering	St. George Campus	Engineering % of Campus		University of Toronto	Engineering % of U of T
Student Enrolment						
Undergraduate	5,538	40,002	13.8%		69,401	8.0%
Professional Master's (MEng and MHSc)	997	9,200	10.8%		9,876	10.1%
Research Master's (MASc)	653	2,933	22.3%		3,049	21.4%
Doctoral (PhD)	1,081	7,000	15.4%		7,423	14.6%
All Students	8,269	59,135	14.0%		89,749	9.2%
Degrees Awarded						
Undergraduate	1,011	8,594	11.8%		14,138	7.2%
Professional Master's (MEng and MHSc)	552	4,229	13.1%		4,675	11.8%
Research Master's (MASc)	243	1,278	19.0%		1,326	18.3%
Doctoral (PhD)	119	766	15.5%		824	14.4%
Total Degrees	1,925	14,867	12.9%		20,963	9.2%
Faculty and Staff						
Professoriate	272				3,187	8.5%
Administrative and Technical Staff	366				8,746	4.2%
Research Funding						
Sponsored Research Funding	$96.0M				$496.6M	19.3%
Industry Research Funding	$20.1M				$39.2M	51.4%
Space						
Space (NASMs)	71,740	643,642	11.1%		861,012	8.3%
Revenue						
University-wide Costs	$82.3M				$645.1M	12.8%
Total Operating Revenue	$208.1M				$2,185.8M	9.5%

Faculty Leadership, 2020–2021

Dean
Christopher Yip

Vice-Dean, Graduate Studies
Julie Audet

Vice-Dean, Undergraduate
Thomas Coyle (to February 28, 2021)
Aimy Bazylak (acting March 1, 2021 to August 31, 2021)

Vice-Dean, Research
Ramin Farnood

Associate Dean, Cross-Disciplinary Programs
Bryan Karney

Vice-Dean, First Year
(vacant)

Director, University of Toronto Institute for Aerospace Studies
Christopher Damaren

Director, Institute of Biomedical Engineering
Warren Chan

Chair, Department of Chemical Engineering & Applied Chemistry
Grant Allen

Chair, Department of Civil & Mineral Engineering
Brent Sleep

Chair, The Edward S. Rogers Sr. Department of Electrical & Computer Engineering
Deepa Kundur

Director, Division of Engineering Science
William Cluett

Chair, Department of Materials Science & Engineering
Glenn Hibbard

Chair, Department of Mechanical & Industrial Engineering
Markus Bussmann

Director, Institute for Studies in Transdisciplinary Engineering Education & Practice
Greg Evans

Assistant Dean and Director of Diversity, Inclusion & Professionalism
Marisa Sterling

Chief Administrative Officer
Lisa Camilleri

Chief Financial Officer
Brian Coates

Director, Facilities & Infrastructure Planning
Tom Saint-Ivany

Director, Office of the Dean
Cathy Grilo

Executive Director, Communications
Marit Mitchell

Executive Director, Advancement
Mark Rittinger

Faculty Registrar
Don MacMillan

CHAPTER 1
UNDERGRADUATE STUDIES

FACTS AND FIGURES

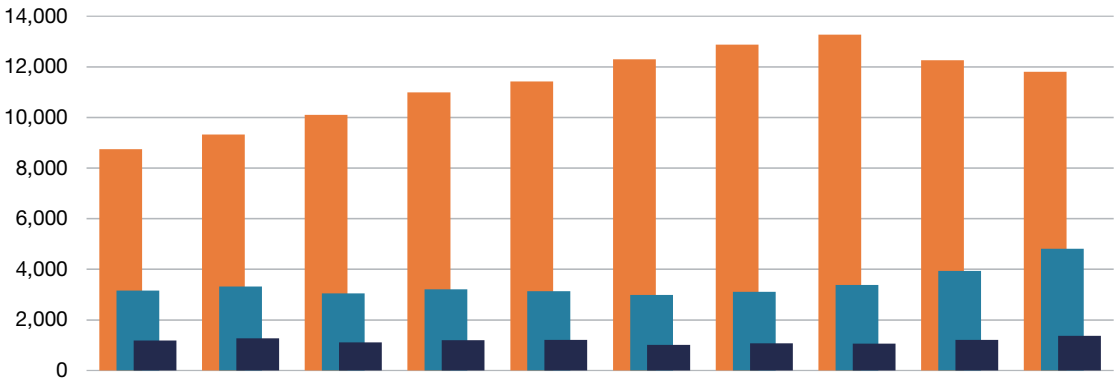
714
Virtual or in-person PEY Co-op placements in 2020–2021, including 42 outside of Canada.

93.7%
Proportion of undergraduate students who move on to second year within two years of starting their programs.

47.2%
Proportion of students graduating with Honours or High Honours standing.

679
Students who had completed at least one interdisciplinary minor or certificate upon graduation, comprising 70.1% of the graduating class.

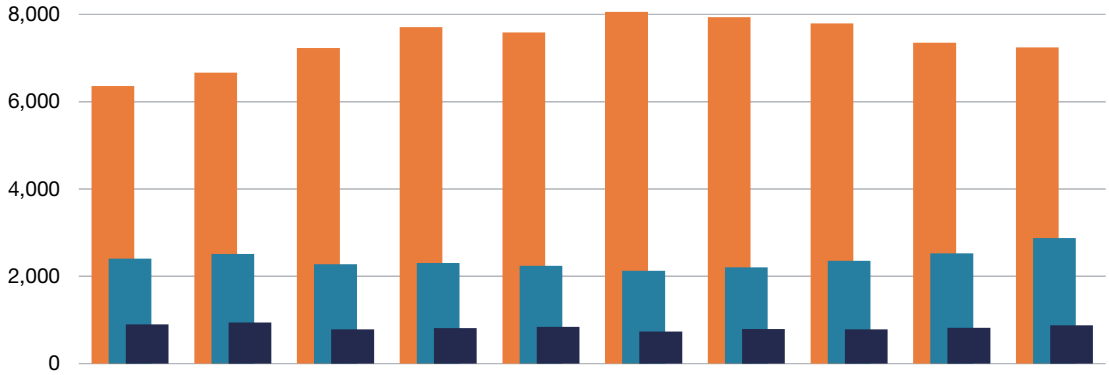
Figure 1.1a Applications, Offers, Registrations, Selectivity and Yield of First-Year Undergraduates, 2011 to 2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Applications	8,745	9,326	10,095	10,989	11,418	12,298	12,880	13,272	12,263	11,807
Offers	3,149	3,309	3,042	3,203	3,126	2,983	3,109	3,380	3,937	4,806
Registrations	1,180	1,265	1,106	1,192	1,205	1,005	1,065	1,062	1,202	1,359
Selectivity	0.36	0.35	0.30	0.29	0.27	0.24	0.24	0.25	0.32	0.41
Yield	0.37	0.38	0.36	0.37	0.39	0.34	0.34	0.31	0.31	0.28

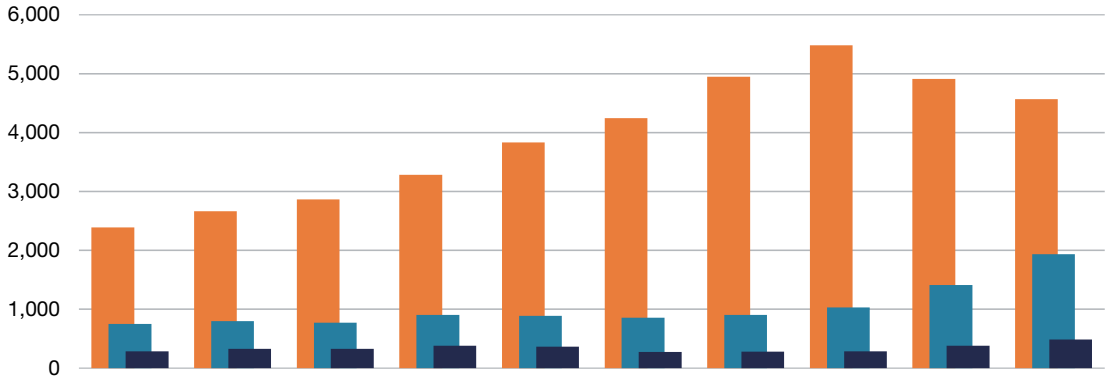
Data in this chapter are presented by academic year (September to August) unless otherwise noted.
Note 1.1a, b, c: Student counts are shown as of November 1. Applications and offers are for the fall admissions cycle. Selectivity = offers ÷ applications and represents the proportion of applicants who were offered admission. Yield = registration ÷ offers. Domestic students are defined as citizens (living in Canada or abroad) or permanent residents of Canada.

Figure 1.1b Applications, Offers, Registrations, Selectivity and Yield of Domestic First-Year Undergraduates, 2011 to 2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Applications	6,359	6,662	7,229	7,705	7,588	8,053	7,933	7,791	7,351	7,243
Offers	2,400	2,510	2,272	2,302	2,239	2,128	2,206	2,350	2,526	2,873
Registrations	894	938	782	812	843	734	788	780	821	874
Selectivity	0.38	0.38	0.31	0.30	0.30	0.26	0.28	0.30	0.34	0.40
Yield	0.37	0.37	0.34	0.35	0.38	0.34	0.36	0.33	0.33	0.30

Figure 1.1c Applications, Offers, Registrations, Selectivity and Yield of International First-Year Undergraduates, 2011 to 2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Applications	2,386	2,664	2,866	3,284	3,830	4,245	4,947	5,481	4,912	4,564
Offers	749	799	770	901	887	855	903	1,030	1,411	1,933
Registrations	286	327	324	380	362	271	277	282	381	485
Selectivity	0.31	0.30	0.27	0.27	0.23	0.20	0.18	0.19	0.29	0.42
Yield	0.38	0.41	0.42	0.42	0.41	0.32	0.31	0.27	0.27	0.25

Figure 1.2a **Ontario Secondary School Averages of Incoming First-Year Undergraduates, 2011 to 2020**

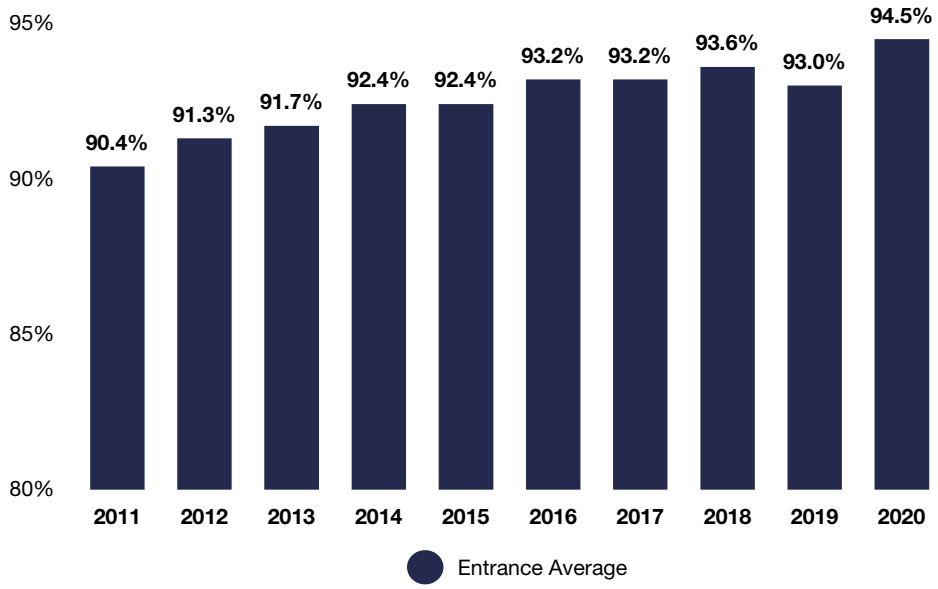
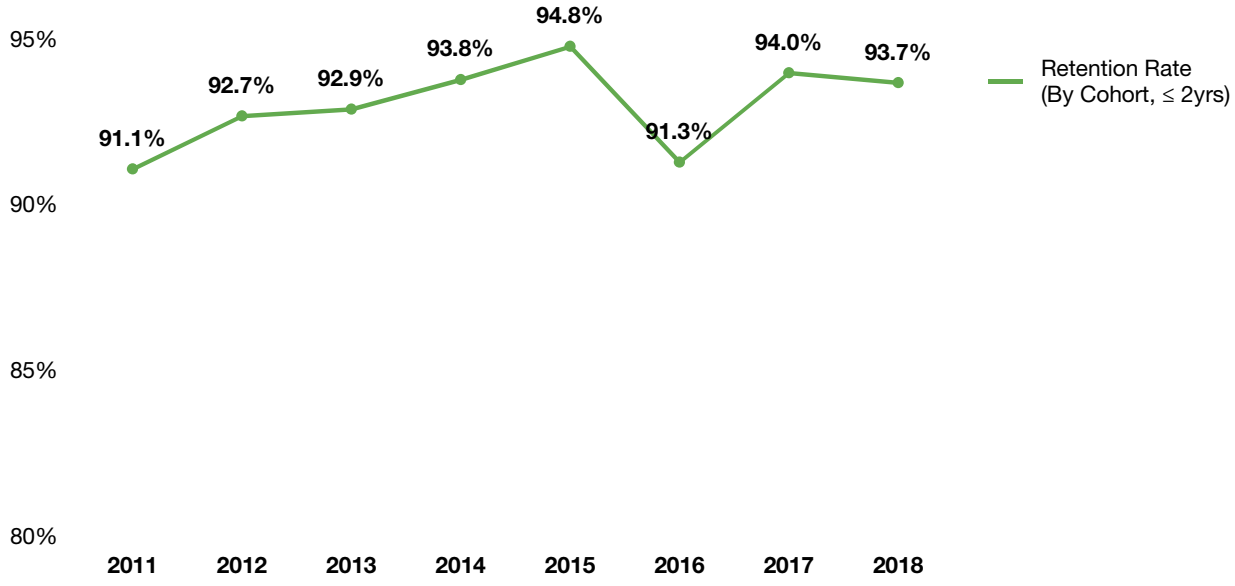


Figure 1.2b **Two-Year Retention Rate, 2011 to 2018**



Note 1.2a: Entrance average is derived from data provided by the Ontario Universities' Application Centre, and therefore only reflects Ontario secondary school students.

Note 1.2b: Two-year retention rate is the proportion of students who successfully move on to second year within two years of beginning their studies.

Figure 1.3 **Incoming First-Year Undergraduates by Program, 2011-2012 to 2020-2021**

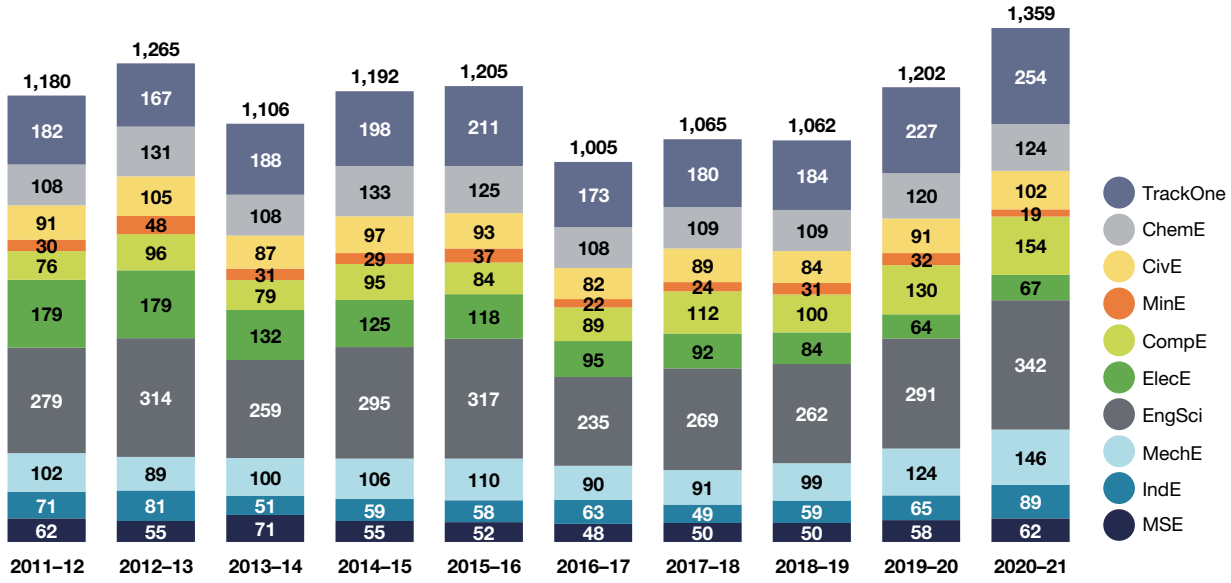
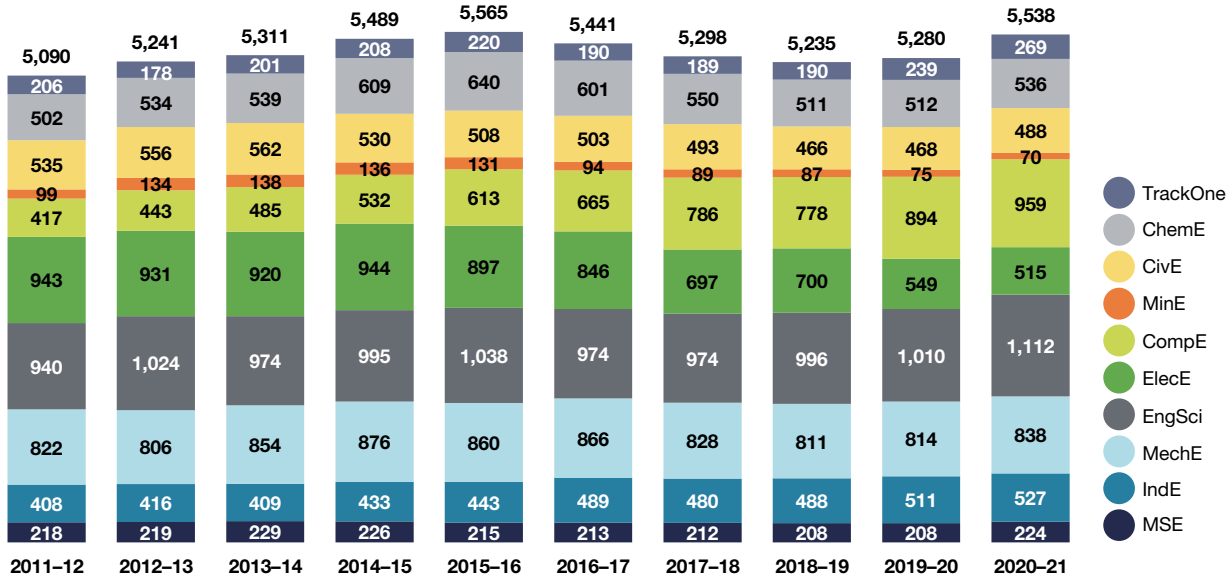


Figure 1.4a **All Undergraduates by Program, 2011-2012 to 2020-2021**



Note 1.3: Student counts are shown as of November 1.

Note 1.4a: Includes full- and part-time students and those working full time through the Professional Experience Year Co-op Program (PEY Co-op). Does not count students with special (non-degree) status. Student counts shown as of November 1.

Figure 1.4b **All Undergraduates by Program, Year of Study and Professional Experience Year Co-op, 2020–2021**

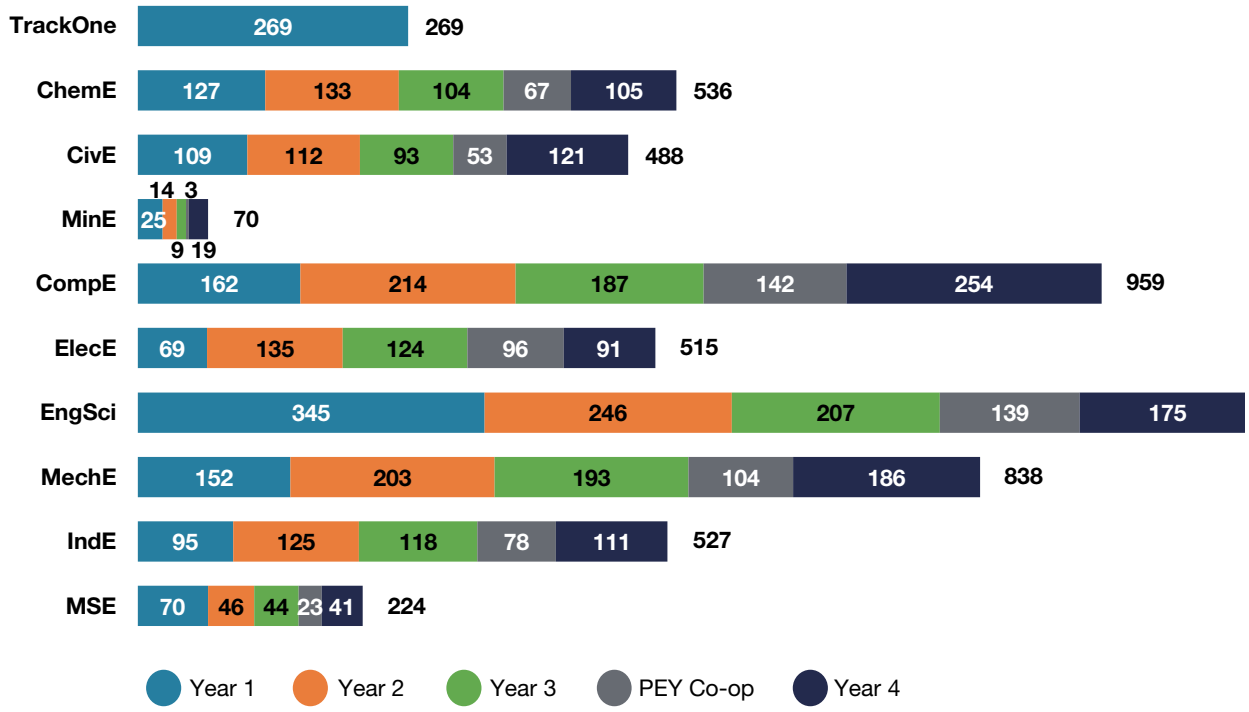
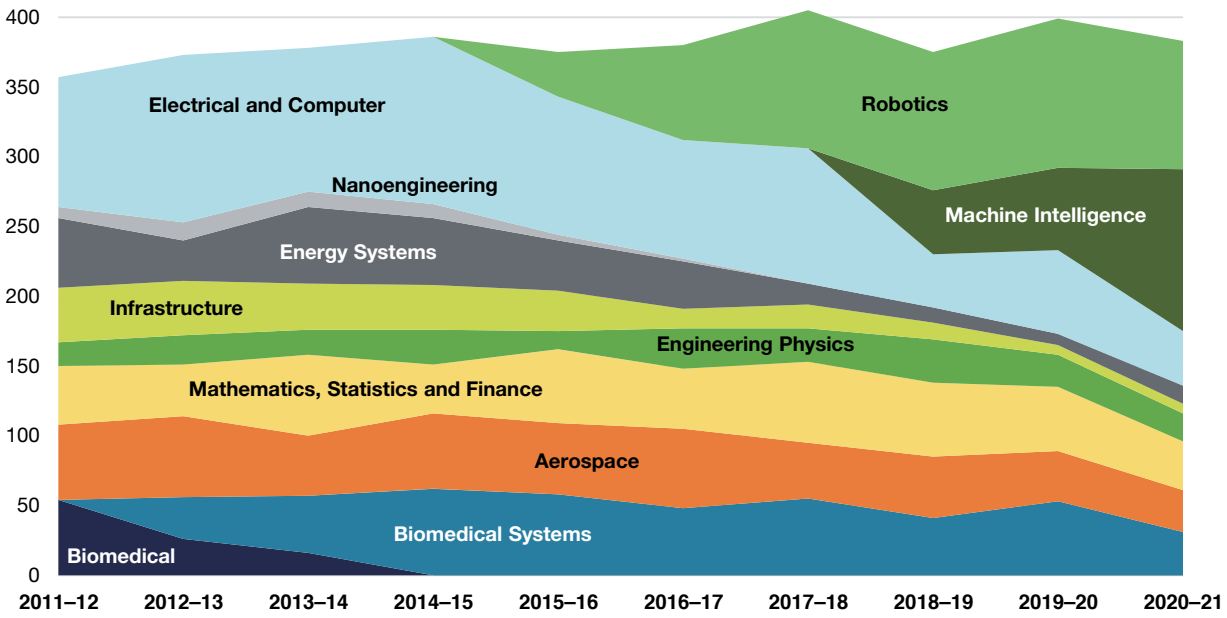


Figure 1.4c **Enrolment in Engineering Science Majors, 2011–2012 to 2020–2021**



Note 1.4b, c: Student counts are shown as of November 1, 2020. Engineering Science Majors show only students in Year 3 and Year 4 and do not count students on PEY Co-op.

Figure 1.5a **Undergraduate Student-to-Faculty Ratios by Academic Area, 2020–2021**

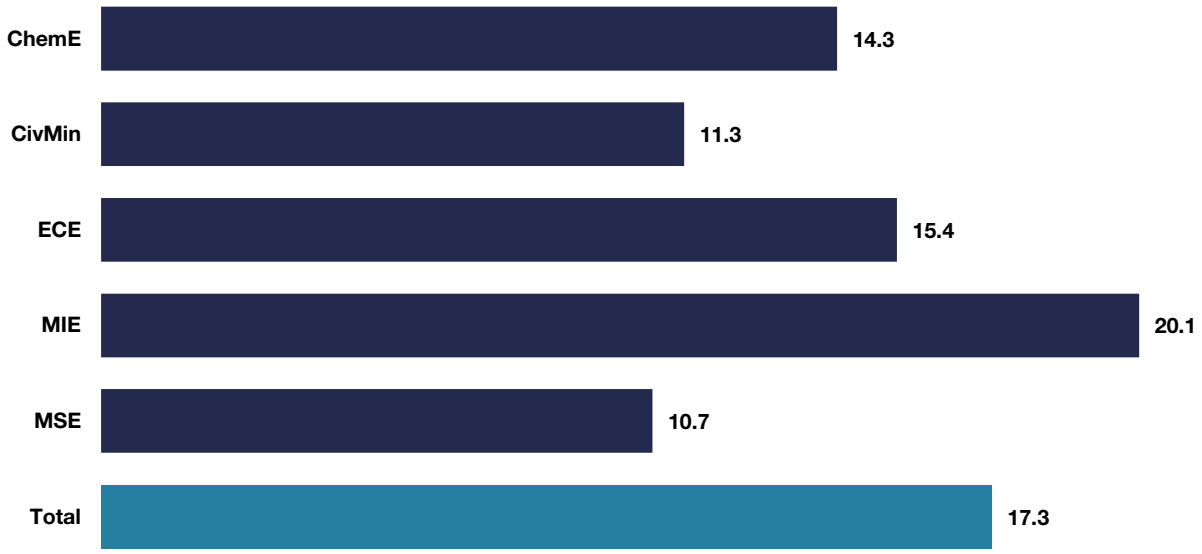
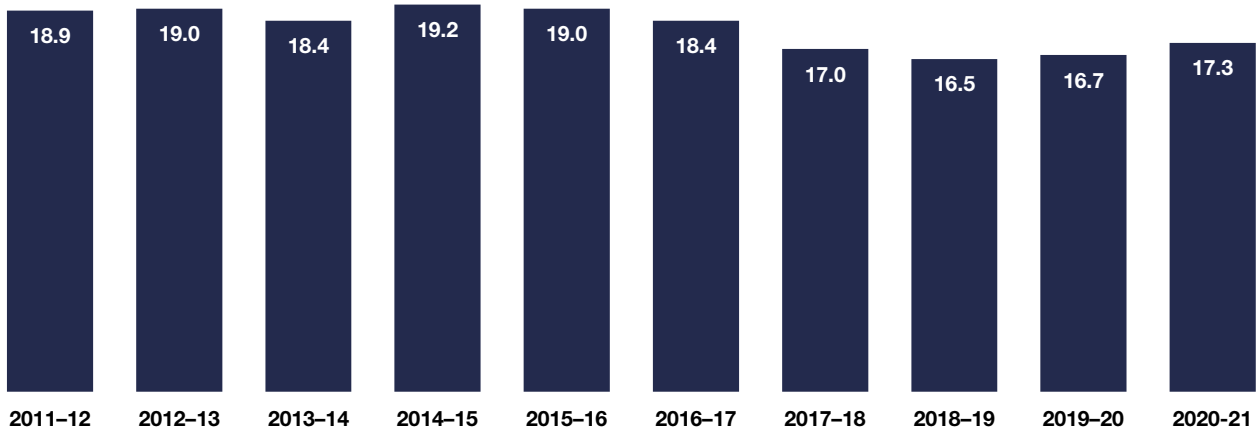


Figure 1.5b **Undergraduate Full-Time Equivalent Student-Faculty Ratios, 2011–2012 to 2020–2021**



Note 1.5a, b: Student and faculty counts are shown as of November 1, 2020. For full-time equivalency (FTE), each part-time student is counted as 0.3 FTE. Students with special (non-degree) status or on PEY Co-op are not included. Faculty counts include tenure-stream and teaching-stream faculty.

Figure 1.6a **Undergraduate Participation in Summer Research Opportunities, 2012 to 2021**

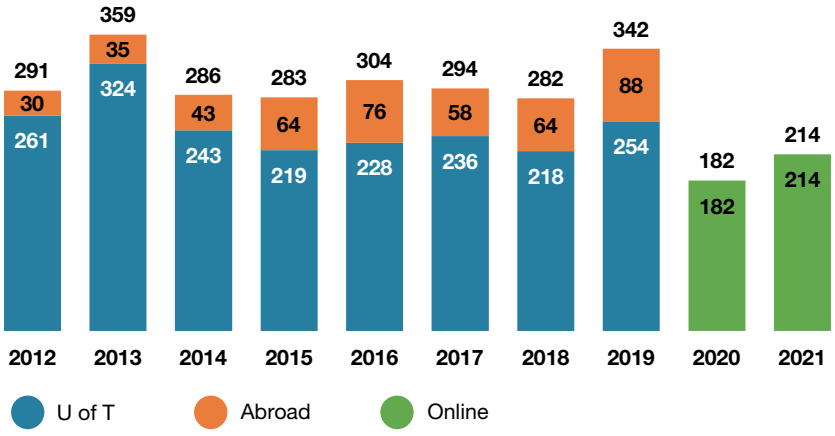
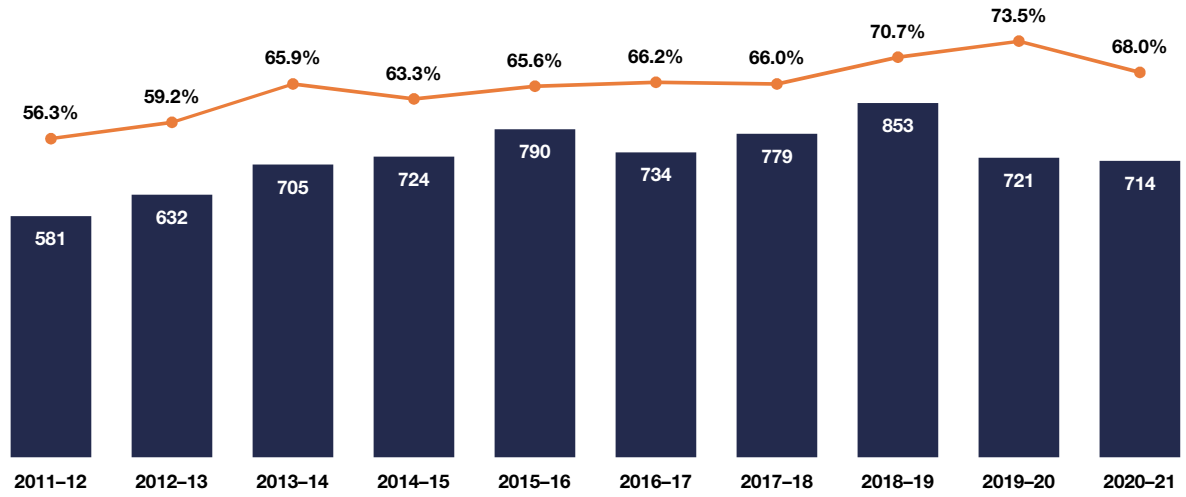


Figure 1.6b **Undergraduate Participation in Summer Research Opportunities by Academic Area, 2021**

Research Participation:	Online
ChemE	35
CivE & MinE	27
ECE	26
EngSci	79
MIE	33
MSE	11
TrackOne	3
Total	214

Figure 1.7a **Number of Engineering Undergraduate Students Participating in PEY Co-op with Percentage Participation, 2011–2012 to 2020–2021**



Note 1.7a: Percentage participation is calculated by dividing the number of completed PEY Co-op positions by the number of eligible students (i.e. the third-year cohort from the previous year).

Figure 1.7b **Number of Canadian and International PEY Co-op Positions, 2011–2012 to 2020–2021**

	Canadian Positions	U.S. Positions	Other International Positions	Total Positions
2011–12	547	26	8	**581**
2012–13	592	24	16	**632**
2013–14	644	36	25	**705**
2014–15	663	42	19	**724**
2015–16	711	50	29	**790**
2016–17	669	49	16	**734**
2017–18	713	48	18	**779**
2018–19	768	64	21	**853**
2019–20	673	37	11	**721**
2020–21	672	22	20	**714**

Figure 1.7c **Number of PEY Co-op Employers, 2011–2012 to 2020–2021**

	PEY Co-op Employers who Hired Engineering Students
2011–12	221
2012–13	241
2013–14	304
2014–15	317
2015–16	310
2016–17	337
2017–18	318
2018–19	368
2019–20	357
2020–21	310

Figure 1.8a Number of Awards Received by Cohort with Total Number of Undergraduate Need-Based Award Recipients, 2011–2012 to 2020–2021

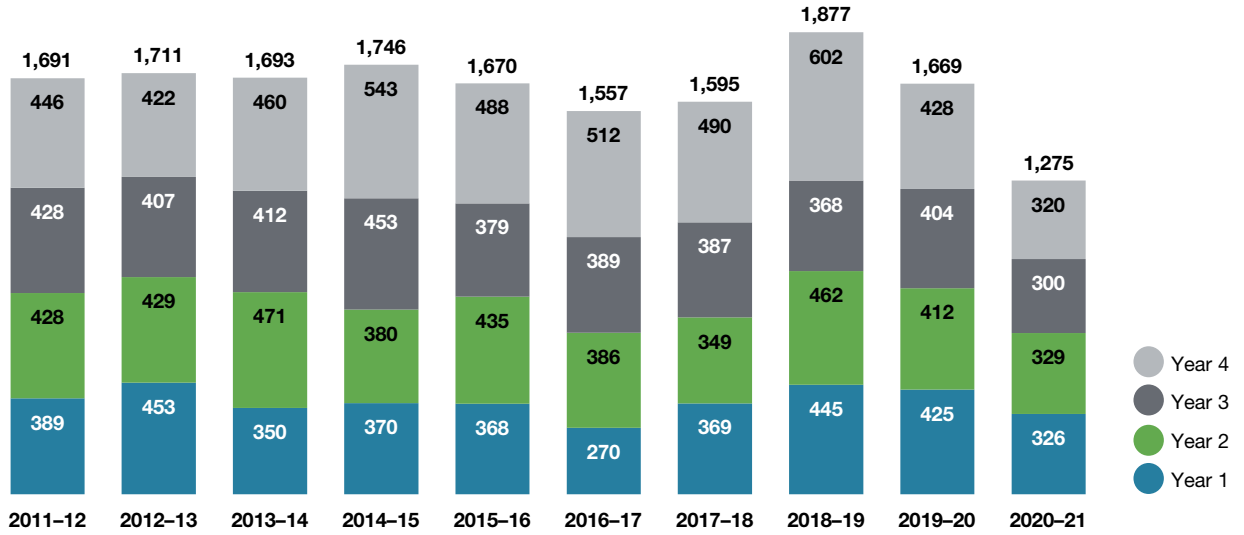
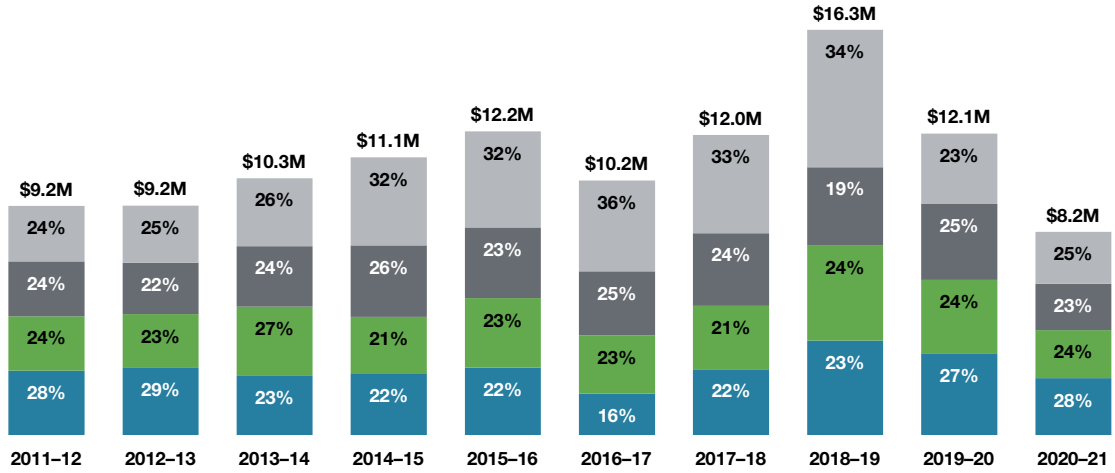


Figure 1.8b Total Value of Undergraduate Financial Assistance and Percentage Distributed by Year of Study, 2011–2012 to 2020–2021



	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Year 4	$2,229,278	$2,296,173	$2,725,785	$3,534,244	$3,853,161	$3,644,310	$3,940,729	$5,515,858	$2,818,938	$2,078,015
Year 3	$2,205,736	$2,061,174	$2,429,321	$2,871,229	$2,839,851	$2,570,428	$2,913,413	$3,132,480	$3,053,491	$1,861,510
Year 2	$2,185,640	$2,160,969	$2,781,695	$2,289,069	$2,792,715	$2,335,933	$2,545,499	$3,831,175	$2,948,170	$1,930,383
Year 1	$2,580,676	$2,687,414	$2,372,994	$2,450,470	$2,700,169	$1,662,682	$2,642,454	$3,788,693	$3,276,486	$2,281,579
Total	$9,201,330	$9,205,730	$10,309,795	$11,145,012	$12,185,896	$10,213,353	$12,042,095	$16,268,206	$12,097,085	$8,151,487

Note 1.8a, b: Data comes from the Student Accounts Reporting Cube.

Figure 1.9 **Undergraduate Degrees Awarded by Program, 2011–2012 to 2020–2021**

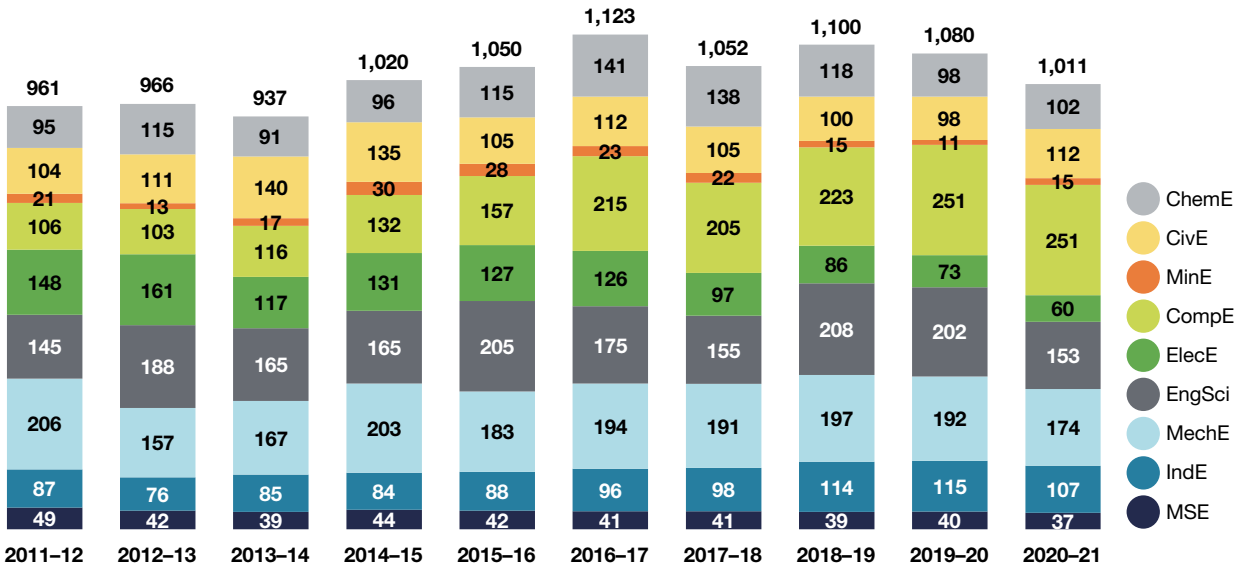
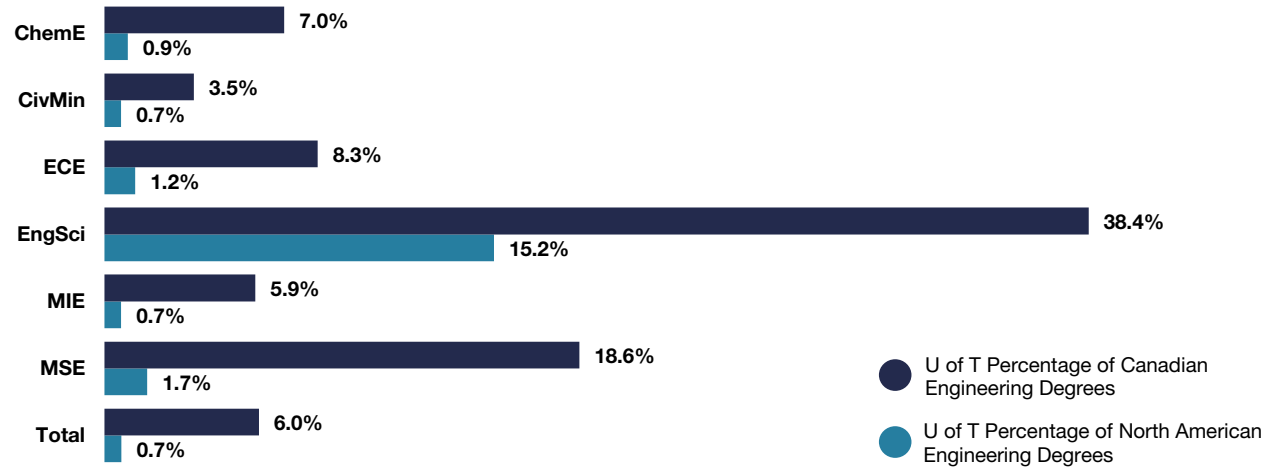


Figure 1.10 **U of T Engineering Degrees Awarded by Academic Area Compared with Canadian and North American Degree Totals, 2019**



Note 1.9: Data reported by academic year (September to August).

Note 1.10: Data sourced from reports produced by Engineers Canada and the American Society for Engineering Education; 2019 is the most recent year for which reports from both these institutions have been published. Total percentages show U of T as a proportion of all engineering degrees in North America, including those awarded in fields for which U of T does not have a specific degree program (e.g. Biomedical, Environmental, Software, etc.).

Figure 1.11a **Number of Students and Percentage of Class Graduating with Honours, 2012 to 2021**

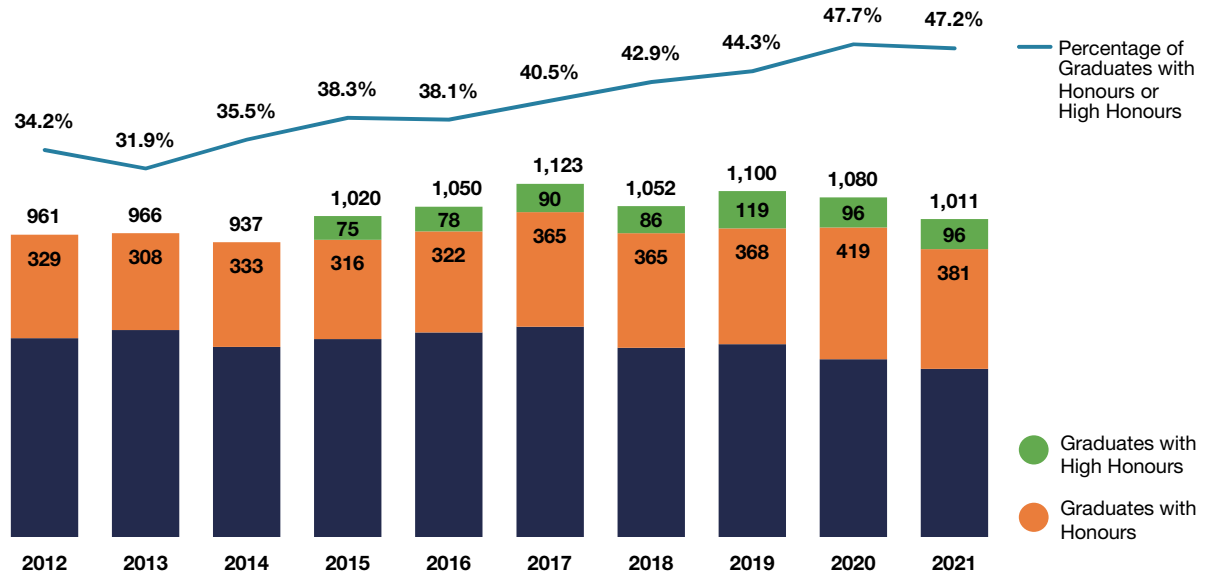
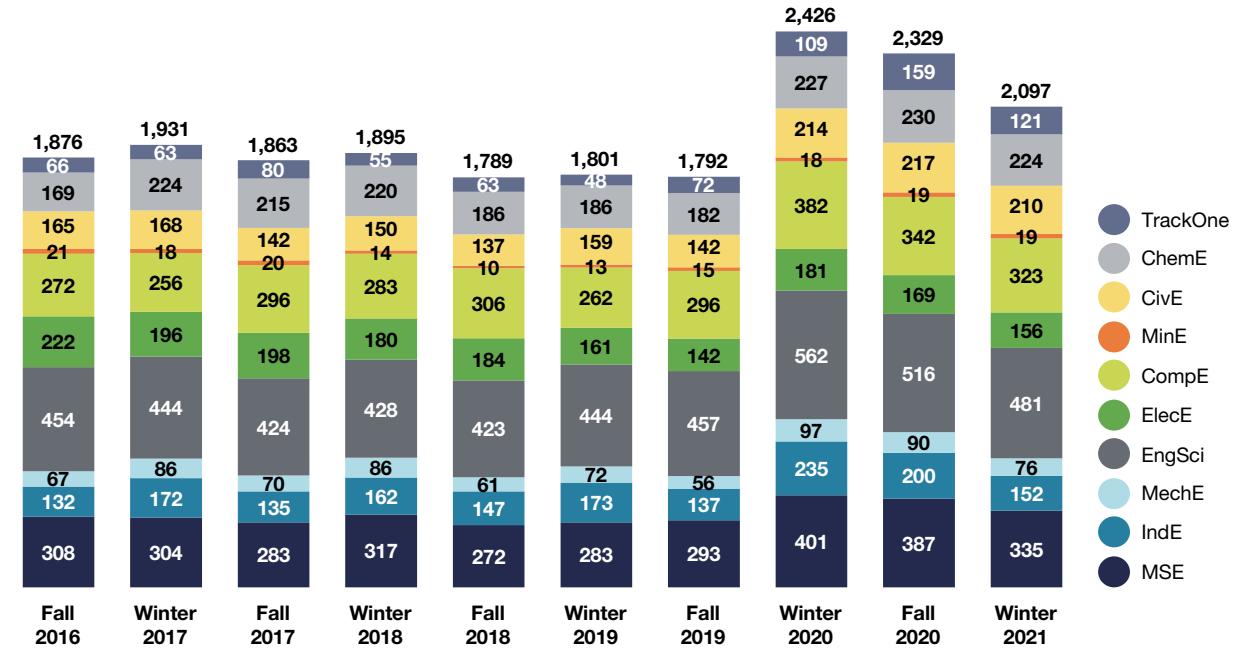


Figure 1.11b **Number of Students on the Dean's Honour List by Term and Academic Area, Fall 2016 to Winter 2021**



Note 1.11a: Students are normally eligible to be considered for Honours standing only if they are carrying a full academic load (2.5 credits per session, excluding extra courses) and if the session is not being repeated. During fourth year, a student may reduce their course load in either semester (but not both) and still be eligible for Honours standing, provided the other conditions are met.

Note 1.11b: The results for the most recent 3 terms (2020 Winter, 2020 Fall and 2021 Winter) reflect various impacts due to COVID-19 adaptations. Moving all classes to online formats necessitated adjustments both to specific assignments and to overall grading schemes. For 2020 Winter only, students were permitted to apply a Credit or No Credit (CR/NCR) option, rather than a percentage grade, to any of their courses, or even to drop a failed course, after seeing their final grades. Sessional grades used to determine honour status were calculated using only those courses that students chose to have recorded as a percentage grade. A minimum of 4 such percentage grades were required to be considered for the Dean's Honour List. For the 2020–2021 academic year, the CR/NCR option was discontinued, but the extended Late Withdrawal option was retained. Provision was also made for part-time students to achieve Dean's Honour List standing.

Figure 1.12a Number of Completed Minors and Percentage of Graduating Students Completing an Engineering Minor, 2011–2012 to 2020–2021

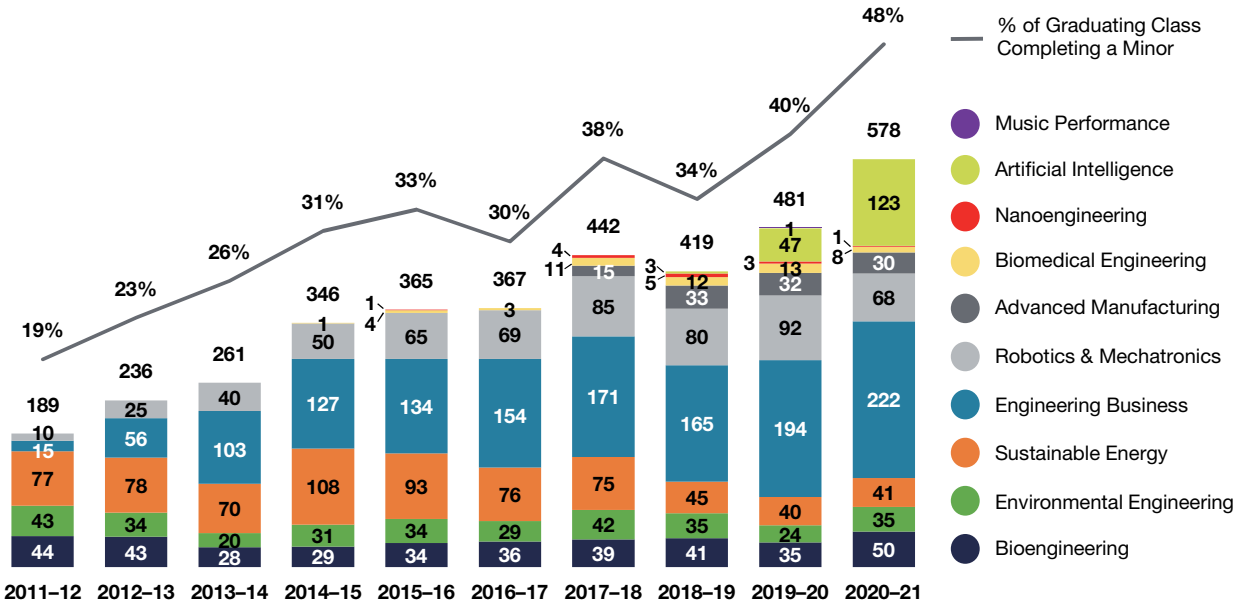
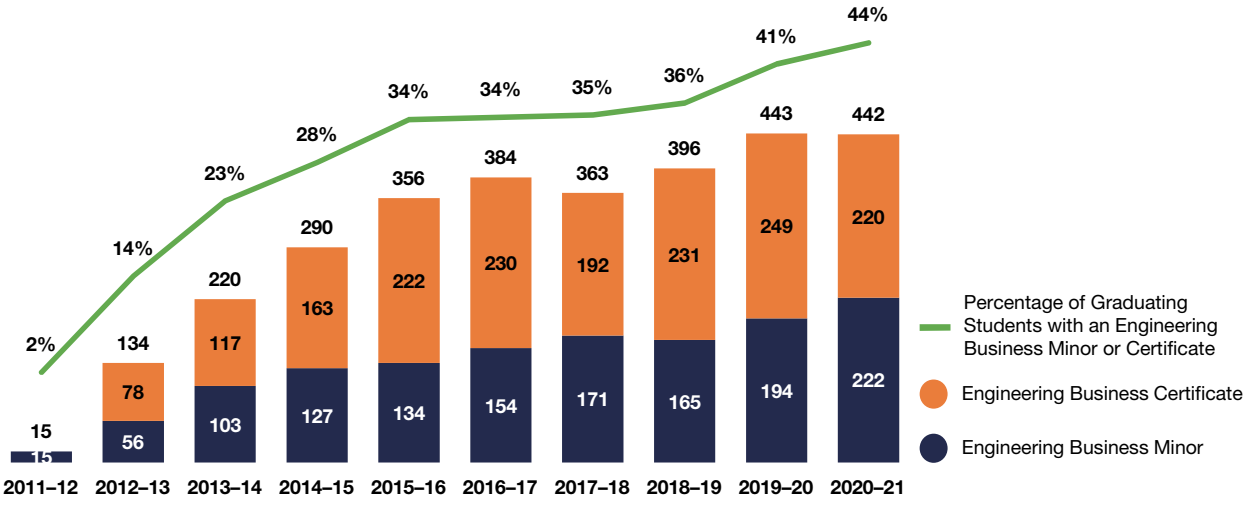


Figure 1.12b Students Graduating with an Engineering Business Minor or Certificate, 2011–2012 to 2020–2021



Note 1.12a: A total of 578 minors were completed by 487 students in 2020–2021, with many students completing more than one minor. In total, 679 students completed at least one minor or certificate, comprising 70.1% of the graduating class.

Figure 1.13 **New Undergraduate Courses Launched, 2020–2021**

Course	Title
APS511H1	Inventions and Patents for Engineers
BME530H1	Human Whole Body Biomechanics
ECE295H1	Hardware Design and Communications
MIE458H1	Biofluid Mechanics
MIE510H1	Finite Element Analysis in Engineering Design
MSE403H1	Data and Analytics for Materials Engineers
CME295H1	Technology in Society and the Biosphere I
ROB498H1	Robotics Design Capstone

CHAPTER 2
GRADUATE STUDIES

FACTS AND FIGURES

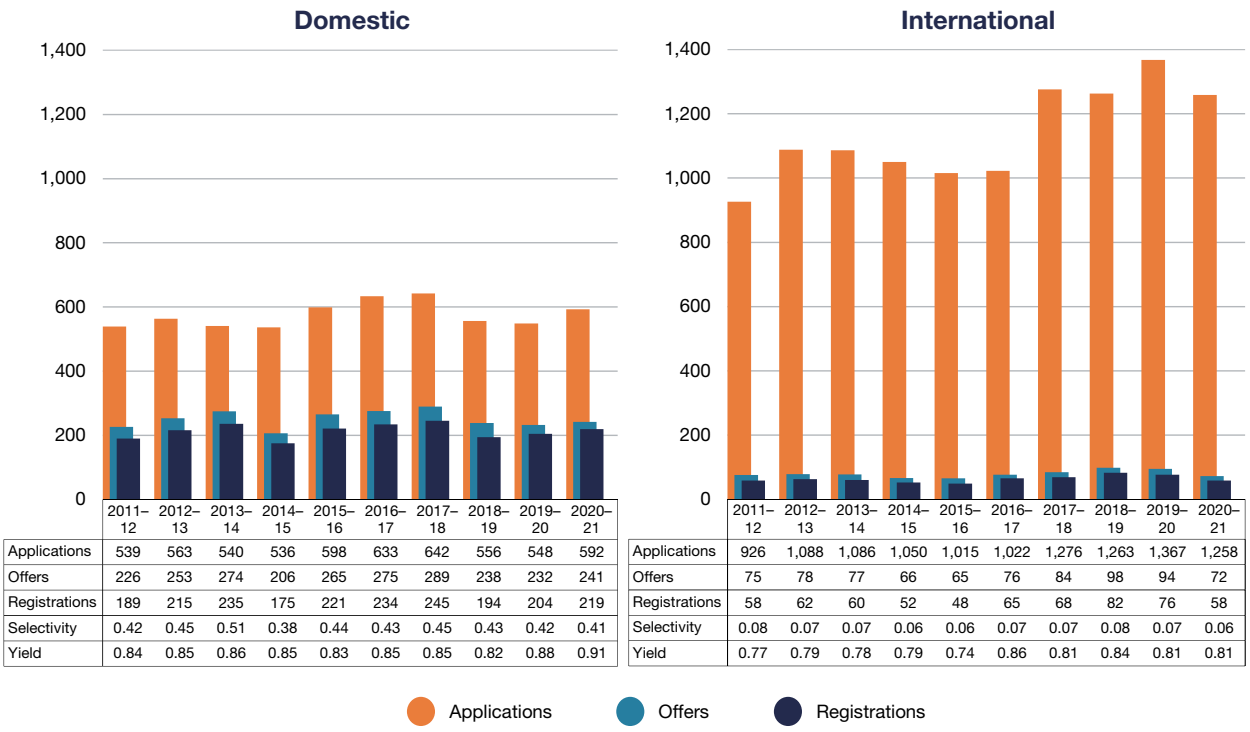
2,731
Total graduate student cohort, an increase of 48.2% over the past decade.

7.0
Average graduate student-to-faculty ratio, representing larger lab groups with a greater potential for impactful research.

50
Number of students fast-tracked from MASc to PhD programs in 2020–2021, a 47.1% increase over the previous year.

$54.2M
Total graduate student funding, up from $36.0M ten years ago.

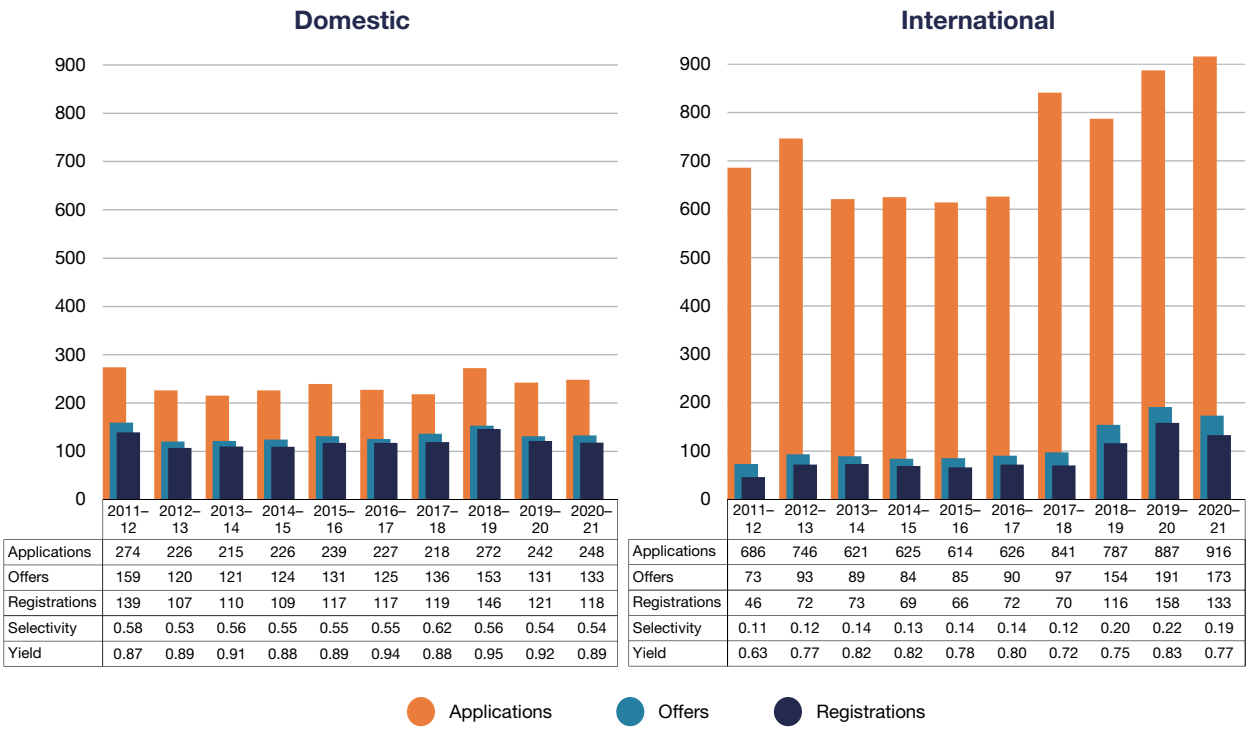
Figure 2.1a **Domestic and International MASc Students: Applications, Offers, Registrations, Selectivity and Yield, 2011–2012 to 2020–2021**



Domestic	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Applications	539	563	540	536	598	633	642	556	548	592
Offers	226	253	274	206	265	275	289	238	232	241
Registrations	189	215	235	175	221	234	245	194	204	219
Selectivity	0.42	0.45	0.51	0.38	0.44	0.43	0.45	0.43	0.42	0.41
Yield	0.84	0.85	0.86	0.85	0.83	0.85	0.85	0.82	0.88	0.91

International	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Applications	926	1,088	1,086	1,050	1,015	1,022	1,276	1,263	1,367	1,258
Offers	75	78	77	66	65	76	84	98	94	72
Registrations	58	62	60	52	48	65	68	82	76	58
Selectivity	0.08	0.07	0.07	0.06	0.06	0.07	0.07	0.08	0.07	0.06
Yield	0.77	0.79	0.78	0.79	0.74	0.86	0.81	0.84	0.81	0.81

Figure 2.1b **Domestic and International PhD Students: Applications, Offers, Registrations, Selectivity and Yield, 2011–2012 to 2020–2021**

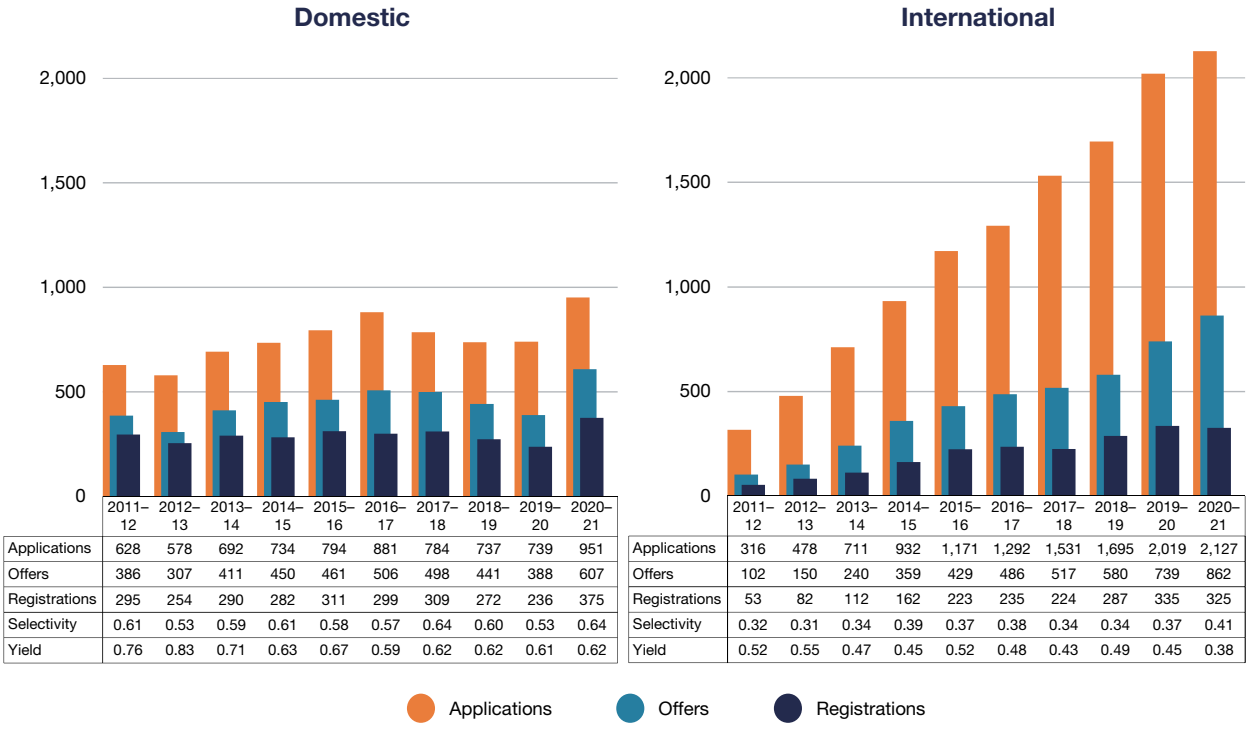


Domestic	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Applications	274	226	215	226	239	227	218	272	242	248
Offers	159	120	121	124	131	125	136	153	131	133
Registrations	139	107	110	109	117	117	119	146	121	118
Selectivity	0.58	0.53	0.56	0.55	0.55	0.55	0.62	0.56	0.54	0.54
Yield	0.87	0.89	0.91	0.88	0.89	0.94	0.88	0.95	0.92	0.89

International	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Applications	686	746	621	625	614	626	841	787	887	916
Offers	73	93	89	84	85	90	97	154	191	173
Registrations	46	72	73	69	66	72	70	116	158	133
Selectivity	0.11	0.12	0.14	0.13	0.14	0.14	0.12	0.20	0.22	0.19
Yield	0.63	0.77	0.82	0.82	0.78	0.80	0.72	0.75	0.83	0.77

Data in this chapter are presented by academic year (September to August) unless otherwise noted.

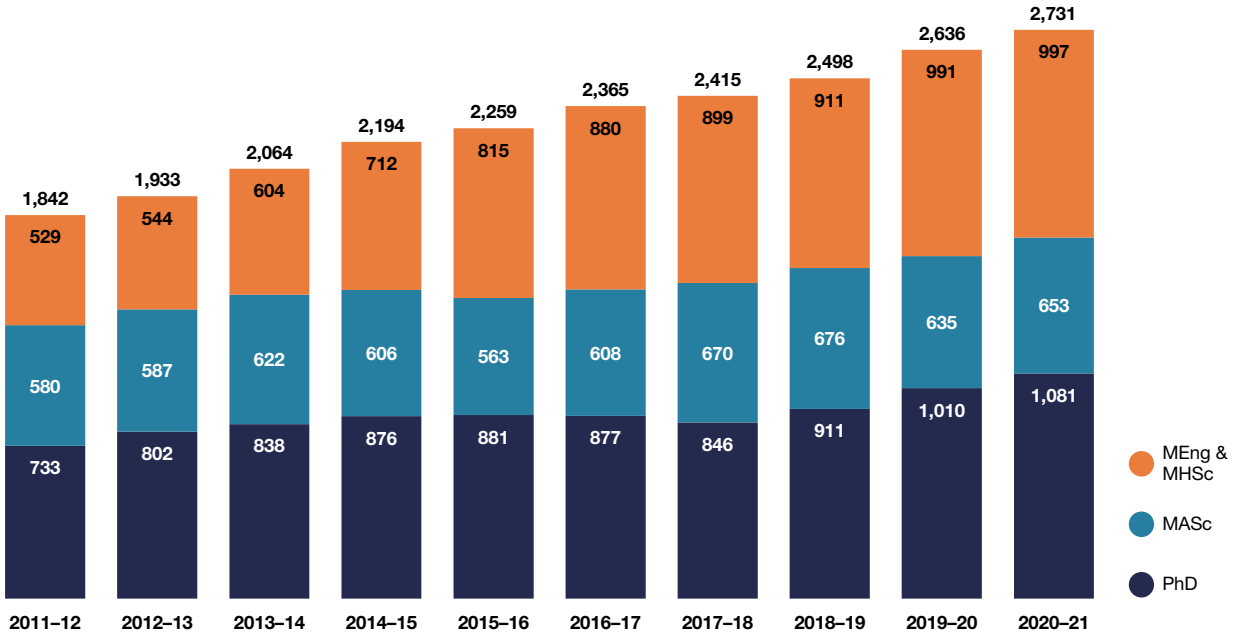
Figure 2.1c **Domestic and International MEng and MHSc Students: Applications, Offers, Registrations, Selectivity and Yield, 2011–2012 to 2020–2021**



Domestic	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Applications	628	578	692	734	794	881	784	737	739	951
Offers	386	307	411	450	461	506	498	441	388	607
Registrations	295	254	290	282	311	299	309	272	236	375
Selectivity	0.61	0.53	0.59	0.61	0.58	0.57	0.64	0.60	0.53	0.64
Yield	0.76	0.83	0.71	0.63	0.67	0.59	0.62	0.62	0.61	0.62

International	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Applications	316	478	711	932	1,171	1,292	1,531	1,695	2,019	2,127
Offers	102	150	240	359	429	486	517	580	739	862
Registrations	53	82	112	162	223	235	224	287	335	325
Selectivity	0.32	0.31	0.34	0.39	0.37	0.38	0.34	0.34	0.37	0.41
Yield	0.52	0.55	0.47	0.45	0.52	0.48	0.43	0.49	0.45	0.38

Figure 2.2a **Graduate Students by Degree Type, 2011–2012 to 2020–2021**

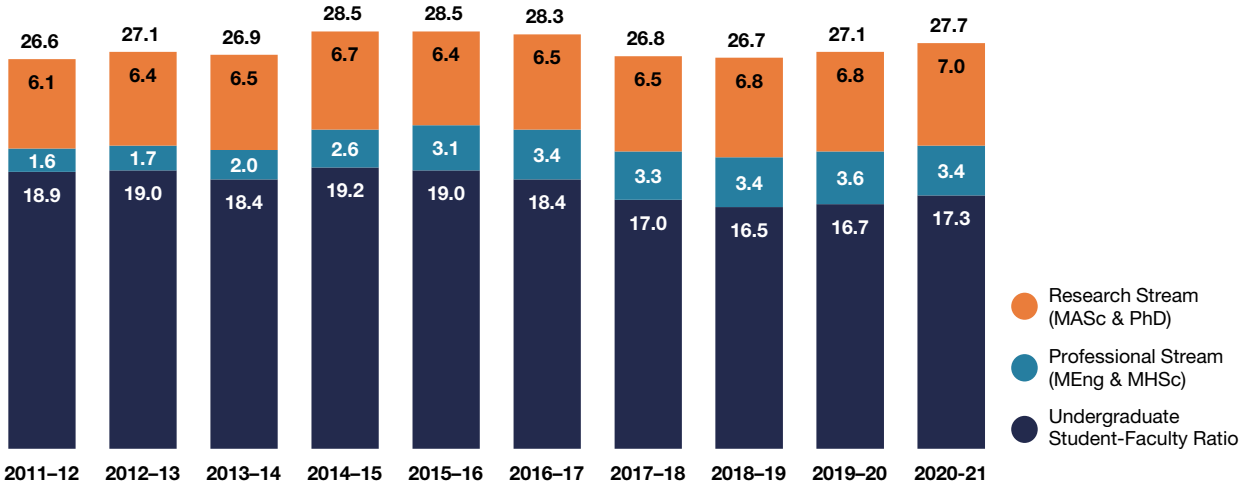


Note 2.1: Applications and offers include those received between May and April of the listed academic year. Registrations are shown as of November 1. Selectivity = offers ÷ applications and represents the proportion of applicants who were offered admission. Yield = registration ÷ offers. Domestic students are defined as citizens (living in Canada or abroad) or permanent residents of Canada. Students who have fast-tracked from MASc programs into PhD programs are counted in these figures as applications, offers and admissions.

Figure 2.2b Graduate Enrolment by Full-Time Equivalent (FTE) and Headcount (HC) by Academic Area, 2011–2012 to 2020–2021

		UTIAS	BME	ChemE	CivMin	ECE	MIE	MSE	Total
2011–2012	**FTE**	143.2	199.0	202.3	229.8	437.7	382.6	68.2	**1,662.8**
	HC	146	199	217	276	479	454	71	**1,842**
2012–2013	**FTE**	146.7	208.3	193.2	243.3	504.8	387.2	68.2	**1,751.7**
	HC	153	209	203	279	565	453	71	**1,933**
2013–2014	**FTE**	162.1	219.0	209.9	290.5	509.8	436.2	90.9	**1,918.4**
	HC	167	219	219	322	556	488	93	**2,064**
2014–2015	**FTE**	182.4	228.0	238.0	293.1	531.5	511.2	80.3	**2,064.5**
	HC	188	228	245	312	577	563	81	**2,194**
2015–2016	**FTE**	143.2	241.0	253.0	299.4	591.5	532.9	79.0	**2,140.0**
	HC	146	241	260	326	637	570	79	**2,259**
2016–2017	**FTE**	178.2	269.0	245.0	306.3	577.0	580.3	92.3	**2,248.1**
	HC	181	269	252	335	619	616	93	**2,365**
2017–2018	**FTE**	170.1	296.0	246.7	313.0	551.5	602.8	94.9	**2,275.0**
	HC	175	303	253	348	597	642	97	**2,415**
2018–2019	**FTE**	191.4	283.3	219.5	304.0	618.8	658.0	94.9	**2,369.9**
	HC	197	291	223	332	658	700	97	**2,498**
2019–2020	**FTE**	226.2	327.1	235.0	349.9	630.2	641.8	95.6	**2,505.8**
	HC	236	332	242	380	668	681	97	**2,636**
2020–2021	**FTE**	258.8	350.9	229.0	371.8	613.8	657.8	101.9	**2,584.0**
	HC	270	353	236	404	653	711	104	**2,731**

Figure 2.3a Graduate and Undergraduate Full-Time Equivalent Student-to-Faculty Ratios, 2011–2012 to 2020–2021



Note 2.2a, b: Student counts are shown as of November 1, 2020.

Note 2.3a: To allow more accurate comparisons, undergraduate FTEs are determined by counting each part-time student as 0.3 FTE.

Figure 2.3b Full-Time Equivalent Graduate Student-to-Faculty Ratios by Academic Area and Degree Type, 2020–2021

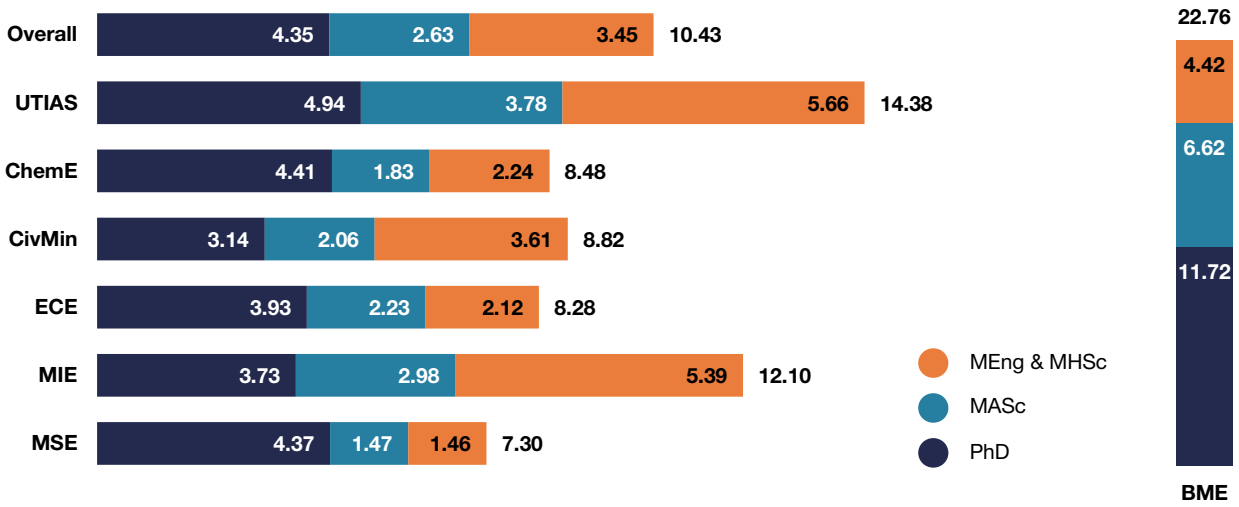
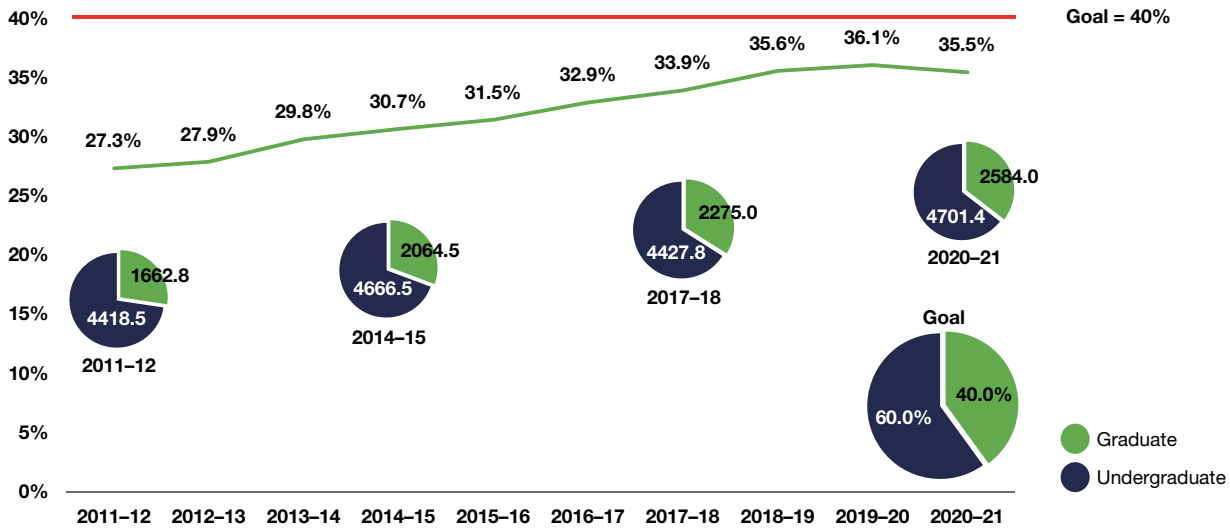


Figure 2.3c Ratio of Undergraduate to Graduate Full-Time Equivalent Students, 2011–2012 to 2020–2021



Note 2.3b: Some students in BME are supervised by faculty members from the Faculties of Medicine and Dentistry and affiliated hospitals, as well as from other departments within U of T Engineering. Because the ratio includes only faculty with a budgetary appointment in BME, comparisons with other Engineering departments are not possible. For that reason, this figure shows BME in a visually distinct way. In cases of inter-departmental supervision within the Faculty, PhD and MASc students are assigned 100% to their primary supervisor's department.

Note 2.3c: Students on PEY Co-op are not included in this count.

Figure 2.4a **Graduate Student Funding by Category, 2010–2011 to 2019–2020**

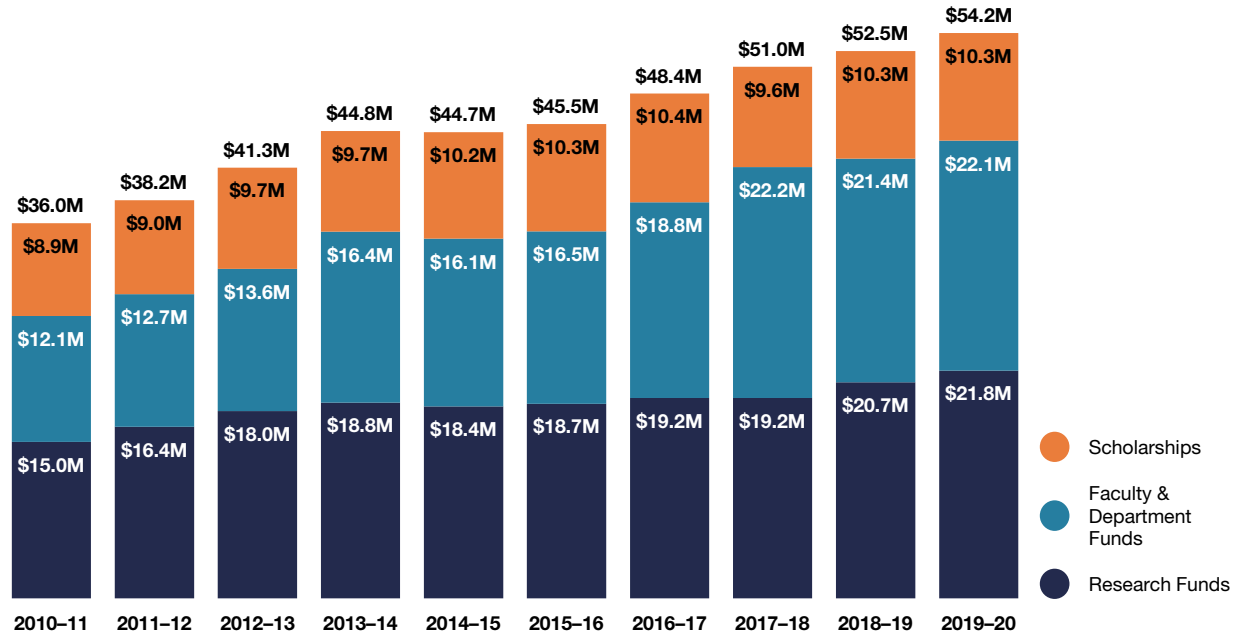
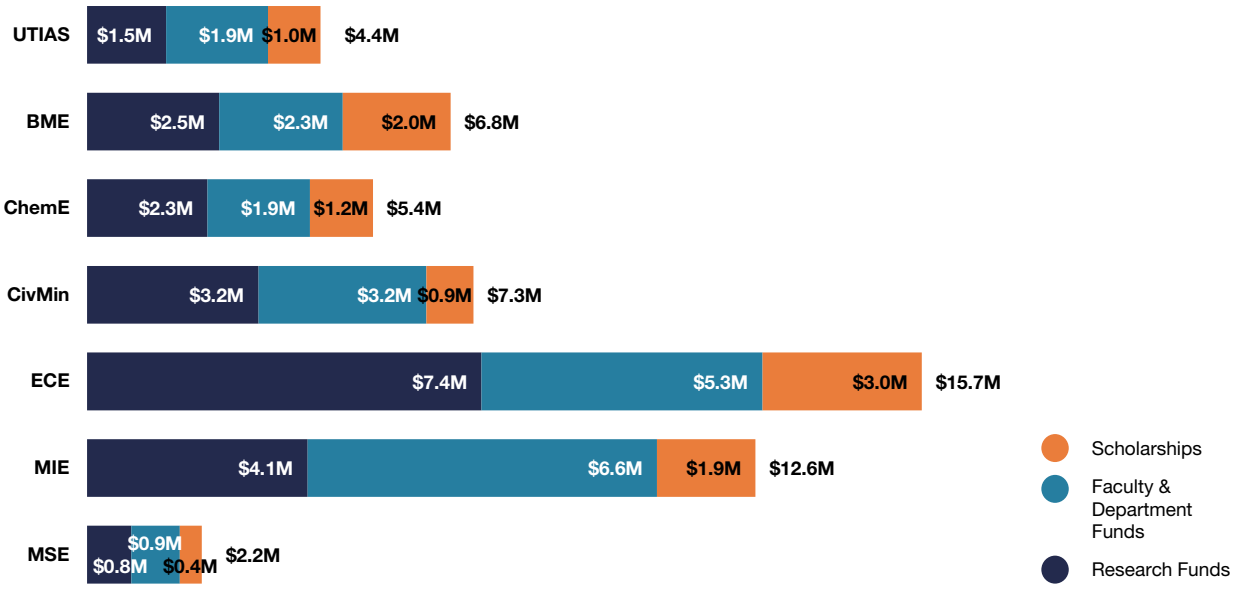


Figure 2.4b **Graduate Student Funding by Category and Academic Area, 2019–2020**

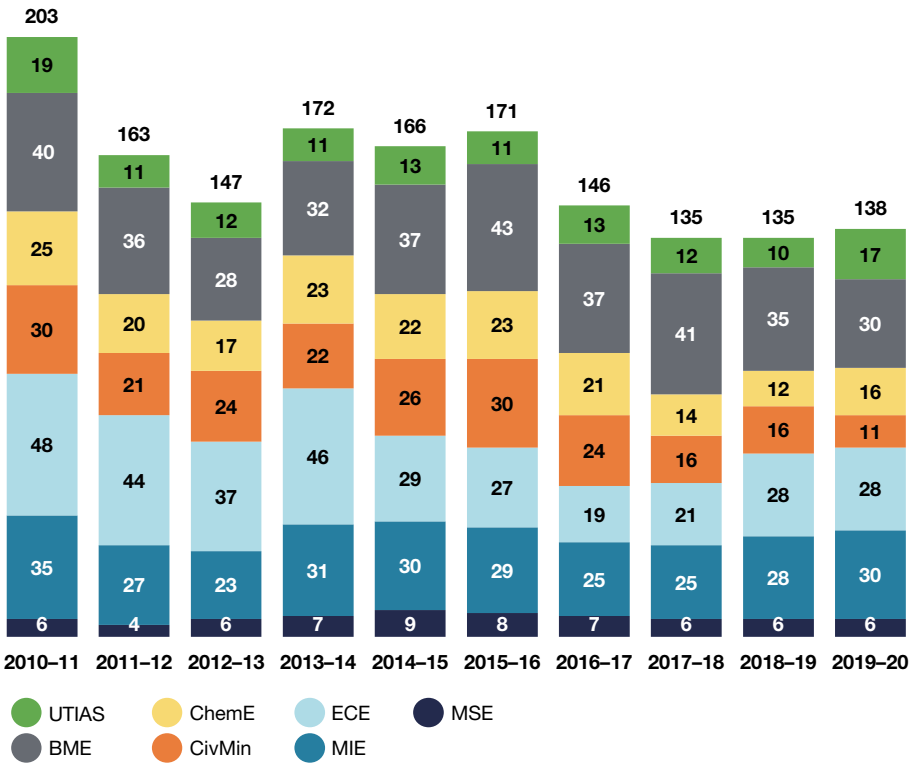


Note 2.4a, b: For graduate student funding figures, a slip year is used to include funding received during the summer term.

Figure 2.5a **Total External Graduate Student Scholarships by Source, 2010–2011 to 2019–2020**

	NSERC and CIHR	OGS	External – Other	Internal	Total
2010–11	$4,565,117	$1,036,675	$3,500	$3,287,981	$8,893,273
2011–12	$3,912,883	$1,593,328	$118,832	$3,390,632	$9,015,675
2012–13	$3,513,184	$1,583,333	$171,154	$4,433,250	$9,700,921
2013–14	$4,016,673	$1,236,666	$386,763	$4,026,714	$9,666,816
2014–15	$3,975,701	$1,336,670	$403,762	$4,492,770	$10,208,903
2015–16	$3,875,675	$1,223,331	$366,335	$4,818,842	$10,284,183
2016–17	$3,539,878	$1,360,004	$333,919	$5,203,963	$10,437,764
2017–18	$3,259,319	$1,525,000	$286,908	$4,551,608	$9,622,835
2018–19	$3,390,489	$1,443,333	$508,399	$4,972,069	$10,314,290
2019–20	$3,574,662	$1,491,670	$490,855	$4,775,617	$10,332,804

Figure 2.5b **Number of NSERC and CIHR Graduate Student Award Recipients by Academic Area, 2010–2011 to 2019–2020**



Note 2.5a, b: For graduate student funding figures, a slip year is used to include funding received during the summer term.

Figure 2.6a **Number of Students Fast-Tracked from MASc to PhD by Academic Area, 2011–2012 to 2020–2021**

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
UTIAS	2	5	6	10	1	3	10	5	6	9
BME	5	8	8	12	14	8	11	15	4	11
ChemE	8	7	14	8	5	7	5	6	6	7
CivMin	5	2	3	1	5	5	7	3	2	4
ECE	4	2	4	5	4	3	6	14	11	12
MIE	6	6	5	2	8	13	6	3	3	7
MSE	7	1	3	4	2	2			2	
Total	**37**	**31**	**43**	**42**	**39**	**41**	**45**	**46**	**34**	**50**

Figure 2.6b **Number of Direct-Entry PhD students by Academic Area, 2011–2012 to 2020–2021**

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
UTIAS									2	1
BME	5	5	7	3	5	7	11	9	21	23
ChemE	1				5	1		12	7	6
CivMin						1		2	4	2
ECE				2	2	2	2	2	4	3
MIE	1	1				4		2	3	3
MSE										5
Total	**7**	**6**	**7**	**5**	**12**	**15**	**13**	**27**	**41**	**38**

Note 2.6a, b: For counting purposes, the academic year is from May to April.

Figure 2.7a Time to Completion for PhD, MASc, MEng and MHSc Students, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	5.0	5.3	5.2	5.3	5.3	5.3	5.0	5.3	5.0	5.3
MASc	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MEng & MHSc (FT)	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.3	1.7	1.7	1.7	1.7	1.7	1.7
MEng (PT)	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.0

Figure 2.7b Time to Completion for Graduate Students – University of Toronto Institute for Aerospace Studies, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	4.7	5.3	5.3	5.7	6.3	5.3	5.0	5.8	6.0	5.7
MASc	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MEng (FT)	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.7	1.7	1.7	1.7	1.7	1.7	1.7
MEng (PT)		1.7	1.3	2.0	2.3	3.0	3.0		2.3	2.0

Figure 2.7c Time to Completion for Graduate Students – Institute of Biomedical Engineering, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	5.7	5.0	5.0	6.0	5.7	5.2	5.3	5.5	6.0	6.0
MASc	2.0	2.0	2.0	2.3	2.0	2.0	2.3	2.0	2.0	2.3
MEng (FT)							1.0	1.0	1.0	1.0
MEng (PT)								1.3	1.7	1.7
MHSc (FT)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Figure 2.7d Time to Completion for Graduate Students – Department of Chemical Engineering & Applied Chemistry, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	5.3	5.2	5.5	5.7	5.7	5.5	5.8	5.5	6.3	5.3
MASc	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.3
MEng (FT)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.5	1.7	1.7	1.7	1.7	1.8	1.7
MEng (PT)	1.3	2.0	2.0	1.8	1.5	2.0	1.7	1.7		2.0

Figure 2.7e Time to Completion for Graduate Students – Department of Civil & Mineral Engineering, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	5.3	5.3	5.0	5.3	5.3	5.7	5.0	5.2	4.3	5.3
MASc	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MEng (FT)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.3	1.7	1.3	1.3	1.3	1.3	1.3
MEng (PT)	1.8	2.0	2.0	1.7	2.0	2.2	2.0	1.7	2.3	2.2
MEngCEM (FT)				1.3	1.3	1.3	1.3	1.3	1.3	
MEngCEM (Ext FT)							1.3	1.5	1.7	1.3

Figure 2.7f Time to Completion for Graduate Students – The Edward S. Rogers Sr. Department of Electrical & Computer Engineering, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	5.2	5.5	5.3	5.0	5.0	5.3	5.0	5.3	5.0	5.5
MASc	2.0	2.0	2.0	2.3	2.0	2.0	2.3	2.3	2.0	2.3
MEng (FT)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.3	1.3	1.3	1.7	1.3	1.3	1.7
MEng (PT)	2.0	2.2	2.0	2.0	2.0	2.3	2.7	2.3	2.3	2.3

Figure 2.7g Time to Completion for Graduate Students – Department of Mechanical & Industrial Engineering, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	5.0	5.7	5.0	4.8	5.0	4.7	5.0	4.7	4.3	5.0
MASc	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MEng (FT)	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.7	1.7	1.7	1.7	1.7	1.7	1.7
MEng (PT)	2.0	2.0	2.0	2.0	1.7	2.3	2.0	1.7	1.7	2.0
MEngDM (PT)	2.7	2.5	2.7	2.3	3.5	2.8	3.0			

Figure 2.7h Time to Completion for Graduate Students – Department of Materials Science & Engineering, 2011-2012 to 2020–2021

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
PhD	6.3	5.7	4.7	5.3	5.5	5.8	5.3	5.3	7.0	4.7
MASc	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.3	2.5
MEng (FT)	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MEng (Ext FT)				1.3	1.7	1.7	1.7	1.7	1.7	1.8
MEng (PT)	2.3	2.0	2.7	2.8				2.0		

Figure 2.8 **Graduate Degrees Awarded by Degree Type, 2011-2012 to 2020–2021**

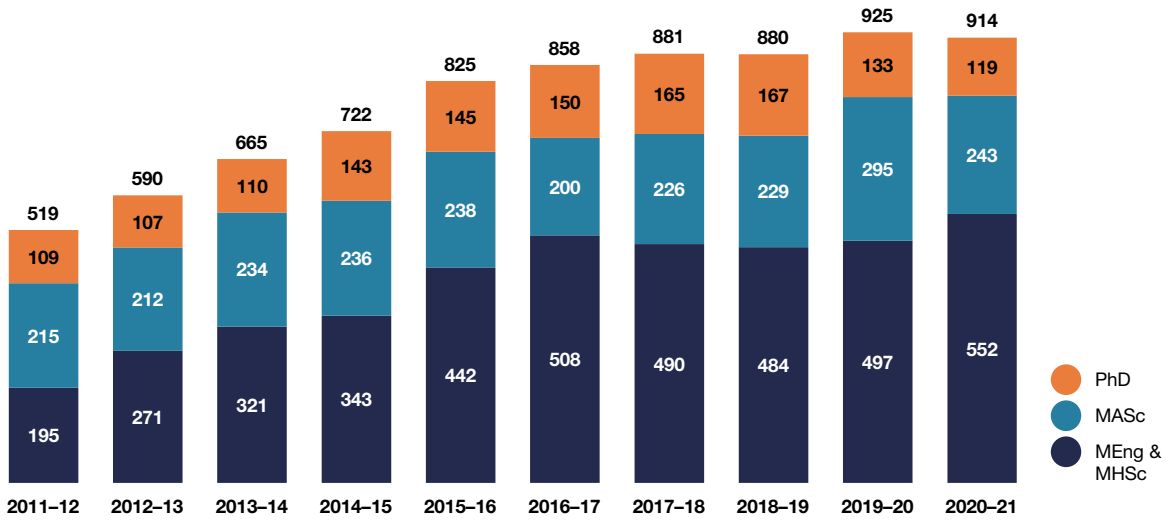


Figure 2.9 **New Graduate Courses Launched, 2020–2021**

Course Code	Course Title
APS1043	Writing Your Own Patent Application
APS1080	Introduction to Reinforcement Learning
BME1453	Genomics and Synthetic Nucleic-Acid Technologies
CHE1126	Radiation Chemistry and Radiochemistry
CHE1335	Applied Colloid Science
CHE1436	Risk Assessment for Chemical Process Safety
CHE1471	Modelling in Biological and Chemical Systems
CIV1289	The Business of Knowledge in Civil Engineering
CIV1321	Large Scale Infrastructure and Sustainability
CIV1330	Water, Sanitation, Hygiene and Global Health
CIV1430	Engineering Rock Mechanics
CIV1540	Urban Operations Research
MIE1208	Microfluidic Biosensors
MIE1517	Introduction to Deep Learning
MIE1077	AI Applications in Robotics III
MIE1725	Soft Materials and Machines
MSE1069	Plant Design of Steel Melt Shop
TEP1601	Equity, Diversity & Inclusivity within Engineering Contexts

CHAPTER 3
COMMUNITY

FACTS AND FIGURES

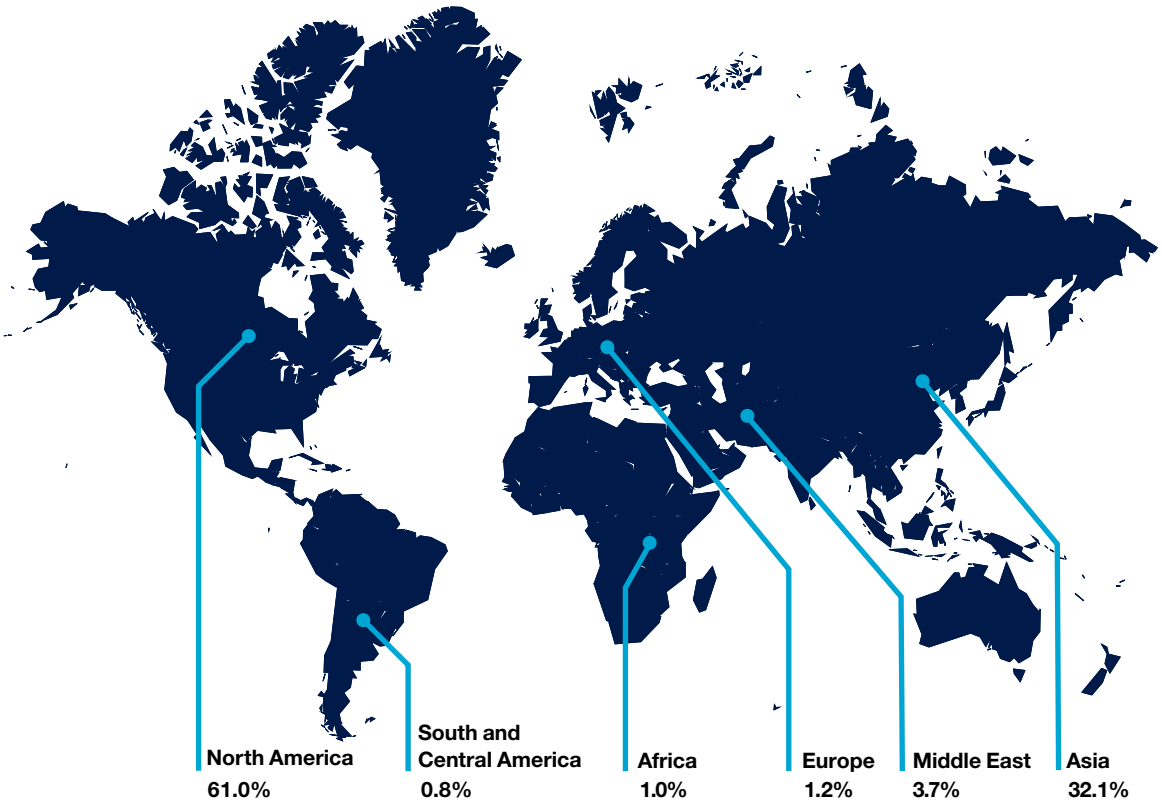
3,800+
Students reached through pre-university outreach programming in 2020–2021.

35.6%
Percentage of all students who are women, including 38.4% of undergraduate students and 30.2% of graduate students.

32.7%
Percentage of all students who come from outside of Canada, including 29.5% of undergraduate students and 39.3% of graduate students.

80+
Undergraduate and graduate student clubs and teams, from the Skule™ Orchestra to the Human Powered Vehicles Development Team.

Figure 3.1 **Continent of Origin: Undergraduate Students, Fall 2020**



Data in this chapter are presented by academic year (September to August) unless otherwise noted.

Note 3.1: Proportions are as of November 1, 2020. Not shown — 0.1% of undergraduate students from Oceania, which includes Australia, New Zealand and other countries in the Pacific Ocean. Country of origin is derived from a combination of citizenship, location of previous studies (e.g. elementary school, high school and university) and permanent address. This information does not indicate current Canadian immigration status, which is used to determine domestic/international student status for tuition and funding purposes.

Figure 3.2a **Incoming First-Year Undergraduates with Percentage of Women, 2011 to 2020**

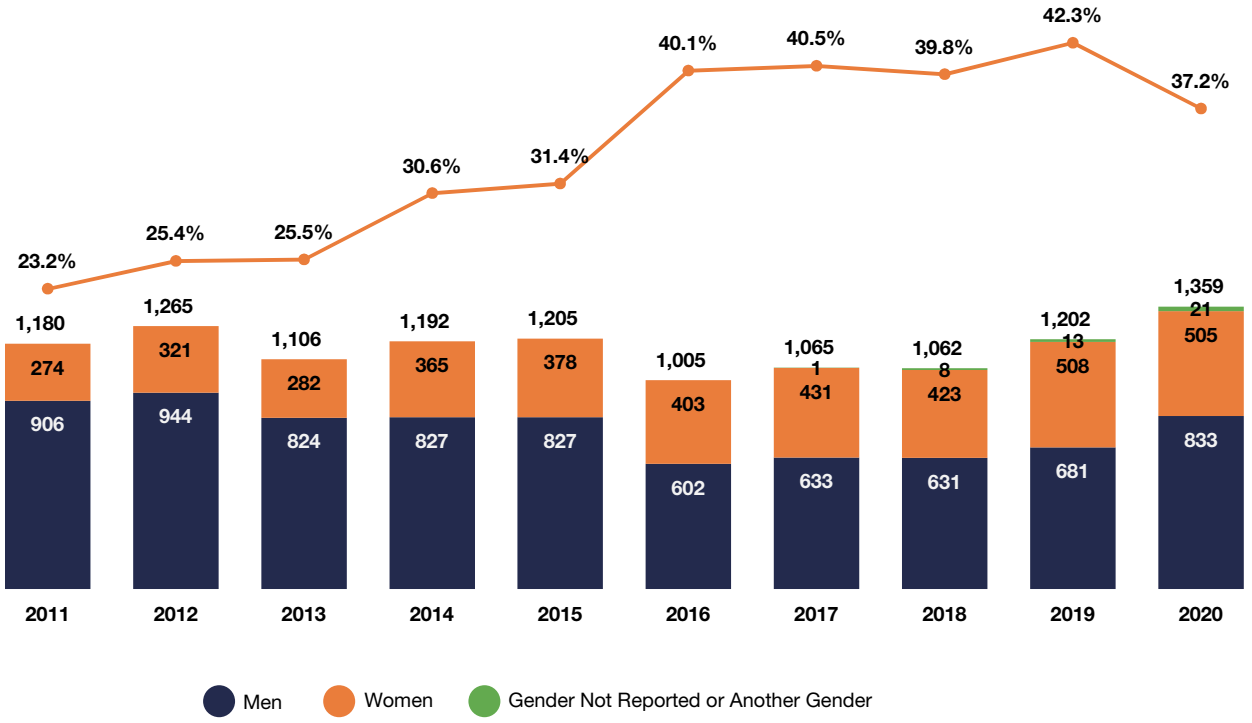
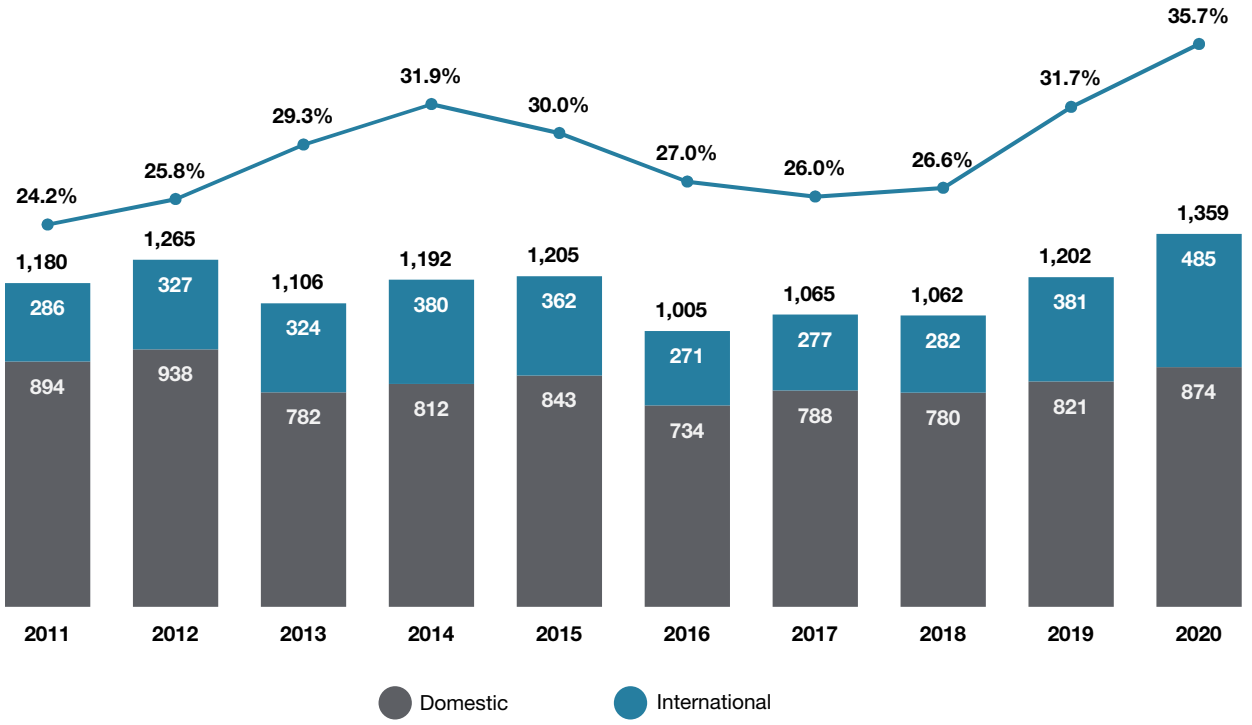


Figure 3.2b **Incoming First-Year Undergraduates with Percentage of International Students, 2011 to 2020**



Note 3.2a: Student counts are shown as of November 1. Data on student gender comes from the U of T Enrolment Reporting Cube; the options to report "another gender" or to not report gender were added in 2017.

Note 3.2b: Student counts are shown as of November 1. Domestic students are defined as citizens or permanent residents of Canada.

Figure 3.2c **Incoming First-Year Domestic and International Undergraduates, 2011 to 2020**

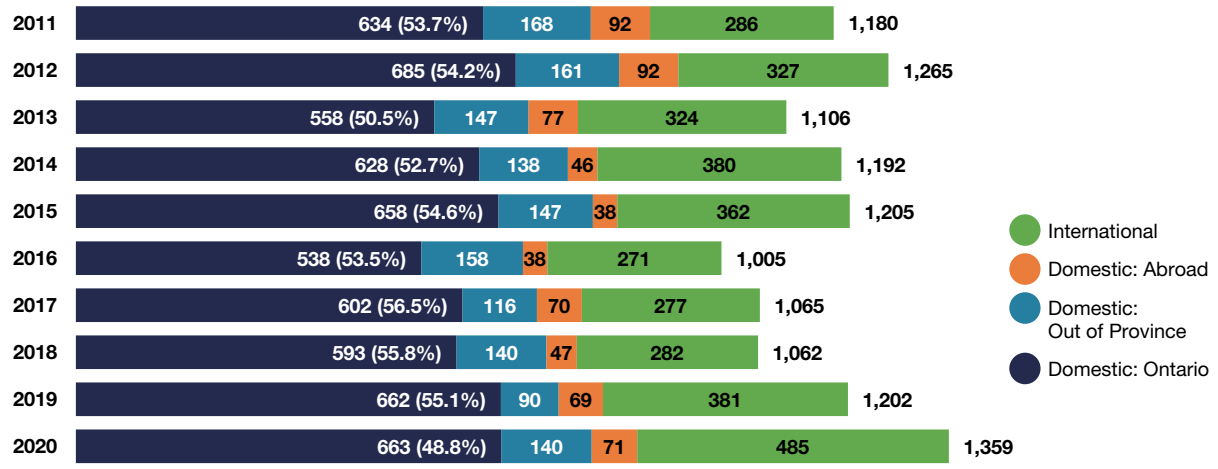
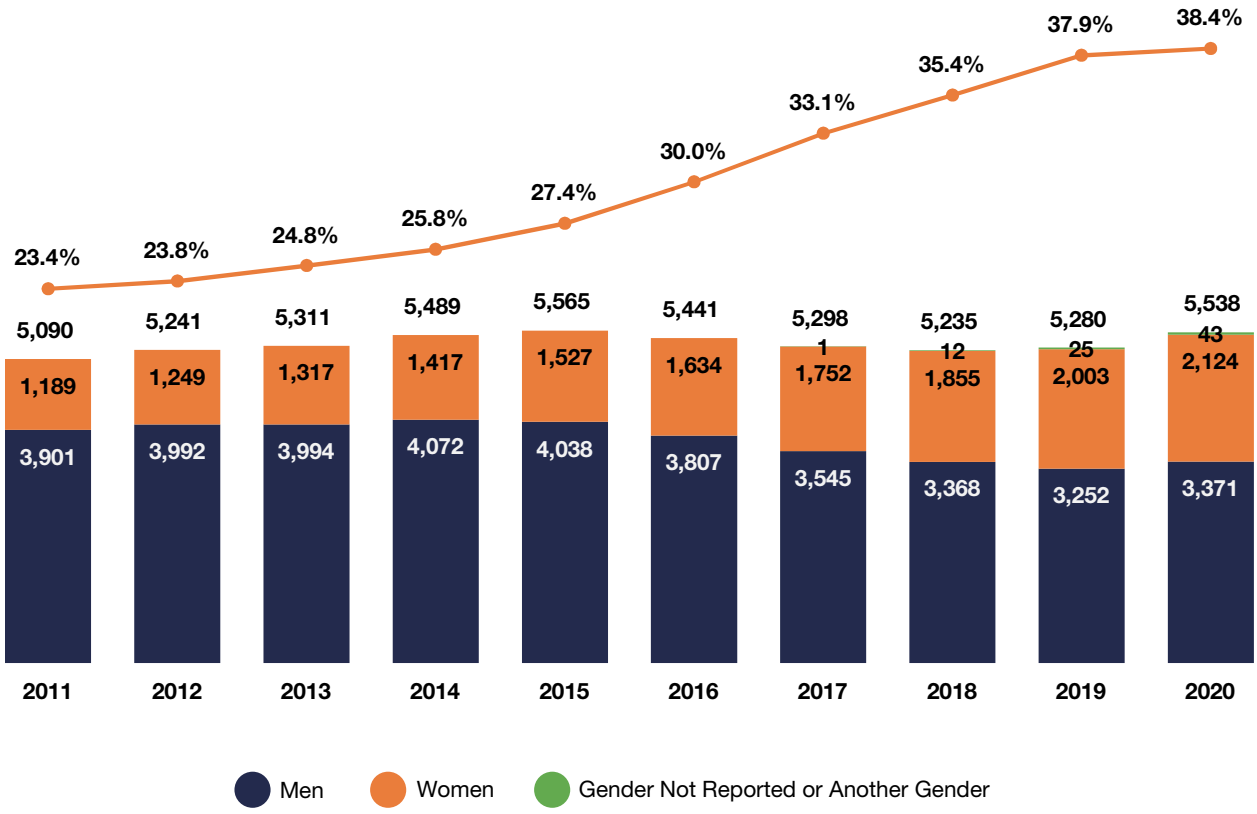


Figure 3.3a **Undergraduate Enrolment with Percentage of Women, 2011 to 2020**



Note 3.2c: Includes full- and part-time students and those working full time through the Professional Experience Year Co-op Program (PEY Co-op). Does not count students with special (non-degree) status. Student counts shown as of November 1. Domestic students are defined as citizens or permanent residents of Canada.

Note 3.3a: Includes full- and part-time students and those working full time through the Professional Experience Year Co-op Program (PEY Co-op). Does not count students with special (non-degree) status. Student counts shown as of November 1. Domestic students are defined as citizens or permanent residents of Canada. Data on student gender comes from the U of T Enrolment Reporting Cube; the options to report "another gender" or to not report gender were added in 2017.

Figure 3.3b **Percentage of Women by Undergraduate Program, 2011–2012 to 2020–2021**

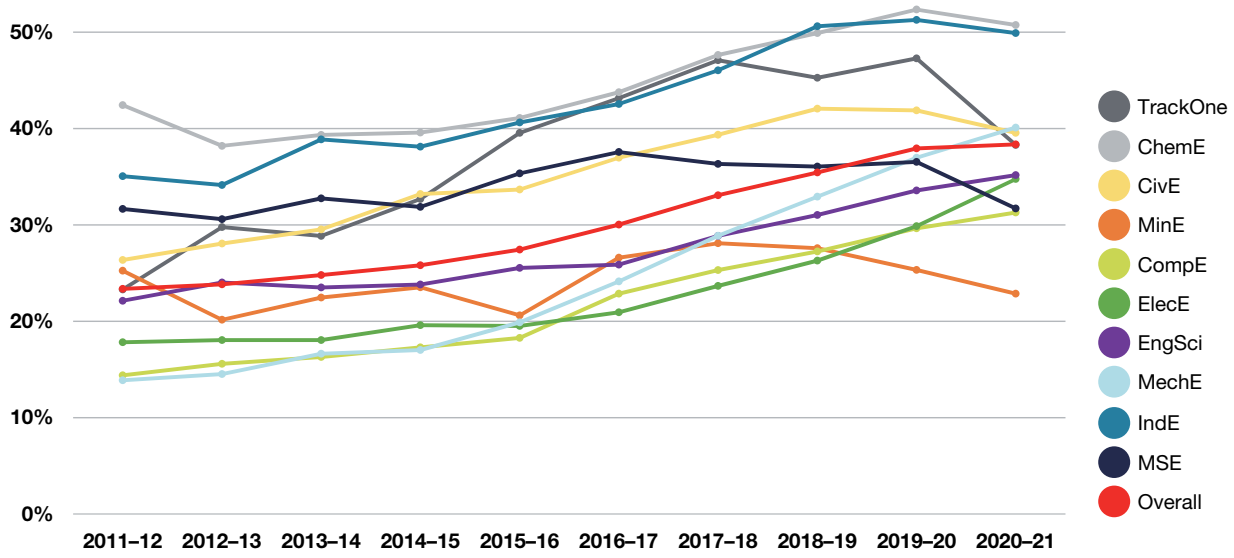
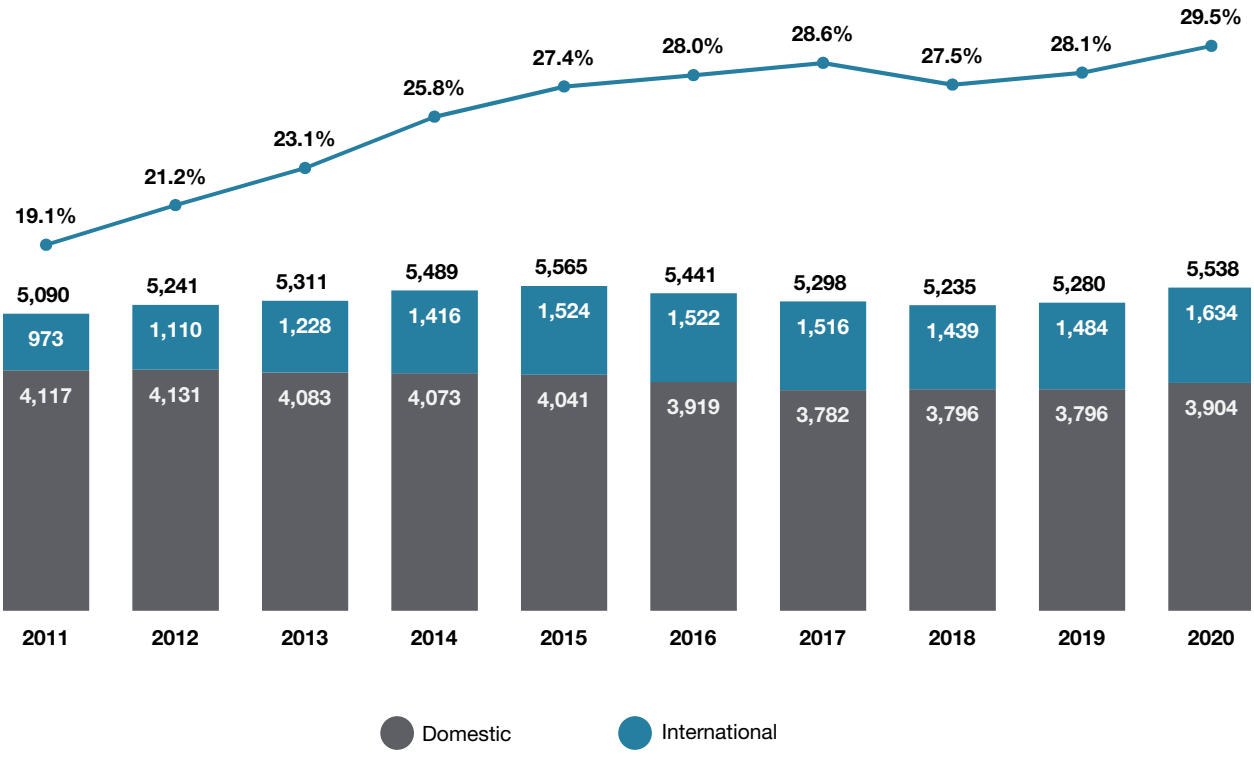


Figure 3.3c **Undergraduates with Percentage of International Students, 2011 to 2020**



Note 3.3b,c: Includes full- and part-time students and those working full time through the Professional Experience Year Co-op Program (PEY Co-op). Does not count students with special (non-degree) status. Student counts shown as of November 1. Data on student gender comes from the U of T Enrolment Reporting Cube; the options to report "another gender" or to not report gender were added in 2017.

Figure 3.4 **Undergraduate Degrees Awarded by Gender, 2011–2012 to 2020–2021**

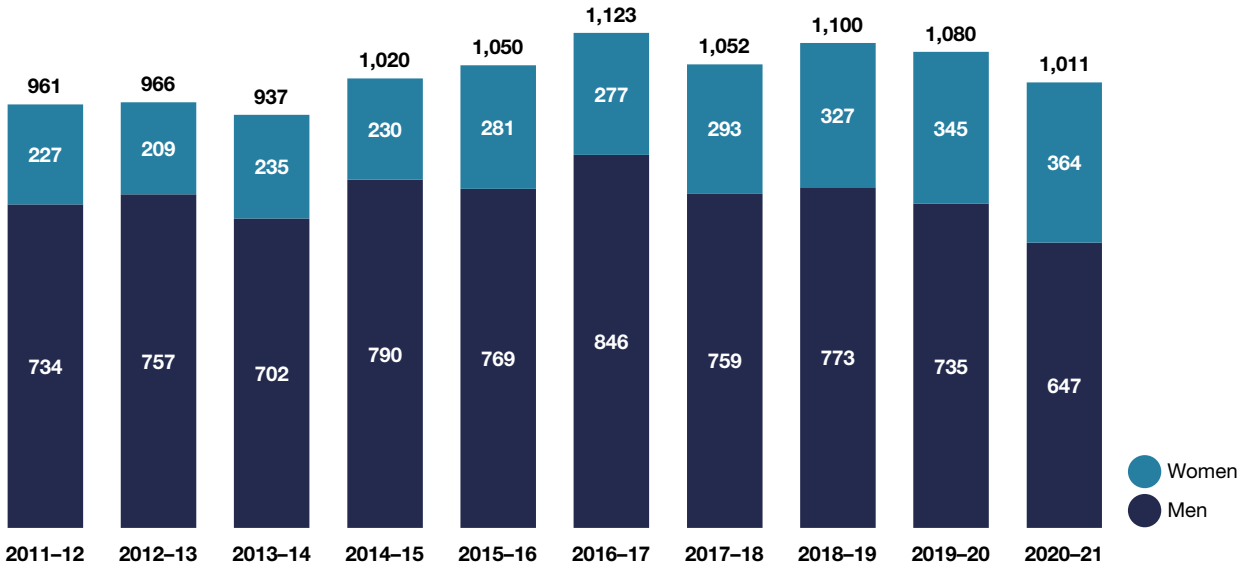


Figure 3.5 **Continent of Origin: Graduate Students, Fall 2020**

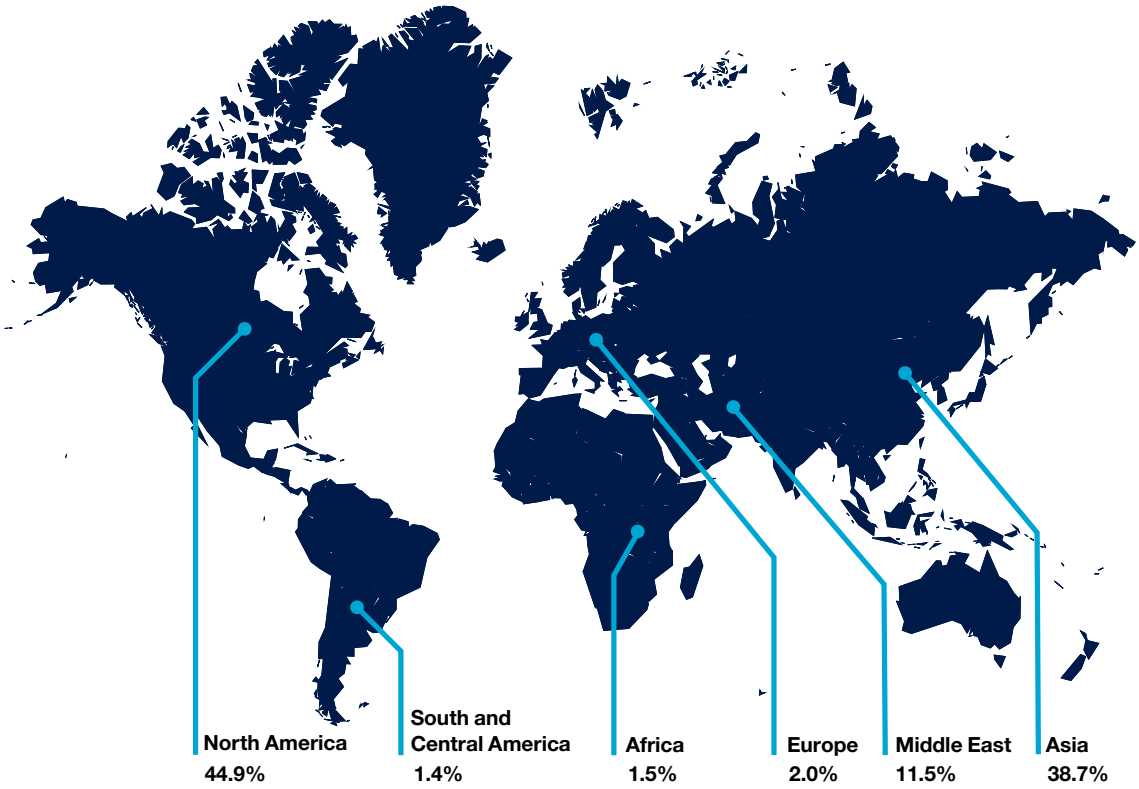
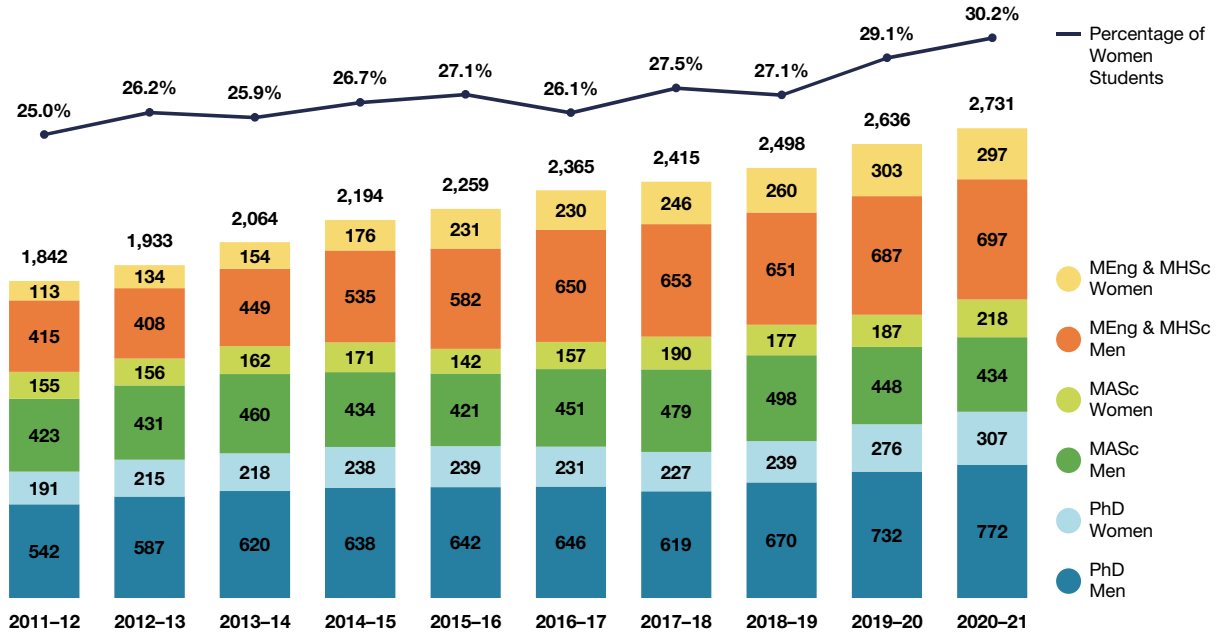


Figure 3.4: Data reported by academic year (September to August). Data on student gender comes from the U of T Enrolment Reporting Cube; the options to report "another gender" or to not report gender were added in 2017.

Note 3.5: Proportions are as of November 1. Not shown — 0.1% of undergraduate students from Oceania, which includes Australia, New Zealand and other countries in the Pacific Ocean. Country of origin is derived from a combination of citizenship, location of previous studies (e.g. elementary school, high school and university) and permanent address. This information does not indicate current Canadian immigration status, which is used to determine domestic/international student status for tuition and funding purposes.

Figure 3.6a Graduate Students by Degree Type and Gender with Percentage of Women Students, 2011–2012 to 2020–2021



	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
MEng & MHSc Women	113	134	154	176	231	230	246	260	303	297
MEng & MHSc Men	415	408	449	535	582	650	653	651	687	697
MEng & MHSc Gender Not Reported	1	2	1	1	2				1	3
MASc Women	155	156	162	171	142	157	190	177	187	218
MASc Men	423	431	460	434	421	451	479	498	448	434
MASc Gender Not Reported	2			1			1	1		1
PhD Women	191	215	218	238	239	231	227	239	276	307
PhD Men	542	587	620	638	642	646	619	670	732	772
PhD Gender Not Reported								2	2	2

Note 3.6a: Student counts are shown as of November 1. Data on gender comes from the School of Graduate Studies' Student Enrolment Cube, where gender is an optional category. Students who opted not to report their gender appear in the data table, but are not visible in the graph presented above.

Figure 3.6b **Graduate Students by Degree Type and Domestic/International Status with Percentage of International Students, 2011–2012 to 2020–2021**

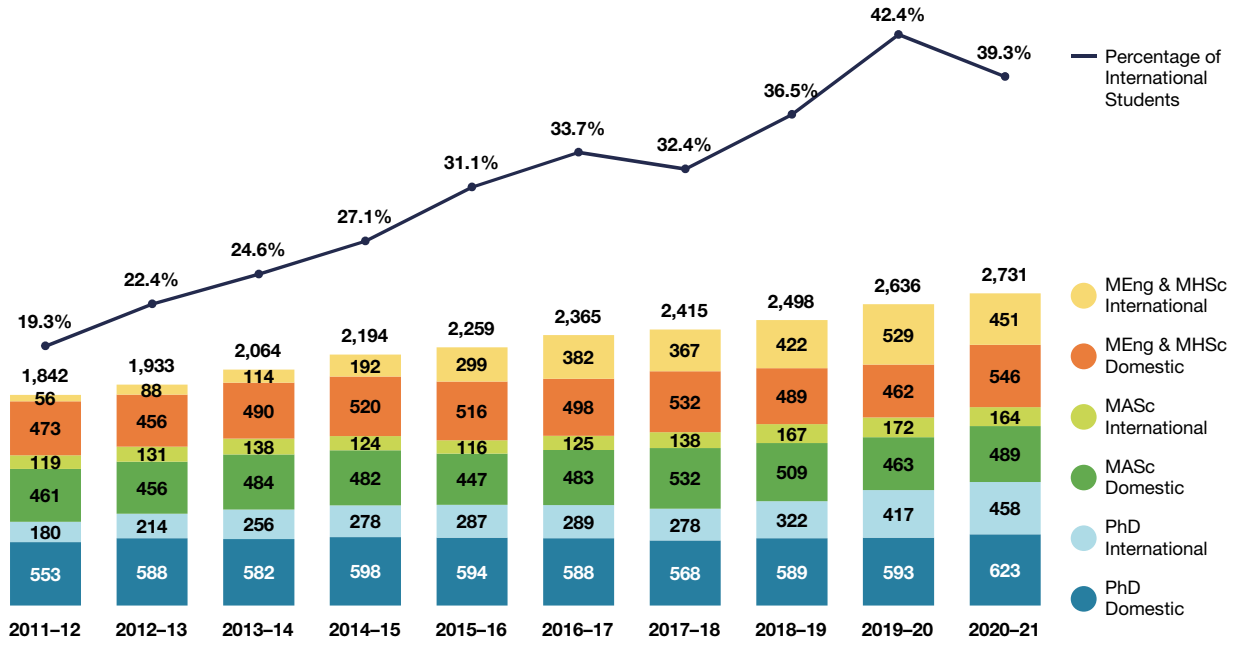


Figure 3.7 **Graduate Degrees Awarded by Gender, 2011–2012 to 2020–2021**

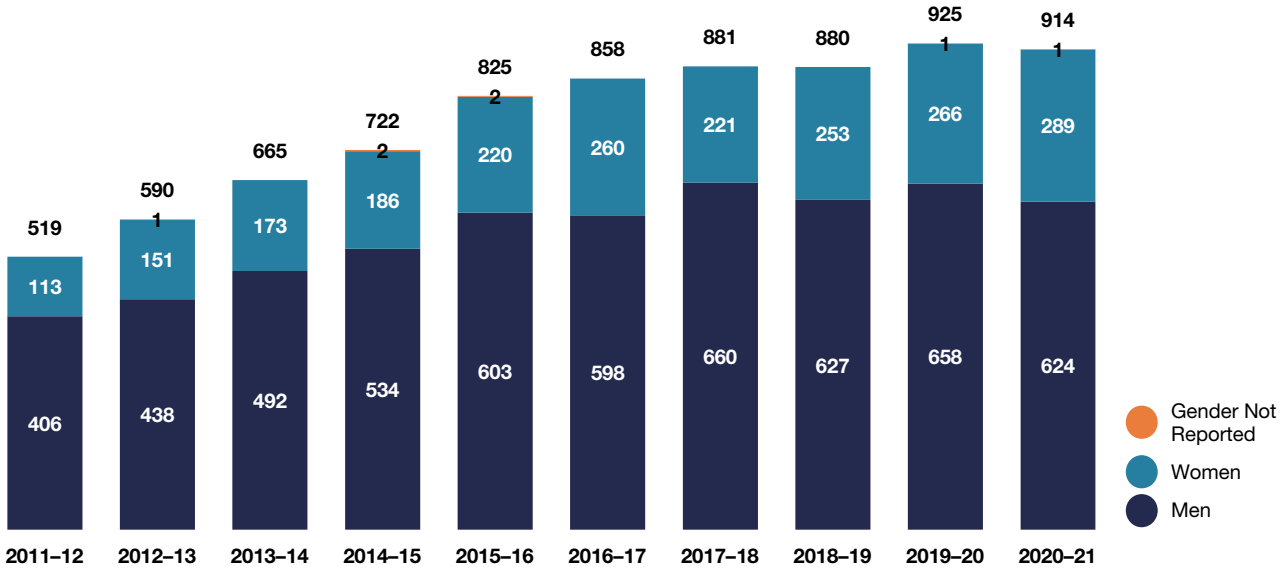


Figure 3.8 Engineering Undergraduate and Graduate Clubs and Teams, 2020–2021

Arts

- Fly with Origami, Learn to Dream (UTFOLD)
- Skule™ Choir
- Skule™ Orchestra
- Skule™ Stage Band

Athletics

- Skule™ Badminton Club (SBC)
- The University of Toronto Skateboarder's Club
- U of T Engineering Iron Dragons

Societal/Community/Charity

- Engineers in Action – University of Toronto Student Chapter
- Engineers Without Borders – University of Toronto Chapter
- Global Spark – U of T
- Let's Talk Science (University of Toronto, St. George Campus)
- Quantitative Impact Investment Club
- Queer Sphere
- University of Toronto Emergency First Responders

Cultural

- Association of Chinese Engineers
- Bangladeshi Students' Association

Design & Competition

- aUToronto
- Blue Sky Solar Racing
- CloudClub
- Data Science Toronto
- Future-Living Lab
- Human Powered Vehicles Design Team
- Robotics For Space Exploration
- Spark Design Club
- University of Toronto Aerospace Team
- University of Toronto Chemical Vehicle Club (UTCV)
- University of Toronto Concrete Canoe Team
- University of Toronto Concrete Toboggan Team
- U of T Design League
- University of Toronto Engineering Kompetitions
- University of Toronto Formula Racing Team
- University of Toronto Hyperloop Team
- University of Toronto Machine Intelligence Student Team
- University of Toronto Robotics Association (UTRA)
- University of Toronto Seismic Design Team
- University of Toronto Supermileage Team
- UT BIOME

Hobby & Special Interest

- Brew of T
- Skule™ Lettuce Club
- Skule™ Strategy Game Club
- SkuleCraft
- University of Toronto Engineering Finance Association (UTEFA)

Professional Development & Industry

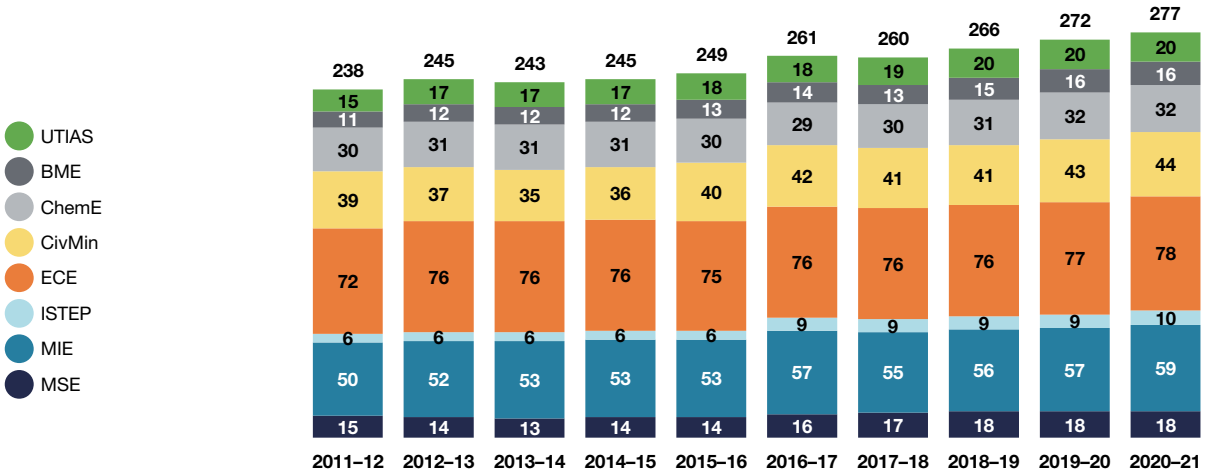
- ASHRAE U of T (University of Toronto Student Branch of the American Society of Heating, Refrigeration and Air Conditioning Engineers)
- Bioengineering Student Association (BESt)
- Biomedical Engineering Student Association (BESA)
- Canadian Association of Food Engineers
- Canadian Electrical Contractor's Association (CECA) U of T Student Chapter
- Canadian Society for Civil Engineering (CSCE) - University of Toronto Chapter
- Canadian Society of Chemical Engineering (CSChE) U of T Student Chapter
- Chemical Engineering Graduate Students Association (CEGSA)
- Civil and Mineral Engineering Graduate Student Association
- Civil Engineering Discipline Club
- Club for Undergraduate Biomedical Engineering (CUBE)
- Electrical and Computer Engineering Club
- Engineering Science Club
- Galbraith Society
- Industrial Engineering Club
- Institute for Leadership Education in Engineering: Graduate (ILead:Grad)
- Institute of Electrical and Electronics Engineers (IEEE), University of Toronto Student Branch
- Materials Industry Club
- Materials Science and Engineering Graduate Students' Association (MSEGSA)
- Materials Science Engineering Club
- Mechanical Engineering Club ("Mech Club", "The Mech Club")
- MechEngage
- Mineral Engineering Club
- National Society of Black Engineers U of T Chapter
- NeurotechUofT
- NSight Mentorship Program
- Project Include
- Super Women Engineers University of Toronto (SWE U of T)
- Sustainable Engineers Association
- TechXplore
- The Undergraduate Chemical Engineering Council
- Toronto Science Policy Network
- University of Toronto Business Association
- University of Toronto Consulting Association (UTCA)
- University of Toronto Earthquake Engineering Research Institute Student Chapter (UT-EERI)
- University of Toronto Engineering Students Consulting Association
- University of Toronto Ontario Water Works Association Student Chapter
- University of Toronto Toastmasters
- Water Environment Association of Ontario
- Women in Science and Engineering (WISE)

Note 3.8: This list includes 81 undergraduate and graduate student clubs and teams that shared $371,953.53 in funding through the Centralized Process for Student Initiative Funding (CPSIF), as well as U of T Engineering groups that got their funding from other sources. Beyond the groups presented here, our students also participate in hundreds more clubs and teams across U of T.

Figure 3.9 **Pre-University Outreach Programs, 2020–2021**

Program	Date	Audience	Female	Male	Another Gender or Gender Not Reported	Total # of Participants
SUMMER						
Blueprint 2020	Summer 2020	Grades 9-11	25	30	0	55
Online Junior Workshops	June 1st - August 21st	Grades 3-8	272	363	30	665
Girls in Space	June 16th - July 9th, July 14th - August 6th	Grades 3-5	292	0	0	292
Global Engineering Challenge	July 20th - August 14th	Grades 9-12	231	98	5	334
Academic Preparation Courses	August 10th - 28th	Grades 9-12	48	80	23	151
STEM Enrichment Courses	August 10th - 28th	Grades 9-12	80	112	13	205
Destination STEM	August 11th - 20th	Grades 6-8	17	20	0	37
Educator Workshops: Teaching the New Ontario Coding Curriculum	August 19th - 28th	Parents	/	/	/	178
FALL						
STEM Enrichment Courses | Fall 2020	October 17th - December 5th	Grades 9-12	54	134	3	191
Global Engineering Challenge | Fall 2020	October 17th - December 5th	Grades 9-12	12	27	0	39
Online Junior Coding Workshops | Fall 2020	October 23rd - December 20th	Grades 6-8	42	115	0	157
Virtual Study Hubs	October 14th - February 4th	Grades 9-12	27	37	1	65
WINTER						
STEM Enrichment Courses | Winter 2021	January 30th - March 27th	Grades 9-12	69	154	0	223
Global Engineering Challenge | Winter 2021	January 23rd - March 27th	Grades 9-12	25	34	1	60
Online Junior Coding Workshops | Winter 2021	January 29th - March 28th	Grades 5-8	90	144	0	234
ENGage High School Saturdays | Winter 2021	January 23rd - April 10th	Grades 9-12	11	18	0	29
Educator Workshops: Teaching the New Ontario Coding Curriculum | Winter 2021	February 5th - March 4th	Teachers	/	/	/	266
Virtual Study Hubs - Quadmester 3 | Winter 2021	February 17th - April 8th	Grades 9-12	10	20	1	31
Coding for Parents: 101	March 11th - April 29th	Parents	/	/	/	121
SPRING						
Alumni - Online Junior Coding Workshops	May 7th - June 7th	Grades 5-8	30	60	0	90
Global Engineering Challenge | Spring 2021	May 15th - June 13th	Grades 9-12	14	42	2	58
STEM Enrichment Courses | Spring 2021	May 15th - June 13th	Grades 9-12	28	63	0	91
Destination Engineering	May 8th - June 5th	Grades 3-5	26	51	2	79
Online Junior Coding Workshops | Spring 2021	May 14th - June 27th	Grades 6-8	63	101	0	164
Total:			**1,466**	**1,703**	**81**	**3,815**

Figure 3.10 **Total Number of Faculty by Academic Area, 2011–2012 to 2020–2021**



		2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
UTIAS	Assistant Profs	5	6	5	5	4	3	2	3	3	1
	Associate Profs	3	4	4	4	6	6	8	6	6	8
	Professors	5	5	6	6	6	7	7	9	9	9
	Teaching-Stream Faculty	2	2	2	2	2	2	2	2	2	2
BME	Assistant Profs	5	6	5	4	4	4	2	3	3	3
	Associate Profs	3	2	2	3	4	4	6	7	6	6
	Professors	3	4	4	4	4	4	3	3	5	5
	Teaching-Stream Faculty	0	0	1	1	1	2	2	2	2	2
ChemE	Assistant Profs	5	6	4	5	4	4	3	3	1	1
	Associate Profs	3	3	5	5	5	2	4	4	5	5
	Professors	18	18	18	17	17	20	20	21	23	23
	Teaching-Stream Faculty	4	4	4	4	4	3	3	3	3	3
CivMin	Assistant Profs	9	8	7	8	5	8	6	7	8	6
	Associate Profs	10	11	11	9	14	12	12	9	11	10
	Professors	19	17	16	18	20	21	22	24	23	27
	Teaching-Stream Faculty	1	1	1	1	1	1	1	1	1	1
ECE	Assistant Profs	9	11	9	7	5	5	2	1	2	3
	Associate Profs	25	22	20	16	16	15	13	12	11	10
	Professors	34	39	43	49	50	51	56	58	60	61
	Teaching-Stream Faculty	4	4	4	4	4	5	5	5	4	4
ISTEP	Teaching-Stream Faculty	6	6	6	6	6	9	9	9	9	10
MIE	Assistant Profs	7	7	6	6	6	9	7	7	9	7
	Associate Profs	16	14	16	15	12	11	12	10	8	8
	Professors	24	28	28	29	32	33	33	36	37	39
	Teaching-Stream Faculty	3	3	3	3	3	4	3	3	3	5
MSE	Assistant Profs	2	2	2	3	3	3	4	3	2	2
	Associate Profs	3	4	4	4	4	4	3	5	6	6
	Professors	10	8	7	7	7	8	9	9	9	9
	Teaching-Stream Faculty	0	0	0	0	0	1	1	1	1	1
Total		**238**	**245**	**243**	**245**	**249**	**261**	**260**	**266**	**272**	**277**

Note 3.9: Data cover all programs that started between June 2020 and May 2021. Due to the COVID-19 pandemic, all in-person programs were cancelled; the listed programs were all delivered online.

Note 3.10: Faculty counts are as of July 1, 2020 and do not include contractually limited term appointments (CLTAs).

Figure 3.11 **Total Number of Faculty with Percentage of Women Overall and by Academic Rank, 2011–2012 to 2020–2021**

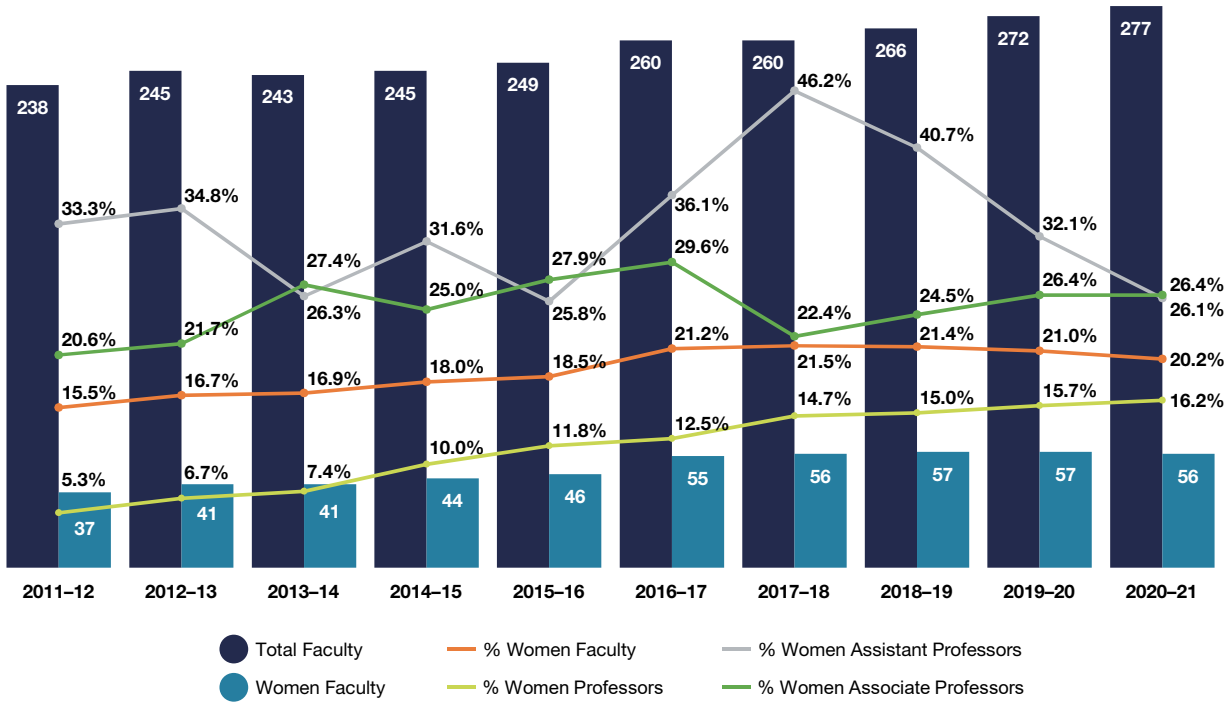


Figure 3.12 **Percentage of Women Faculty at U of T Engineering Compared with Women Faculty in Ontario and Canadian Engineering Faculties, 2019–2020**

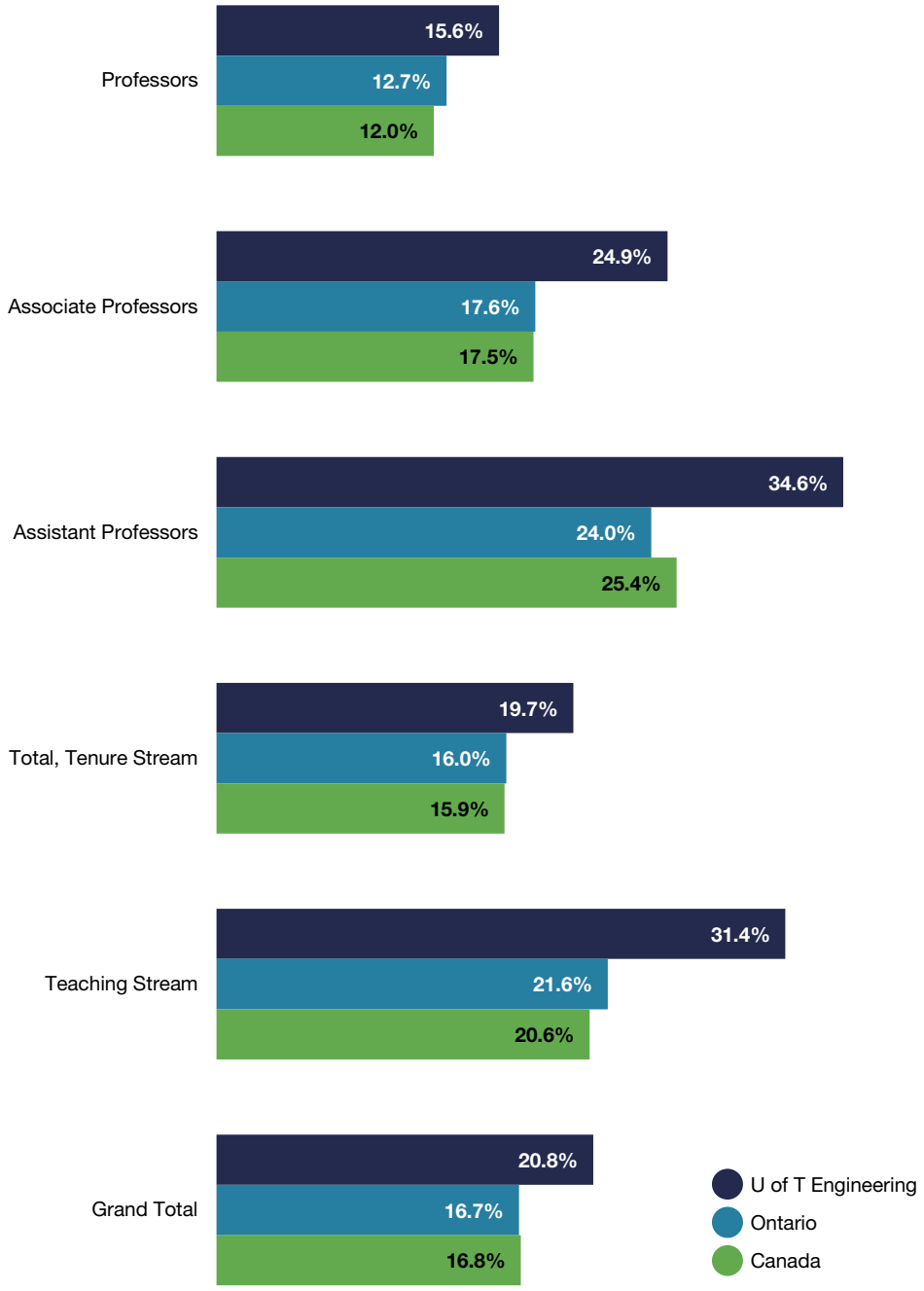


Figure 3.13 **Canada Research Chairs with Number and Percentage of Women Chairholders, 2012 to 2021**

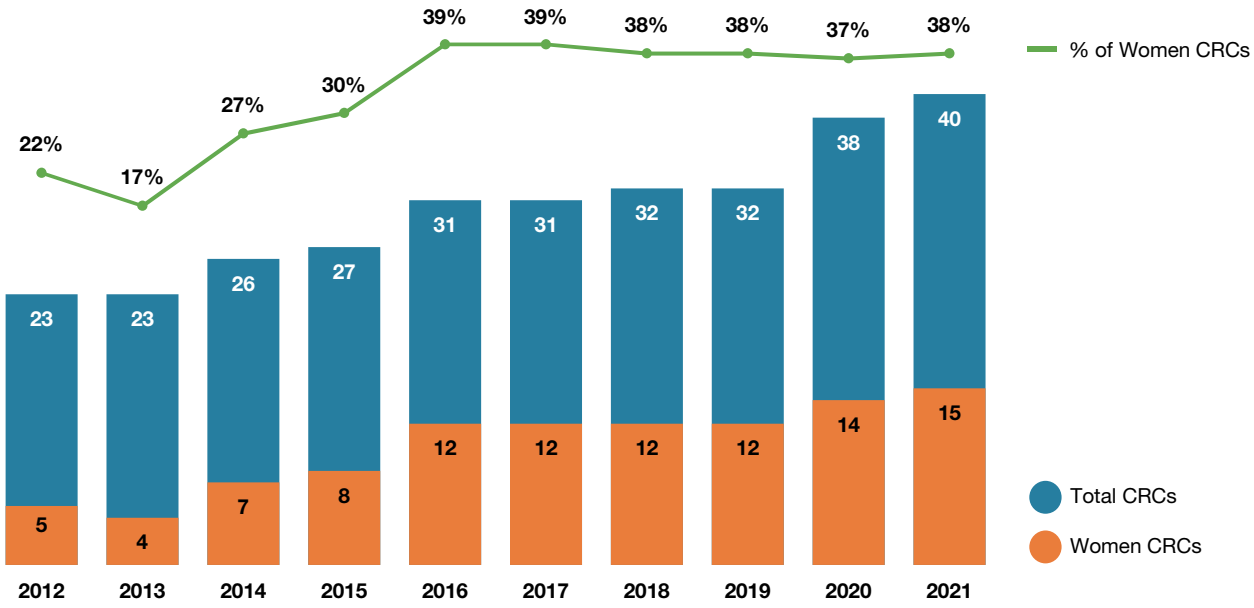


Figure 3.14 **Total Staff by Role and Gender, 2011–2021 to 2020–2021**

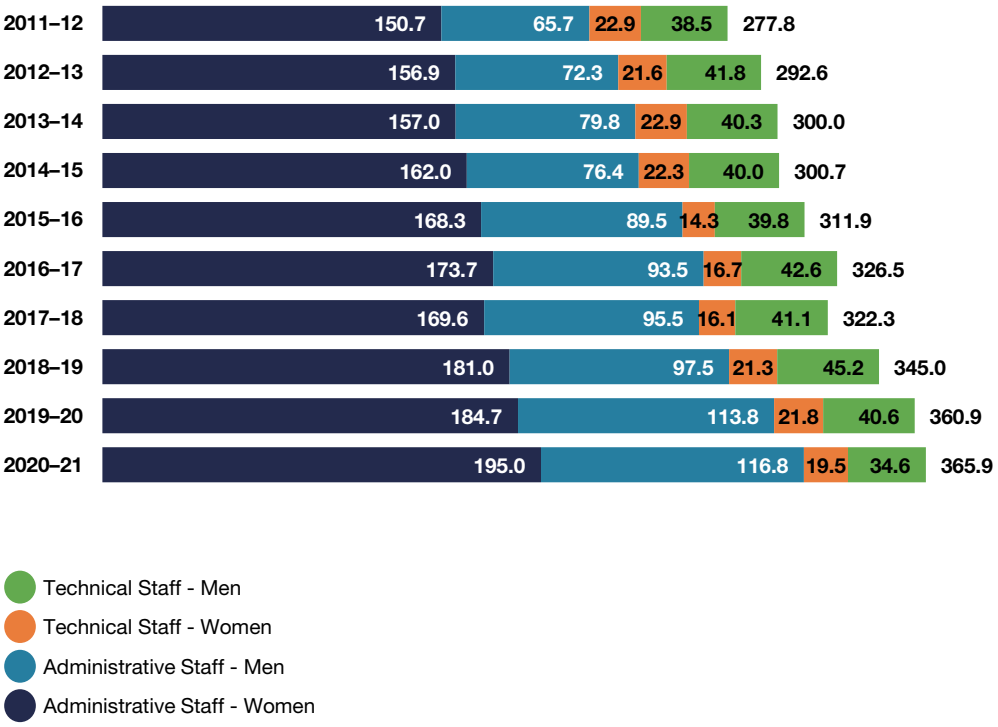


Figure 3.15 Summary of Progress Against the Recommendations of the *Blueprint for Action* (2018), as prepared by the Eagles' Longhouse (Engineering Indigenous Initiatives Steering Committee), 2021

Immediate Actions (2018)		
Recommendation	**Description**	**Progress**
Faculty & Staff — 1	Create an Indigenous administrative position to begin the process of taking responsibility for the calls to action of the TRC.	Role defined and job posting written. Recruitment begun through personal networks. Next steps: increased recruitment efforts and job posting.
Faculty & Staff — 2	Support a program focused on the recruitment and hiring of Indigenous faculty and staff.	In 2018, 2019 and 2020, a U of T Engineering delegation went to the Canadian Indigenous Science and Engineering Society annual gathering, meeting with current Indigenous community members with potential to become U of T Engineering undergraduate and graduate students, faculty and staff. Two recent Teaching Stream positions were advertised via the job board of the Native American and Indigenous Scholars Association, the world's largest association of scholars working on Indigenous issues and with Indigenous communities. No Indigenous applicants resulted, but the practice will continue for future positions.
Faculty & Staff — 3	Offer Indigenous Cultural Awareness seminars to all employee groups. Note: This action strongly overlaps with another recommendation, Indigenous Student Access — 1. Progress items for both actions are cross-referenced to each other.	Several Blanket Exercises — kinesthetic learning exercises designed to educate non-Indigenous people on the history of the Indigenous Peoples of Canada, including the ways education has been used as a weapon against Indigenous people — were held throughout the 2020–2021 academic year. The sessions were facilitated by KAIROS, an ecumenical movement for ecological justice and human rights. More than 80 faculty and staff attended over three sessions between March and August 2021. Discussions are also taking place about possible times to offer Blanket Exercises for students.
Indigenous Spaces — 1	Ensure the existence of plentiful spaces for Smudging Ceremonies.	A smudging ceremony was held in the Myhal Centre for Engineering Innovation & Entrepreneurship lobby in 2017. No additional advancements since then.
Indigenous Spaces — 2	Use a participatory design approach, with key members of Indigenous communities, to (re)develop existing spaces as Indigenous spaces.	The outdoor patio adjacent to the Bahen Centre is being redesigned. The design committee is discussing ways to feature the close connection between Indigenous people and the land, the importance of water in Indigenous culture and/or bring attention to the failing of the engineering infrastructure to supply safe drinking water to Indigenous communities. Early discussions have taken place on how U of T Engineering can be more connected to First Nations House and the Indigenous spaces there.

Indigenous Spaces — 3	Use a participatory design approach, with key members of Indigenous communities, to commission Indigenous artwork.	Anishinaabe artist Solomon King was commissioned to complete a sculpture (footprint 5' x 2') celebrating the Gull Lake experience. Currently on display in the Professional Masters' Student lounge on Level 6 of the Myhal Centre, it will be moved to the new structure at Gull Lake when complete. King has also been commissioned to create a larger art piece (16' x 6') to be permanently displayed on the wall of the southern staircase, Level 2, in the Myhal Centre. The unveiling is currently set for October 2021.
Indigenous Spaces — 4	Use a participatory design approach, with key members of Indigenous communities, to establish educational installations located within U of T Engineering space.	No advancement.
Indigenous Spaces — 5	Form an ongoing Indigenous Space committee, with Indigenous community members, with ongoing funding tasked to identify additional spaces for naming and/or (re)development as Indigenous spaces, locations for Indigenous artwork and educational installations.	No advancement.
Indigenous Spaces — 6	Work with Indigenous language experts to identify and display Indigenous names within the Faculty where appropriate.	No advancement.
Indigenous Spaces — 7	Create a prominent, permanent physical representation of the land acknowledgement.	No advancement.
Indigenous Student Access — 1	Implement ongoing cultural competency training for all staff and faculty. Note: This action strongly overlaps with another recommendation, Faculty & Staff — 3. Progress items for both actions are cross-referenced to each other.	Several Blanket Exercises — kinesthetic learning exercises designed to educate non-Indigenous people on the history of the Indigenous Peoples of Canada, including the ways education has been used as a weapon against Indigenous people — were held throughout the 2020–2021 academic year. The sessions were facilitated by KAIROS, an ecumenical movement for ecological justice and human rights. More than 80 faculty and staff attended over three sessions between March and August 2021. Discussions are also taking place about possible times to offer Blanket Exercises for students.
Indigenous Student Access — 2	Begin targeted recruiting for Indigenous students.	Multiple U of T Engineering entrance scholarships for Indigenous students (domestic tuition plus stipend) have been created. They are renewable for four years. The details of the qualifications and application process are still being developed with representatives of the Student Access Working Group. All self-declared Indigenous applicants were contacted by Professor Jason Bazylak offering a personal connection and specific assistance with the application. Welcome to Engineering events specifically for Indigenous students have been offered in May 2020 and 2021.

Indigenous Student Access — 3	Create a full-time position, to be held by an Indigenous hire, to coordinate cultural competency training and outreach and recruitment of Indigenous students.	See progress for Faculty & Staff — 1
Indigenous Student Access — 4	Create a separate Access Pathway to engineering studies for Indigenous students.	No advancement.
Indigenous Student Access — 5	Begin building relationships with Indigenous communities.	Two U of T Engineering professors are currently in the relationship-building phase for two potential future research projects with an Ontario First Nation. These relationships may lead to future opportunities for student access.
Indigenous Student Access — 6	Determine if a process is needed to verify student applicant claims for Indigenous background.	Under development.
Indigenous Curriculum — 2	Run regular Blanket Exercise events for U of T Engineering students, staff and faculty.	See progress for Faculty & Staff — 3 and Indigenous Student Access — 1
Short-Term Actions (2019–2021)		
Recommendation	**Description**	**Progress**
Faculty & Staff — 4	Work toward making U of T an employer of choice for the Indigenous community.	Outreach to Indigenous communities, for example, through the Native American and Indigenous Scholars Association, has begun.
Faculty & Staff — 5	Provide support for Indigenous employees.	No advancement.
Faculty & Staff — 6	Community outreach. Expand and develop relationships with communities. Create community partnerships. Establish connections with Indigenous professionals in the community, such as Aboriginal Professionals Association of Canada.	Two U of T Engineering professors are currently in the relationship-building phase for two potential future research projects with an Ontario First Nation.
Faculty & Staff — 7	Provide financial support for Elder services. Work with First Nations House and the Provost's Office of Indigenous Initiatives to determine how best to provide Elder support at U of T Engineering.	No advancement.
Indigenous Spaces — 8	Create an Indigenous Office within U of T Engineering.	Negotiations about organizational structure and space have begun and continue between U of T Engineering Indigenous community and the Faculty.
Indigenous Student Access — 7	Initiate a pilot engineering outreach program for Indigenous high school students.	No advancement.
Indigenous Student Access — 8	Create a transition program for Indigenous students.	No advancement.
Indigenous Student Access — 9	Expand the Indigenous outreach program.	No advancement.
Indigenous Student Access — 10	Create an Indigenous Office within U of T Engineering.	See progress for Faculty & Staff — 1
Indigenous Student Access — 11	Work with colleges in northern and remote areas to increase engineering programming in colleges (such as first year engineering design) and facilitate the transfer of college credits.	Discussions are underway regarding a Diploma to Degree program being developed for the Sciences at U of T. It is possible that U of T Engineering could participate in this program as a first step towards a transition program. While this specific program is not targeting a northern or remote area, it could generate expertise within the Faculty that could then be extended to northern and remote areas.

Indigenous Curriculum — 1	U of T Engineering should take an integrated approach to bringing Indigenous content to the engineering curriculum, and NOT add additional courses.	A recorded short lecture was created for APS111 that gives a Land Acknowledgement but also explains the purpose and history of Land Acknowledgements. Professor Jason Bazylak gave a lecture on Design Stakeholders using the case study of the Shoal Lake 40 First Nation and the Winnipeg aqueduct.
Indigenous Curriculum — 4	Better communicate engineering as a community builder.	Presentation to incoming Indigenous students on the importance of Indigenous engineers to build infrastructure for Indigenous communities.
Indigenous Curriculum — 5	Hire one or more Indigenous curriculum developers.	No advancement.
Long-Term Actions (2022–2023)		
Recommendation	**Description**	**Progress**
Faculty & Staff — 8	Take a Seven Generations approach to the Faculty's relationship with Indigenous Peoples.	No advancement.
Indigenous Spaces — 9	Spearhead the call for the Front Campus redesign to incorporate prominent Indigenous space.	No advancement.
Indigenous Spaces — 10	Create a symbol of Indigenous Engineering Positive Space.	No advancement.
Indigenous Student Access — 12	Establish a pilot engineering program in a remote community.	Significant preliminary work has gone into a proposed program for U of T Engineering to participate in the creation of an engineering program in remote Labrador. A report on this work has already been submitted to the Faculty prior to the release of this recommendation. The Eagles' Longhouse Steering Committee greatly supports this proposal as a strong step towards achieving this recommendation. The Reconciliation Through Engineering Initiative (RTEI) aims to find sustainable engineering solutions through community-driven, multidisciplinary and Two-Eyed Seeing collaborations, leveraging the expertise of both Indigenous community members and U of T researchers specializing in diverse fields. Overseen by the Centre for Global Engineering, RTEI will ultimately identify six projects to improve access to clean drinking water, food security, housing, health care, transportation and communication systems in Indigenous communities across Canada.
Indigenous Curriculum — 3	Create an Indigenous culture infusion lecture series.	No development.

Figure 3.16 Summary of Progress Against the Recommendations of *Striving Toward Black Inclusivity* (2019) as prepared by the Black Inclusion Steering Committee (BISC), 2021

Interim Recommendations (From November 2018)	
Description	**Progress**
Establish an Equity, Diversity & Inclusion (EDI) office	A new role of Assistant Dean and Director, Diversity, Inclusion and Professionalism (AD-DIP) was established in 2019. In 2020-2021, the Office for Diversity, Inclusion and Professionalism (DIP) added a number of casual staff roles to develop EDI projects and initiatives within the Faculty. This included hiring the President of the National Society of Black Engineers U of T chapter to develop Black inclusivity initiatives centred around mentorship.
Collect race-based data	Led by the Dean's Advisor on Black Inclusivity Initiatives, a working group consisting of members of the Engineering Equity, Diversity and Inclusion Action Group (EEDIAG and the Registrar's Office created the Engineering Applicant Census (EAC), an optional demographic survey that applicants to the Faculty's undergraduate programs can fill which allow the Faculty to create a demographic profile of the applicants. The pilot of the EAC was implemented for the 2020-2021 application cycle. The data is not shared with the admissions committee, but instead will be used by the Registrar's Office to understand potential barriers in the engagement and admission process for different communities.
Acknowledge and support Black History Month (BHM)	In collaboration with Engineering Strategic Communications, BHM communications campaigns were developed and executed in 2019, 2020 and 2021. The BHM 2021 campaign included increased emphasis on the Black woman experience within the Faculty.
Enhance and streamline communication to advertise and build inclusivity efforts	The EDI webpage, including a joint statement by the Dean and the Engineering Society President on "Our Shared Values of Diversity, Equity, and Inclusivity" launched in 2018. In January 2021, U of T Engineering launched a webpage and form to allow community members to make a confidential disclosure of an incident of bias, discrimination, harassment or harmful unprofessionalism. This portal was publicized on the main Faculty website and in the Faculty & Staff Newsletter.
Have Black representation at departmental and Faculty seminar/lecture series	The co-chairs of BISC brought a proposal to display scholarship of Black academics via departmental seminar or lecture series to the monthly Chairs and Directors meeting in March 2019. Departments/institutes such as ISTEP have brought in Black academics to speak on their research. However, no changes to current processes to facilitate intentional diversification have yet been implemented. In 2021, the University of Toronto Anti-Black Racism Task Force also recommended a lecture series to provide a platform for Black excellence in research.

Have targeted Black undergraduate student recruitment	In the summer of 2020, the Engineering Outreach office launched Blueprint, a four-week summer program for highly motivated Black students in Grades 9 to 12. Blueprint built on the success of other outreach programs, such as ENGage, which has run for more than a decade. More than 50 students joined Blueprint, which was held online due to the COVID-19 pandemic. Engagement with the students who identified as being in Grade 12 continued during the 2020-2021 academic school year. Five of these students received offers of admission to U of T (four in Engineering, one in Arts & Science) to begin undergraduate studies in the 2021 – 2022 academic year. The Recruitment Office has continued to collaborate closely with NSBE U of T on increasing visibility of the Black student community and creating connections for prospective students, including dedicated student panels, and representation in clubs, fairs and open houses. In addition, Recruitment has also provided admissions presentations and promotion for NSBE outreach efforts such as the High School Conference and NSBE Hacks. Data made possible by the Engineering Applicant Census (EAC) further enabled the creation of Black Student Community Welcome events to celebrate Black admitted students and facilitate connections to the U of T Engineering community.
Increase involvement at the NSBE National Convention	U of T Engineering had strong representation at the NSBE Region 1 and national conferences in 2018 and 2019. Due to the COVID-19 pandemic, U of T Engineering's sponsorship of the 2020 NSBE National Convention was transferred to the 2021 Convention which undergraduate and graduate recruiters attended virtually.
Additional Recommendations (From September 2019)	
Prospective and Current Undergraduate Students	
Continual review of broad-based admission goals and procedures to further enhance the equitable and inclusive nature of general admissions	BISC highlighted key questions that the admissions committee should consider with regard to reviewing and updating admission procedures through an equitable lens. No changes to current processes have yet been implemented.
Develop alternative, gap-spanning admission and/or access pathways into U of T Engineering	While no direct changes to current processes have yet been implemented, modules for an online Preparing for University Math Program (PUMP) have been developed by math instructors from both U of T Engineering and the Faculty of Arts & Science, in collaboration with the EdTech office. This program could serve as a component of future access pathway programming.
Develop a centralized peer mentorship initiative	The successful Engineering Campus Experience Officer (Eng CEO) program, with mentors representing a wide range of disciplines, years of study, racial and gender diversity, continued into a third year. In addition, the Office for Diversity, Inclusion and Professionalism (DIP) hired a student-staff member to consult on building specific Black mentorship opportunities within the Faculty, in collaboration with the Assistant Dean, Director of Diversity, Inclusion and Professionalism and the Advancement Office.
Create infrastructure to increase faculty engagement in Outreach	BISC suggested the Office of the Vice-Dean, Research, the Office of the Vice-President, Research and the Engineering Student Outreach Office should collaborate to develop a framework and resource that all faculty members interested in or required to develop outreach programming can and should use. No changes to current processes have yet been implemented.
Increase access to financial aid and scholarships	U of T Engineering has increased its efforts with prospective donors and alumni interested in providing funding for initiatives and awards. In 2020–2021, Advancement reached a gift agreement with CGI, an IT consulting company, to fund the CGI Scholarship for the Advancement of Black Women in Engineering.

Prospective and Current Graduate Students	
Develop targeted workshop series to promote graduate school and support current graduate students	The Office of the Vice-Dean, Graduate has worked with The Programs Chair of NSBE U of T to offer workshops and info sessions on graduate school, providing information on the application process and facilitating panel discussions with Black alumni to provide insight on the graduate school experience.
Create targeted undergraduate research opportunities	No changes to current processes have yet been implemented with regard to targeted undergraduate research opportunities.
Continue to develop targeted recruitment strategies	The Office of the Vice-Dean, Graduate continues to be involved with NSBE conferences and events for recruitment purposes including the NSBE National Convention and more recently the NSBE U of T Hackathon (NSBEHacks). The Graduate Research Days 2021 recruitment event continued to allow for graduate applicants to optionally self-declare their racial/ethnic identity for targeted outreach. In January 2021, U of T Engineering joined with six other Ontario Engineering Faculties to create the Indigenous and Black Engineering & Technology (IBET) Momentum Fellowships. U of T Engineering is allocated two of these fellowships, which provide $25,000 per year for up to four years for incoming Black or Indigenous PhD students. The first recipients were announced in May 2021.
Additional Recommendations (From September 2019)	
Prospective and Current Faculty	
Intentional utilization of Provost Office diversity-driven initiatives	In June 2020 a new faculty member who self-identifies as Black was hired to teach within the Engineering Science program, becoming the Faculty's only self-identified Black professor. A second faculty member who self-identifies as Black is set to join the Department of Chemical Engineering & Applied Chemistry in the fall of 2021, leveraging the Provost's new faculty funding program. BISC recommends that other departments and divisions follow this model.
Develop a framework to facilitate diverse candidate pool formulation and consideration	BISC recommends that departments/institutes follow the Office of the Vice-Provost, Faculty & Academic Life document *Strategies for Recruiting an Excellent & Diverse Faculty Complement: A guide for enhancing the diversity of applicant pools and minimizing the impact of unconscious bias in assessing candidates.* While no formal mechanisms are in place, the Dean's Advisor on Black Inclusivity Initiatives has noted efforts toward inclusive and holistic hiring practices are being implemented at a departmental level.
Define the means to value and incentivize EDI and mentoring work for faculty	No changes to current processes have been implemented.
Prospective and Current Staff	
Develop avenues for formal mentorship	No changes to current processes have been implemented.
Provide opportunities for affinity group community building	Engineering Positive Space exists as a de facto affinity group for the 2SLGBTQ+ community within the Faculty at all levels (students, staff, faculty). No Faculty-centred affinity groups/gatherings for Black community members or other identities are in place.
Improve access to secondment and professional development opportunities	No changes to current processes have yet been implemented with regard to targeted communication to underrepresented staff highlighting opportunities and supports.

General	
Integrate broader EDI considerations into Alumni and Advancement Office operations	In September 2020, the Advancement office hosted an online event, “Skule Voices: Striving for Black Inclusivity,” to provide a platform for Black alumni to share their perspectives/ recommendations with senior Faculty administrators and discuss ways to provide support for current/prospective Black students. The Advancement office is also working to facilitate more opportunities for Black mentorship, and engaging more donors and corporate sponsors interested in engaging in Black community support in engineering education.
Develop more equitable and accessible modes of financial reimbursement and invoice generation	No changes to current processes have been implemented.
Offer and incentivize more equity and cultural competency training for staff/faculty	The Engineering Equity, Diversity, and Inclusion Action Group (EEDIAG) continues to offer learning opportunities for the Faculty. Due to the events of summer 2020, the EEDIAG hosted Addressing Anti-Black Racism & Unpacking Active Allyship in June of that year. EEDIAG also compiled resources to address Anti-Black Racism. There is still opportunity to better highlight the various workshops held by the Anti-Racism and Cultural Diversity Office (ARCDO) and provide more opportunities for staff/faculty to engage them.
Establish hard targets for representation at all Faculty levels	No changes to current processes have yet been implemented.

Figure 3.17 Summary of Progress against the Recommendations of the Final Report (2019) of the Joint Task Force on Academic Advising and Mental Health, 2021

- No Action Taken
- In Progress
- Complete

Recommendations — Undergraduate Experience		
Recommendation	**Status**	**Progress**
1 — Continue to foster a culture of caring and support at U of T Engineering and destigmatize mental health challenges.	•	Over the past year U of T Engineering has continued to foster a culture of care and support and has worked towards destigmatizing mental health challenges. While progress has been made in this area, there is always more work to be done and continual improvements to be made. For this reason, the status of this recommendation will remain as in progress.
2 — Creation of a Dean's Advisory Committee on Student Mental Health and new Mental Health Officer position in the Faculty.	•	In May 2020, U of T Engineering welcomed Melissa Fernandes into the new Mental Health Officer Position at the Faculty. Then, in February 2021, the Faculty welcomed Melanie Carrington into the new Faculty Critical Incident Coordinator role. While there has been on going consultation among staff & faculty on student mental health, a formal Dean's Advisory Committee on Student Mental Health has not been created.
3 — Offer and promote more mental health training resources to U of T Engineering staff and faculty.	•	Over the past year the following mental health trainings and resources have been made available to staff and faculty through the Faculty: – U of T Engineering's COVID-19 Identify, Assist, Refer Reference Guide (on-going) – LivingWorks Start Suicide Prevention Training (on-going) – Supporting Student Mental Wellbeing in the Virtual Classroom (August 23, 2020) – Supporting Student Mental Health: An Update for our Current Context (Department Meeting Segments Spring 2021-Fall 2021) In the summer of 2021, U of T Engineering will be launching a certificate program for staff and faculty on supporting student mental health and well-being.
4 — Identify student mental health and wellness training for all student-facing staff (academic advisors, front line student services, instructors, teaching assistants, etc.)	•	Student-facing staff are encouraged to take the following mental health and wellness trainings to prepare for their roles: – Identify, Assist, Refer Online Training – LivingWorks Start Suicide Prevention Training – Three University resources to assist students in distress: SCRAP, CSO and CP (Found in the LMS Catalog Offerings from the Centre for Learning, Leadership & Culture) – Sexual Violence & Education Prevention Module (Found in the LMS Catalog Offerings from the Centre for Learning, Leadership & Culture) In the summer of 2021, U of T Engineering will be launching a certificate program for staff and faculty on supporting student mental health and well-being. Student-facing staff will be encouraged to complete this certificate.
5 — Ensure new job postings and interview questions for academic advisors include language related to advising-based competencies.	•	New job postings and interview questions have been suggested to U of T Engineering's HR department for inclusion and use when hiring Academic Advisors.

6 — Create a full-time academic advisor position to support first-year international students in the First Year Office and make Engineering Science's new academic advisor position permanent after the one-year contract ends.	•	In March 2020, the First Year Office welcomed JesusMiracle Chiadika into the new position of First Year Advisor, Intercultural Learning & Experience. In April 2020, the Division of Engineering Science welcomed Justina Lee into the new position of Undergraduate Student Advisor (Engineering Science Years 1 & 2, International). In August 2019, the Undergraduate Advisor (Engineering Science Years 1 & 2) position became a continuing position and welcomed Stephen Johns into the role.
7 — Review academic advising caseloads, frequency of complex cases and petition volume by department/division.	•	An initial review of caseloads, frequency of complex cases and petition volume was completed in 2019. These items are continually monitored and discussed in monthly academic advising network meetings with the Assistant Registrar, Student Records and Services.
8 — Development of a proactive advising notification system in the Academic Advising Portal.	•	The Registrar's office piloted the development of a proactive advising notification system with the First Year Office and they are integrating this tool into other departments over summer 2021.
9 — Standardize academic advisors' out-of-office and auto-response messages to include links to helpful resources and services. This effort could be applied to all staff who regularly interact with students.	•	A standardized out-of-office and auto-response message was created and promoted to Academic Advisors in summer 2019 and was added to the Academic Advisors Handbook in winter 2021.
10 — Increase the number of scholarships that recognize U of T Engineering students who have overcome challenges.	•	To date, the following in-course scholarships recognize U of T Engineering students who have overcome challenges: – Aaron Botelho Memorial Scholarship (CivMin) – The John Karl Hergovich Memorial Scholarship (ChemE) – The Glenn & Richard Hauck Memorial Scholarship (EngSci) – Eric Dittmar Scholarship (MIE) In addition to these, the Skule™ Mental Health Bursary was initiated in 2021 as a collaboration between the Engineering Society (EngSoc) and the Faculty of Applied Science & Engineering. This bursary will provide financial aid to undergraduate engineering students experiencing challenging or unforeseen circumstances, with particular focus on students in need of increased mental health and wellness financial support. The first distribution cycle will be fall 2021. Additional in-course scholarships of this nature are still needed for: MSE, ECE and TrackOne.

Recommendations — Graduate Experience

Recommendation	Status	Progress
1 — Increase specificity and consistency of graduate student orientations across the Faculty.	•	In August/September 2020 all first-time TAs were provided asynchronous training on: Academic Integrity; Equity, Diversity & Inclusion; Supporting Student Mental Health; Student Privacy & Protection and Student Privacy & Protection for Virtual Instruction. The Vice-Dean, Graduate Studies office also collaborated with the Graduate Engineering Council of Students to develop an orientation template containing helpful information new incoming students should know about. These slides were shared with individual graduate units so they can add their own specific programming and information to the slides that pertain to their own students.
2 — Explore options for graduate chairs to assess the levels of support available for research-stream graduate students and the climate created by their supervisors.	•	The Vice-Dean, Graduate Studies office piloted a system to receive anonymous feedback from graduate students in MSE on their student experience, including their supervision experience. The results were shared with faculty by the chair to bring awareness of student concerns.

3 — Clarify supervisory expectations by setting guidelines for personal time off and by promoting best practices in graduate supervision within the Faculty.	●	The SGS document on best practices in graduate supervision have been promoted to new Faculty members during the yearly orientation session organized by the Vice-Dean, Research office. Guidelines regarding time off were also discussed. Recent changes to the domains of the Engineering Graduate Education Committee, a standing committee of the Faculty, will make it possible in the future to reinforce best practices and uniformity across U of T Engineering in these areas. In collaboration with GECoS, two town halls with the Dean were organized during the last year. In preparation for those town halls, student surveys were conducted which provided questions that could be answered by the Dean and Vice-Deans about topics such as supervisor expectations and wellness resources.
4 — Reduce barriers for research-stream graduate students who need to take medical leaves of absence.	●	Course syllabus templates were distributed to instructors. These templates include links to SGS policies that pertain to leaves of absence. A web page has been dedicated to mental health and wellness resources on the graduate studies website of the Faculty. This page include links to SGS policies.
5 — All graduate administrators should complete Identify, Assist, Refer (IAR) Training and be encouraged to take additional health and wellness training.	●	Graduate administrators are encouraged to take the following mental health and wellness trainings to prepare for their roles: – Identify, Assist, Refer Online Training – LivingWorks Start Suicide Prevention Training – Three University resources to assist students in distress: SCRAP, CSO and CP (Found in the LMS Catalog Offerings from the Centre for Learning, Leadership & Culture) – Sexual Violence & Education Prevention Module (Found in the LMS Catalog Offerings from the Centre for Learning, Leadership & Culture) The training has been shared with graduate units. In the summer of 2021, U of T Engineering will be launching a certificate program for staff and faculty on supporting student mental health and wellbeing. Student-facing staff will be encouraged to complete this certificate.
6 — Create clear policies for missed work and late withdrawal in graduate and 500-level courses.	●	Recently, the domains of the Engineering Graduate Education Committee and also the Undergraduate Examination Committee, two standing committees of the Faculty, have been modified to address and clarify the process to petition 500-level courses. These changes will become effective in the 2021-2022 academic year.
7 — Make the graduate course schedule available on a centralized website prior to course registration.	●	On our Faculty website, we created a link where all department courses are listed for easy access for students.
8 — Continue to support graduate student mental wellness groups.	●	The Faculty has continued to provide funding for the Graduate Engineering Council of Students (GECoS) to support their Mental Health and Wellness Commission. The Faculty is working on funding to help students who have unanticipated COVID-19 related expenses regarding health and wellness supports. The Faculty has regular meetings with GECoS to receive updates on student concerns, including wellness of students.

CHAPTER 4
RESEARCH

FACTS AND FIGURES

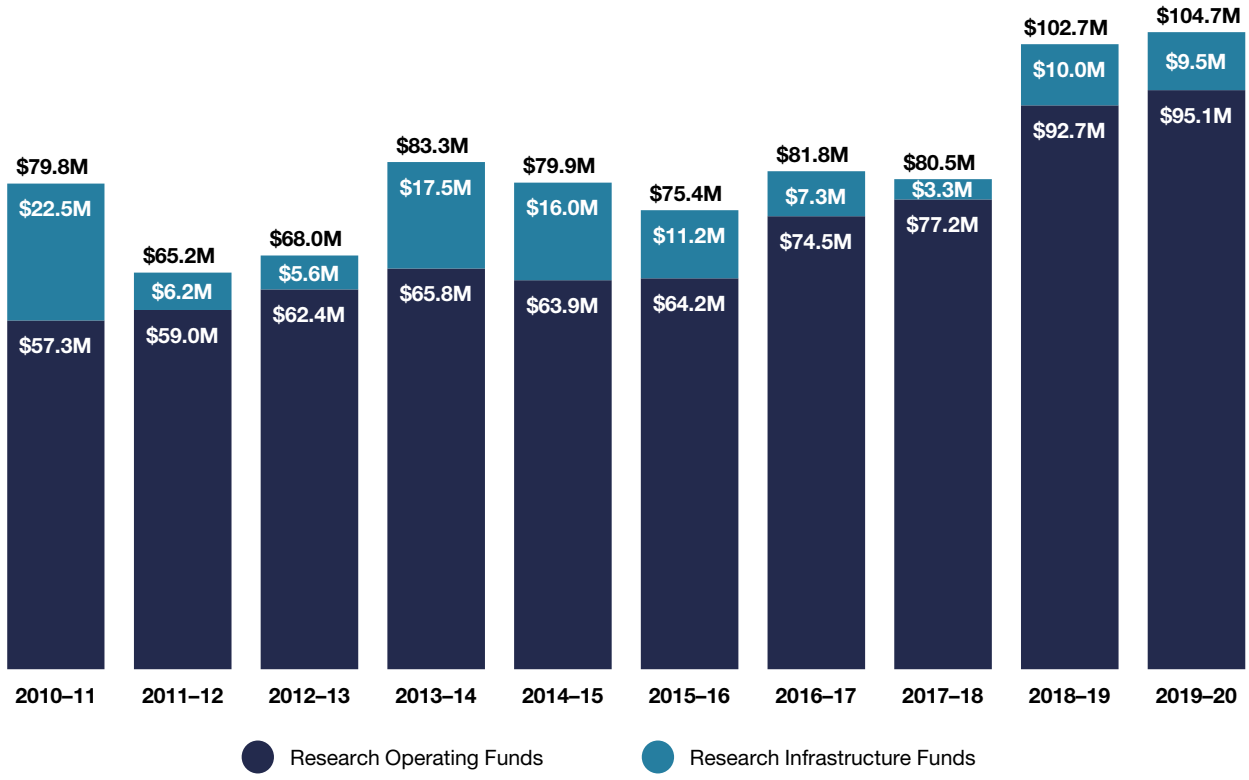
100+
U of T Engineering spinoff companies over the past two decades.

125
U of T Engineering research chairs and professorships, held by 115 individual chairholders.

153.8%
Increase in industry research funding over the past five years, reaching a total of $20.3M for 2019–2020.

$104.7M
Total research infrastructure and research operating funding for 2019–2020, an increase of 38.9% over the previous five years.

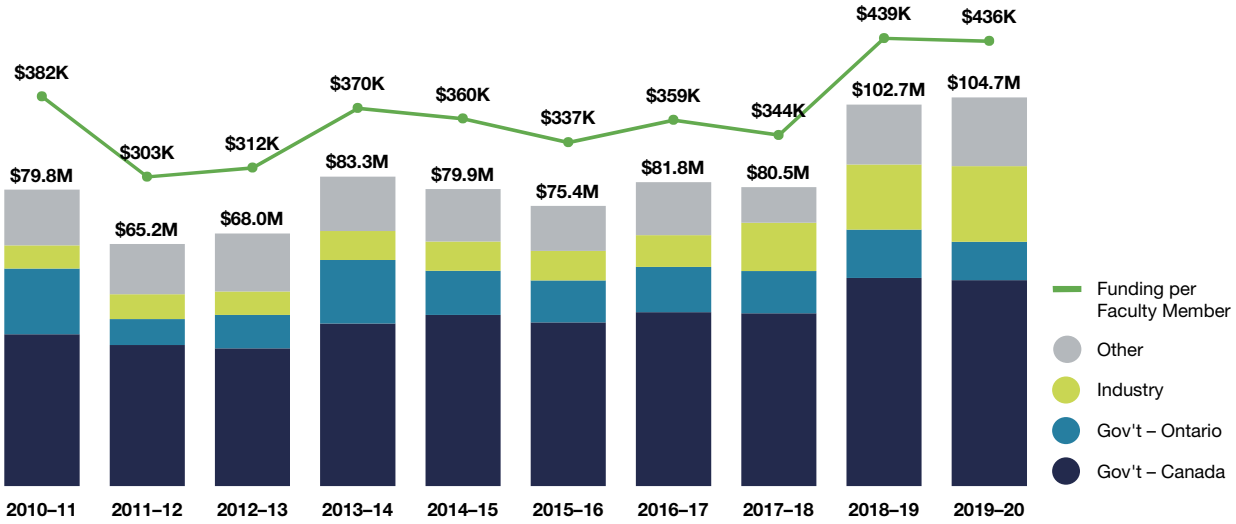
Figure 4.1a **Total Research Funding (Infrastructure + Operating), 2010–2011 to 2019–2020**



Data is based on grant years (April to March). The figures in this chapter report research funding the Faculty received in 2019–2020. Because it takes some time after the completion of a fiscal year for research funding data to become final, this is the most recent year for which data are available. Faculty totals include funding for researchers in the Institute for Studies in Transdisciplinary Engineering Education & Practice (ISTEP). ISTEP funding amounts are not currently large enough to be represented graphically, but will be included as soon as feasible in future Annual Reports.

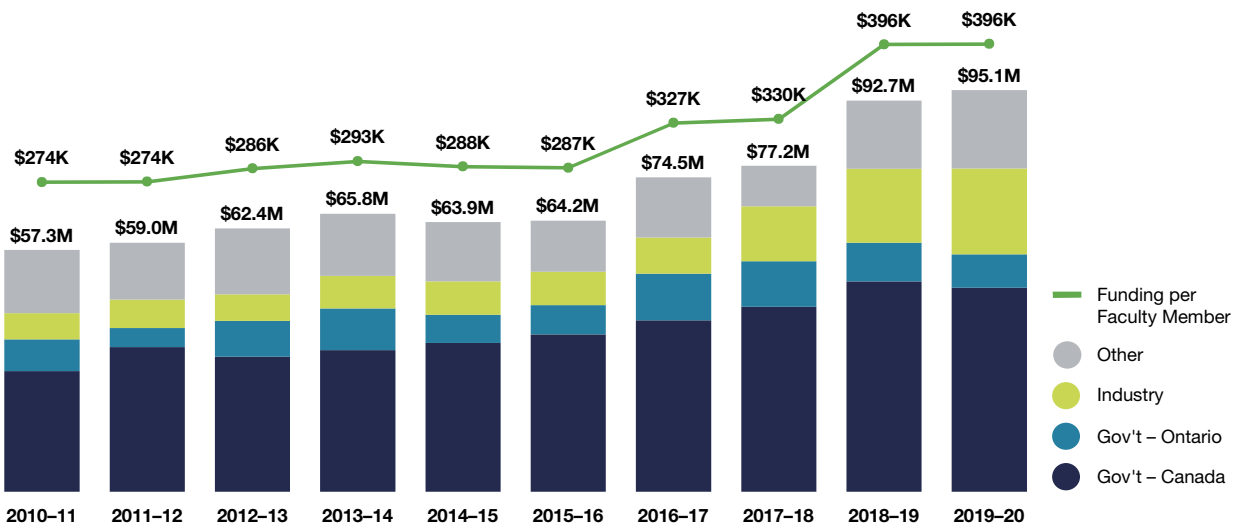
Note 4.1: Research operating funding excludes grants received under the following research infrastructure programs: Canada Foundation for Innovation (except the CFI Career Award); NSERC Research Tools & Instruments program for faculty; Ontario Innovation Trust; and Ontario Research Fund – Research Infrastructure.

Figure 4.1b Total Research Funding (Infrastructure + Operating) by Year, Source and Funding per Faculty Member, 2010–2011 to 2019–2020



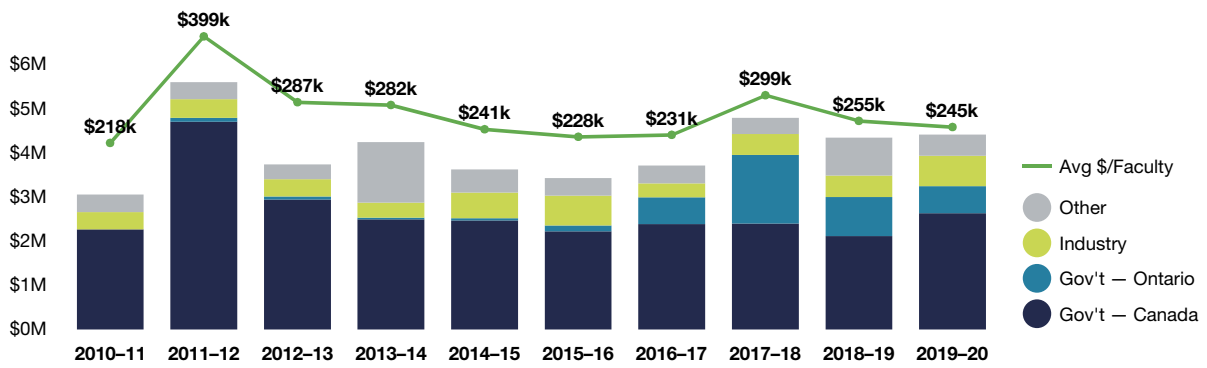
	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Funding per Faculty Member
2010–11	$40,884,625	$17,675,370	$6,212,252	$15,002,740	**$79,774,987**	**$381,699**
2011–12	$37,990,055	$6,969,732	$6,702,708	$13,507,723	**$65,170,217**	**$303,117**
2012–13	$37,059,533	$9,035,997	$6,277,980	$15,621,407	**$67,994,916**	**$311,903**
2013–14	$43,747,987	$17,138,393	$7,749,972	$14,683,976	**$83,320,329**	**$370,313**
2014–15	$46,086,701	$11,858,254	$7,917,673	$14,076,181	**$79,938,809**	**$360,085**
2015–16	$44,064,824	$11,309,313	$7,952,362	$12,112,965	**$75,439,464**	**$336,783**
2016–17	$46,799,045	$12,206,304	$8,547,488	$14,244,909	**$81,797,745**	**$358,762**
2017–18	$46,497,474	$11,400,764	$13,030,714	$9,569,311	**$80,498,262**	**$344,010**
2018–19	$56,036,391	$12,986,642	$17,544,979	$16,136,505	**$102,704,517**	**$438,908**
2019–20	$55,447,101	$10,341,164	$20,332,099	$18,532,437	**$104,652,801**	**$436,053**

Figure 4.1c **Research Operating Funding by Year, Source and Funding per Faculty Member, 2010–2011 to 2019–2020**



	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Funding per Faculty Member
2010–11	$28,558,618	$7,520,797	$6,212,252	$15,002,740	**$57,294,408**	**$274,136**
2011–12	$34,252,390	$4,535,363	$6,702,708	$13,507,723	**$58,998,184**	**$274,410**
2012–13	$31,967,870	$8,511,021	$6,277,980	$15,621,407	**$62,378,278**	**$286,139**
2013–14	$33,512,784	$9,884,984	$7,749,972	$14,683,976	**$65,831,717**	**$292,585**
2014–15	$35,257,439	$6,661,150	$7,917,673	$14,076,181	**$63,912,443**	**$287,894**
2015–16	$37,271,012	$6,908,331	$7,952,362	$12,112,965	**$64,244,670**	**$286,807**
2016–17	$40,580,928	$11,077,686	$8,547,488	$14,244,909	**$74,451,011**	**$326,540**
2017–18	$43,787,838	$10,815,264	$13,030,714	$9,569,311	**$77,203,126**	**$329,928**
2018–19	$49,826,436	$9,157,512	$17,544,979	$16,136,505	**$92,665,433**	**$396,006**
2019–20	$48,311,730	$7,945,084	$20,332,099	$18,532,437	**$95,121,349**	**$396,339**

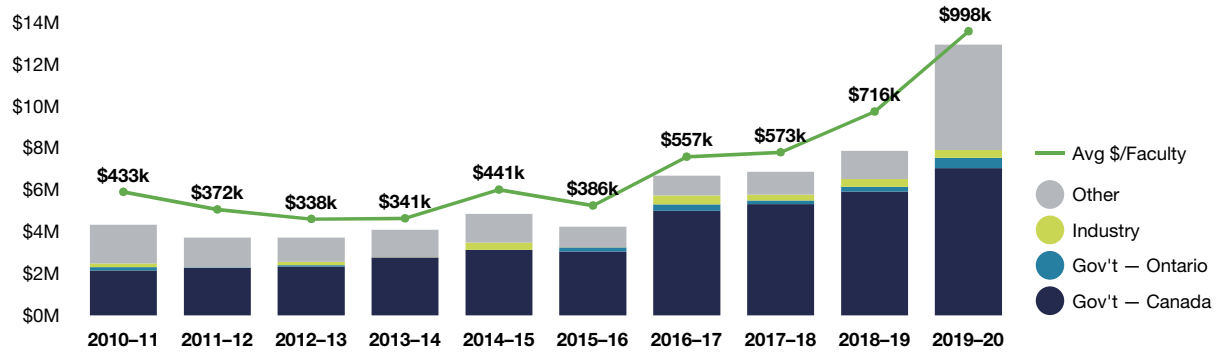
Figure 4.2a Research Operating Funding by Year, Source and Funding per Faculty Member – University of Toronto Institute for Aerospace Studies, 2010–2011 to 2019–2020



	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$2,261,742		$390,200	$396,929	**$3,048,871**	**$217,776**
2011–12	$4,692,107	$89,356	$420,400	$389,239	**$5,591,103**	**$399,364**
2012–13	$2,931,427	$70,157	$390,865	$337,561	**$3,730,009**	**$286,924**
2013–14	$2,485,293	$35,707	$342,396	$1,368,789	**$4,232,186**	**$282,146**
2014–15	$2,458,871	$50,000	$584,609	$518,655	**$3,612,134**	**$240,809**
2015–16	$2,216,737	$130,258	$674,557	$396,078	**$3,417,629**	**$227,842**
2016–17	$2,381,974	$603,265	$313,998	$402,084	**$3,701,321**	**$231,333**
2017–18	$2,390,069	$1,552,621	$474,246	$365,376	**$4,782,312**	**$298,895**
2018–19	$2,107,750	$884,387	$483,164	$858,587	**$4,333,888**	**$254,935**
2019–20	$2,623,551	$616,054	$685,400	$477,708	**$4,402,713**	**$244,595**

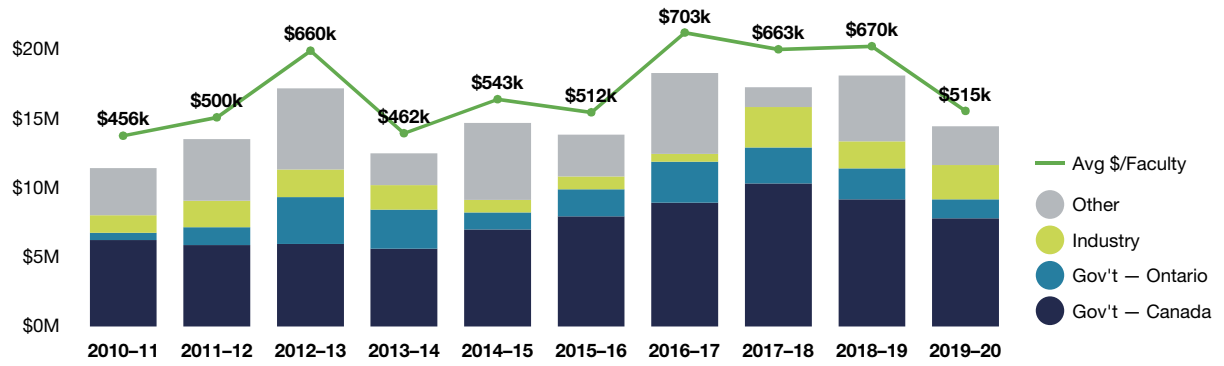
Note 4.2a-g: Figures 4.2a-g show research operating funding only. Research operating funding excludes grants received under the following research infrastructure programs: Canada Foundation for Innovation (except the CFI Career Award); NSERC Research Tools & Instruments program for faculty; Ontario Innovation Trust; and Ontario Research Fund – Research Infrastructure.

Figure 4.2b Research Operating Funding by Year, Source and Funding per Faculty Member – Institute of Biomedical Engineering, 2010–2011 to 2019–2020



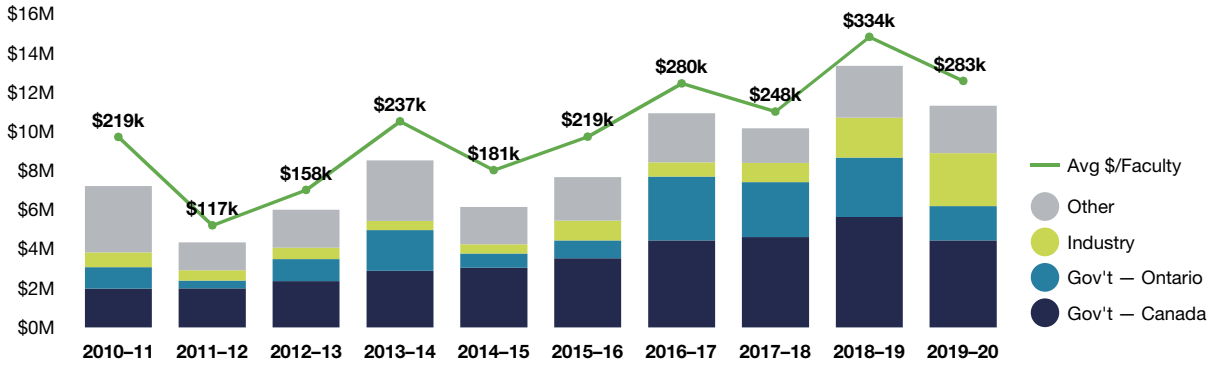
	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$2,141,281	$170,685	$165,534	$1,856,560	**$4,334,059**	**$433,406**
2011–12	$2,261,672	$32,004		$1,426,227	**$3,719,903**	**$371,990**
2012–13	$2,332,396	$61,148	$167,789	$1,158,703	**$3,720,036**	**$338,185**
2013–14	$2,778,594		$1,301	$1,310,903	**$4,090,798**	**$340,900**
2014–15	$3,141,177		$346,061	$1,365,080	**$4,852,317**	**$441,120**
2015–16	$3,056,238	$192,675	$4,802	$993,572	**$4,247,288**	**$386,117**
2016–17	$5,003,749	$306,359	$427,108	$950,860	**$6,688,077**	**$557,340**
2017–18	$5,324,371	$175,245	$285,487	$1,087,099	**$6,872,202**	**$572,684**
2018–19	$5,926,198	$230,707	$373,191	$1,342,443	**$7,872,538**	**$715,685**
2019–20	$7,043,863	$502,283	$371,310	$5,055,058	**$12,972,513**	**$997,886**

Figure 4.2c Research Operating Funding by Year, Source and Funding per Faculty Member – Department of Chemical Engineering & Applied Chemistry, 2010–2011 to 2019–2020



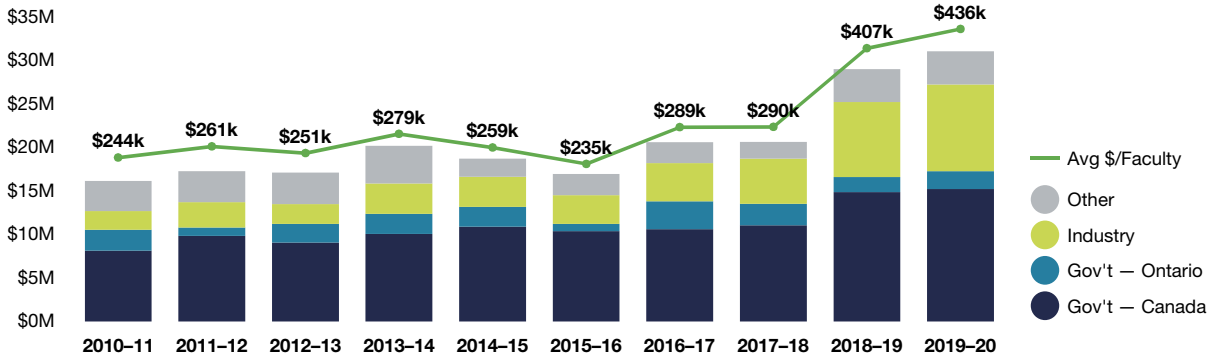
	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$6,226,166	$514,057	$1,261,227	$3,399,936	**$11,401,386**	**$456,055**
2011–12	$5,864,379	$1,283,132	$1,897,761	$4,450,227	**$13,495,500**	**$499,833**
2012–13	$5,933,641	$3,374,496	$1,990,738	$5,850,763	**$17,149,638**	**$659,601**
2013–14	$5,587,121	$2,817,237	$1,770,656	$2,296,491	**$12,471,505**	**$461,908**
2014–15	$6,974,763	$1,224,433	$920,026	$5,552,675	**$14,671,896**	**$543,404**
2015–16	$7,919,414	$1,950,027	$927,888	$3,029,175	**$13,826,504**	**$512,093**
2016–17	$8,911,036	$2,953,230	$570,070	$5,838,018	**$18,272,353**	**$702,783**
2017–18	$10,291,022	$2,608,041	$2,902,418	$1,437,955	**$17,239,437**	**$663,055**
2018–19	$9,157,015	$2,224,886	$1,951,303	$4,758,178	**$18,091,382**	**$670,051**
2019–20	$7,778,626	$1,381,730	$2,473,896	$2,793,823	**$14,428,075**	**$515,288**

Figure 4.2d Research Operating Funding by Year, Source and Funding per Faculty Member – Department of Civil & Mineral Engineering, 2010–2011 to 2019–2020



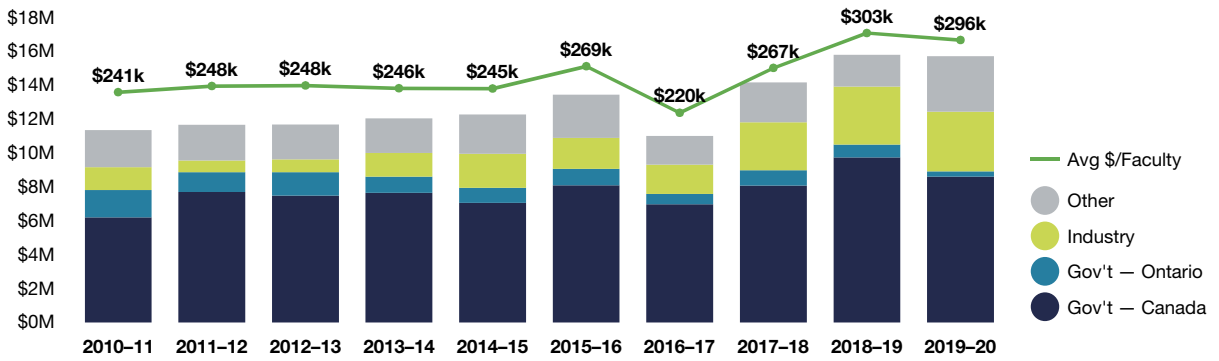
	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$1,981,370	$1,097,073	$747,127	$3,399,792	**$7,225,361**	**$218,950**
2011–12	$1,991,794	$402,645	$515,246	$1,428,083	**$4,337,768**	**$117,237**
2012–13	$2,358,881	$1,121,005	$585,360	$1,941,535	**$6,006,780**	**$158,073**
2013–14	$2,892,286	$2,069,442	$470,776	$3,096,897	**$8,529,400**	**$236,928**
2014–15	$3,037,368	$727,715	$479,896	$1,903,290	**$6,148,269**	**$180,831**
2015–16	$3,532,928	$906,960	$1,014,049	$2,217,963	**$7,671,900**	**$219,197**
2016–17	$4,443,039	$3,266,681	$715,923	$2,509,696	**$10,935,339**	**$280,393**
2017–18	$4,613,547	$2,803,999	$991,529	$1,755,895	**$10,164,970**	**$247,926**
2018–19	$5,644,355	$3,026,574	$2,038,270	$2,650,240	**$13,359,439**	**$333,986**
2019–20	$4,436,617	$1,762,115	$2,702,754	$2,428,880	**$11,330,366**	**$283,259**

Figure 4.2e Research Operating Funding by Year, Source and Funding per Faculty Member – The Edward S. Rogers Sr. Department of Electrical & Computer Engineering, 2010–2011 to 2019–2020



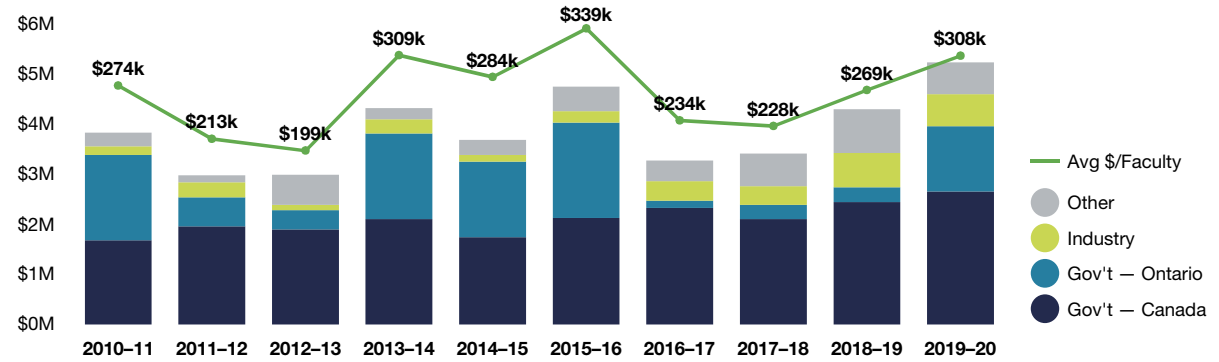
	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$8,085,450	$2,410,791	$2,134,524	$3,477,284	**$16,108,048**	**$244,061**
2011–12	$9,791,711	$977,439	$2,891,234	$3,561,234	**$17,221,619**	**$260,934**
2012–13	$9,041,197	$2,124,989	$2,275,037	$3,626,475	**$17,067,697**	**$250,996**
2013–14	$10,025,104	$2,300,783	$3,482,268	$4,306,878	**$20,115,033**	**$279,375**
2014–15	$10,862,759	$2,259,883	$3,446,268	$2,103,892	**$18,672,803**	**$259,344**
2015–16	$10,337,815	$843,513	$3,276,132	$2,445,366	**$16,902,826**	**$234,761**
2016–17	$10,547,427	$3,200,096	$4,392,019	$2,414,580	**$20,554,122**	**$289,495**
2017–18	$10,998,136	$2,487,824	$5,166,696	$1,923,360	**$20,576,016**	**$289,803**
2018–19	$14,819,977	$1,736,420	$8,589,747	$3,778,002	**$28,924,145**	**$407,382**
2019–20	$15,158,920	$2,052,615	$9,943,696	$3,811,630	**$30,966,861**	**$436,153**

Figure 4.2f Research Operating Funding by Year, Source and Funding per Faculty Member – Department of Mechanical & Industrial Engineering, 2010–2011 to 2019–2020



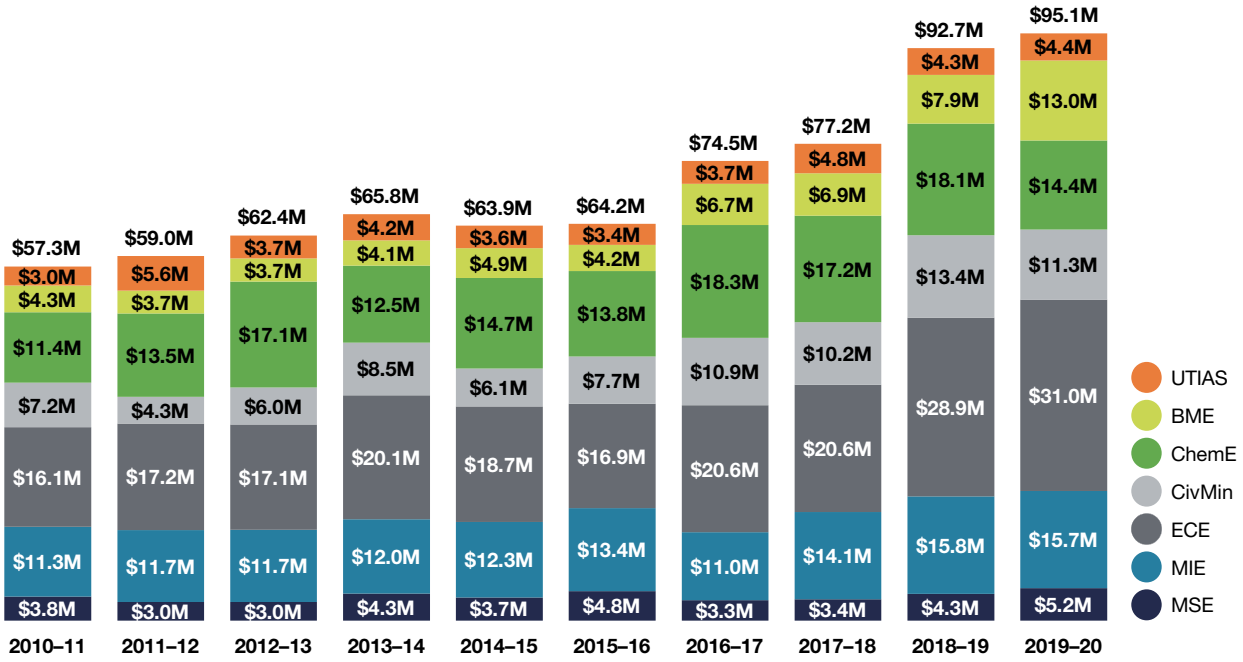
	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$6,181,418	$1,625,461	$1,337,641	$2,198,539	**$11,343,060**	**$241,342**
2011–12	$7,690,713	$1,170,375	$679,470	$2,112,427	**$11,652,984**	**$247,936**
2012–13	$7,473,427	$1,377,151	$757,191	$2,063,149	**$11,670,918**	**$248,317**
2013–14	$7,641,900	$949,834	$1,396,359	$2,042,647	**$12,030,740**	**$245,525**
2014–15	$7,041,883	$885,328	$2,007,844	$2,330,550	**$12,265,605**	**$245,312**
2015–16	$8,084,370	$975,760	$1,824,219	$2,543,280	**$13,427,630**	**$268,553**
2016–17	$6,967,616	$597,396	$1,738,132	$1,688,441	**$10,991,585**	**$219,832**
2017–18	$8,066,841	$902,882	$2,835,767	$2,341,223	**$14,146,714**	**$266,919**
2018–19	$9,729,115	$757,321	$3,424,903	$1,869,072	**$15,780,411**	**$303,469**
2019–20	$8,585,782	$325,756	$3,515,453	$3,271,277	**$15,698,269**	**$296,194**

Figure 4.2g Research Operating Funding by Year, Source and Funding per Faculty Member – Department of Materials Science & Engineering, 2010–2011 to 2019–2020



	Gov't – Canada	Gov't – Ontario	Industry	Other	Total	Avg $/Faculty
2010–11	$1,681,192	$1,702,731	$176,000	$273,700	**$3,833,624**	**$273,830**
2011–12	$1,960,014	$580,411	$298,597	$140,285	**$2,979,307**	**$212,808**
2012–13	$1,896,902	$382,077	$111,000	$598,253	**$2,988,232**	**$199,215**
2013–14	$2,102,486	$1,711,981	$286,216	$223,872	**$4,324,555**	**$308,897**
2014–15	$1,740,619	$1,513,791	$132,970	$302,039	**$3,689,419**	**$283,801**
2015–16	$2,123,510	$1,909,137	$230,715	$487,530	**$4,750,892**	**$339,349**
2016–17	$2,326,088	$143,197	$390,239	$415,974	**$3,275,497**	**$233,964**
2017–18	$2,103,851	$284,651	$374,571	$650,567	**$3,413,640**	**$227,576**
2018–19	$2,442,027	$297,219	$684,401	$877,043	**$4,300,690**	**$268,793**
2019–20	$2,654,532	$1,304,530	$639,589	$640,061	**$5,238,713**	**$308,160**

Figure 4.3 **Distribution of Research Operating Funding by Academic Area, 2010–2011 to 2019–2020**



Note 4.3: Totals include a small amount of additional funding not shown in the breakdown by academic areas (e.g. Dean's Office, ISTEP).

Figure 4.4a **Tri-Agency and NCE Support: CIHR, NSERC and NCE Funding, 2010–2011 to 2019–2020**

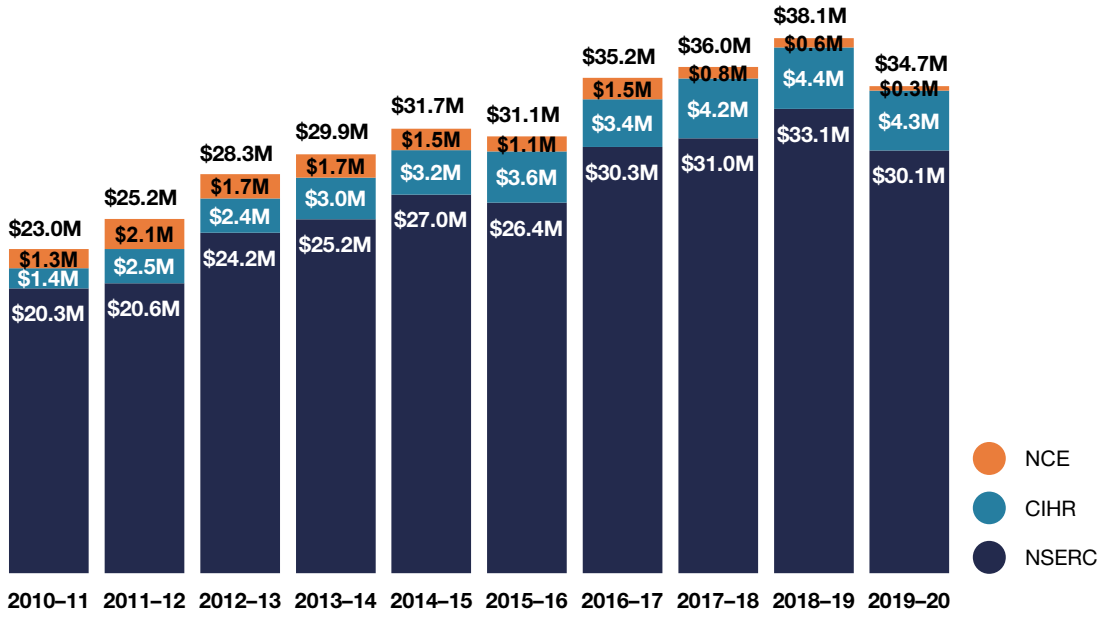
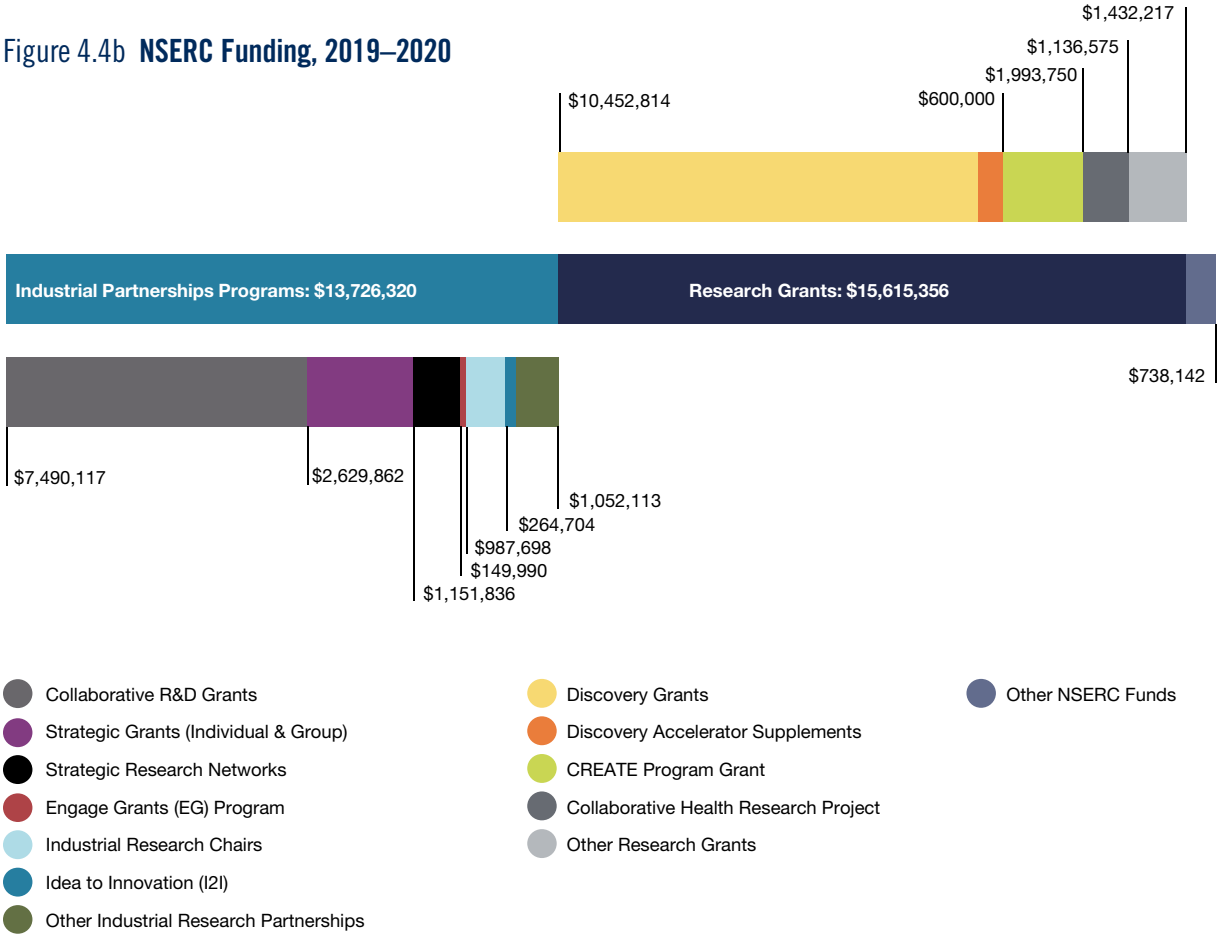
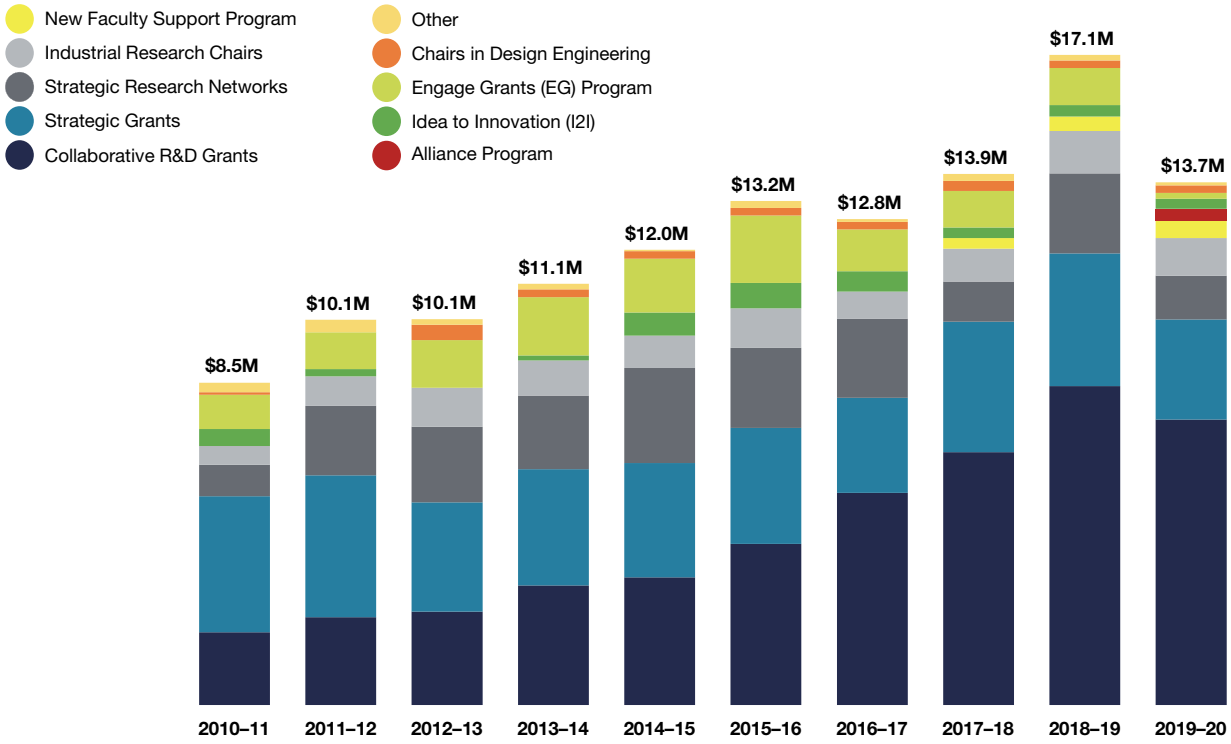


Figure 4.4b **NSERC Funding, 2019–2020**



Note 4.4b: Data as of May 2021 and based on grant year (April to March).

Figure 4.4c **NSERC Industrial Partnership Funding by Program, 2010–2011 to 2019–2020**



	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Other	$251,770	$328,780	$146,905	$148,381	$32,031	$178,803	$72,536	$181,987	$143,886	$82,500
Chairs in Design Engineering	$69,076		$400,000	$200,000	$200,000	$200,000	$200,000	$260,000	$200,000	$200,000
Engage Grants (EG) Program	$897,115	$960,531	$1,254,468	$1,533,923	$1,412,871	$1,767,890	$1,095,326	$957,043	$974,926	$149,990
Idea to Innovation (I2I)	$448,612	$195,000		$133,750	$608,417	$669,364	$535,951	$279,835	$297,051	$264,704
Alliance Program										$310,774
New Faculty Support Program								$277,802	$383,839	$458,839
Industrial Research Chairs	$485,711	$773,964	$1,025,031	$918,349	$847,278	$1,040,762	$713,023	$868,417	$1,112,457	$987,698
Strategic Research Networks	$832,697	$1,826,000	$1,978,886	$1,935,440	$2,500,000	$2,100,000	$2,075,000	$1,050,000	$2,098,164	$1,151,836
Strategic Grants	$3,567,278	$3,725,048	$2,875,127	$3,050,468	$3,001,609	$3,047,358	$2,503,150	$3,431,426	$3,486,099	$2,629,862
Collaborative R&D Grants	$1,909,431	$2,301,643	$2,445,210	$3,137,628	$3,347,888	$4,226,332	$5,564,099	$6,633,399	$8,372,707	$7,490,117
Total	**$8,461,689**	**$10,110,965**	**$10,125,627**	**$11,057,939**	**$11,950,094**	**$13,230,509**	**$12,759,084**	**$13,939,910**	**$17,069,129**	**$13,726,320**

Note 4.4c: The NSERC Alliance Program replaces several older programs, such as Collaborative Research and Development (CRD) Grants, Strategic Grants, Strategic Research Networks, Industrial Research Chairs (IRC), Engage Grants and Connect Grants, which are being phased out accordingly. For a detailed listing, please visit the NSERC website.

Figure 4.4d **Industrial Partnerships as Percentage of Total NSERC Funding, 2010–2011 to 2019–2020**

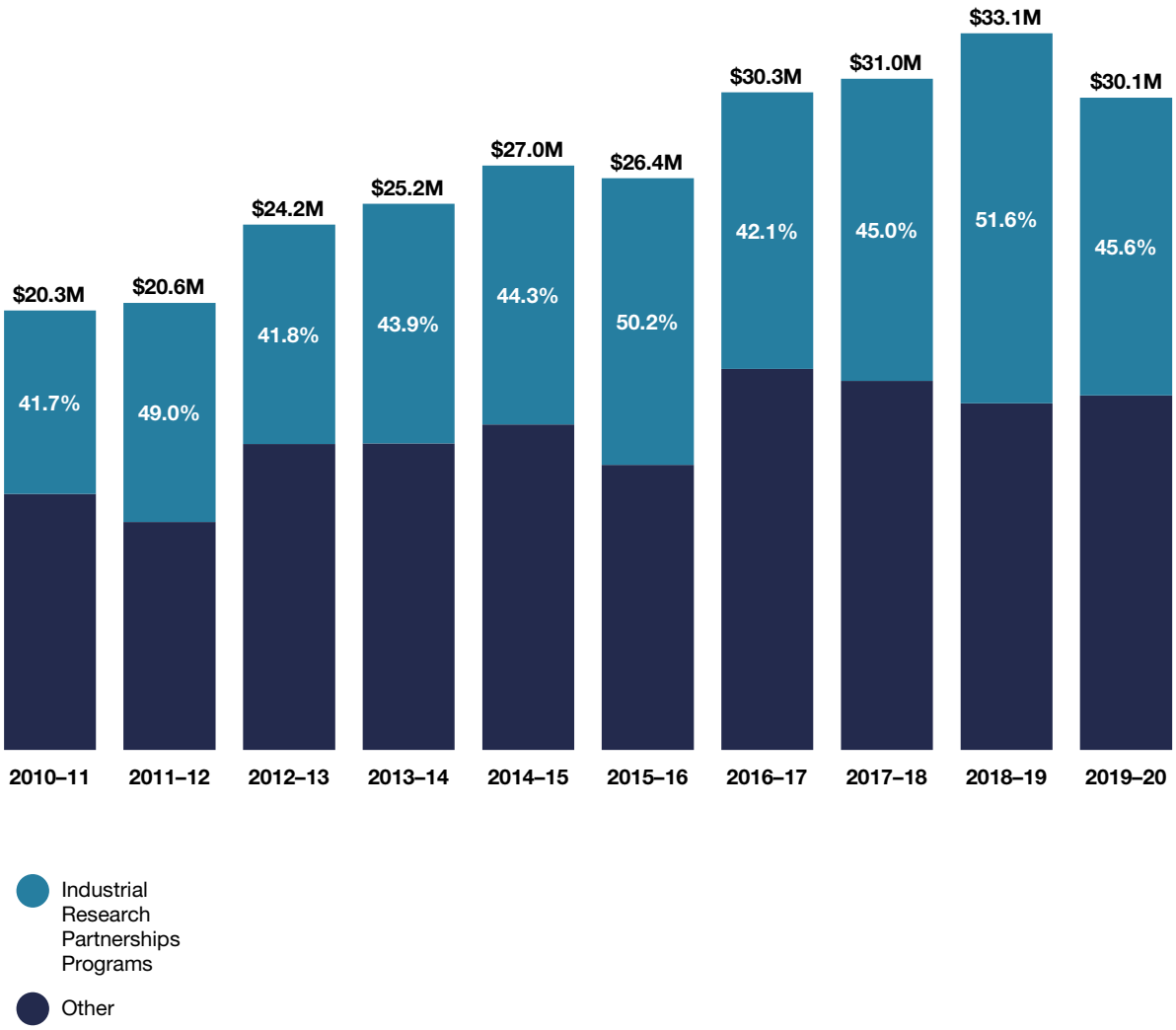
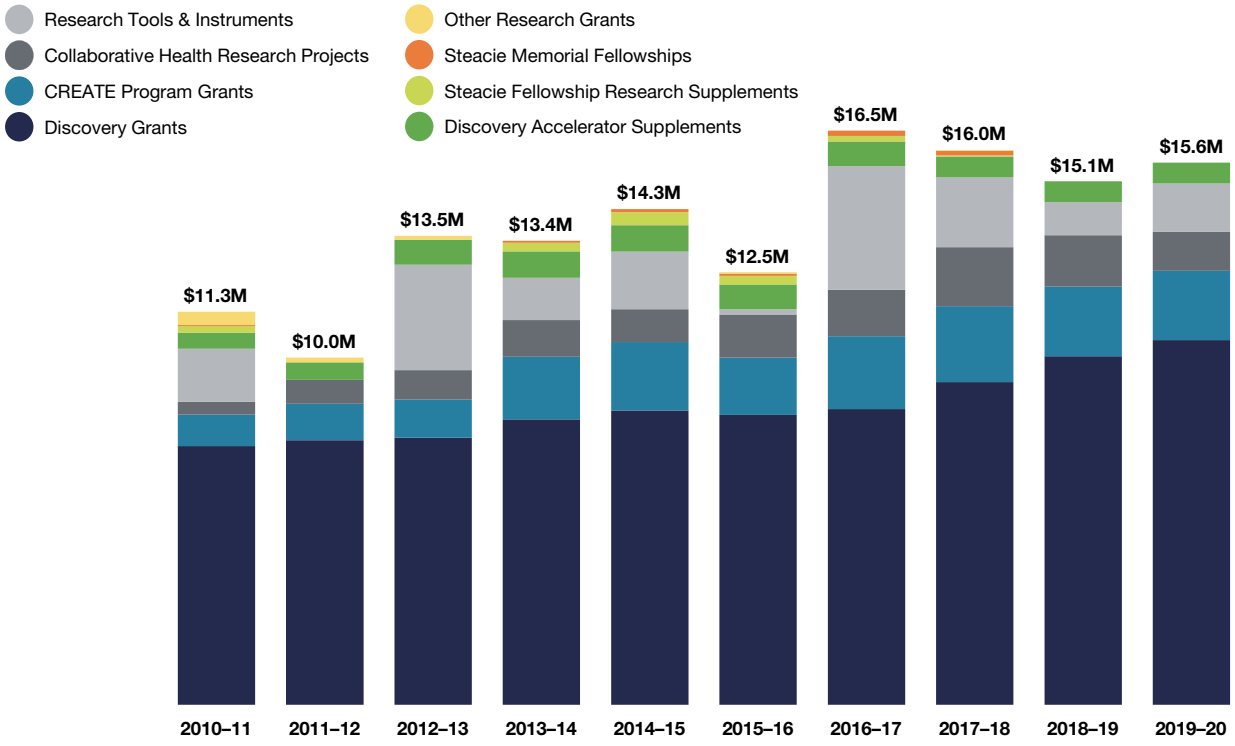


Figure 4.4e **NSERC Research Grant Funding by Program, 2010–2011 to 2019–2020**



	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Other Research Grants	$382,583	$132,000	$111,000			$40,000		$25,000		
Steacie Memorial Fellowships	$30,000			$60,000	$90,000	$60,000	$155,000	$125,000		
Steacie Fellowship Research Supplements	$187,500			$250,000	$375,000	$250,000	$155,000	$30,000		
Discovery Accelerator Supplements	$464,000	$504,000	$720,000	$760,000	$760,000	$716,285	$719,970	$600,000	$600,000	$600,000
Research Tools & Instruments	$1,533,781		$3,043,029	$1,218,076	$1,654,682	$146,872	$3,553,291	$2,011,907	$948,685	$1,382,217
Collaborative Health Research Projects	$366,899	$696,536	$846,731	$1,060,212	$950,376	$1,248,480	$1,338,873	$1,699,697	$1,489,331	$1,136,575
CREATE Program Grants	$900,000	$1,050,000	$1,095,969	$1,797,084	$1,969,779	$1,650,000	$2,100,000	$2,189,233	$2,000,767	$1,993,750
Discovery Grants	$7,455,305	$7,615,892	$7,693,942	$8,223,362	$8,477,417	$8,346,179	$8,517,937	$9,294,300	$10,038,497	$10,502,814
Total	**$11,320,068**	**$9,998,428**	**$13,510,671**	**$13,368,734**	**$14,277,254**	**$12,457,816**	**$16,540,070**	**$15,975,137**	**$15,077,281**	**$15,615,356**

Figure 4.5a **Canadian Peer Universities vs. University of Toronto Share of NSERC Funding for Engineering Cumulative Five-Year Share, 2015–2016 to 2019–2020**

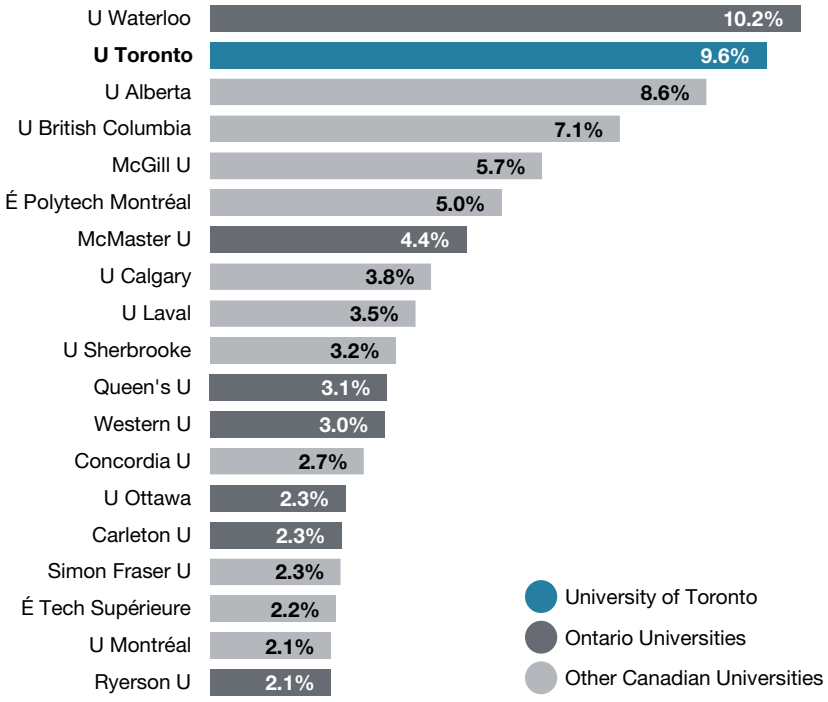
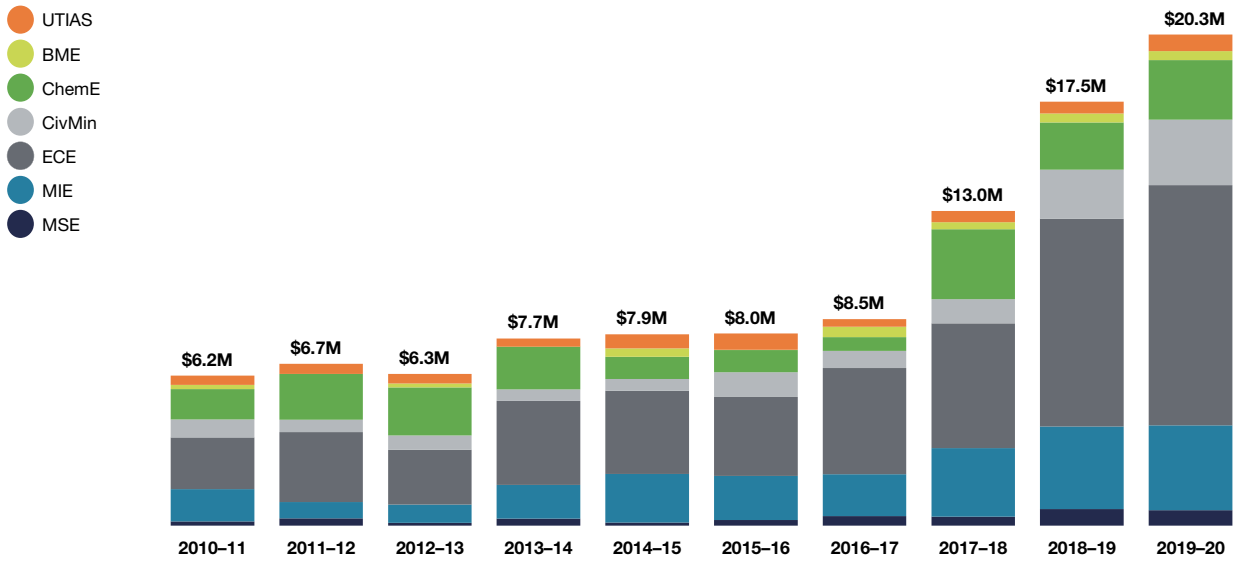


Figure 4.5b **U of T Annual Share of NSERC Funding in Engineering, 2010–2011 to 2019–2020**

2010–11	9.0%
2011–12	9.5%
2012–13	9.0%
2013–14	9.6%
2014–15	9.5%
2015–16	10.0%
2016–17	9.9%
2017–18	10.1%
2018–19	9.4%
2019–20	8.8%

Note 4.5a, b: Data are from the NSERC advanced search website and are shown by NSERC's fiscal year (April to March).

Figure 4.6a **Industry Research Funding by Academic Area, 2010–2011 to 2019–2020**



	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
UTIAS	$390,200	$420,400	$390,865	$342,396	$584,609	$674,557	$313,998	$474,246	$483,164	$685,400
BME	$165,534		$167,789	$1,301	$346,061	$4,802	$427,108	$285,487	$373,191	$371,310
ChemE	$1,261,227	$1,897,761	$1,990,738	$1,770,656	$920,026	$927,888	$570,070	$2,902,418	$1,951,303	$2,473,896
CivMin	$747,127	$515,246	$585,360	$470,776	$479,896	$1,014,049	$715,923	$991,529	$2,038,270	$2,702,754
ECE	$2,134,524	$2,891,234	$2,275,037	$3,482,268	$3,446,268	$3,276,132	$4,392,019	$5,166,696	$8,589,747	$9,943,696
MIE	$1,337,641	$679,470	$757,191	$1,396,359	$2,007,844	$1,824,219	$1,738,132	$2,835,767	$3,424,903	$3,515,453
MSE	$176,000	$298,597	$111,000	$286,216	$132,970	$230,715	$390,239	$374,571	$684,401	$639,589
Total	**$6,212,252**	**$6,702,708**	**$6,277,980**	**$7,749,972**	**$7,917,673**	**$7,952,362**	**$8,547,488**	**$13,030,714**	**$17,544,979**	**$20,332,099**

Note 4.6a: ISTEP does not currenty receive any direct industry funding, but will be included in future reports.

Figure 4.6b **Industry Partnerships, 2020–2021**

- 3E Nano Inc.
- ABB Group
- Advanced Measurement and Analysis Group Inc.
- Advanced Micro Devices Inc.
- Advanis
- Aerodyne
- Afsan Engineering Co.
- AGFA
- Agnico-Eagle Mines Ltd.
- Agrium Inc.
- Airbus SAS
- Alcan Aluminum International
- Alcohol Countermeasure Systems
- Altera Corp.
- AMAG Ltd.
- AMEC Foster Wheeler
- Americas Styrenics LLC
- Analog Devices Inc.
- Andec Manufacturing Ltd.
- Andritz Group
- Anemoi Technologies Inc.
- Angstrom Engineering Inc.
- Antex Western
- Apotex Inc.
- Applanix
- Apple
- Aquafor Beech
- Arauco
- ArcelorMittal Dofasco
- Armacell
- Artium Technologies
- Atomic Energy of Canada Ltd.
- AUG Signals Ltd.
- Autodesk
- AV Nackawic Group
- Avalon Rare Metals
- Avertus Epilepsy Technologies Inc.
- Babcock & Wilcox Ltd.
- BaoWu Steel Group Corp.
- Barrick Gold Corp.
- Bell Helicopter Textron Inc.
- BEMISA
- Bickell Foundation (J. P. Bickell)
- BioCardia Inc.
- BiomeRenewables
- Bio-Rad Laboratories Canada Ltd.
- Blackberry
- BMW
- Boeing
- Boise Cascade
- Bombardier Aerospace
- Bombardier Inc.
- Braskem
- BresoTec Inc.
- Brican Automated Systems Inc.
- Brigham & Women's Hospital
- CAE
- Calera
- CalEnergy Generation
- Calgon Carbon Corp. Canadian Institute of Steel Construction
- Canadian Kraft Paper
- Canadian Nuclear Safety Commission
- Canadian Precast/Prestressed Concrete Institute
- Canadian Renewable Fuels Association
- Canadian Urban Transit Research & Innovation Consortium
- Candu Energy Inc.
- Candu Owners Group
- Candura Instruments
- CanSyn Chem Corp.
- Carbon Cure Technologies
- Cardinal Health
- Carter Holt Harvey Ltd.
- Cascades
- Cast Connex Corp.
- CD Nova
- Celestica
- CellScale Biomaterials Testing
- Celulose Nipo-Brasileira
- Cement Association of Canada
- CENIBRA
- Center for Automotive Materials and Manufacturing
- Centre Line Ltd.
- Chemetry
- Christie Digital Systems Canada Inc.
- Chrysler Canada Inc.
- Ciena Canada Inc.
- CIMA Canada Inc.
- Clearpath Robotics
- Clyde-Bergemann Inc.
- CMC Electronics
- CMPC
- Colibri Technologies
- COM DEV International Ltd.
- Commissariat à l'energie atomique
- ConCast Pipe
- Concretec Ltd.
- Connaught Foundation
- Cook Medical
- Coraltec Inc.
- CPCI
- Createx Technology (Suzhou) Co., Ltd.
- Crosswing Inc.
- Curiousitate
- Cyberworks Robotics
- Daishowa-Marubeni International (DMI) Ltd.
- Dana Canada Corp.
- Daniels Group
- Dasaerospace Inc.
- Datatrends Research Corp.
- DCL International
- Defence Science & Techology Lab (UK)
- Dell
- Detour Gold Corp.
- Deveron
- Dionex
- Dongwon Technology Co. Ltd.
- Domtar Inc.
- Dr. Robot Inc.
- Drone Delivery Canada
- Droplet Measurement Technologies
- DSO National Laboratories
- DuPont Canada Inc.
- Eavor Technologies Inc.
- eCamion Incorporated
- Eclipse Scientific Inc.
- Ecobee Inc.
- EcoSynthetix
- Eco-Tec Inc.
- Eldorado Brasil
- Electrovaya Inc.
- Eli Lilly Research Laboratories
- EllisDon
- Enbridge Gas Distribution Inc.
- Energent Inc.
- Engineering Services Inc.
- ENMAX Power Corp.
- Ensyn Technologies Inc.
- ERCO Worldwide
- Ericsson Canada Inc.
- ESG Solutions
- exactEarth Inc.
- Exigence Technologies
- Expert Process Solutions (XPS)
- Explora Foundation
- Exxon Mobil Corp.
- Facca Inc.
- Fibria Celulose
- Fidelity Canada
- Finisar Corp.
- FITNIR
- Flight Safety International
- Food BioTek Corp.
- Ford Motor Company (USA)
- Ford Motor Company of Canada
- Fortress Advanced Bioproducts
- FP Innovations
- Fuji Electric Co. Ltd.
- Fujitsu Laboratories Ltd.

- Fujitsu Labs of America Inc.
- Futurebound Corp.
- Futurewei Technologies Inc.
- G. Cinelli – Esperia Corp.
- GE Energy
- GE Global Research
- GE Zenon
- Gedex Inc.
- Gener8 Inc.
- General Dynamics Canada
- General Electric Canada
- General Electric Inc.
- General Motors of Canada Ltd.
- Genpak
- Georgia-Pacific
- Geosyntec Consultants
- Gerdau Long Steel North America
- GHGSat Inc.
- GlaxoSmithKline Inc.
- Glencore Canada Corp.
- Goodrich Landing Gear
- Grafoid Inc.
- Greencore Composites
- Groupe Mequaltech Inc.
- G.S. Dunn Dry Mustard Millers
- GTAA Toronto Pearson
- GVA Lighting
- Hanwha Solar Canada
- Hard Rock Innovations Inc.
- Hatch Ltd.
- Havelaar Canada
- Hawker Siddeley Canada
- HDR Corp.
- Hedgefog Research Inc.
- Hitachi High-Technologies Canada
- Holcim Inc.
- Honeywell
- Huawei Technologies Co. Ltd.
- Hunch Manifest Inc.
- Huron Digital Pathology
- Hydro One Networks
- Hydro Quebec
- Hydrogenics
- Hyundai Motor Company
- IBI Group
- IBM Canada Ltd.
- IBM T. J. Watson Research Center
- IGPC Ethanol
- IMAX Corp.
- Imperial Oil Ltd.
- Independent Electricity System Operator (IESO)
- Indian Oil Company
- Industrial Thermo Polymers Ltd.
- Ingenia Polymers Corp.
- Inphi Corp.
- Institute for Energy Technology (Norway)
- Integran Technologies Inc.
- Intel Corp.
- Interface Biologics Inc.
- International Business Machines (IBM)
- International Paper Company
- Ionicon
- Ionics Mass Spectrometry Group Inc.
- IRISNDT Corp.
- Irving Pulp & Paper Ltd.
- JDS Uniphase Inc.
- JITRI Micro and Nano Automation
- JNE Chemicals
- Johnson & Johnson Inc.
- Johnson Matthey
- Kapik Integration
- Kasai Kogyo Co. Ltd.
- Kevin Quan Studios
- Keysight Technologies Canada Inc.
- Kiln Flame Systems Ltd.
- Kimberly-Clark Corp.
- Kinetica Dynamics
- Kinross Gold Corp.
- Klabin
- KQS Inc.
- Krauss Maffei Corp.
- Kumho Petrochemical R & D Center
- Laboratoire d'essai Mequaltech
- LaFarge Canada
- Lallemand Inc.
- Lattice Semiconductor Ltd.
- Leader's Circle
- LG Chem
- LightMachinery Inc.
- Lisgar Construction Company
- Litens Automotove Group
- Lorama Group Inc.
- Lubrizol
- Lumentra Inc.
- MacDonald, Dettwiler and Associates (MDA) Ltd.
- Magellan Aerospace
- Magna Closures
- Magna Exteriors and Interiors
- Magna International Inc.
- Magna Powertrain
- Manitoba Hydro
- Mantech Inc.
- Marmak Information Technologies
- Materials & Manufacturing Ontario
- Maxim Integrated Products Inc.
- McEwen Mining Inc.
- Meadow Lake Mechanical Pulp
- MeadWestvaco (MWV) Corp.
- Mercedes-Benz Research and Development North America
- Mercer
- Messier-Bugatti-Dowty
- Messier-Dowty Inc.
- Metso Pulp, Paper and Power
- Microbonds Inc.
- Micropilot
- Millipore
- Mine Environment Neutral Drainage
- Minerva Canada Safety Management
- Mitsubishi Rayon Co. Ltd.
- Moldflow Corp.
- Monaghan Biosciences Ltd.
- Nanowave
- NanoXplore Inc.
- National Aeronautical Establishment (USA)
- NatureWorks LLC
- NCK Engineering
- Neo Performance Materials
- Nestle Canada
- New World Laboratories
- Newterra
- Nike Inc.
- Noram
- Nordion International Inc.
- Northern Yashi Engineering Construction, Ltd.
- NUCAP Global
- Nuclear Waste Management Organization
- Nutrien
- NXP Semiconductors Netherlands BV
- OCMR
- Olympus Canada
- Olympus NDT Canada
- Ontario Clean Water Agency
- Ontario Power Generation Inc.
- Ontario Renal Network
- Opal-RT Technologies Inc.
- ORNGE Medical Transport
- Ossur Canada Inc.
- OtoSim
- OZ Optics Ltd
- Pall Corp.
- Perkin Elmer Canada
- Petronas Canada
- Pfizer Inc.
- Philips Electronics North America Corp.
- Plasco Energy Group
- Platinum Unlimited Inc.
- Polumiros Inc.
- Polycon Industries
- Porewater Solutions
- Potent Group Inc.
- Pratt & Whitney Canada Inc.
- PrecisionHawk
- Process Research Ortech Inc.
- Procter & Gamble
- Prothena Biosciences Inc.
- Purolator
- QD Solar Inc.
- Qualcomm Canada Inc.

- Qualcomm Technologies Inc.
- Quanser Inc.
- Quantum Dental Technologies (QDT) Inc.
- Questor Technologies Inc.
- Quorum Technologies Inc.
- Rayonier Advanced Materials
- RBC – Royal Bank of Canada
- Regeneron Pharmaceuticals
- RESCON
- Resertrac Inc.
- Resolute Forest Products
- Resonance Ltd.
- Resource Systems Group Inc.
- Rio Tinto Alcan Inc.
- Robert Bosch Corp.
- Rockwell International
- Rocscience Inc.
- Rohto Pharmaceutical
- Rolls Royce Canada Ltd.
- Rubikloud Technologies Inc.
- RWDI
- Safety Power Inc.
- Safran Electronics Canada
- Samsung Advanced Institute of Technology
- Samsung Display
- Samsung Electronics
- Sanofi Pasteur
- Sappi
- Saudi Basic Industries Corp. (SABIC)
- Sceye Inc.
- Schlumberger Canada Ltd.
- Sealed Air Corp.
- Semiconductor Research Corp.
- Sensor Technology Ltd.
- S-FRAME Software Inc.
- ShawCor
- Shinil Chemical Industry Co. Ltd.
- Side Effects Software
- Sidewalk Toronto Employees Ltd.
- Siemens ADGT
- Siltech Corporation
- Sinclair Interplanetary
- Sinclair Technologies Inc.
- Södra
- Solantro Semiconductor Corp.
- Solar Ship Inc.
- Solvay Specialty Polymers
- Sony Corp.
- SPP Canada Aircraft Inc.
- St Mary's Cement Group
- Stackpole International
- Stantec Inc.
- Steel Structures Education Foundation
- StemCell Tecnologies Inc.
- StoraEnso
- Sulzer Metco
- Suncor Energy Inc.
- Sunnybrook Health Sciences Centre
- Sunwell Technologies
- Suzano Papel e Celulose
- Synbra
- Syncrude Canada Ltd.
- Tantalus Rare Earths AG
- Teck Resources Ltd.
- Teledyne ISCO
- TELUS
- Telus Mobility
- Tembec Industries Inc.
- Tenova GoodFellow Inc.
- Tessonics Inc.
- Thales Canada Inc.
- The Iron Ore Company of Canada (IOC)
- The Miller Group
- Theralase Inc.
- ThermoFisher Scientific
- Tolko Industries Ltd.
- Toronto Hydro
- Total American Services Inc.
- Tower Automotive
- Tower Solutions
- Toyota Collaborative Safety Research Center (CSRC)
- Toyota Technical Center USA Inc.
- TransCanada
- Trapeze Software ULC
- Trojan Technologies Inc.
- TSI
- Ultrasonix
- Uncharted Software Inc.
- Unisearch Associates
- US Steel Canada
- VAC Aero International Inc.
- Vale Canada Ltd.
- Valmet Ltd.
- Vicicog
- VisImage Systems Inc.
- Visual8 Corp.
- Volkswagen Canada Inc.
- VTT Technical Research Centre of Finland
- Waterloo Instruments Inc.
- Westport Innovations
- Westrock
- Whitemud Resources
- WSP Canada Inc.
- Wugang Canada Resources Invest. Ltd.
- Wurth Elektronik eiSos GmbH & Co. KG
- Wuzhong Instrument Company
- Xilinx Inc.
- Xiphos Technologies Inc.
- XOR-Labs Toronto
- Xstrata Nickel
- Xylitol Canada
- Zotefoams PLC

Note 4.6b: The list above includes companies from U of T's Research Information System, along with collaborators that fund research through a number of industrial research consortia, including those associated with many of our Industrial Research Chairs. It does not include companies that hire our students through the Professional Experience Year Co-op program, work with them on Multidisciplinary Capstone Projects, or provide philanthropic support.

Figure 4.7a **U of T Engineering Invention Disclosures by Academic Area, 2016–2017 to 2020–2021**

	2016–17	2017–18	2018–19	2019–20	2020–21	5-Yr Total
UTIAS	1.0	1.0	0.0	1.0	2.0	**5.0**
BME	8.0	8.0	17.0	18.0	6.0	**57.0**
ChemE	18.0	7.0	16.0	19.0	8.0	**68.0**
CivMin	2.0	3.0	3.0	7.0	4.0	**19.0**
ECE	36.0	48.0	43.0	53.0	44.0	**224.0**
EngSci	1.0	2.0	1.0	1.0	1.0	**6.0**
MIE	23.0	17.0	21.0	24.0	21.0	**106.0**
MSE	5.0	6.0	10.0	4.0	5.0	**30.0**
Annual Total	**94.0**	**92.0**	**111.0**	**127.0**	**91.0**	**515.0**
University Annual Total	**204.0**	**164.0**	**194.0**	**183.0**	**122.0**	**867.0**
Engineering Percentage	**46%**	**56%**	**57%**	**69%**	**75%**	**59%**

Figure 4.7b **Patent Applications by Faculty, 2020–2021**

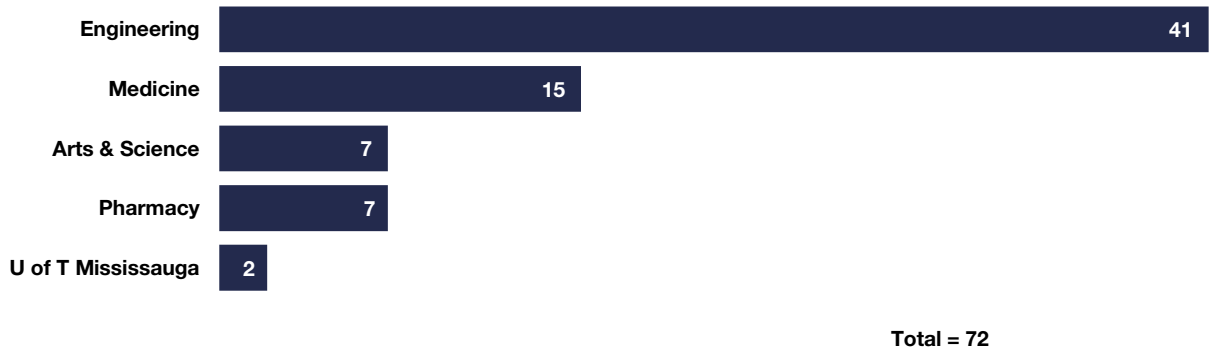


Figure 4.8 **Spinoff Companies, 2001 to 2021**

Est.	Company Name	Engineering Affiliation	Department
2021	Infera, Inc.	Prasanth Nair	UTIAS
2021	Mazlite	Nasser Ashgriz	MIE
2020	CERT Systems Inc.	Ted Sargent & David Sinton	ECE, MIE
2020	hedQTRS	Deepa Kundur	ECE
2020	Quantum Bridge Technologies Inc.	Hoi-Kwong Lo	ECE
2020	Stim49	Paul Yoo	BME
2020	Synakis	Molly Shoichet	ChemE
2020	Tartan AI Ltd.	Andreas Moshovos	ECE
2019	Amber Molecular Inc.	Tim Bender	ChemE
2019	Exactly Eyewear	Haonan “Alan” Li	ECE
2019	Micellae Delivery Systems Inc.	Mehdi Nouraei	ChemE
2018	Sankoya Technologies	Yu-Ling Cheng	ChemE
2018	BIM2Network	Tamir El-Diraby	CivMin
2018	Mesosil	Benjamin Hatton & Yoav Finer	MSE
2018	Micromensio	Glenn Gulak	ECE
2018	Phenomic AI	Brendan Frey	ECE
2018	Phycus Biotechnologies	Vik Pandit	ChemE
2017	Centivizer	Mark Chignell	MIE
2017	Quthero Inc.	Milica Radisic	BME, ChemE
2017	Shield Crypto Systems Inc.	Glenn Gulak	ECE
2016	3E Nano Inc.	Nazir Kherani	ECE
2016	AmacaThera Inc. (formerly Hammock Pharmaceuticals Inc.)	Molly Soichet & Michael Cooke	ChemE, BME
2016	Ardra Bio Inc.	Radhakrishnan Mahadevan	ChemE
2016	Interface Fluidics	David Sinton	MIE
2016	Knitt Labs, Inc. (formerly FlexCube Technology Inc.)	Shuze Zhao	ECE
2016	LegUp Computing Inc.	Jason Anderson & Stephen Brown	ECE
2016	Polumiros Inc.	Soror Sharifpoor & Kyle Battiston	BME
2016	Sheba Microsystems Inc.	Ridha Ben Mrad & Faez Ba-Tis	MIE
2016	Sonare Inc.	David Steinman & Luis Aguilar	MIE
2016	YSCOPE	Ding Yuan	ECE
2015	Appulse Power Inc. (formerly ICE3 Power Technologies Inc.)	Aleksander Prodic	ECE
2015	Deep Genomics Inc.	Brendan Frey	ECE
2015	EBT Inc.	Paul Yoo	BME
2015	ExCellThera Inc.	Peter Zandstra	BME
2015	Rheo Technologies	Craig Simmons	MIE
2015	Tara Biosystems, Inc.	Milica Radisic	BME, ChemE
2014	Arrowonics Inc.	Hugh Liu	UTIAS
2014	Enceladeus Imaging	Steve Mann	ECE
2014	Pragmatek Transport Innovations, Inc.	Baher Abdulhai	CivMin
2014	QD Solar Inc.	Sjoerd Hoogland and Ted Sargent	ECE
2014	Toronto Nano Instrumentation Inc. (TNi Inc.)	Yu Sun	MIE
2014	XCellPure Inc.	Milica Radisic	BME, ChemE
2014	XTouch Inc.	Parham Aarabi	ECE
2013	CoursePeer	Hadi Aladdin	ECE
2013	eQOL Inc.	Binh Nguyen	ECE
2013	Kydo Engineering	John Ruggieri	ChemE
2013	Lullyn Technologies Inc.	Michael Joy	BME
2013	Sonas Systems Inc.	Joyce Poon	ECE

2013	SpineSonics Medical Inc.	Richard Cobbold	BME
2013	Whirlscape Inc.	Will Walmsley	MIE
2012	Kinetica Dynamics Inc.	Constantin Christopoulos	CivMin
2012	MyTrak Health Systems	Sean Doherty	CivMin
2012	OTI Lumionics Inc.	Zheng-Hong Lu	MSE
2012	XTT	Parham Aarabi	ECE
2011	Aereus Technologies Inc. (formerly Aereus Wood)	Javad Mostaghimi	MIE
2011	Bionym Inc.	Karl Martin	ECE
2011	Filaser Inc.	Peter Herman	ECE
2011	Luminautics Inc. (formerly Ensi Solutions)	Graham Murdoch	MSE
2011	Nymi (formerly Bionym Inc.)	Karl Martin	ECE
2011	Ojiton Inc.	Tom Chau	BME
2011	PRISED Solar Inc.	Wahid Shams-Kolahi	ECE
2011	RenWave	Mohamed Kamh	ECE
2011	Sense Intelligent	Brian Hu	ECE
2011	Xagenic Canada Inc.	Ted Sargent	ECE
2010	Arda Power Inc.	Peter Lehn	ECE
2010	FOTA Technologies	Tony Chan Carusone	ECE
2009	Chip Care Corp.	J. Stewart Aitchison	ECE
2009	Cytodiagnostics	Warren Chan	BME
2009	Peraso Technologies Inc.	Sorin Voinigescu	ECE
2008	Ablazeon Inc.	Javad Mostaghimi	MIE
2008	Arch Power Inc.	Mohammad (Reza) Iravani	ECE
2008	AXAL Inc.	Milos Popovic & Egor Sanin	BME
2008	Incise Photonics Inc.	Peter Herman	ECE
2008	Quantum Dental Technologies	Andreas Mandelis	MIE
2008	Simple Systems Inc.	Milos Popovic, Aleksandar Prodic & Armen Baronijan	ECE, BME
2007	002122461 Ontario Inc.	Harry Ruda	MSE
2007	Cast Connex Corp.	Jeffrey Packer & Constantin Christopoulos	CivMin
2007	Elastin Specialties	Kimberly Woodhouse	ChemE
2007	Inometrix Inc.	Michael Galle	ECE
2007	Modiface Inc.	Parham Aarabi	ECE
2007	Neurochip Inc.	Berj Bardakjian	BME
2007	Viewgenie Inc.	Parham Aarabi	ECE
2006	Anviv Mechatronics Inc. (AMI)	Andrew Goldenberg	MIE
2006	InVisage Technologies Inc.	Ted Sargent	ECE
2006	Metabacus	Jianwen Zhu	ECE
2006	Vennsa Technologies Inc.	Andreas Veneris & Sean Safarpour	ECE
2005	Greencore Composites	Mohini Sain	Forestry, ChemE
2004	Field Metrica Inc. (FMI)	Tim DeMonte, Richard Yoon	BME
2004	Tissue Regeneration Therapeutics Inc. (TRT)	J.E. Davies	BME
2003	1484667 Ontario Inc.	Brad Saville	ChemE
2003	ArchES Computing Systems Corp.	Paul Chow	ECE
2003	Norel Optronics Inc.	Zheng-Hong Lu	MSE
2003	Vocalage Inc.	Mark Chignell	MIE
2002	Information Intelligence Corporation (IIC)	Burhan Turksen	MIE
2002	MatRegen Corp.	Molly Shoichet	BME, ChemE
2002	OMDEC Inc.	Andrew K.S. Jardine	MIE
2002	SiREM	Elizabeth Edwards	ChemE
2001	Fox-Tek	Rod Tennyson	UTIAS
2001	Insception Biosciences	Peter Zandstra	BME
2001	Interface Biologics	Paul Santerre	BME

Figure 4.9 **Chairs and Professorships**

Title	Chairholder	Sponsor	Tier	Dept.
Alumni Chair in Bioengineering	Cristina Amon	Endowed		MIE
Bahen/Tanenbaum Chair in Civil Engineering	Jeffrey Siegel	Endowed		CivMin
Bahen/Tanenbaum Chair in Civil Engineering	Amer Shalaby	Endowed		CivMin
Bell Canada Chair in Computer Engineering	Baochun Li	Endowed		ECE
Bell Canada Chair in Multimedia	Kostas Plataniotis	Endowed		ECE
Bell Canada Chair in Software Engineering	Michael Stumm	Endowed		ECE
Canada Research Chair in Advanced Catalysis for Sustainable Chemistry	Cathy Chin	NSERC	Tier 2	ChemE
Canada Research Chair in Anaerobic Biotechnology	Elizabeth Edwards	NSERC	Tier 1	ChemE
Canada Research Chair in Atmospheric Chemistry and Health	Arthur Chan	NSERC	Tier 2	ChemE
Canada Research Chair in Cellular Hybrid Materials	Glenn Hibbard	NSERC	Tier 2	MSE
Canada Research Chair in Collaborative Robotics	Jonathan Kelly	NSERC	Tier 2	UTIAS
Canada Research Chair in Computational Modelling and Design Optimization Under Uncertainty	Prasanth Nair	NSERC	Tier 2	UTIAS
Canada Research Chair in Computer Architecture	Natalie Enright Jerger	NSERC	Tier 2	ECE
Canada Research Chair in Diffusion-Wave Sciences and Technologies	Andreas Mandelis	NSERC	Tier 1	MIE
Canada Research Chair in Electric Power Systems	Ali Hooshyar	NSERC	Tier 2	ECE
Canada Research Chair in Endogenous Repair	Penney Gilbert	NSERC	Tier 2	BME
Canada Research Chair in Engineered Soft Materials and Interfaces	Arun Ramchandran	NSERC	Tier 2	MIE
Canada Research Chair in Environmental Engineering and Stable Isotopes	Elodie Passeport	NSERC	Tier 2	ChemE, CivMin
Canada Research Chair in Freight Transportation and Logistics	Matthew Roorda	NSERC	Tier 2	CivMin
Canada Research Chair in Functional Cardiovascular Tissue Engineering	Milica Radisic	NSERC	Tier 2	BME, ChemE
Canada Research Chair in Human Factors and Transportation	Birsen Donmez	NSERC	Tier 2	MIE
Canada Research Chair in Information Processing and Machine Learning	Brendan Frey	NSERC	Tier 1	ECE
Canada Research Chair in Information Theory and Wireless Communications	Wei Yu	NSERC	Tier 1	ECE
Canada Research Chair in Machine Learning for Robotics and Control	Angela Schoellig	NSERC	Tier 2	UTIAS
Canada Research Chair in Metabolic Systems Engineering	Radhakrishnan Mahadevan	NSERC	Tier 1	ChemE
Canada Research Chair in Micro and Nano Engineering Systems	Yu Sun	NSERC	Tier 2	MIE
Canada Research Chair in Microfluidics and Energy	David Sinton	NSERC	Tier 1	MIE
Canada Research Chair in Modelling of Electrical Interconnects	Piero Triverio	NSERC	Tier 2	ECE
Canada Research Chair in Nanobioengineering	Warren Chan	NSERC	Tier 1	BME
Canada Research Chair in Nanotechnology	Edward Sargent	NSERC	Tier 1	ECE
Canada Research Chair in Network Information Theory	Ashish Khisti	NSERC	Tier 2	ECE
Canada Research Chair in Novel Optimization and Analytics in Health	Timothy Chan	NSERC	Tier 2	MIE
Canada Research Chair in Organic Optoelectronics	Zheng-Hong Lu	NSERC	Tier 1	MSE
Canada Research Chair in Power Electronic Converters	Olivier Trescases	NSERC	Tier 2	ECE
Canada Research Chair in Quantitative Cell Biology and Morphogenesis	Rodrigo Fernandez-Gonzalez	NSERC	Tier 2	BME

Title	Chairholder	Sponsor	Tier	Dept.
Canada Research Chair in Robots for Society	Goldie Nejat	NSERC	Tier 2	MIE
Canada Research Chair in Secure and Reliable Computer Systems	David Lie	NSERC	Tier 1	ECE
Canada Research Chair in Seismic Resilience of Infrastructure	Constantin Christopoulos	NSERC	Tier 2	CivMin
Canada Research Chair in Sustainable Infrastructure	Shoshanna Saxe	NSERC	Tier 2	CivMin
Canada Research Chair in Synthetic Biology	Michael Garton	CIHR	Tier 2	BME
Canada Research Chair in Systems Software	Ding Yuan	NSERC	Tier 2	ECE
Canada Research Chair in Thermofluidics for Clean Energy	Aimy Bazylak	NSERC	Tier 2	MIE
Canada Research Chair in Transportation and Air Quality	Marianne Hatzopoulou	NSERC	Tier 2	CivMin
Canada Research Chair in Urban Mining Innovations	Gisele Azimi	NSERC	Tier 2	ChemE, MSE
Celestica Chair in Materials for Microelectronics	Doug Perovic	Endowed		MSE
Clarice Chalmers Chair of Engineering Design	Greg Jamieson	Endowed		MIE
Claudette MacKay-Lassonde Chair in Mineral Engineering	Lesley Warren	Endowed		CivMin
Dean's Catalyst Professor	Amy Bilton			MIE
Dean's Catalyst Professor	Arthur Chan			ChemE
Dean's Catalyst Professor	Kinnor Chattopadhyay			MSE
Dean's Catalyst Professor	Eric Diller			MIE
Dean's Catalyst Professor	Jennifer Drake			CivMin
Dean's Catalyst Professor	Jonathan Kelly			UTIAS
Dean's Catalyst Professor	Edmond W.K. Young			MIE
Dean's Emerging Innovation in Teaching Professor	Chris Bouwmeester			BME
Dean's Emerging Innovation in Teaching Professor	Ariel Chan			ChemE
Dean's Emerging Innovation in Teaching Professor	Jennifer Farmer			ChemE
Dean's Emerging Innovation in Teaching Professor	Dawn Kilkenny			BME
Dean's Emerging Innovation in Teaching Professor	Elham Marzi			ISTEP
Dean's Emerging Innovation in Teaching Professor	Patricia Sheridan			ISTEP
Dean's Emerging Innovation in Teaching Professor	Hamid Timorabadi			ECE
Dean's Emerging Innovation in Teaching Professor	Chirag Variawa			ISTEP
Dean's Spark Professor	Fae Azhari			CivMin, MIE
Dean's Spark Professor	Giselle Azimi			ChemE
Dean's Spark Professor	Erin Bobicki			MSE, ChemE
Dean's Spark Professor	Merve Bodur			MIE
Dean's Spark Professor	Hai-Ling Margaret Cheng			BME, ECE
Dean's Spark Professor	Mason Ghafghazi			CivMin, MIE
Dean's Spark Professor	Alison Olechowski			MIE, ISTEP
Dean's Spark Professor	Daniel Posen			CivMin
Dean's Spark Professor	Scott Sanner			MIE
Dean's Spark Professor	Shoshanna Saxe			CivMin
Dean's Spark Professor	Marianne Touchie			CivMin, MIE
Dean's Spark Professor	Yu Zou			MSE
Decanal Chair in Innovation	Christopher Yip	Endowed		Dean's Office
Edward S. Rogers Sr. Chair in Engineering	Brendan Frey	Endowed		ECE
Erwin Edward Hart Professor in Chemical Engineering and Applied Chemistry	Alison McGuigan	Endowed		ChemE
Erwin Edward Hart Professor in Civil Engineering	Daman Panesar	Endowed		CivMin

Title	Chairholder	Sponsor	Tier	Dept.
Erwin Edward Hart Professor in Materials Science and Engineering	Chandra Veer Singh	Endowed		MSE
Erwin Edward Hart Professor in Mechanical and Industrial Engineering	Tobin Filleter	Endowed		MIE
Eugene V. Polistuk Chair in Electromagnetic Design	Sean Hum	Endowed		ECE
Frank Dottori Chair in Pulp and Paper Engineering	D. Grant Allen	Endowed		ChemE
Gerald R. Heffernan Chair in Materials Processing	Mansoor Barati	Endowed		MSE
J. Armand Bombardier Foundation Chair in Aerospace Flight	Chris Damaren	Endowed		UTIAS
Joseph C. Paradi Chair in Information Engineering	Yuri Lawryshyn	Endowed		ChemE
L. Lau Chair in Electrical and Computer Engineering	Ben Liang	Endowed		ECE
Meek Family Chair in Advanced Nanotechnology	Harry Ruda	Endowed		MSE
Michael E. Charles Chair in Chemical Engineering	Molly Shoichet	Endowed		ChemE, BME
Nortel Institute Chair in Emerging Technology	J. Stewart Aitchison	Endowed		ECE
Nortel Institute Chair in Network Architecture and Services	Shahrokh Valaee	Endowed		ECE
NSERC Chair in Multidisciplinary Engineering Design	Kamran Behdinan	NSERC		MIE
NSERC Industrial Research Chair in Nanomaterials and Nanomedicine (with Johnson & Johnson Medical Products)	Frank Gu	NSERC		ChemE
NSERC Industrial Research Chair in Source Water Quality Monitoring and Advanced/Emerging Technologies for Drinking Water Treatment	Robert Andrews	NSERC		CivMin
NSERC Industrial Research Chair in Technologies for Drinking Water Treatment	Ron Hofmann	NSERC		CivMin
NSERC Industrial Research Chair in the Role and Fate of Inorganics in the Industrial Processing of Woody Biomass	Nikolai DeMartini	NSERC		ChemE
NSERC/Altera Industrial Research Chair in Programmable Silicon	Vaughn Betz	NSERC/Altera		ECE
NSERC/Cement Association of Canada Industrial Research Chair in Concrete Durability and Sustainability	Doug Hooton	NSERC/CAC		CivMin
NSERC-Energi Simulation Industrial Research Chair and Foundation CMG Industrial Research Chair in Fundamental Petroleum Rock Physics and Rock Mechanics	Giovanni Grasselli	NSERC/Energi Simulation		CivMin
NSERC/NanoXplore Industrial Research Chair in Multifunctional Graphene-based Nanocomposites and Foams	Chul Park	NSERC/NanoXplore		MIE
NSERC/UNENE Industrial Research Chair in Corrosion Control and Materials Performance in Nuclear Power Systems	Roger Newman	NSERC/UNENE		ChemE
Percy Edward Hart Professor in Aerospace Engineering	Philippe Lavoie	Endowed		UTIAS
Percy Edward Hart Professor in Biomaterials and Biomedical Engineering	Jonathan Rocheleau	Endowed		BME
Percy Edward Hart Professor in Electrical and Computer Engineering	Natalie Enright Jerger	Endowed		ECE
PERDC Chair in Sustainable Materials	Mohini Sain	Endowed		MIE
Pierre Lassonde Chair in Mining Engineering	John Hadjigeorgiou	Endowed		CivMin
Robert M. Smith Chair in Geotechnical Mine Design and Analysis	Kamran Esmaeili	Endowed		CivMin
Skoll Chair in Computer Networks and Enterprise Innovation	Elvino Sousa	Endowed		ECE
Skoll Chair in Software Engineering	Jason Anderson	Endowed		ECE
Stanley Ho Professorship in Microelectronics	Sorin Voinigescu	Endowed		ECE

Title	Chairholder	Sponsor	Tier	Dept.
Ted Rogers Chair in Cardiovascular Engineering	Daniel Franklin	Endowed		BME
U of T Distinguished Professor of Digital Communications	Frank Kschischang			ECE
U of T Distinguished Professor of Mechanobiology	Craig Simmons			MIE, BME
U of T Distinguished Professor of Microcellular Engineered Plastics	Chul Park			MIE
U of T Distinguished Professor of Nanobioengineering	Warren Chan			BME
U of T Distinguished Professor of Urban Systems Engineering	Mark Fox			MIE
U of T Distinguished Professor of Computational Aerodynamics and Sustainable Aviation	David Zingg			UTIAS
U of T Distinguished Professor in Forest Biomaterials Engineering	Ning Yan			ChemE
University Professor	Michael Collins			CivMin
University Professor	Elizabeth Edwards			ChemE
University Professor	Edward Sargent			ECE
University Professor	Michael Sefton			ChemE
University Professor	Molly Shoichet			ChemE, BME
Velma M. Rogers Graham Chair in Engineering	George Eleftheriades	Endowed		ECE
W. M. Keck Chair in Engineering Rock Mechanics	John Harrison	Endowed		CivMin
Wallace G. Chalmers Chair of Engineering Design	Li Shu	Endowed		MIE

Note 4.9: Chairs and Professorships are listed as of July 1, 2021.

CHAPTER 5
AWARDS & RANKINGS

FACTS AND FIGURES

#1

U of T Engineering's rank within Canada for both the QS and Times Higher Education world rankings.

Top 15

U of T Engineering's rank among North American public universities across all major ranking systems.

25.0%

U of T Engineering's share of major awards for which Canadian engineering professors are eligible (2020). Our faculty make up 5.4% of the Canadian total.

40

International, national and regional awards for research and teaching earned by U of T Engineering faculty members in 2020–2021.

Figure 5.1 Summary of University of Toronto Engineering Performance in World Rankings, 2020–2021

Ranking Organization	Release Date	Canada	North American Public	World
QS World University Ranking for Engineering and Technology	**March 2021**	1	3	18
QS World University Ranking by Subject	March 2021			
– Chemical Engineering		1	7	26
– Civil & Structural Engineering		2	7	34
– Computer Sci. & Information Systems		1	2	11
– Electrical & Electronic Engineering		1	4	24
– Materials Science		1	9	39
– Mechanical, Aeronautical & Manuf. Eng.		2	9	42
– Mineral & Mining Engineering		5	8	27
Times Higher Education (THE) – Elsevier World University Ranking for Engineering & Technology	**October 2020**	1	7	28
Academic Ranking of World Universities (ARWU) for Engineering Subjects	**June 2020**			
– Aerospace Engineering		1	8	23
– Biomedical Engineering		1	6	27
– Chemical Engineering		4	25	132
– Civil Engineering		4	13	37
– Computer Science and Engineering		1	2	9
– Electrical & Electronic Engineering		1	14	33
– Materials Science & Engineering		1	14	69
– Mechanical Engineering		2	17	79
– Mining & Mineral Engineering		2	2	20
National Taiwan University (NTU) Performance Ranking of Scientific Papers for World Universities — Engineering	**October 2020**	2	12	78
NTU Performance Ranking by Subject	October 2020			
– Chemical Engineering		5	20	140
– Civil Engineering		2	10	70
– Computer Science		3	6	62
– Electrical Engineering		2	5	45
– Materials Science		1	12	90
– Mechanical Engineering		2	12	92

Rankings data are current as of the date indicated in Figure 5.1. Awards data are presented for the 2020 calendar year (January to December). Selected faculty, alumni and staff awards were received between summer 2020 and summer 2021.

Figure 5.2a **QS Top 50 World Universities for Engineering & Technology, 2021**

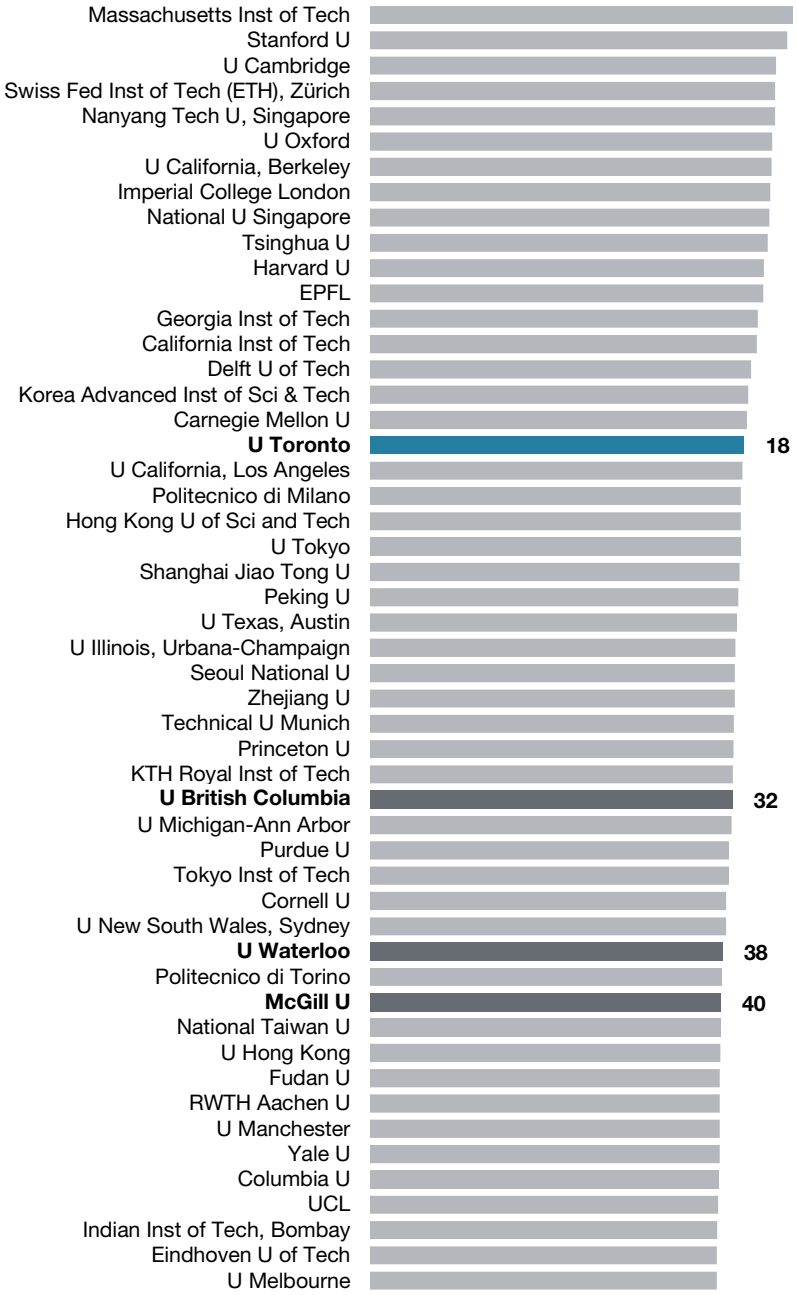


Figure 5.2b **QS Top North American Public Universities for Engineering & Technology, 2021**

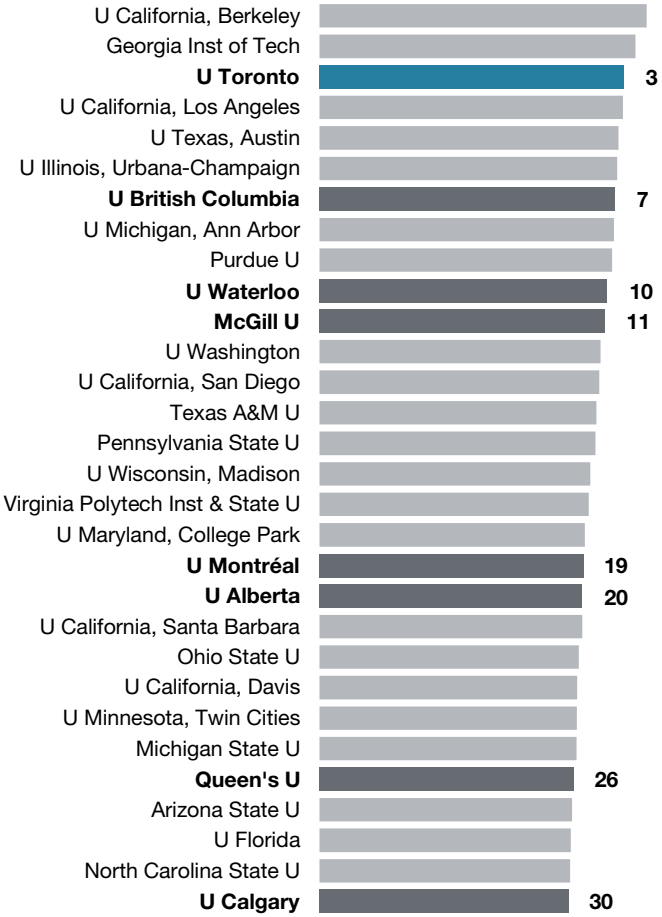


Figure 5.2c **Canadian U15 in QS Top 200 for Engineering & Technology, 2021**

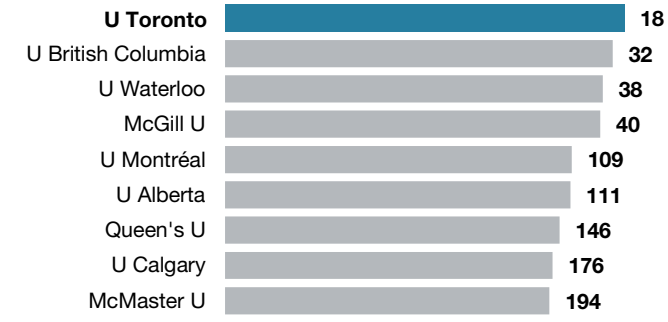
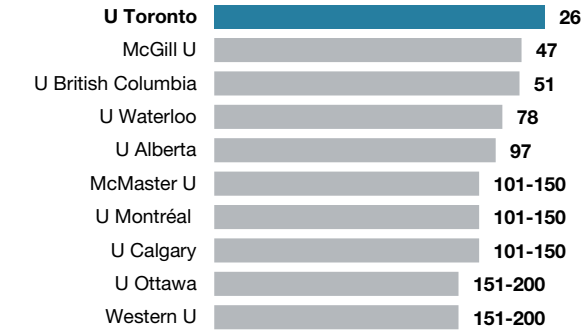
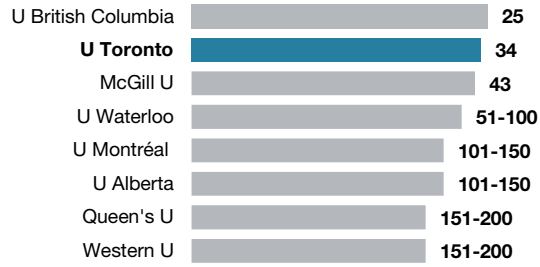


Figure 5.2d **Canadian Universities in QS Engineering and Technology ranking by Subject, 2021**

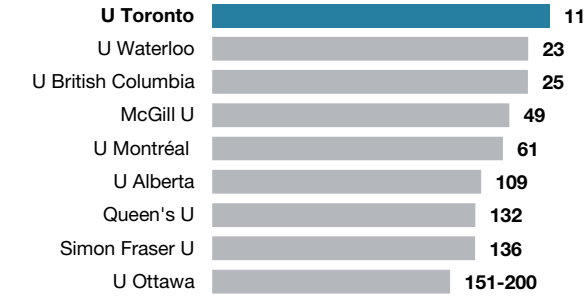
Chemical Engineering



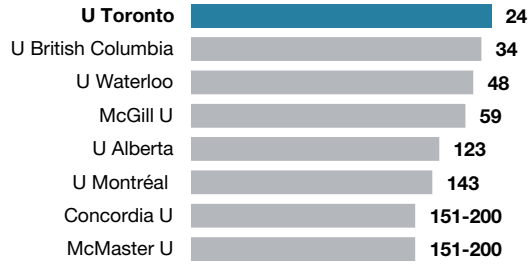
Civil & Structural Engineering



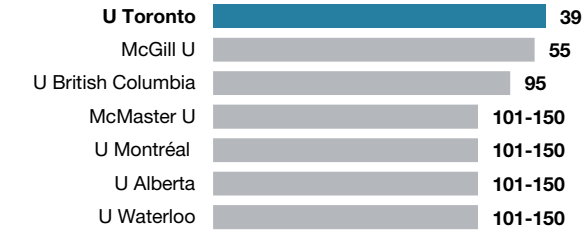
Computer Science & Information Systems



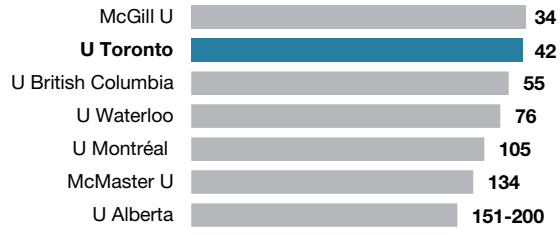
Electrical & Electronic Engineering



Materials Sciences



Mechanical, Aeronautical & Manufacturing Engineering



Mineral & Mining Engineering

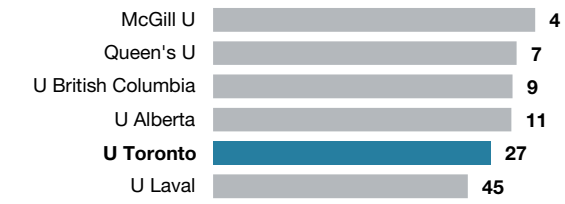


Figure 5.3a **THE Top 50 World Universities for Engineering & Technology, 2021**

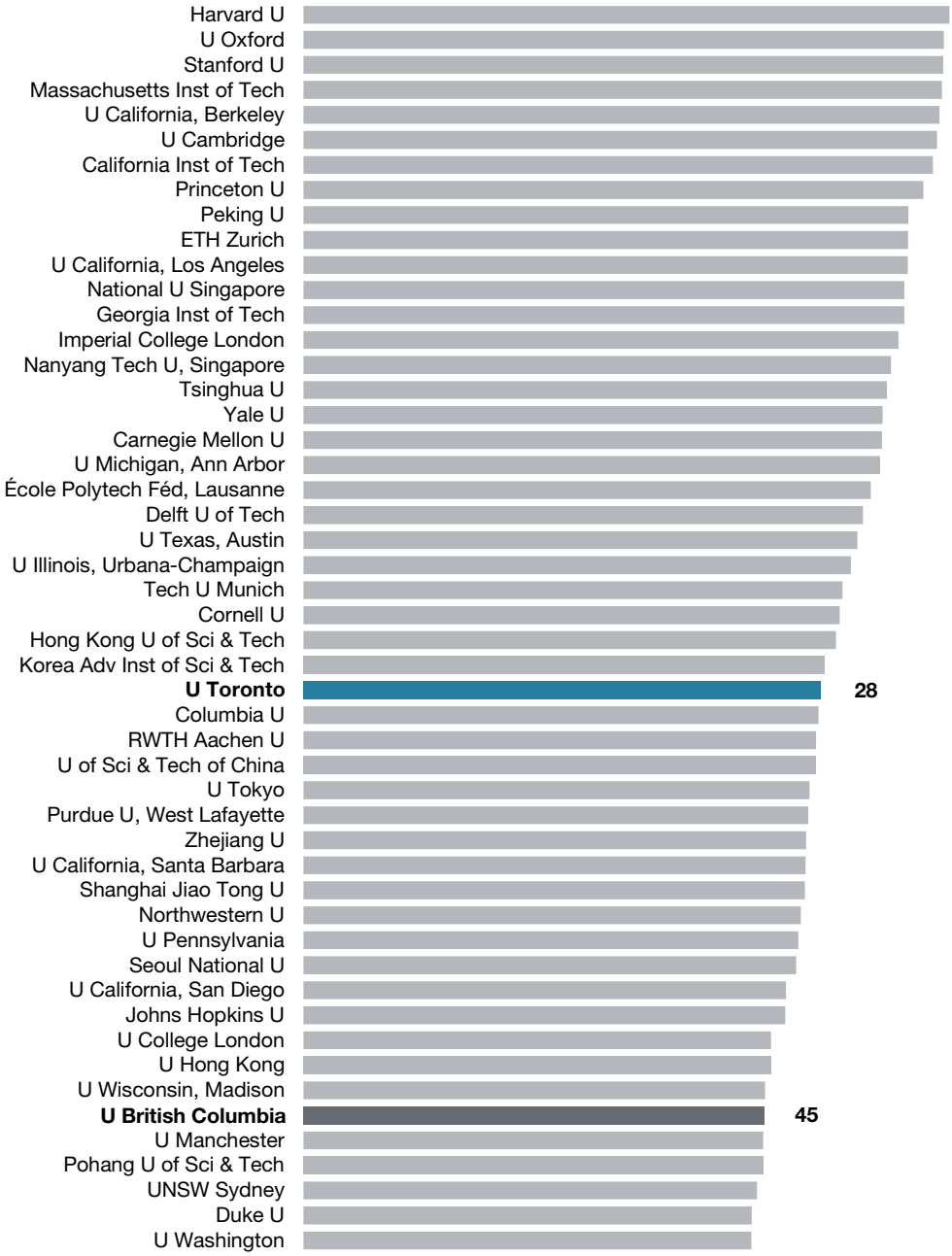


Figure 5.3b **THE Top North American Public Universities for Engineering & Technology, 2021**

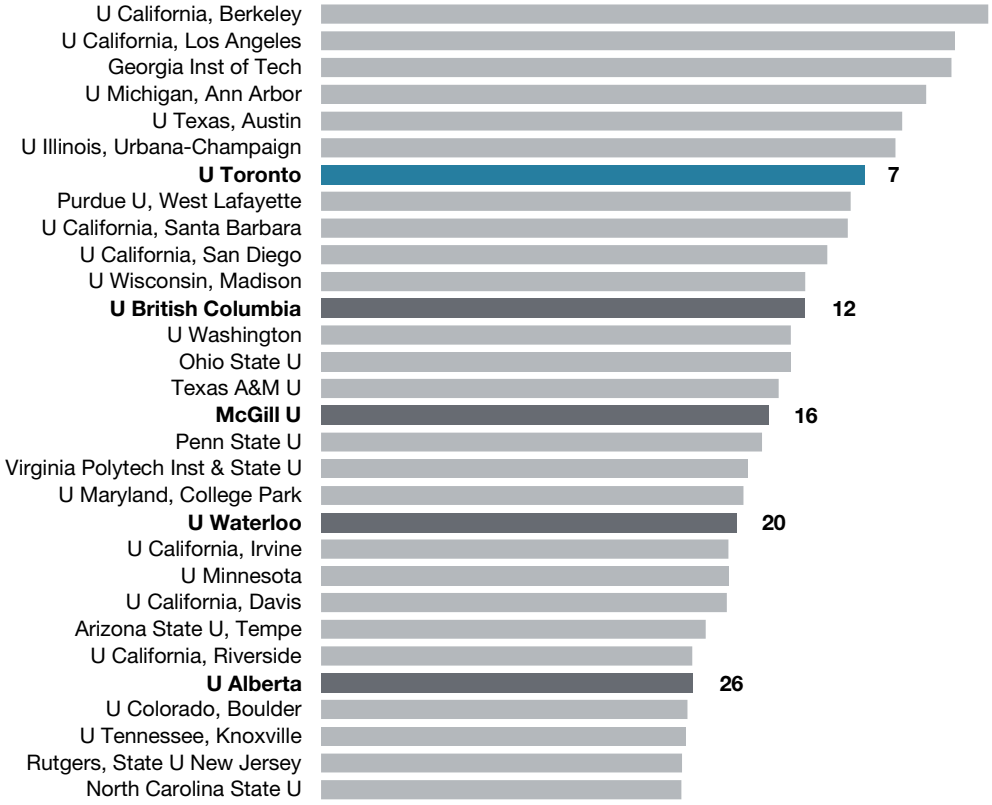


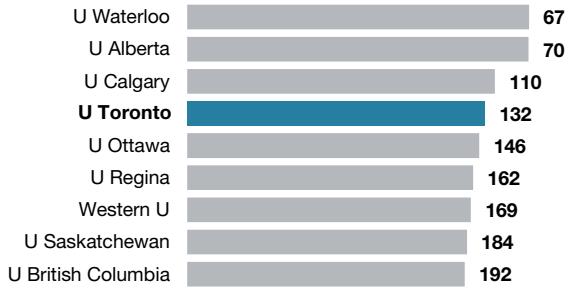
Figure 5.3c **Canadian U15 in THE Top 200 for Engineering & Technology, 2021**

Figure 5.4 Canadian Universities in the Top 200 of the Academic Ranking of World Universities (ARWU) by Subject, 2020

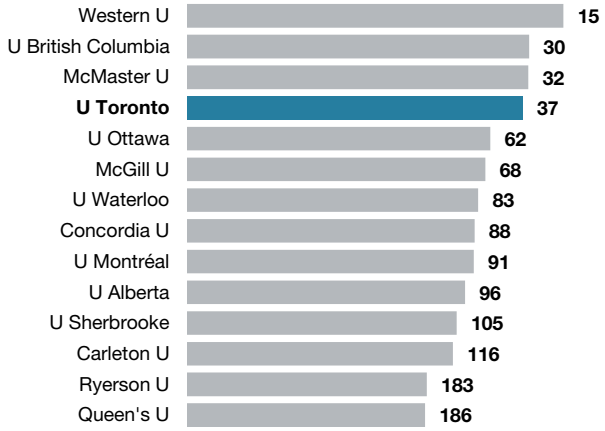
Aerospace Engineering

Biomedical Engineering

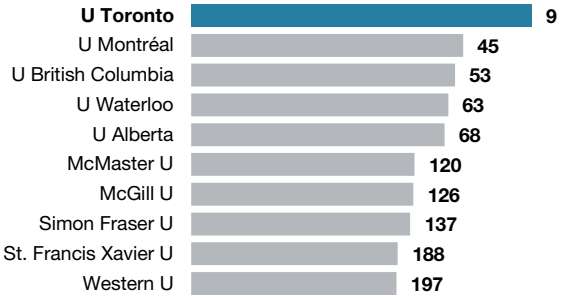
Chemical Engineering



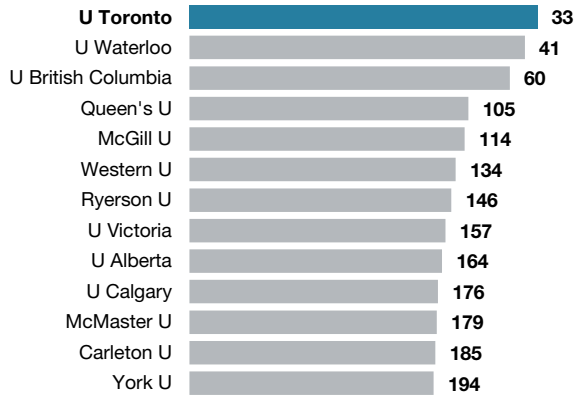
Civil & Structural Engineering



Computer Science & Engineering



Electrical Engineering



Materials Science & Engineering

Mechanical Engineering

Mineral Engineering

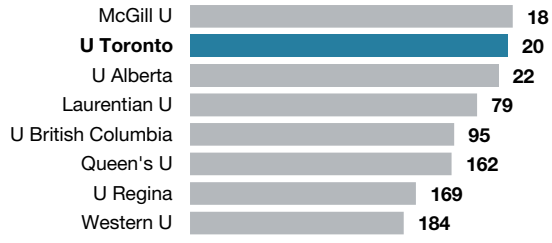


Figure 5.5a **NTU Top 80 World Universities for Engineering, 2020**

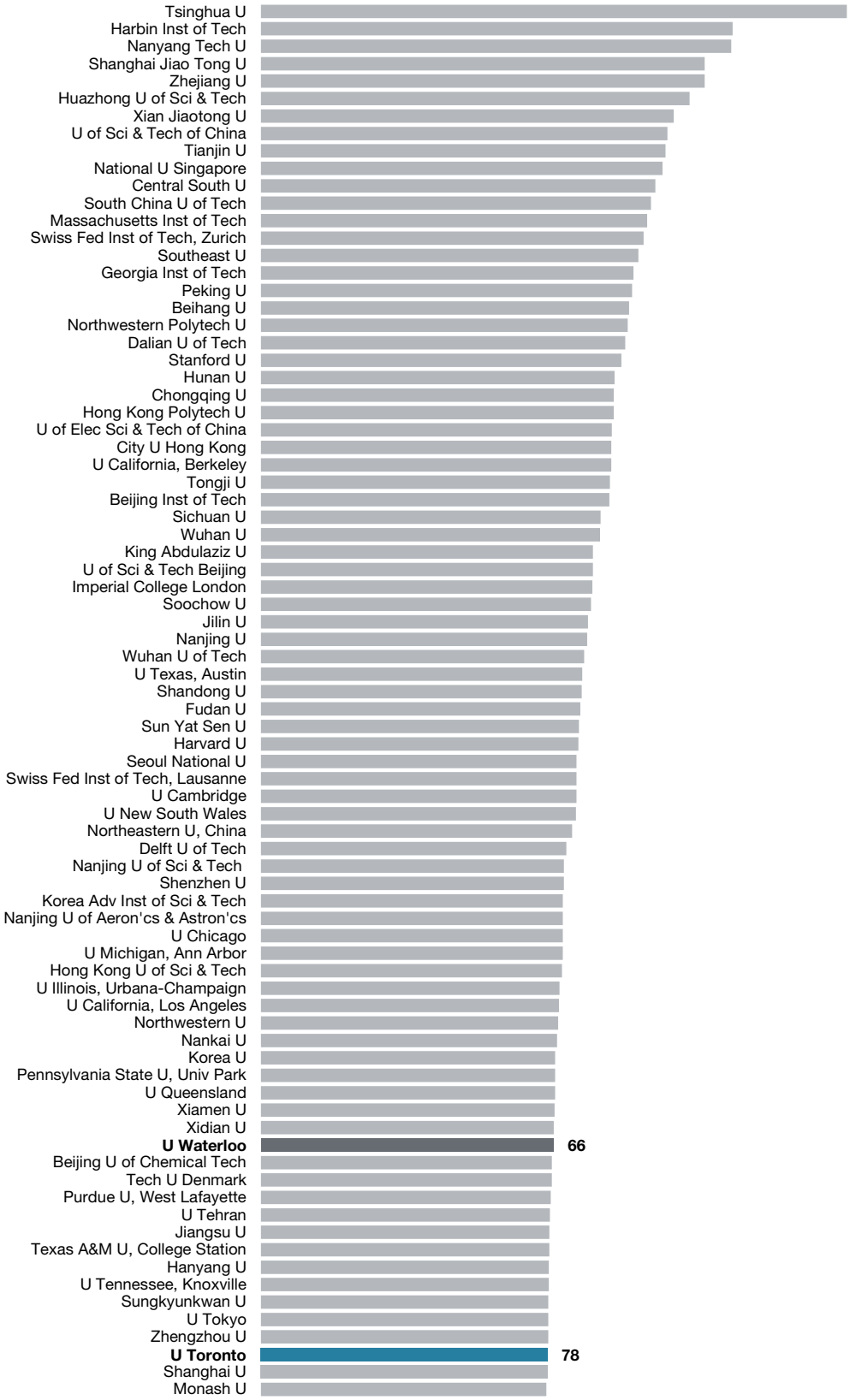


Figure 5.5b **NTU Top North American Public Universities for Engineering, 2020**

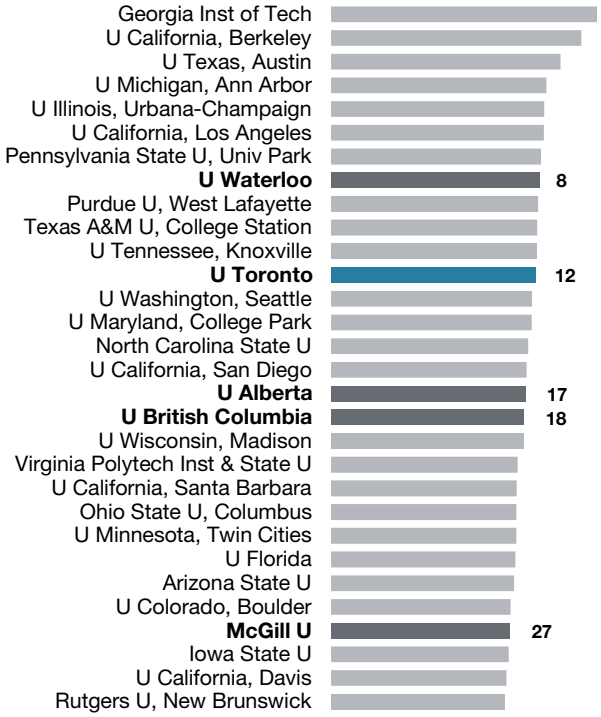
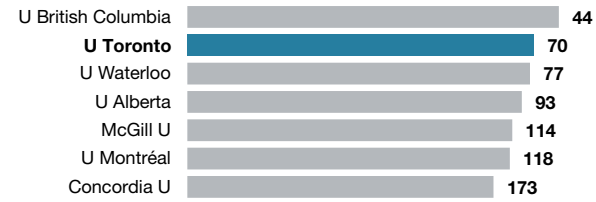


Figure 5.5c **Canadian U15 Universities in NTU Top 200 for Engineering, 2020**

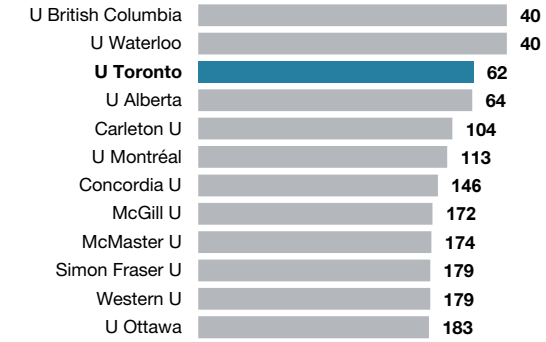
Figure 5.5d **Canadian Universities in NTU Engineering ranking by Subject, 2020**

Chemical Engineering

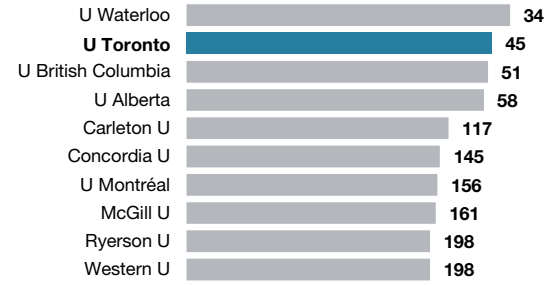
Civil Engineering



Computer Science



Electrical Engineering



Materials Science

Mechanical Engineering

Figure 5.6a Number of Engineering Publications Indexed by Thomson Reuters for Association of American Universities (AAU) Public and Canadian Peer Institutions, 2015 to 2019

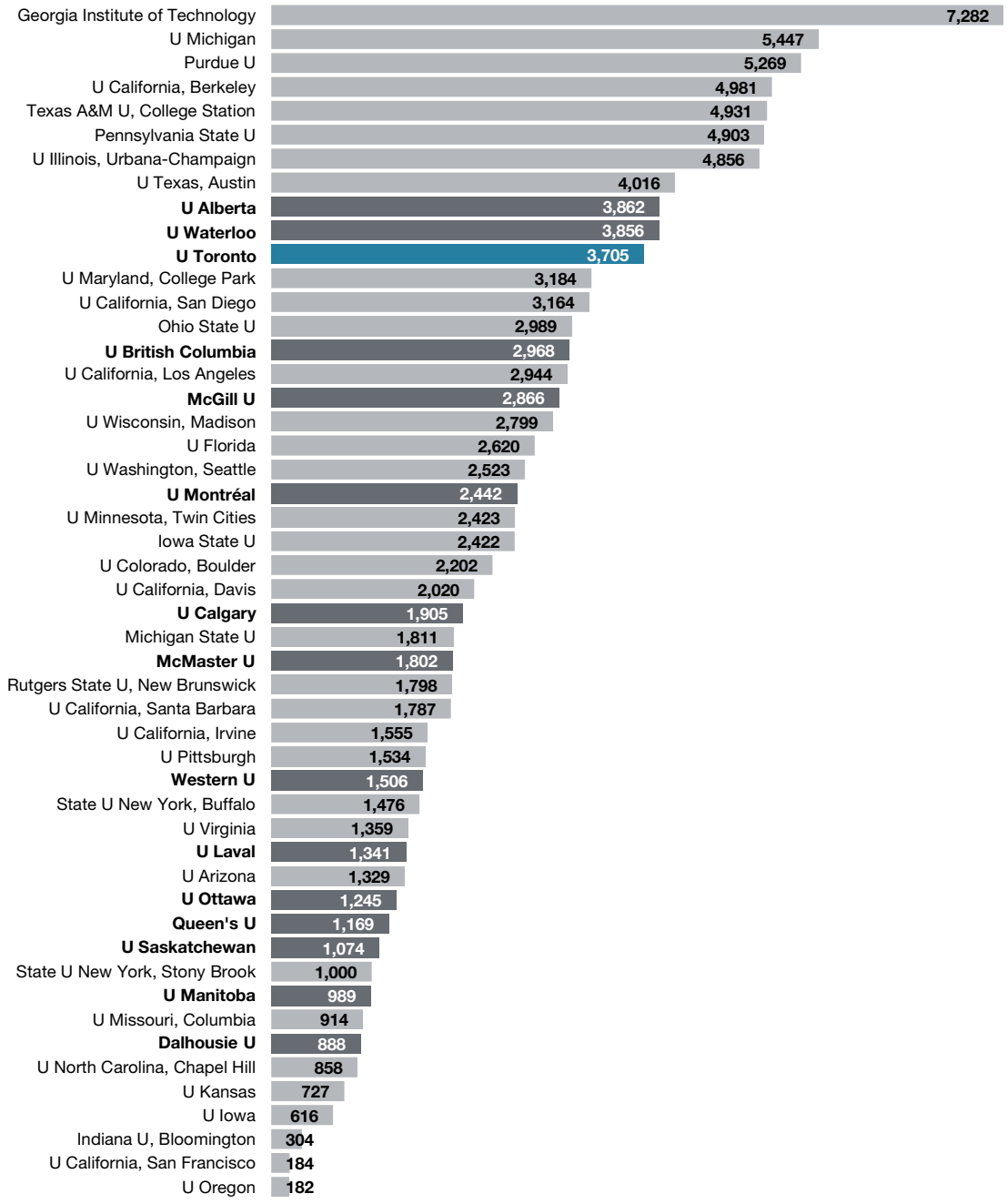


Figure 5.6b **Summary of U15 Bibliometrics for Publications (Thomson Reuters/AAU, 2015 to 2019)**

	Publications	Faculty Count	Publications per Faculty	Rank on Pub per Faculty
U Alberta	3,862	252	15.3	2
U Waterloo	3,856	340	11.3	7
U Toronto	**3,705**	**266**	**13.9**	**4**
U British Columbia	2,968	198	15.0	3
McGill U	2,866	146	19.6	1
U Montréal	2,442	447	5.5	15
U Calgary	1,905	174	10.9	10
McMaster U	1,802	155	11.6	6
Western U	1,506	113	13.3	5
Laval U	1,341	162	8.3	12
U Ottawa	1,245	143	8.7	11
Queen's U	1,169	193	6.1	14
U Saskatchewan	1,074	96	11.2	9
U Manitoba	989	88	11.2	8
Dalhousie U	888	110	8.1	13

Figure 5.6c Number of Engineering Citations Indexed by Thomson Reuters for Association of American Universities (AAU) Public and Canadian Peer Institutions, 2015 to 2019

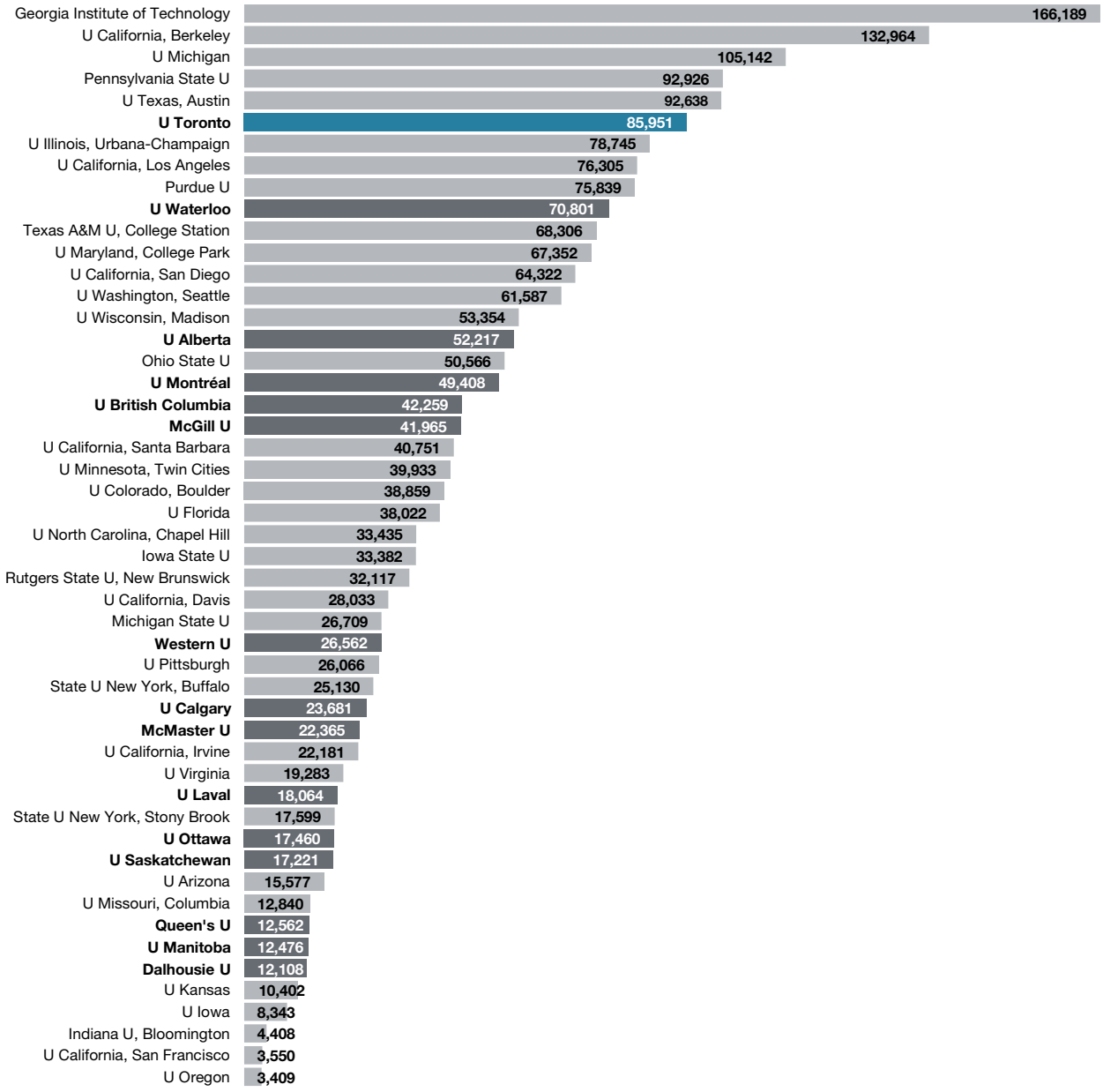


Figure 5.6d **Summary of U15 Bibliometrics for Citations (Thomson Reuters/AAU, 2015 to 2019)**

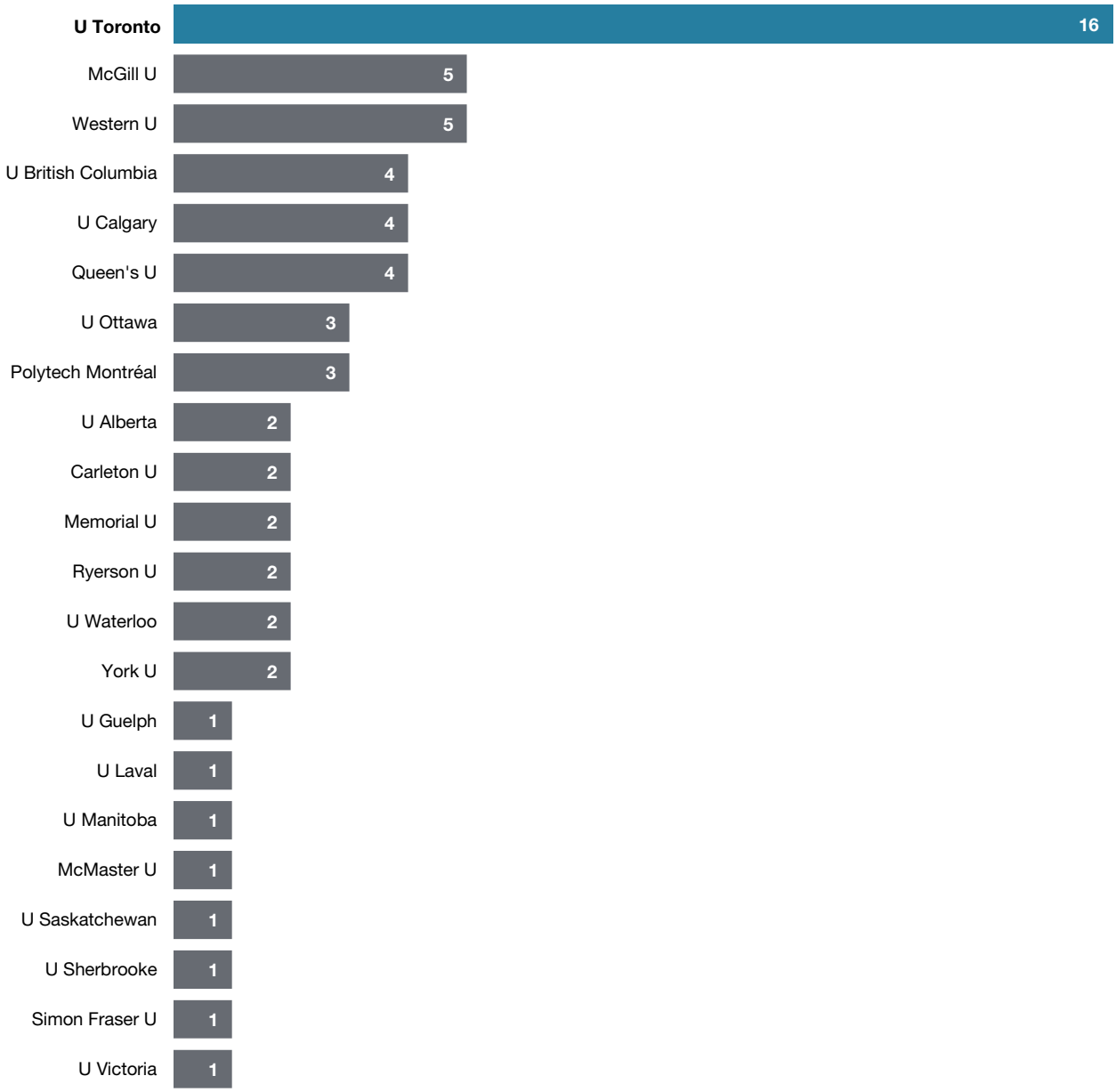
	Citations	Faculty Count	Citations per Faculty	Rank on Citations per Faculty	Citations per Publication	Rank on Citations per Publication
U Toronto	**85,951**	**266**	**323.1**	**1**	**23.2**	**1**
U Waterloo	70,801	340	208.2	5	18.4	3
U Alberta	52,217	252	207.2	6	13.5	10
U Montréal	49,408	447	110.7	13	20.2	2
U British Columbia	42,259	198	213.4	4	14.2	7
McGill U	41,965	146	287.4	2	14.6	6
Western U	26,562	113	235.1	3	17.6	4
U Calgary	23,681	174	136.1	10	12.4	13
McMaster U	22,365	155	144.3	8	12.4	14
Laval U	18,064	162	111.5	12	13.5	11
U Ottawa	17,460	143	122.1	11	14.0	8
U Saskatchewan	17,221	96	179.0	7	16.0	5
Queen's U	12,562	193	65.1	15	10.7	15
U Manitoba	12,476	88	141.5	9	12.6	12
Dalhousie U	12,108	110	109.9	14	13.6	9

Figure 5.7 Summary of Major International, National and Provincial Awards and Honours, 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
International										
AAAS Fellowships (Engineering Section)	5	3			1	4	1			
MIT Top 35 Under 35		1					1			
National Academy of Inventors		1						1		1
Royal Academy of Engineering		1						1		
Royal Society, U.K.									1	
U.S. National Academies*	1			1		1				1
National										
Brockhouse Prize						1				
Canadian Academy of Engineering Fellowship	1	7	6	3	5	5	5	3	2	5
Engineering Institute of Canada Fellowship	3	3	3	3	2	3	1	1	3	4
Engineering Institute of Canada Awards	2	1	2		1	1	2		1	
Engineers Canada Awards		1	1	1	1		1	1	1	1
Governor General's Innovation Award							1	1		
Herzberg Prize										1
Killam Research Fellowship*										1
Killam Prize*				1		1	1			1
Manning Innovation Award				1						
Order of Canada							2	1		2
Royal Society of Canada Fellowship*	4	3		2	2	1	2		2	
Royal Society of Canada College of New Scholars, Artists and Scientists				1	1	1	1	1		1
Steacie Fellowship*		2	1	1	1	1				
Steacie Prize*		1					1			
Synergy Award for Innovation		1								
Provincial										
Ontario Professional Engineers Awards	5	3	2	2	1	2	3	1	3	1
OCUFA Teaching Award					1	1				1
Order of Ontario	1							1		1
Total	**22**	**26**	**15**	**16**	**16**	**22**	**22**	**12**	**13**	**21**

Note 5.7: (*) denotes U of T performance indicator. Data shown are by calendar year (January to December) and include faculty award recipients only.

Figure 5.8a Number of Major National and International Awards Received by U of T Engineering Compared to Other Canadian Engineering Faculties, 2020

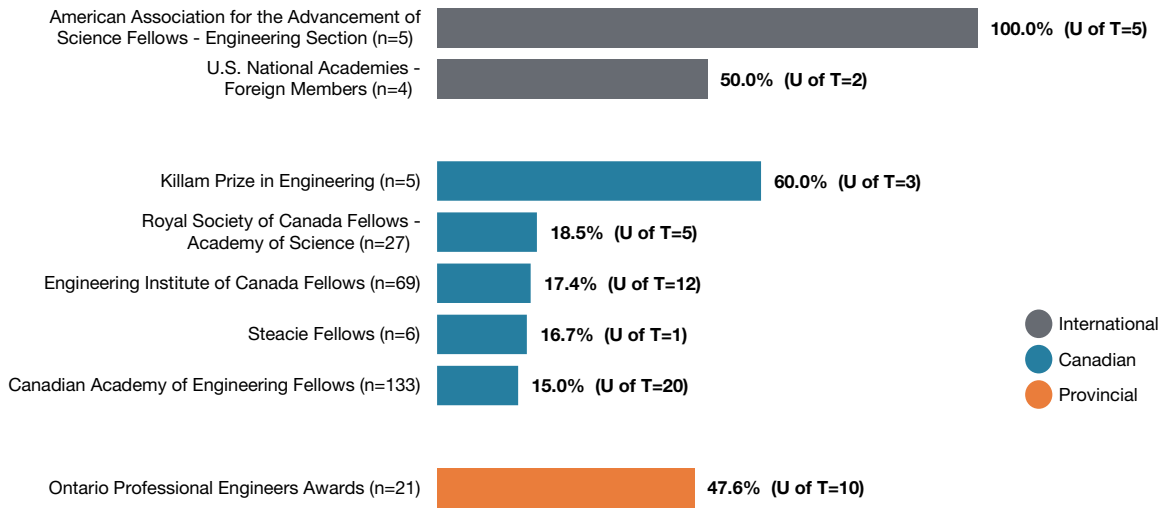


Note 5.8a, b: Data shown are by calendar year (January to December) and include faculty award recipients only. The following major awards are included: International — American Association for the Advancement of Science Fellowship (Engineering Section), MIT Top 35 under 35, National Academy of Inventors and the U.S. National Academies; National — NSERC Gerhard Herzberg Canada Gold Medal for Science and Engineering, Brockhouse Prize, Canadian Academy of Engineering Fellowship, Engineering Institute of Canada Awards, Engineering Institute of Canada Fellowship, Engineers Canada Awards, Killam Prize (Engineering), Killam Research Fellowship, Royal Society of Canada Fellowship (Engineering/Physical Sciences), Royal Society of Canada College of New Scholars, Artists and Scientists, Steacie Fellowship, Steacie Prize and Synergy Awards for Innovation.

Figure 5.8b Percentage of Engineering Faculty and Total Major Awards Received in Canadian Engineering Faculties, 2020

	Percentage of Total Full Time Equivalent Engineering Faculty in Canada	Percentage of Total Major Awards Received by Engineering Faculties
U Toronto	**5.4%**	**25.0%**
McGill U	3.0%	7.8%
Western U	2.3%	7.8%
U British Columbia	4.0%	6.3%
U Calgary	3.5%	6.3%
Queen's U	3.9%	6.3%
U Ottawa	2.9%	4.7%
Polytech Montréal	9.1%	4.7%
U Alberta	5.1%	3.1%
Carleton U	2.7%	3.1%
Memorial U	1.5%	3.1%
Ryerson U	2.7%	3.1%
U Waterloo	6.9%	3.1%
York U	1.5%	3.1%
U Guelph	1.0%	1.6%
U Laval	3.3%	1.6%
U Manitoba	1.8%	1.6%
McMaster U	3.1%	1.6%
U Saskatchewan	2.0%	1.6%
U Sherbrooke	3.0%	1.6%
Simon Fraser U	1.2%	1.6%
U Victoria	1.5%	1.6%

Figure 5.9 Number of Awards Received by U of T Engineering Faculty Compared to Other Canadian Engineering Faculties 2016 to 2020



Note 5.8b: Faculty counts include all tenured, tenure-stream and teaching-stream faculty.

Note 5.9: Data shown are by calendar year (January to December) and include faculty award recipients only.

Figure 5.10 **Selected Awards Received by Faculty and Staff, 2020–2021**

Level	Organization	Award	Recipient
International	American Concrete Institute	Arthur J. Boase Award	Frank Vecchio (CivMin)
International	Helmholtz Association	Helmholtz International Fellow Award	Aimy Bazylak (MIE)
International	Institute of Electrical and Electronics Engineers Robotics and Automation Society	Fellow	Tim Barfoot (UTIAS)
International	Institute of Electrical and Electronics Engineers	Fellow	Natalie Enright Jerger (ECE)
International	Institute of Electrical and Electronics Engineers	Fellow	Andreas Moshovos (ECE)
International	National Academy of Inventors	Fellow	Vaughn Betz (ECE)
National	Canadian Academy of Engineering	Fellow	Baher Abdulhai (CivMin)
National	Canadian Academy of Engineering	Fellow	Geoff Fernie (BME)
National	Canadian Academy of Engineering	Fellow	Reza Iravani (ECE)
National	Canadian Academy of Engineering	Fellow	Charles Jia (ChemE)
National	Canadian Council for the Advancement of Education	Silver Leaf Award (Back to Skule™ campaign)	Engineering Strategic Communications
National	Canadian Council for the Advancement of Education	Silver Leaf Award (Twelve Days of Skule™ video)	Engineering Strategic Communications
National	Canadian Society for Mechanical Engineering	Mechatronics Medal	Yu Sun (MIE)
National	Canadian Engineering Education Association	Fellow	Greg Evans (ChemE, ISTEP)
National	Canadian Engineering Education Association	Fellow	Jason Foster (EngSci)
National	Canadian Engineering Education Association	Fellow	Susan McCahan (MIE)
National	Canadian Engineering Education Association	Fellow	Lisa Romkey (EngSci, ISTEP)
National	Canadian Society for Chemical Engineering	CSChE Innovation Award	Gisele Azimi (ChemE, MSE)
National	Canadian Society for Chemical Engineering	Canadian Journal of Chemical Engineering Lectureship Award	Gisele Azimi (ChemE, MSE)
National	Canadian Society for Civil Engineering	A.B. Sanderson Award	Frank Vecchio (CivMin)
National	Canadian Society for Civil Engineering	Fellow	Doug Hooton (CivMin)
National	Canadian Society for Civil Engineering	Sandford Fleming Award	Khandker Nurul Habib (CivMin)
National	Canadian Society for Mechanical Engineering	Fellow	Edmond Young (MIE)
National	Canadian Society for Mechanical Engineering	Robert W. Angus Medal	Sanjeev Chandra (MIE)
National	Chemical Institute of Canada	CIC Medal	Molly Shoichet (ChemE)
National	Government of Canada	Order of Canada, Member	Cristina Amon (MIE)
National	Government of Canada	Order of Canada, Officer	Elizabeth Edwards (ChemE)
National	IEEE Canada	C.C. Gotlieb Computer Award	Andreas Moshovos (ECE)
National	Engineering Institute of Canada	Fellow	Ning Yan (ChemE)
National	Metallurgy and Materials Society	Research Excellence Award	Vladimiros Papangelakis (ChemE)

National	Natural Sciences and Engineering Research Council of Canada	Gerhard Herzberg Canada Gold Medal for Science and Engineering	Molly Shoichet (ChemE, BME)
National	Royal Society of Canada	Member, College of New Scholars, Artists and Scientists	Aimy Bazylak (MIE)
National	Sandford Fleming Foundation	Wighton Fellowship	Matthew Mackay (MIE)
National	Women's Executive Network	Canada's Most Powerful Women — Top 100	Molly Shoichet (ChemE, BME)
Regional	Government of Ontario	Order of Ontario	Geoff Fernie (BME)
Regional	International Association of Business Communicators — Ovation Awards	Award of Excellence (Back to Skule™ campaign)	Engineering Strategic Communications
Regional	International Association of Business Communicators — Ovation Awards	Award of Merit (Twelve Days of Skule™ video)	Engineering Strategic Communications
Regional	Ontario Confederation of University Faculty Associations	OCUFA Teaching Award	Will Cluett (ChemE)
Regional	Ontario Professional Engineers Awards	Engineering Excellence Medal	Baher Abdulhai (CivMin)
Regional	Ontario Professional Engineers Awards	Young Engineer Medal	Eric Diller (MIE)
U of T	Massey College	Senior Fellow	Milica Radisic (BME, ChemE)
U of T	U of T	McLean Award	Aimy Bazylak (MIE)
U of T	U of T	President's Impact Award	Michael Carter (MIE)
U of T	U of T	Vivek Goel Faculty Citizenship Award	Brenda McCabe (CivMin)
U of T	U of T Advancement	Bravo Award	Sonia De Buglio
U of T	U of T Advancement	Bravo Award	Kristin Philpot
U of T	U of T Advancement	Bravo Award	Steve Radbourn

Figure 5.11a **2021 U of T Engineering Staff and Faculty Awards**

Type	Award	Recipient
Administrative Staff Awards	Harpreet Dhariwal Emerging Leader Award	Gayle Lesmond (MIE)
Administrative Staff Awards	Barbara McCann Quality of Student Experience Award for Frontline Staff	Leanne Dawkins (ECE)
Administrative Staff Awards	Quality of Student Experience Award for Behind the Scenes Staff	Tomas Bernreiter, Tony Ruberto and Osmond Sargeant (MIE)
Administrative Staff Awards	Agnes Kaneko Citizenship Award	Dan Tomchyshyn (ChemE)
Administrative Staff Awards	Innovation Award	Lina McDonald (ECE)
Administrative Staff Awards	Catherine Gagne Sustained Excellence in Leadership Award	Annie Simpson (ISTEP)
Research Awards	Safwat Zaky Research Leader Award	Centre for Research and Applications in Fluidic Technologies (CRAFT) — Axel Guenther (MIE, BME), Milica Radisic (ChemE, BME) and Aaron Wheeler (Chemistry, BME)
Teaching Awards	Teaching Assistant Award	Kok Long Ng (MSE)
Teaching Awards	Early Career Teaching Award	Gisele Azimi (ChemE, MSE)
Teaching Awards	Early Career Teaching Award	Chirag Variawa (ISTEP)
Teaching Awards	Faculty Teaching Award	Costas Sarris (ECE)
Teaching Awards	Sustained Excellence in Teaching Award	Steven Thorpe (MSE)

Figure 5.11b **2020 Engineering Alumni Network Awards**

Award	Recipient
Engineering Alumni Medal	Edward J. Davison (Eng Phys. 6T0, MA 6T1)
Engineering Alumni Hall of Distinction Award	Patricia Burchat (EngSci 8T1)
Engineering Alumni Hall of Distinction Award	Howard Ginsberg (EngSci 8T9)
Engineering Alumni Hall of Distinction Award	Allen Lau (ElecE 9T1, ECE MASc 9T2)
Engineering Alumni Hall of Distinction Award	Shumin Zhai (MIE PhD 9T5)
2T5 Mid-Career Achievement Award	Michael Helander (EngSci 0T7, MSE PhD 1T2, ChemE PDF 1T4)
2T5 Mid-Career Achievement Award	Angela Tran (EngSci 0T5, ChemE MASc 0T7, ChemE PhD 1T2)
7T6 Early Career Award	Bin Liu (CivE 1T4)
Malcolm F. McGrath Alumni Achievement Award	Eric Matusiak (MechE 9T1)
L.E. (Ted) Jones Award of Distinction	Kate Sohn (EngSci 1T9 + PEY)
Honourary Member of the EAN	Dean Emerita Cristina Amon

CHAPTER 6
ADVANCEMENT & COMMUNICATIONS

FACTS AND FIGURES

$19.0M
Total philanthropic support generated in 2020–2021.

154.4M
Total impressions generated by media stories mentioning U of T Engineering in 2020–2021.

3,411
Alumni engaged through virtual or in-person events in 2020–2021.

38,848
Total followers across @uoftengineering Facebook, Instagram, Twitter and LinkedIn accounts.

Figure 6.1a **Philanthropic Support, 2020–2021**

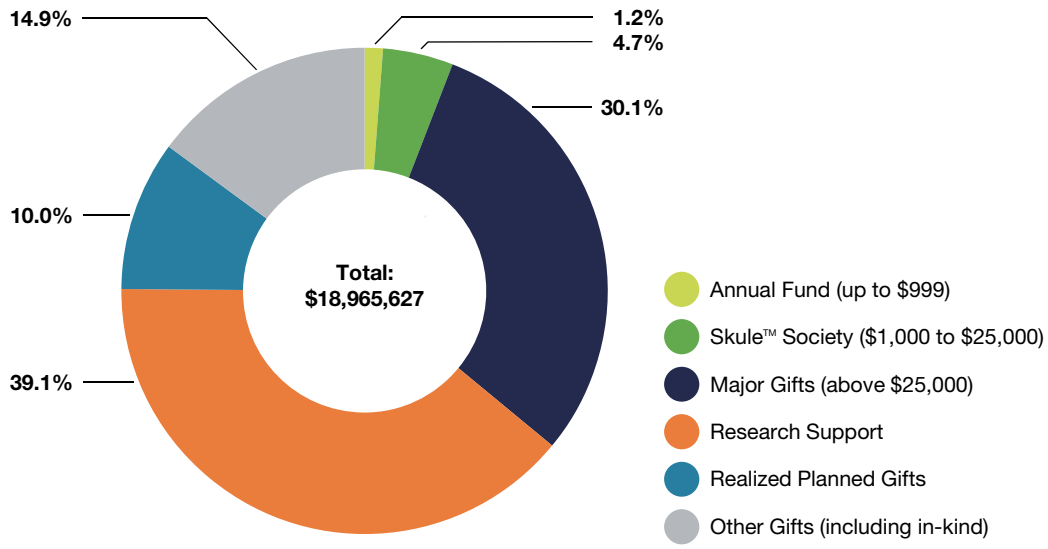
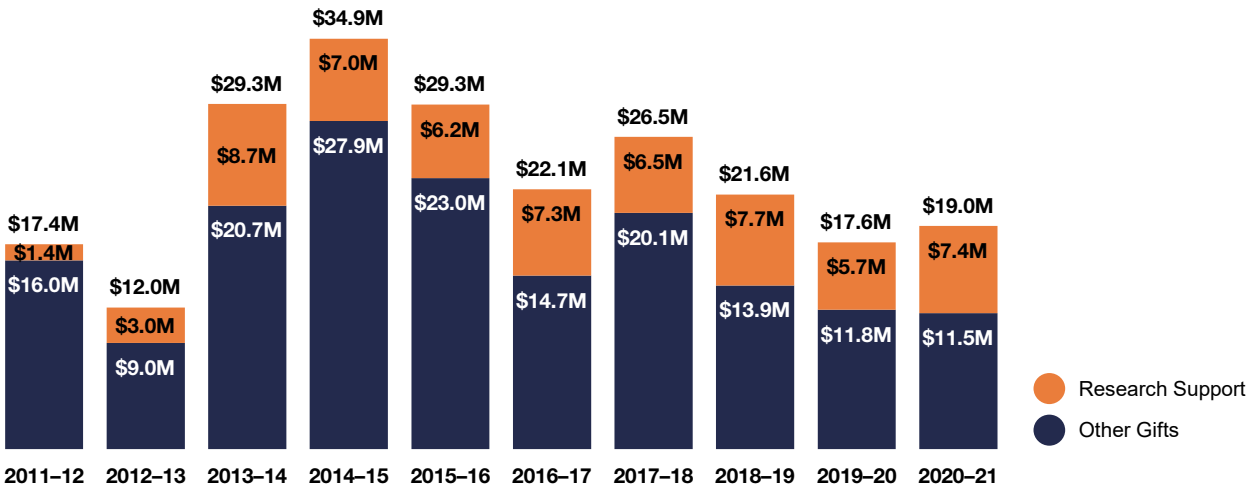


Figure 6.1b **Philanthropic Support, 2011–2012 to 2020–2021**



Data in this chapter are presented by fiscal year, May 1, 2020 to April 30, 2021.

Figure 6.1c **Gift Designations, 2020–2021**

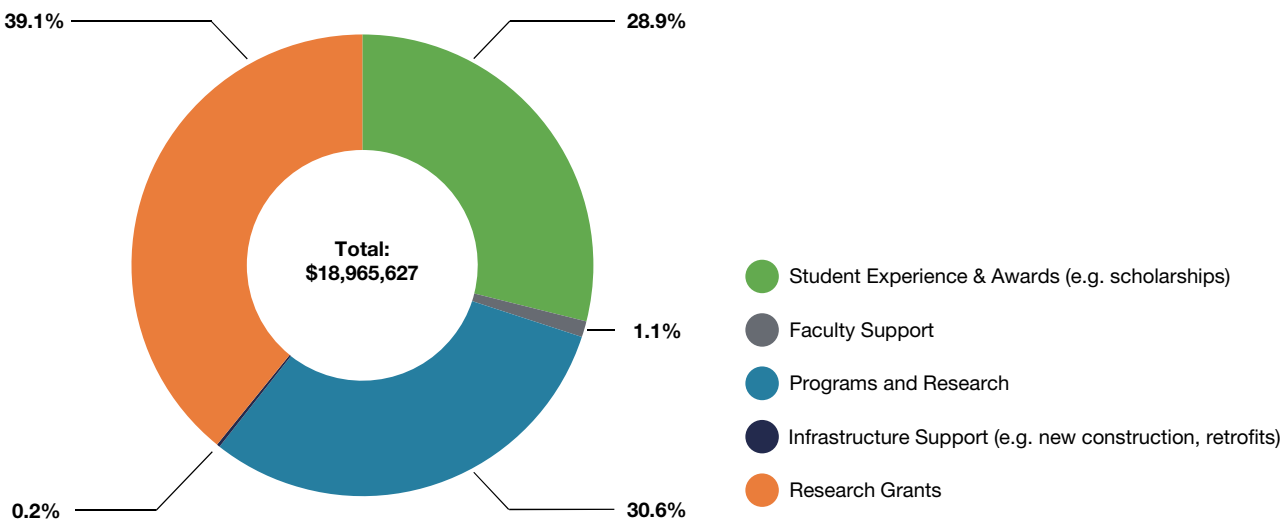


Figure 6.1d **Alumni Engagement, 2020–2021**

Engagement Tactic	Alumni Engaged	Newly Engaged
Events (virtual or in-person)	3,411	794
Volunteer activities	1,269	152
Donations	1,094	42
CONNECT Membership — All alumni	8,699	N/A
CONNECT Membership — Alumni 35 and younger	6,040	N/A
CONNECT Membership — Alumni willing to help mentor current students	6,870	N/A
CONNECT Membership — Alumni in senior leadership positions	1,811	N/A

Note 6.1d: Data are as of April 30, 2020

Figure 6.2a **U of T Engineering Total Earned Media Stories and Impressions, May 2020 to April 2021**

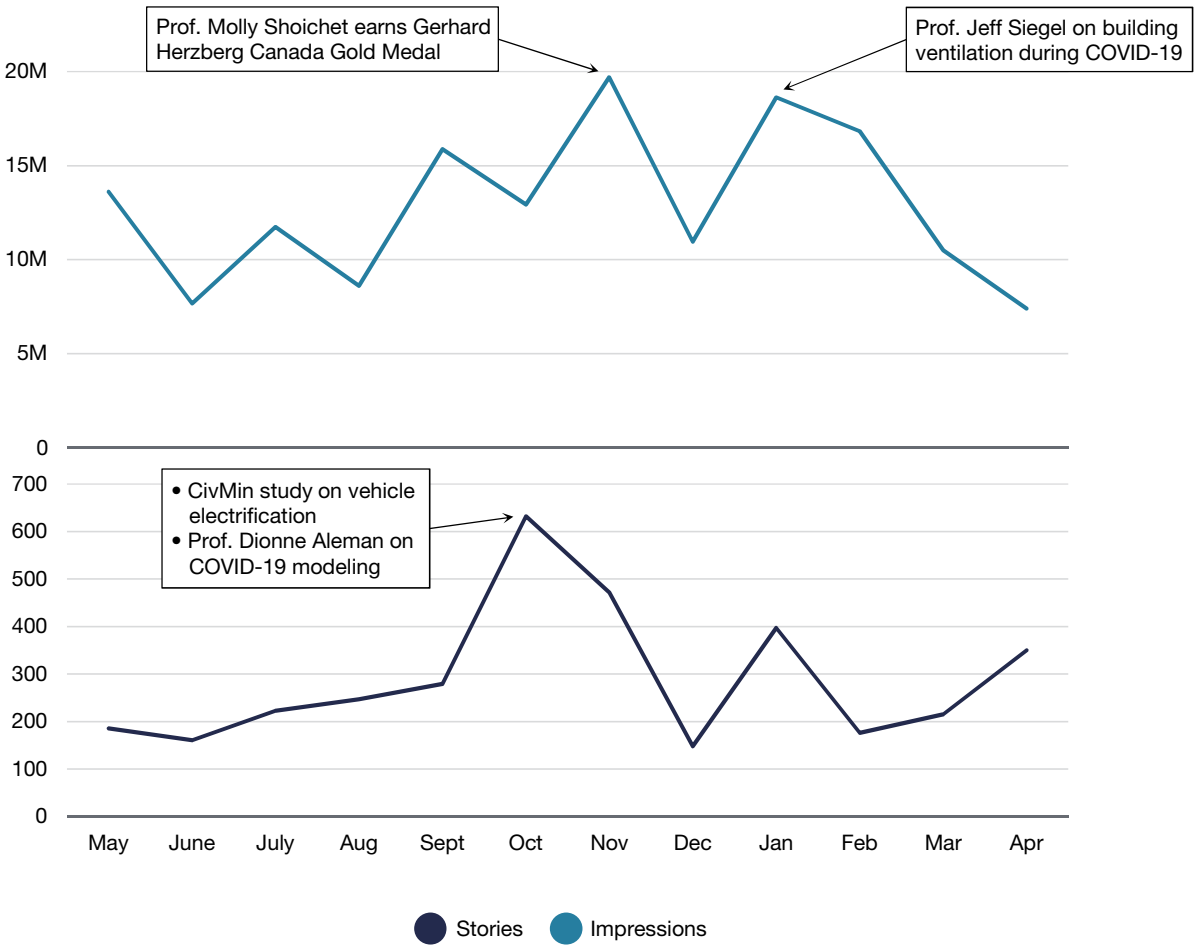


Figure 6.2b **Proportion of U of T Engineering Impressions by Academic Area, 2020-2021**

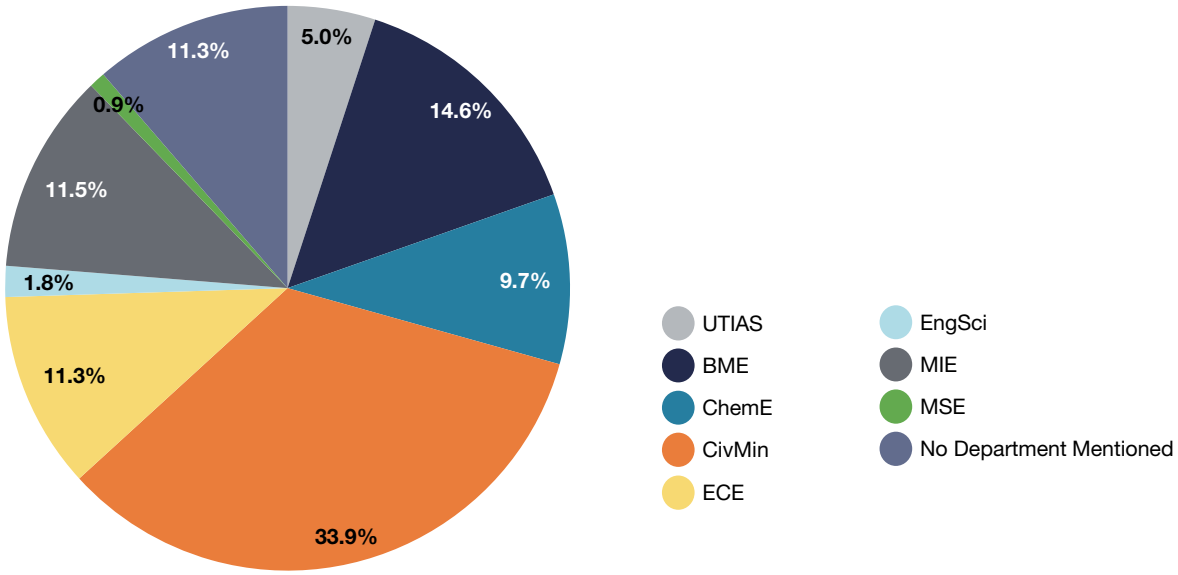
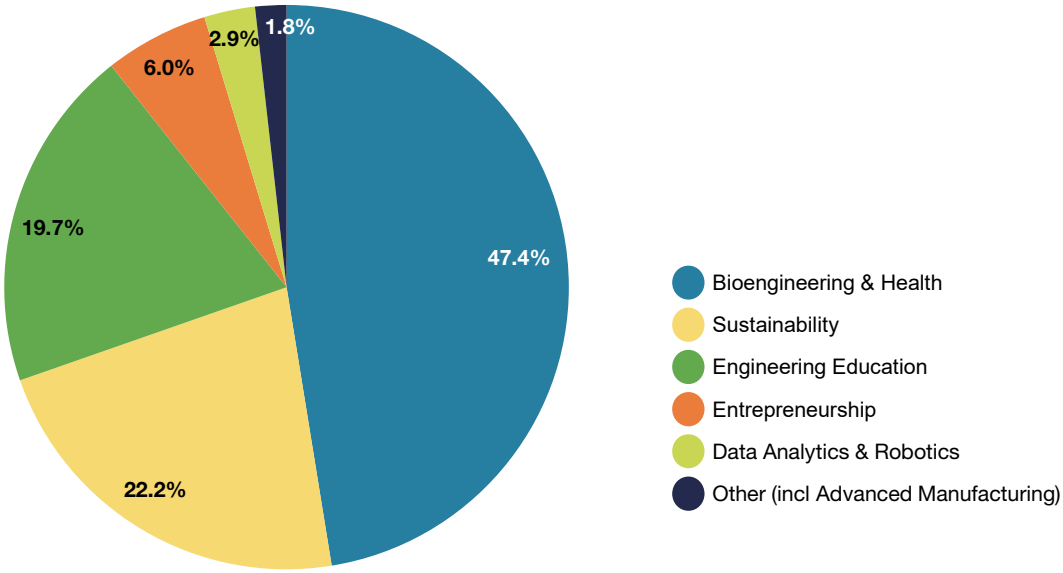


Figure 6.2c **Proportion of U of T Engineering Impressions by Strategic Priority Area, 2020-2021**



Note 6.2b: One media story can reference multiple academic areas. In those cases, the impressions are included in the counts for both areas.

Note 6.2c: One media story can reference multiple strategic priority areas. In those cases, the impressions are included in the counts for both areas.

Figure 6.2d **Proportion of U of T Engineering Media Stories by Outlet Location, 2020–2021**

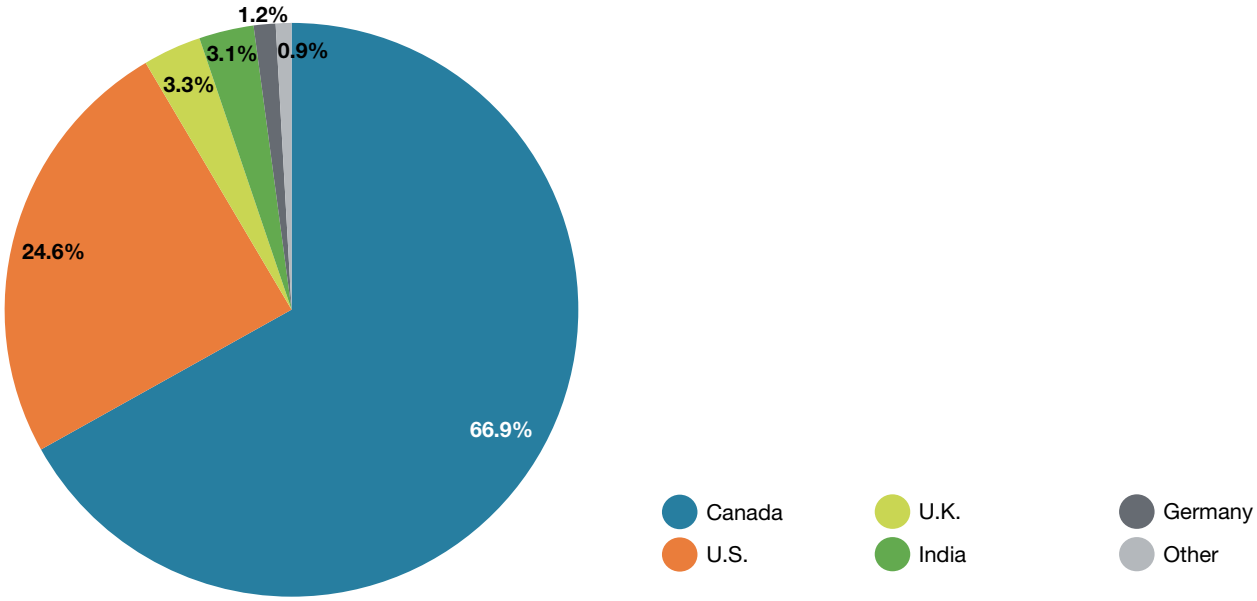
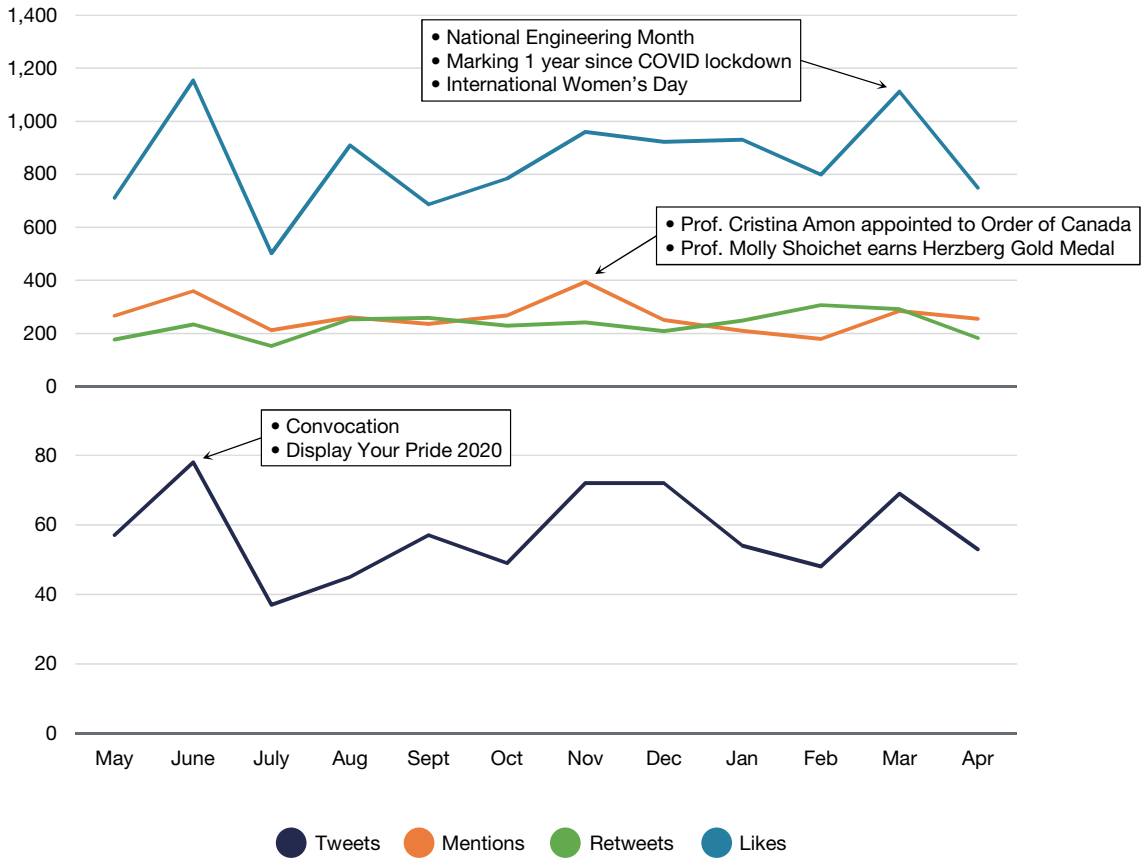


Figure 6.3a **Twitter Statistics: Tweets, Mentions, Retweets, Likes, May 2020 to April 2021**



Note 6.2d: The impressions for one story may be included in the counts of multiple countries.

Notes 6.3a, b, c: Includes U of T Engineering accounts managed by Engineering Strategic Communications (@uoftengineering). In addition to these, many departments, divisions and institutes maintain their own accounts; this data is not reflected here.

Figure 6.3b **Facebook Statistics: Posts, Comments, Shares, Reactions, May 2020 to April 2021**

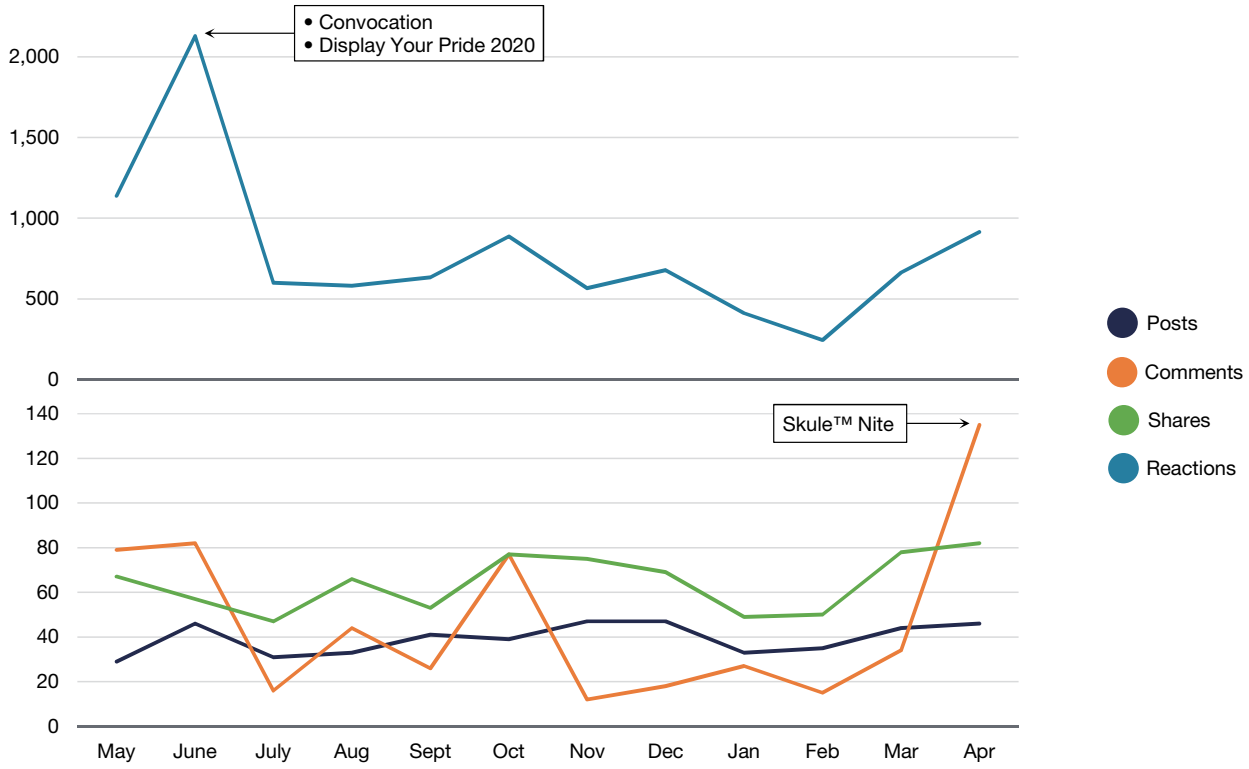


Figure 6.3c **Instagram Statistics: Posts, Comments, Likes, May 2020 to April 2021**

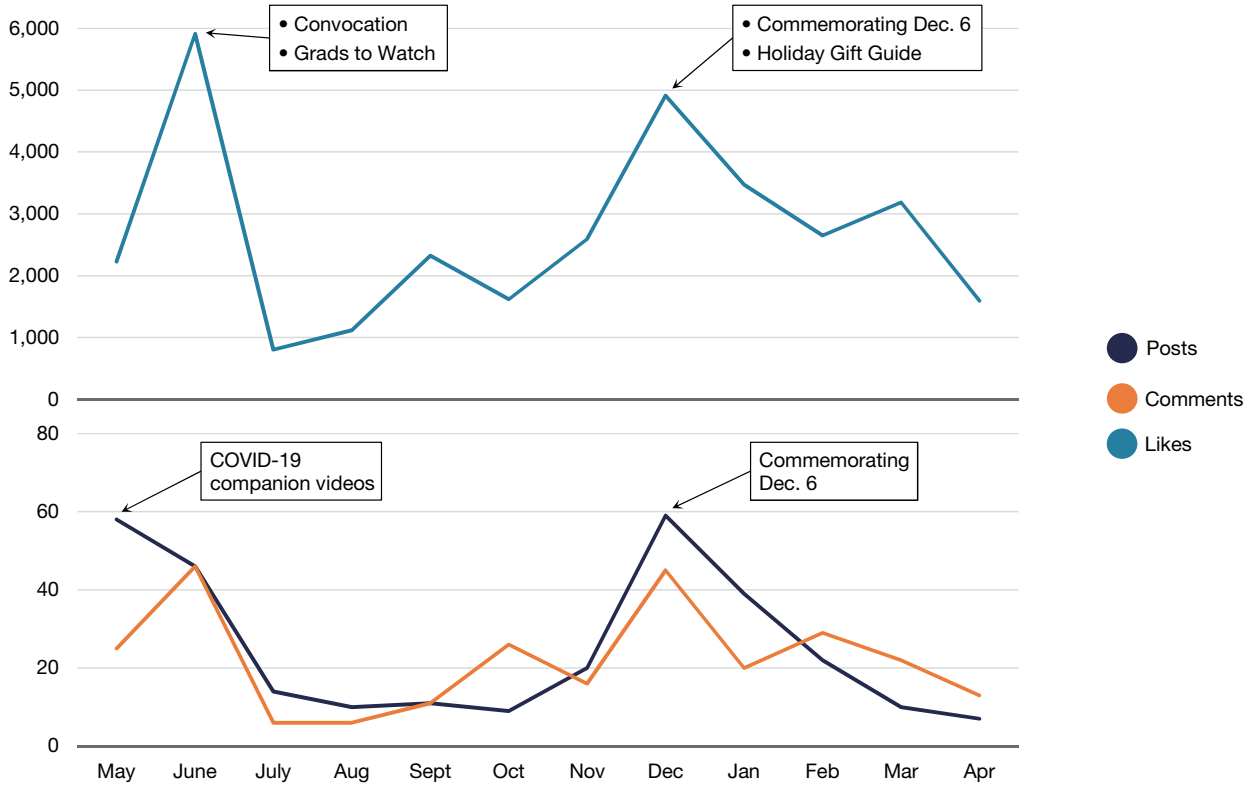


Figure 6.3d **LinkedIn Statistics: Posts, Shares, Reactions, May 2020 to April 2021**

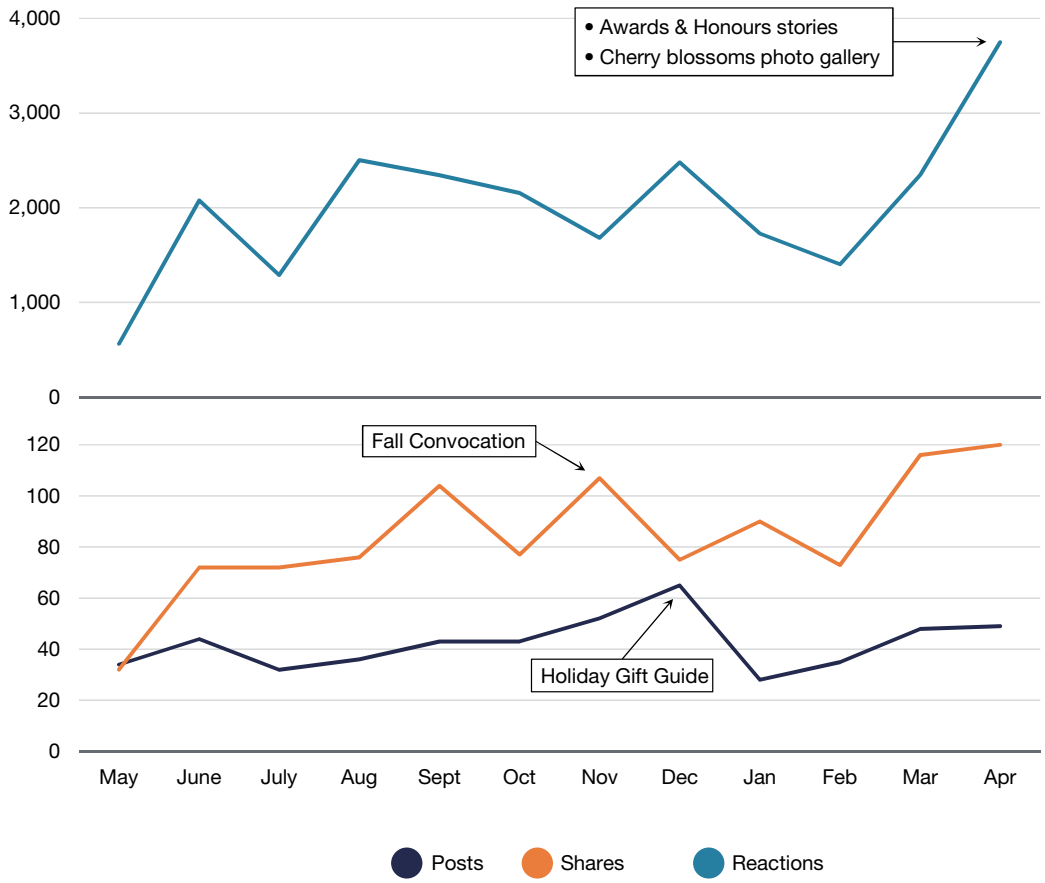


Figure 6.4 **Summary of Analytics for Faculty Site and U of T Engineering News Site, 2020–2021**

	Faculty site (engineering.utoronto.ca)	U of T Engineering News site (news.engineering.utoronto.ca)
Pageviews	378,799	262,383
Unique visitors	156,951	172,091
Average number of pageviews per session	1.52	1.23
Average amount of time spent on site	1:15 min	0:35 min
Cities of origin	6,452	8,625
Countries of origin	200	200

Note 6.4: A session is the period of time a user was actively engaged with our website. All usage data (pageviews, events, etc.) are associated with a session.

Figure 6.5 Social Media Referrals for U of T Engineering News, 2020–2021

Social Media Platform	Sessions
Facebook	41,365
Twitter	7,809
LinkedIn	7,283
Instagram	349

Figure 6.6 Summary of Analytics for Discover Engineering, You Belong Here and Graduate Studies Sites, 2020–2021

	Discover Engineering (discover.engineering.utoronto.ca)	You Belong Here (uoft.me/YouBelongHere)	Guide to First Year (uoft.me/firstyear)	Graduate Studies (gradstudies.engineering.utoronto.ca)
Pageviews	1,137,409	35,038	44,898	242,275
Unique visitors	325,346	6,378	7,489	65,243
Average number of pageviews per session	2.23	2.65	2.44	2.08
Average amount of time spent on site	2:12 min	2:26 min	3:10 min	2:16 min
Cities of origin	8,911	667	709	3,537
Countries of origin	214	91	100	178

Note 6.5: U of T Engineering's LinkedIn account launched in January 2020.

Note 6.6: A session is the period of time a user was actively engaged with our website. All usage data (pageviews, events, etc.) are associated with a session. *Discover Engineering* is for prospective students and *You Belong Here* is for applicants who were admitted to U of T Engineering for undergraduate studies. The *Graduate Studies* site serves both prospective and current graduate students.

Figure 6.7 **Top 25 Stories on the Engineering News and U of T News Websites, 2020–2021**

Page Title	Date Posted	Pageviews (U of T Engineering News)	Pageviews (U of T News)	Total
At age 18, U of T Engineering's youngest grad has accomplished more than most – and she's just getting started	May 28, 2020	26,575	50,377	**76,952**
U of T Engineering places among global top 20 in QS World University Rankings 2021	March 8, 2021	2,418	22,374	**24,792**
Grads to Watch 2020	June 1, 2020	4,918	11,139	**16,057**
Rapid COVID-19 testing: U of T team ditches cotton swabs for sensing probes	October 20, 2020	3,913	12,069	**15,982**
Meet two top students from Toronto high schools who are attending U of T Engineering this fall	August 27, 2020	628	13,548	**14,176**
Physics experiment shows potential value of triple-layer masking	March 5, 2021	10,965	1,789	**12,754**
U of T Engineering student has a message for women and girls considering STEM fields: 'You can'	February 11, 2021	1,421	11,306	**12,727**
'My dream job': How a PEY Co-op student is helping develop a new generation of autonomous space robots	March 4, 2021	1,170	10,495	**11,665**
Anti-viral copper coatings could help slow transmission of COVID-19	September 1, 2020	639	10,948	**11,587**
Explainer: U of T Engineering professor Omar F. Khan on COVID-19 vaccination efficacy, misconceptions and Canada's rollout	March 18, 2021	1,512	6,178	**7,690**
Re-engineered enzyme could help reverse damage from spinal cord injury and stroke	August 24, 2020	647	4,961	**5,608**
Professor Cristina Amon appointed to the Order of Canada	November 27, 2020	569	4,508	**5,077**
Making the most of an unusual semester: How U of T Engineering students are adapting to remote learning	December 9, 2020	2,381	1,884	**4,265**
Virtual reality makes unique chemical engineering lab accessible from home	January 19, 2021	620	3,554	**4,174**
University Professor Elizabeth Edwards appointed to the Order of Canada	December 30, 2020	444	3,626	**4,070**
Ted Sargent named U of T's vice-president, research and innovation, and strategic initiatives	June 26, 2020	371	3,482	**3,853**
Forensic engineering expert on what happens next in Beirut	August 7, 2020	406	3,387	**3,793**
What's contributing to the striking gender gap in the AI field? U of T Engineering study takes a closer look	July 2, 2020	799	2,982	**3,781**
First of its kind at U of T: MIE launches specialized course in 3D printing	December 16, 2020	313	2,838	**3,151**
New 'explainable' artificial intelligence algorithm could lead to smarter manufacturing	March 29, 2021	300	2,838	**3,138**
Multidisciplinary team lays groundwork for a Central Bank-backed "digital loonie"	February 11, 2021	246	2,791	**3,037**
Understanding the spread of COVID-19 through physics-based modeling	July 16, 2020	877	2,027	**2,904**
New U of T Engineering Academy prepares incoming students to excel in first year	May 19, 2020	1,457	1,407	**2,864**
What undergraduate summer research looks like in the time of COVID-19	May 26, 2020	1,097	1,622	**2,719**
Five U of T Engineering professors on how they're preparing for an unprecedented Back to Skule™	August 27, 2020	1,327	1,240	**2,567**

CHAPTER 7
FINANCIAL & PHYSICAL RESOURCES

FACTS AND FIGURES

$224.6M
Total revenue, 2020–2021.

18
Buildings wholly or partly occupied by U of T Engineering, from the historic Sandford Fleming Building to the innovative Myhal Centre.

$115.8M
Net revenue, 2020–2021.

89
Laboratory facilities across U of T Engineering upgraded through the Lab Innovation for Toronto (LIFT) project.

Figure 7.1 **Total Revenue, 2011–2012 to 2020–2021**

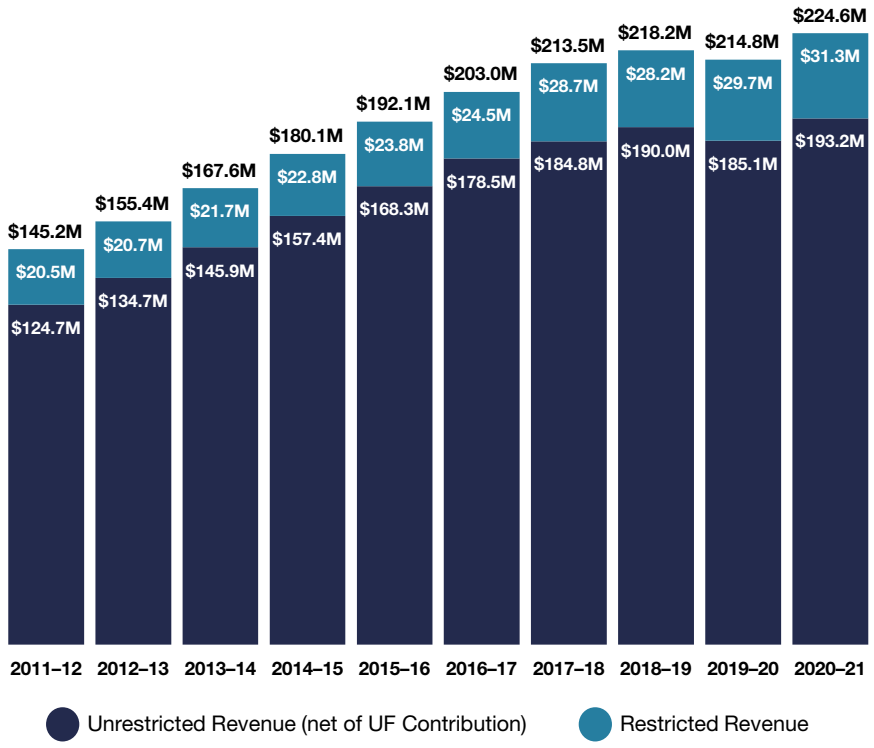
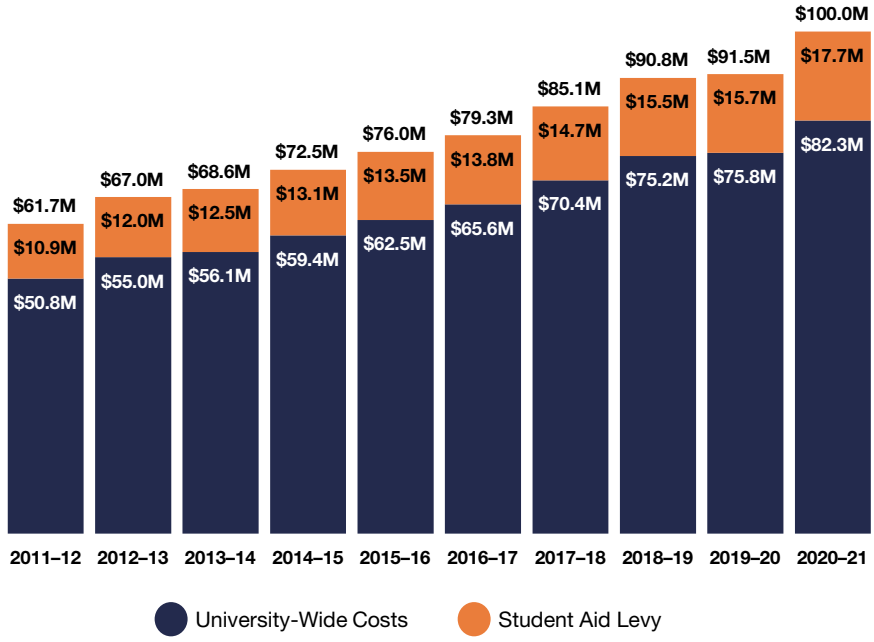


Figure 7.2 **Total Central Costs, 2011–2012 to 2020–2021**



Data in this chapter are presented by fiscal year (May to April)

Figure 7.3 **Budget Data, 2011–2012 to 2020–2021**

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Unrestricted Revenue (net of UF Contribution)	$124,737,845	$134,654,090	$145,880,955	$157,376,069	$168,313,333	$178,459,435	$184,836,509	$189,960,978	$185,052,620	$193,218,344
Restricted Revenue	$20,483,566	$20,726,973	$21,737,177	$22,751,425	$23,766,755	$24,525,299	$28,686,839	$28,225,383	$29,712,446	$31,332,611
Total Revenue	**$145,221,411**	**$155,381,063**	**$167,618,132**	**$180,127,494**	**$192,080,088**	**$202,984,733**	**$213,523,348**	**$218,186,361**	**$214,765,067**	**$224,550,955**
Divisional Recovery for Interdivisional Teaching					**$6,042,335**	**$5,084,764**	**$5,028,443**	**$11,067,206**	**$10,910,265**	**$8,720,807**
University-Wide Costs	$50,817,454	$55,028,273	$56,089,556	$59,390,462	$62,461,112	$65,553,462	$70,384,637	$75,233,388	$75,822,728	$82,258,808
Student Aid Levy	$10,859,371	$11,995,084	$12,539,417	$13,093,888	$13,541,938	$13,793,571	$14,716,594	$15,542,692	$15,703,617	$17,749,925
Total Central Costs	**$61,676,825**	**$67,023,357**	**$68,628,973**	**$72,484,350**	**$76,003,050**	**$79,347,033**	**$85,101,231**	**$90,776,080**	**$91,526,344**	**$100,008,733**
Net Revenue	**$83,544,585**	**$88,357,706**	**$98,989,159**	**$107,643,144**	**$110,034,703**	**$118,552,936**	**$123,393,674**	**$116,343,075**	**$112,328,457**	**$115,821,415**

Figure 7.4 **Revenue Sources, 2020–2021**

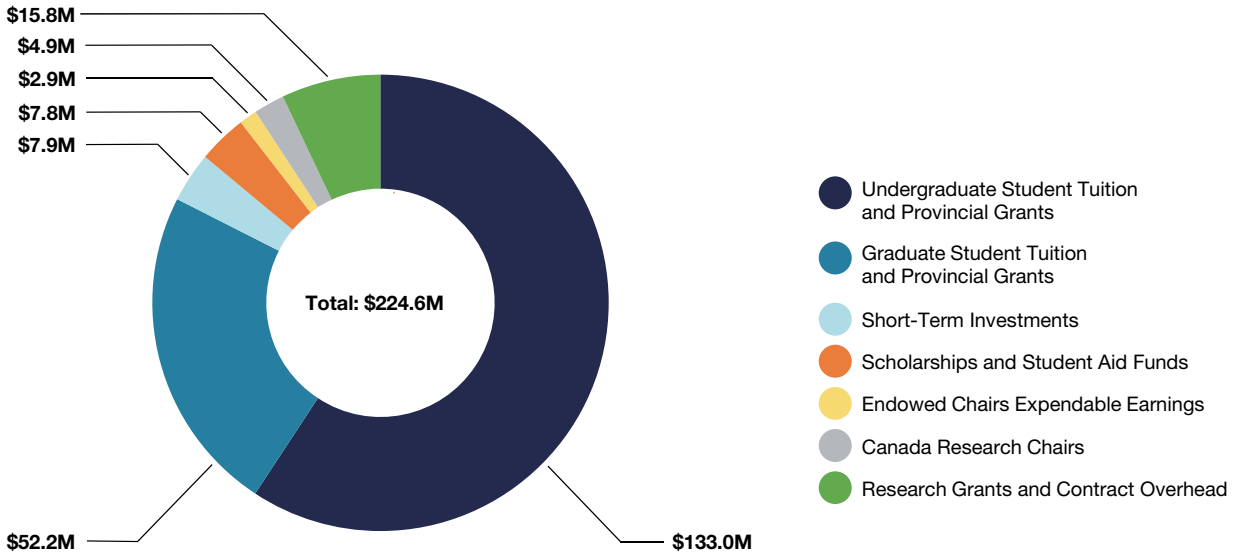


Figure 7.5 **Revenue Distribution, 2020–2021**

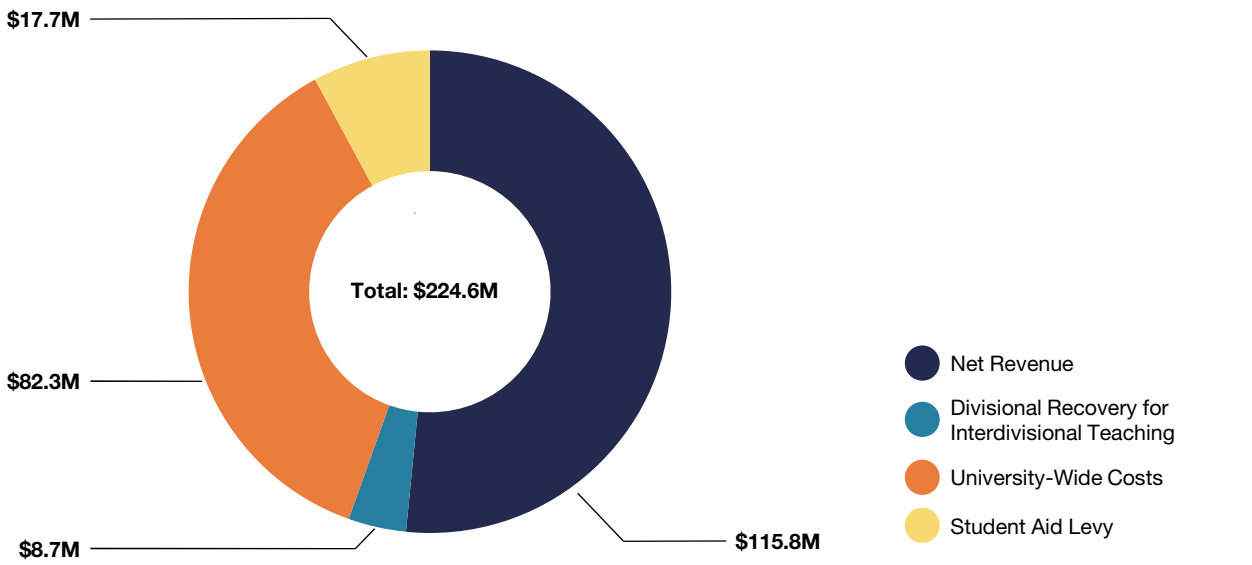


Figure 7.6 **Total Operating Budget: Breakdown by Expenses (Net of Central University Costs), 2020–2021**

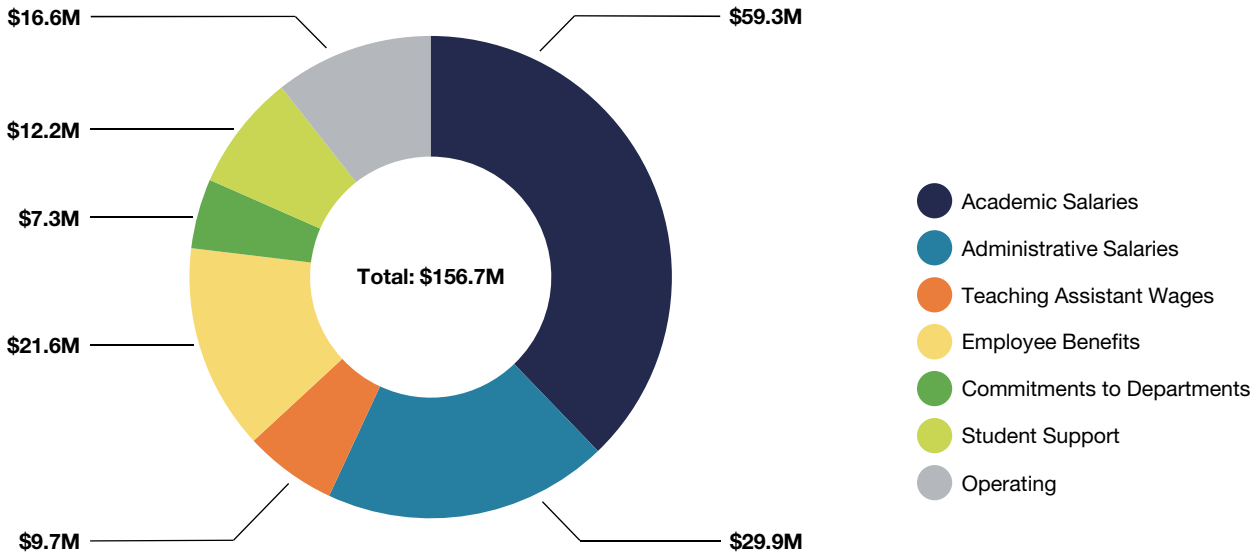


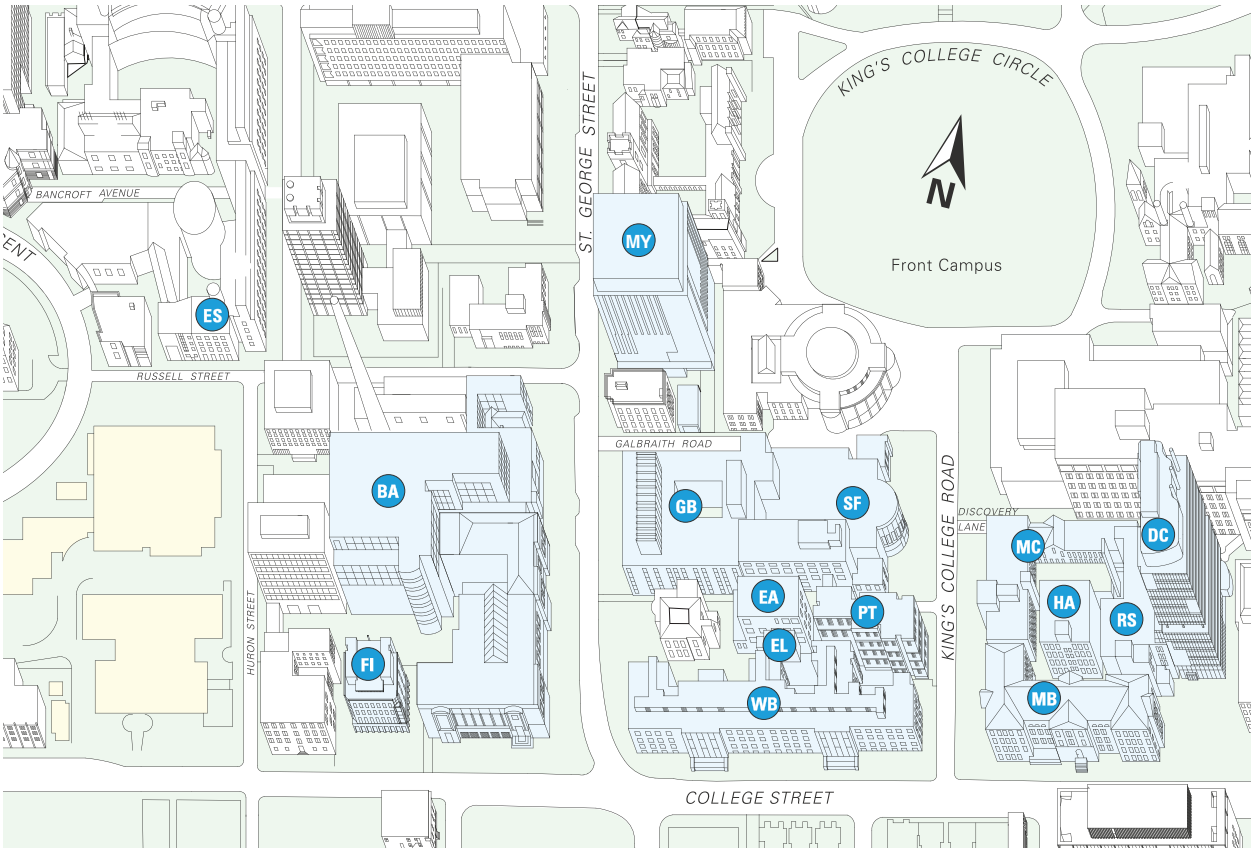
Figure 7.7 Summary of Buildings Occupied by Engineering, 2020–2021

Code	Building	Office of the Dean	EngSci	UTIAS	ChemE	CivE & MinE	ECE	BME	ISTEP	MIE	MSE	Total NASMs
AS	**Aerospace (Downsview)**			5,293								5,293
BA	**Bahen Centre**	1,581	561		67		5,529			1,668		9,407
DC	**Donnelly CCBR**				667			889				1,556
ES	**Earth Sciences**				164							164
EA	**Engineering Annex**	221					944				91	1,256
EL	**Electrometal**										149	149
FI	**Fields Institute**	332										332
GB	**Galbraith**	1,533				5,312	4,318		27			11,190
HA	**Haultain**				198	110				727	721	1,755
M2	**MaRS West Tower**						136	791		183		1,110
MB	**Lassonde Mining**					1,138		1,362		1,890	832	5,222
MC	**Mechanical Engineering**	63								5,384		5,447
MY	**Myhal Centre**	5,228							579			5,807
PT	**D.L. Pratt**						1,327				1,488	2,815
RS	**Rosebrugh**							799		2,196		2,995
SF	**Sandford Fleming**	629		692		1,559	3,546		137			6,563
WB	**Wallberg**	375			8,264		130				1,381	10,151
RM	**256 McCaul**	528										528
	Total Area	**10,490**	**561**	**5,985**	**9,361**	**8,118**	**15,931**	**3,841**	**743**	**12,049**	**4,662**	**71,740**
		71,740 NASMs (Net Assignable Square Metre)										

Figure 7.8 **Selected Infrastructure Investments, 2020–2021**

Project	Description	Progress
EngX - Industry Partnerships Concierge Program	This new facility, to be located on the ground floor of 88 College Street, is designed to catalyze partnerships between external organizations and U of T Engineering.	A conceptual pre-design study has been carried out, providing a 'best-fit' accommodation solution and a rough order-of-magnitude cost estimate for the renovations that would be needed.
Sustainability Research Laboratory (S-Lab)	Located on the roof of the Wallberg building, S-Lab will feature 340 72-cell monocrystalline panels and advanced environmental sensors to accelerate research and training around cross-disciplinary sustainability issues.	In March 2021, Governing Council's Executive Committee granted Cycle #4 Governance approval. The project has been tendered and construction is expected to start in the summer of 2021, with occupancy set for the of 2022.
Experiential Learning Commons	A new joint collaborative career centre, located on the third and fourth floors of 255 Beverly Street, will include accommodations for the Engineering Career Centre, as well as career support programs from the Faculty of Arts & Science and the Employer Relations Team from central Student Services. It will house programs such as the Professional Experience Year (PEY) Co-op Program as well as new work experience offerings focused on graduate students.	In May 2021, the project received Cycle #5 Governance approval. The general contractor is mobilizing on site in July 2021, with completion expected for the late spring of 2022.
Adjustable Multi-dimensional (AMD) Loading System & Upgrade of Structural Testing Facility	Revitalization of the Structural Testing Facility, located in the Department of Civil & Mineral Engineering, will include the installation of an adjustable multi-dimensional (AMD) experimental loading facility.	Funding for the project from the Canada Foundation for Innovation was announced in March 2021. A feasibility study, supported by the Dean's Strategic Fund, was delivered in June 2021. Future work includes the boring of holes for hydro-geological work, and the integration of the Feasibility Study cost estimate into the University's Total Project Cost (TPC) context and framework.
Gull Lake Survey Camp Bunkhouse	This new facility will house up to 96 people and includes a washroom and shower facility, common room, and new septic system.	Despite delays due to the COVID-19 pandemic and weather, construction of the buildings and installation of the sewage treatment system are slated for completion by July 2021.
Engineering & Computer Science Library Renovation	The renovated spaces will include several new elements, including group study rooms, a classroom, windows and carpet tile, as well as improved ventilation and refreshed spaces on both floors.	This project was nearing completion as of summer 2021.

Figure 7.9 **The Engineering Neighbourhood**



BA	Bahen Centre for Information Technology
DC	Donnelly Centre for Cellular and Biomolecular Research (CCBR)
EA	Engineering Annex / Electro-Metallurgy Lab Building (South Side)
EL	Electrometallurgy Lab
ES	Earth Sciences Centre
FI	Fields Institute
GB	Galbraith Building
HA	Haultain Building
MB	Lassonde Mining Building
MC	Mechanical Engineering Building
MY	Myhal Centre for Engineering Innovation & Entrepreneurship
PT	D.L. Pratt Building
RS	Rosebrugh Building
SF	Sandford Fleming Building
WB	Wallberg Building
–	256 McCaul Street [not pictured]
–	MaRS Discover District West Tower [not pictured]
–	UTIAS (Downsview) [not pictured]

APPENDIX
DATA SOURCES

Read U of T Engineering's *Impact Report 2021* at
uofteng.ca/2021

This section indicates the sources for data and information presented throughout this report. Sources are organized in order of appearance by figure number and title.

Introduction

Comparison of U of T Engineering with Ontario and Canada, 2019–2020

Enrolment, degrees granted and faculty data are based on the 2019 calendar year and come from the Engineering Deans Canada (EDC) 2019 Resources Report, prepared by Engineers Canada and circulated to Canadian engineering deans in July 2020.

Undergraduate enrolment figures exclude non-degree students and those doing a Professional Experience Year Co-op (PEY Co-op). Full-time equivalent (FTE) enrolment statistics represent averages that include all three terms of the year (winter, summer and fall). Undergraduate FTE shows the three-term total divided by two; Graduate FTE shows the three-term total divided by three. Research funding data comes from the Natural Sciences and Engineering Research Council (NSERC) search engine (www.nserc-crsng.gc.ca/ase-oro/index_eng.asp) with the following parameters: Advanced Search; Selection Committees = Discovery Grants + Research Partnerships (excl CRCs & NCEs); Research Subjects = all engineering-related categories; Universities only; Fiscal Year = 2019–2020 (April to March). Major awards data comes from the Director, Awards and Honours, Faculty of Applied Science & Engineering, based on press releases and websites of individual awards for the 2020 calendar year.

Comparison of U of T Engineering with St. George Campus and University of Toronto, 2020–2021

All student enrolment statistics are based on headcount for the Fall 2020 semester from the U of T Enrolment Reporting Cube (St. George and U of T statistics do not include Toronto School of Theology). All degrees awarded statistics come from ROSI and reflect September 2020 to June 2021 dates (St. George and U of T statistics do not include Toronto School of Theology). All sponsored-research funding statistics come from the U of T Research Reporting Dashboards, based on the 2019–2020 grant year, and exclude partner hospitals; includes all program types; data is current as of May 2021. Engineering academic staff statistics provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering (based on HRIS and published lists of faculty members). Engineering administrative and technical staff statistic provided by the Manager, Finance and Budget, Faculty of Applied Science & Engineering. U of T academic and administrative staff statistics come from U of T *Facts and Figures 2020,* available online at: data.utoronto.ca/reports/facts-and-figures. All budget data is provided by the Chief Financial Officer, Faculty of Applied Science & Engineering, and is taken from the U of T *Budget Report 2020–21* (Feb 2020), Appendix B, Schedule 4: Revenue and Expense Allocations by Division 2020–21, prepared by the Office of the Vice-Provost, Planning & Budget and available online at: https://planningandbudget.utoronto.ca/reports/. Engineering space statistic from U of T Office of Space Management data, March 2021. U of T and St. George space statistics from U of T Facts and Figures 2020.

Faculty Leadership, 2020–2021

Information provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering. A current organizational chart is also available online at www.engineering.utoronto.ca/about/office-of-the-dean/#academiclead

Chapter 1: Undergraduate Studies

1.1a Applications, Offers, Registrations, Selectivity and Yield of First-Year Undergraduates, 2011 to 2020

All years' data for applications and offers are based on annual Admissions Committee reports to Engineering Faculty Council (November), counting new admissions only, FT and PT, all years of study. Excludes students with special status. Registrations only are from the U of T Enrolment Reporting Cube. Cube Parameters: Faculty = Faculty of Applied Science & Engineering, All Fall Terms for 2011–2020, Degree Type = Undergraduate; Stage of Study (SESLEV) = Year 1, New Intake (NEWINTK) = Yes, Measure = Headcount.

1.1b	**Applications, Offers, Registrations, Selectivity and Yield of Domestic First-Year Undergraduates, 2011 to 2020**	All years' data for applications and offers are based on annual Admissions Committee reports to Engineering Faculty Council (November), counting new admissions only, FT and PT, all years of study. Excludes students with special status. Registrations only are from the U of T Enrolment Reporting Cube. Cube Parameters: Faculty = Faculty of Applied Science & Engineering, All Fall Terms for 2011–2020, Degree Type = Undergraduate; Stage of Study (SESLEV) = Year 1, New Intake (NEWINTK) = Yes, Domestic / International (DOM_INTL) = Domestic; Measure = Headcount.
1.1c	**Applications, Offers, Registrations, Selectivity and Yield of International First-Year Undergraduates, 2011 to 2020**	All years' data for applications and offers are based on annual Admissions Committee reports to Engineering Faculty Council (November), counting new admissions only, FT and PT, all years of study. Excludes students with special status. Registrations only are from the U of T Enrolment Reporting Cube. Cube Parameters: Faculty = Faculty of Applied Science & Engineering, All Fall Terms for 2011–2020, Degree Type = Undergraduate; Stage of Study (SESLEV) = Year 1, New Intake (NEWINTK) = Yes, Domestic / International (DOM_INTL) = International; Measure = Headcount.
1.2a	**Ontario Secondary School Averages of Incoming First-Year Undergraduates, 2011 to 2020**	Averages of incoming first-year students from Admissions Committee Report to Engineering Faculty Council (November).
1.2b	**Two-Year Retention Rate, 2011 to 2018**	Retention rate is the proportion of students who successfully move on to second year within two years of their first entry into the program.
1.3	**Incoming First-Year Undergraduates by Program, 2011–2012 to 2020–2021**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; New Intake (NEWINTK) = Yes; Measure = Headcount; Programs of study based on [Program] field.
1.4a	**All Undergraduates by Program, 2011–2012 to 2020–2021**	Headcount from the U of T Enrolment Reporting Cube. Includes full-time students, part-time students and students on PEY Co-op. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; Stage of Study (SESLEV) = Years 1–4; Measure = Headcount; Programs of study based on [Program] field.
1.4b	**All Undergraduates by Program, Year of Study and Professional Experience Year Co-op, 2020–2021**	Headcount from the U of T Enrolment Reporting Cube. Includes full-time students, part-time students and students on PEY Co-op. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Degree Type = Undergraduate; Stage of Study (SESLEV) = Years 1–4; Fall 2020; Programs of study based on [Program] field.
1.4c	**Enrolment in Engineering Science Majors, 2011–2012 to 2020–2021**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status and students on PEY Co-op. Cube Parameters: Faculty = Applied Science & Engineering; Degree Type = Undergraduate; Stage of Study (SESLEV) = Years 1–4; Fall 2020; EngSci Majors based on [Program Option] field.
1.5a	**Undergraduate Student-to-Faculty Ratios by Academic Area, 2020–2021**	Number of undergraduates from the U of T Enrolment Reporting Cube. Excludes students on PEY Co-op and students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Fall 2020, Degree Type = Undergraduate; Associated Org = blank (to exclude PEY Co-op); Measure = Headcount. Faculty Total does not include teaching done for Engineering by extra-divisional units (especially Arts & Science departments). Results are not adjusted for departmental contributions to shared first-year curriculum, Engineering Science or Engineering minors. Faculty counts are provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering and used on a slip-year basis: totals from July 2020 are used to compare with 2020–2021 student counts. Calculation includes tenured, tenure-stream and teaching-stream faculty.

1.5b	**Undergraduate Full-Time Equivalent Student-Faculty Ratios, 2011–2012 to 2020–2021**	Number of undergraduates from the U of T Enrolment Reporting Cube. Excludes students on PEY Co-op and students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Fall 2020, Degree Type = Undergraduate; Associated Org = blank (to exclude PEY Co-op); Measure = Headcount. Does not include teaching done for Engineering by extra-divisional units (especially Arts & Science departments). Faculty counts are provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering and used on a slip-year basis: totals from July 2020 are used to compare with 2020–2021 student counts. Calculation includes tenured, tenure-stream and teaching-stream faculty.
1.6a	**Undergraduate Participation in Summer Research Opportunities, 2012 to 2021**	Information regarding Canadian placements provided by the Registrar's Office, Faculty of Applied Science & Engineering. International placement statistics provided by the U of T Centre for International Experience.
1.6b	**Undergraduate Participation in Summer Research Opportunities by Academic Area, 2021**	Information regarding Canadian placements provided by the Registrar's Office, Faculty of Applied Science & Engineering. International placement statistics provided by the U of T Centre for International Experience.
1.7a	**Number of Engineering Undergraduate Students Participating in PEY Co-op with Percentage Participation, 2011–2012 to 2020–2021**	Statistics provided by the Engineering Career Centre, Faculty of Applied Science & Engineering.
1.7b	**Number of Canadian and International PEY Co-op Positions, 2011–2012 to 2020–2021**	Statistics provided by the Engineering Career Centre, Faculty of Applied Science & Engineering.
1.7c	**Number of PEY Co-op Employers, 2011–2012 to 2020–2021**	Statistics provided by the Engineering Career Centre, Faculty of Applied Science & Engineering.
1.8a	**Number of Awards Received by Cohort with Total Number of Undergraduate Need-Based Award Recipients, 2011–2012 to 2020–2021**	Award data from the U of T Student Accounts Cube. Parameters: Faculty = Applied Science & Engineering; Transaction Type = Income / Awards – Undergraduate; Needs-based Awards; Level of Instruction = Undergraduate; Enrolment Status = All (e.g. FINCA, CANC, etc.); Stage of Study (SESLEV) = Years 1–4 (exclude any N/A); Sessions include most recent (current) academic year except for the Summer semester; Measure = Dollar amount
1.8b	**Total Value of Undergraduate Financial Assistance and Percentage Distributed by Year of Study, 2011–2012 to 2020–2021**	Award data from the U of T Student Accounts Cube. Parameters: Faculty = Applied Science & Engineering; Transaction Type = Income / Awards – Undergraduate; Needs-based Awards; Level of Instruction = Undergraduate; Enrolment Status = All (e.g. FINCA, CANC, etc.); Stage of Study (SESLEV) = Years 1–4 (exclude any N/A); Sessions include most recent (current) academic year except for the Summer semester; Measure = Distinct student count
1.9	**Undergraduate Degrees Awarded by Program, 2011–2012 to 2020–2021**	All data from ROSI download: 5EA (Graduated Students); Faculty = APSC (Applied Science & Engineering). Includes Fall (Nov), Spring (March) and Summer (June) Convocations.

1.10	**U of T Engineering Degrees Awarded by Academic Area Compared with Canadian and North American Degree Totals, 2019**	U of T and Canadian statistics are based on the 2019 calendar year and come from Engineers Canada Report of Enrolment & Degrees Granted (*Canadian Engineers for Tomorrow, Trends in Engineering Enrolment and Degrees Awarded 2015–2019*), released November 2020, and available online at: engineerscanada.ca/reports/enrolment-and-degrees-awarded-report. American statistics used to calculate North American percentages are based on the 2019–2020 academic year and come from the 2020 American Society of Engineering Educators (ASEE) Report, available online at: www.asee.org/papers-and-publications/publications/college-profiles
1.11a	**Number of Students and Percentage of Class Graduating with Honours, 2012 to 2021**	Data provided by the Registrar's Office, Faculty of Applied Science & Engineering. Based ROSI download: 5EA (Graduated Students); Degree Citation Code = HON (Honours) or HHO (High Honours).
1.11b	**Number of Students on the Dean's Honour List by Term and Academic Area, Fall 2016 to Winter 2021**	Data provided by the Registrar's Office, Faculty of Applied Science & Engineering. Based on ROSI data; Award Code = APHON. See footnote to Fig. 1.11b for an explanation regarding the impact of COVID-19 adaptations on the 2020 Winter term and 2020–2021 results.
1.12a	**Number of Completed Minors and Percentage of Graduating Students Completing an Engineering Minor, 2011–2012 to 2020–2021**	Information provided by the Cross-Disciplinary Programs Office, Faculty of Applied Science & Engineering
1.12b	**Students Graduating with an Engineering Business Minor or Certificate, 2011–2012 to 2020–2021**	Information provided by the Cross-Disciplinary Programs Office, Faculty of Applied Science & Engineering
1.13	**New Undergraduate Courses Launched, 2020–2021**	Data provided by the Vice-Dean Undergraduate Studies, Faculty of Applied Science & Engineering.

Chapter 2: **Graduate Studies**

2.1a	**Domestic and International MASc Students: Applications, Offers, Registrations, Selectivity and Yield, 2011–2012 to 2020–2021**	All data from ROSI download: 4BEG (Admissions Statistics)
2.1b	**Domestic and International PhD Students: Applications, Offers, Registrations, Selectivity and Yield, 2011–2012 to 2020–2021**	All data from ROSI download: 4BEG (Admissions Statistics). Students who have fast-tracked from MASc programs into PhD programs are calculated separately (see Fig. 2.6a) but have been included in this figure as applications, offers and admissions to more accurately reflect total PhD student intake.
2.1c	**Domestic and International MEng and MHSc Students: Applications, Offers, Registrations, Selectivity and Yield, 2011–2012 to 2020–2021**	All data from ROSI download: 4BEG (Admissions Statistics)

2.2a	**Graduate Students by Degree Type, 2011–2012 to 2020–2021**	Enrolment counts are from the U of T Enrolment Reporting Cube and exclude special status students. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Measure = Headcount.
2.2b	**Graduate Enrolment by Full-Time Equivalent (FTE) and Headcount (HC) by Academic Area, 2011–2012 to 2020–2021**	Enrolment counts are from the U of T Enrolment Reporting Cube and exclude special status students. Cube Parameters: Faculty = Applied Science & Engineering; Measure = Headcount or Total FTE (UAR). Headcounts are reported for all fall terms from 2011–2020. FTEs are counted by academic year as reported in the cube (May to April).
2.3a	**Graduate and Undergraduate Full-Time Equivalent Student-to-Faculty Ratios, 2011–2012 to 2020–2021**	Number of FTE undergraduates is from the U of T Enrolment Reporting Cube, excluding students on PEY Co-op and students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Fall terms 2011–2020; Associated Org = blank (to exclude PEY Co-op); Degree Type = Undergraduate; Measure = Headcount. To calculate Undergraduate FTEs, part-time students are counted as 0.3 FTE. Number of FTE graduate students is from the U of T Enrolment Reporting Cube. Cube Parameters: Faculty = Applied Science & Engineering; Fall terms 2011–2020; Measure = Total FTE (UAR); excludes students with special status. Number of faculty included in the calculation is provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering and used on a slip-year basis: totals from July 2020 are used to compare with 2020–2021 student counts. Graduate ratios include only tenured and tenure-stream faculty; Undergraduate ratios also include teaching stream faculty.
2.3b	**FTE Graduate Student-to-Faculty Ratios by Academic Area and Degree Type, 2020–2021**	Number of FTE graduate students is from the U of T Enrolment Reporting Cube. Cube Parameters: Faculty = Applied Science & Engineering; Fall 2020; Measure = Total FTE (UAR). Includes all degree types but excludes students with special status. The number of graduate students per department is adjusted as per the budget calculation for inter-departmental graduate student supervision. Faculty counts are provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering, and are used on a slip-year basis: totals from July 2020 are used to compare with 2020–2021 student counts. Includes tenured and tenure-stream faculty only.
2.3c	**Ratio of Undergraduate to Graduate Full-Time Equivalent Students, 2011–2012 to 2020–2021**	Number of FTE undergraduates is from the U of T Enrolment Reporting Cube, excluding students on PEY Co-op and students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Fall terms 2011–2020; Associated Org = blank (to exclude PEY Co-op); Degree Type = Undergraduate; Measure = Headcount. To calculate Undergraduate FTEs, part-time students are counted as 0.3 FTE. Number of FTE graduate students is from the U of T Enrolment Reporting Cube. Cube Parameters: Faculty = Applied Science & Engineering; Fall terms 2011–2020; Measure = Total FTE (UAR); Includes all degree types but excludes students with special status.
2.4a	**Graduate Student Funding by Category, 2010–2011 to 2019–2020**	Data from the U of T Student Accounts Reporting Cube. Parameters: Faculty = Applied Science & Engineering; Transaction Type = Awards – Grad, Stipend, UT Employment; excludes Awards – Undergraduate, Waiver. Student funding reported by academic year (September to August).
2.4b	**Graduate Student Funding by Category and Academic Area, 2019–2020**	Data obtained from the U of T Student Accounts Reporting Cube. Parameters: Faculty = Applied Science & Engineering; Transaction Type = Awards – Grad, Stipend, UT Employment; excludes Awards – Undergraduate, Waiver. Student funding reported by academic year (September to August).
2.5a	**Total External Graduate Student Scholarships by Source, 2010–2011 to 2019–2020**	Data from the U of T Student Accounts Reporting Cube. Parameters: Faculty = Applied Science & Engineering; Transaction Type = Income / Awards – Grad; Award Income Source = External. Student funding reported by academic year (September to August).

2.5b	**Number of NSERC and CIHR Graduate Student Award Recipients by Academic Area, 2010–2011 to 2019–2020**	Data from the U of T Student Accounts Reporting Cube. Parameters: Faculty = Applied Science & Engineering; Transaction Type = Income / Awards – Grad; Award Income Source = Federal — Natural Sciences and Engineering Research Council; Measure = Distinct Student Count. Student funding reported by academic year (September to August).
2.6a	**Number of Students Fast-Tracked from MASc to PhD by Academic Area, 2011–2012 to 2020–2021**	All data from ROSI download: 4FF (Student Registrations). Fast-tracked students are identified by POSt codes that end in 'PHD U' and are counted when prior session POSt code was a Master's degree (MASc or MEng). To reflect fast-tracking practice, an academic year is defined as Summer-Fall-Winter (May to April).
2.6b	**Number of Direct-Entry PhD students by Academic Area, 2011–2012 to 2020–2021**	All data from ROSI download: 4FF (Student Registrations). Include all PhD students where prior session POSt code was blank or AE NDEGP (recently-completed undergraduate). Reported by academic year defined as Summer-Fall-Winter (May to April).
2.7a	**Time to Completion for PhD, MASc, MEng and MHSc Students, 2011–2012 to 2020–2021**	All data from ROSI download: 4BEA (Years to Graduate), originally created for Ontario Council of Graduate Studies (OCGS) reporting purposes. The data reflects median values based on the total number of terms in which a student is registered. Leaves, lapses and (in most cases) the term in which the convocation occurs are excluded. Where a student is fast-tracked from the MASc into a PhD, the total time for both programs is counted. Full-time, extended full-time and part-time MEng students are distinguished for greater clarity and accuracy.
2.7b to 2.7h	**Time to Completion for Graduate Students by Academic Area, 2011–2012 to 2020–2021**	All data from ROSI 4BEA downloads (Years to Graduate), originally created for Ontario Council of Graduate Studies (OCGS) reporting purposes. The data reflects median values based on the total number of terms in which a student is registered. Leaves, lapses and (in most cases) the term in which the convocation occurs are excluded. Where a student is fast-tracked from the MASc into a PhD, the total time for both programs is counted. Full-time, extended full-time and part-time MEng students are distinguished for greater clarity and accuracy.
2.8	**Graduate Degrees Awarded by Degree Type, 2011–2012 to 2020–2021**	All data from ROSI download: 5EA (Graduated Students); Faculty = APSC (Applied Science & Engineering).
2.9	**New Graduate Courses Launched, 2020–2021**	Data provided by the Vice-Dean Graduate Studies, Faculty of Applied Science & Engineering.

Chapter 3: **Community**

3.1	**Continent of Origin: Undergraduate Students, Fall 2020**	Student counts from the U of T Enrolment Reporting Cube, excluding students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Year = Fall 2020; Degree Type = Undergraduate; Measure = Headcount; Calculations based on Continent/Country of Citizenship [CUNCIT] parameter.
3.2a	**Incoming First-Year Undergraduates with Percentage of Women, 2011 to 2020**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; New Intake (NEWINTK) = Yes; Measure = Headcount; [Gender] parameter used to calculate percentage of women students. See footnote to Fig. 3.2a for more information about changes in the reporting of gender beginning in 2017.
3.2b	**Incoming First-Year Undergraduates with Percentage of International Students, 2011 to 2020**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; New Intake (NEWINTK) = Yes; Measure = Headcount; [DOM_INTL] parameter used to calculate percentage of international students.

3.2c	**Incoming First-Year Domestic and International Undergraduates, 2011 to 2020**	Headcount from the U of T Enrolment Master Files, source of the Enrolment Reporting Cube. Includes new and returning students. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; Stage of Study (SESLEV) = Year 1; New Intake (NEWINTK) = Yes; Measure = Headcount
3.3a	**Undergraduate Enrolment with Percentage of Women, 2011 to 2020**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; Measure = Headcount; See footnote to Fig. 3.3a for more information about changes in the reporting of gender beginning in 2017.
3.3b	**Percentage of Women by Undergraduate Program, 2011–2012 to 2020–2021**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Fall Terms for 2011–2020; Degree Type = Undergraduate; Gender = Female; Programs of study based on [Program] field
3.3c	**Undergraduate Enrolment with Percentage of International Students, 2011–2012 to 2020–2021**	Headcount from the U of T Enrolment Reporting Cube. Excludes students with special status. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Degree Type = Undergraduate; Measure = Headcount; [DOM_INTL] parameters used to calculate percentage of international students. See footnote to Fig. 3.3a for more information about changes in the reporting of gender beginning in 2017.
3.4	**Undergraduate Degrees Awarded by Gender, 2011–2012 to 2020–2021**	All data from ROSI download: 5EA (Graduated Students); Faculty = APSC (Applied Science & Engineering). Includes Fall (Nov), Spring (March) and Summer (June) Convocations.
3.5	**Continent of Origin: Graduate Students, Fall 2020**	Student counts from the U of T Enrolment Reporting Cube, excluding students with special status. Cube Parameters: Faculty = Applied Science & Engineering; Year = Fall 2020; Measure = Headcount; Calculations based on Continent/Country of Citizenship [CUNCIT] parameter.
3.6a	**Graduate Students by Degree Type and Gender with Percentage of Women Students, 2011–2012 to 2020–2021**	Enrolment counts are from the U of T Enrolment Reporting Cube and exclude special status students. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020; Measure = Headcount. [Gender] parameter used to calculate percentage of women. See footnote to Fig. 3.6a for more information about changes in the reporting of gender beginning in 2017.
3.6b	**Graduate Students by Degree Type and Domestic/ International Status with Percentage of International Students, 2011–2012 to 2020–2021**	Enrolment counts are from the U of T Enrolment Reporting Cube and exclude special status students. Cube Parameters: Faculty = Applied Science & Engineering; All Fall Terms for 2011–2020, Measure = Headcount. [DOM_INTL] parameter used to calculate percentage of international students.
3.7	**Graduate Degrees Awarded by Gender, 2011–2012 to 2020–2021**	All data from ROSI download: 5EA (Graduated Students); Faculty = APSC (Applied Science & Engineering).
3.8	**Engineering Undergraduate and Graduate Clubs and Teams, 2020–2021**	Information from the Associate Director, Student Experience & Teaching Development, who administers the Centralized Process for Student Initiative Funding (CPSIF), as well as the Engineering Society: www.skule.ca
3.9	**Pre-University Outreach Programs, 2020–2021**	Information provided by the Engineering Student Outreach Office, Faculty of Applied Science & Engineering.

3.10	**Total Number of Faculty by Academic Area, 2011–2012 to 2020–2021**	Information provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering. Women academic staff include all ranks of professors in both the tenure and teaching streams.
3.11	**Total Number of Faculty with Percentage of Women Overall and by Academic Rank, 2011–2012 to 2020–2021**	Information provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering.
3.12	**Percentage of Women Faculty at U of T Engineering Compared with Women Faculty in Ontario and Canadian Engineering Faculties, 2019–2020**	Information from the 2019 Resources Survey prepared for Engineering Deans Canada (EDC) by Engineers Canada and circulated to Canadian engineering deans in July 2020. Data represents faculty counts as of November 15, 2019.
3.13	**Canada Research Chairs with Number and Percentage of Women Chairholders, 2012 to 2021**	Information provided by the Senior Reporting and Budget Analyst, Faculty of Applied Science & Engineering. Includes data sourced from the Office of the Vice-President, Research & Innovation and from the Canada Research Chairs Program website: www.chairs-chaires.gc.ca/home-accueil-eng.aspx
3.14	**Total Staff by Role and Gender, 2011–2021 to 2020–2021**	Information provided by the Manager, Finance and Budget, Faculty of Applied Science & Engineering.
3.15	**Summary of Progress Against the Recommendations of the Blueprint for Action (2018), as prepared by the Eagles' Longhouse (Engineering Indigenous Initiatives Steering Committee), 2020**	Information provided by the Eagles' Longhouse (Engineering Indigenous Initiatives Steering Committee).
3.16	**Summary of Progress Against the Recommendations of Striving Toward Black Inclusivity (2019) as prepared by the Black Inclusion Steering Committee (BISC), 2021**	Information provided by the Black Inclusion Steering Committee (BISC).
3.17	**Summary of Progress against the Recommendations of the Final Report (2019) of the Joint Task Force on Academic Advising and Mental Health, 2021**	Information provided by the U of T Engineering Mental Health Programs Officer.

Chapter 4: **Research**

4.1a	**Total Research Funding (Infrastructure + Operating), 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Infrastructure Funding includes the following programs: Canada Foundation for Innovation (except the CFI Career Award), the Ontario Innovation Trust, the Ontario Research Fund (ORF) – Research Infrastructure, and the NSERC Research Tools and Instruments (RTI) Program.
4.1b	**Total Research Funding (Infrastructure + Operating) by Year, Source and Funding per Faculty Member, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and adjusted to reflect each PI's department of budgetary appointment. Organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Faculty data is provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering, and here includes tenured and tenure-stream faculty only, as reported each July. Faculty counts are used on a slip-year basis: e.g. those reported in July 2019 (for academic year 2018–2019) are linked to Grant Year 2020 (Apr 2019 to Mar 2020).
4.1c	**Research Operating Funding by Year, Source and Funding per Faculty Member, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Research Operating Funding excludes the following infrastructure programs: Canada Foundation for Innovation (except the CFI Career Award), the Ontario Innovation Trust, the Ontario Research Fund (ORF) – Research Infrastructure, and the NSERC Research Tools and Instruments (RTI) Program. Faculty data is provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering, and here includes tenured and tenure-stream faculty only, as reported each July. Faculty counts are used on a slip-year basis: e.g. those reported in July 2019 (for academic year 2018–2019) are linked to Grant Year 2020 (Apr 2019 to Mar 2020).
4.2a to 4.2g	**Research Operating Funding by Academic Area and Funding per Faculty Member, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and adjusted to reflect each PI's department of budgetary appointment. Organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Research Operating Funding excludes the following infrastructure programs: Canada Foundation for Innovation (except the CFI Career Award), the Ontario Innovation Trust, the Ontario Research Fund (ORF) – Research Infrastructure and the NSERC Research Tools and Instruments (RTI) Program. Faculty data is provided by the Assistant Dean, Administration, Faculty of Applied Science & Engineering, and here includes tenured and tenure-stream faculty only, as reported each July. Faculty counts are used on a slip-year basis: e.g. those reported in July 2019 (for academic year 2018–2019) are linked to Grant Year 2020 (Apr 2019 to Mar 2020).
4.3	**Distribution of Research Operating Funding by Academic Area, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and adjusted to reflect each PI's department of budgetary appointment. Organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Research Operating Funding excludes the following infrastructure programs: Canada Foundation for Innovation (except the CFI Career Award), the Ontario Innovation Trust, the Ontario Research Fund (ORF) – Research Infrastructure and the NSERC Research Tools and Instruments (RTI) Program.
4.4a	**Tri-Agency and NCE Support: CIHR, NSERC and NCE Funding, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020).
4.4b	**NSERC Funding, 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Sponsor = Natural Sciences & Engineering. Grant Year = 2020.

4.4c	**NSERC Industrial Partnership Funding by Program, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Sponsor = Natural Sciences & Engineering / Research Partnerships Programs
4.4d	**Industrial Partnerships as Percentage of Total NSERC Funding, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Sponsor = Natural Sciences & Engineering.
4.4e	**NSERC Research Grant Funding by Program, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Sponsor = Natural Sciences & Engineering.
4.5a	**Canadian Peer Universities vs. University of Toronto Share of NSERC Funding for Engineering Cumulative Five-Year Share, 2015–2016 to 2019–2020**	All data from NSERC Award Search Engine: www.nserc-crsng.gc.ca/ase-oro/index_eng.asp. Based on Selection Committees for Discovery and Partnership Programs, but not Scholarships and Fellowships. Excludes Canada Research Chairs and Networks of Centres of Excellence and does not include Indirect Costs of Research. Research Subjects = all engineering and technology-related fields. Organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020).
4.5b	**U of T Annual Share of NSERC Funding in Engineering, 2010–2011 to 2019–2020**	All data from NSERC Award Search Engine: www.nserc-crsng.gc.ca/ase-oro/index_eng.asp. Based on Selection Committees for Discovery and Partnership Programs, but not Scholarships and Fellowships. Excludes Canada Research Chairs and Networks of Centres of Excellence and does not include Indirect Costs of Research. Research Subjects = all engineering and technology-related fields. Organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020).
4.6a	**Industry Research Funding by Academic Area, 2010–2011 to 2019–2020**	Data from the U of T Research Information System (RIS) is current as of May 2021 and organized by grant year (e.g., 2019–2020 = April 2019 to March 2020 = Grant Year 2020). Industry = Corporate.
4.6b	**Industry Partnerships, 2020–2021**	Data from the U of T Research Information System (RIS) is current as of May 2021. Industry = Corporate. Additional information gathered from selected websites (e.g. those of Industrial Research Chairs and major research consortia) and provided by individual departments within the Faculty of Applied Science & Engineering.
4.7a	**U of T Engineering Invention Disclosures by Academic Area, 2016–2017 to 2020–2021**	Data from the Research and Innovation Dashboards, provided by the Office of the Vice President, Research and Innovation. Data current as of May 1, 2021.
4.7b	**Patent Applications by Faculty, 2020–2021**	Data from the Research and Innovation Dashboards, provided by the Office of the Vice President, Research and Innovation. Data current as of May 1, 2021.
4.8	**Spinoff Companies, 2001 to 2021**	Data from the Research and Innovation Dashboards, provided by the Office of the Vice President, Research and Innovation. Data current as of May 1, 2021.

4.9	**Chairs and Professorships**	Chairholders are reported as of the HR turnover date at the end of the reporting cycle, in this case, July 1, 2021, except in cases where new allocations (e.g. CRCs) have not yet been made public. List compiled from the following sources: – Canada Research Chairs website: www.chairs-chaires.gc.ca/home-accueil-eng.aspx – Industrial Research Chairs website: www.nserc-crsng.gc.ca/Professors-Professeurs/CFS-PCP/IRC-PCI_eng.asp – Faculty Trust and Restricted Fund Accountant (Endowed Chairs) – Office of the Vice-Dean, Research, Faculty of Applied Science & Engineering – Assistant Dean, Administration, Faculty of Applied Science & Engineering – Distinguished Professors and University Professors from the Office of the Vice-President & Provost websites: www.provost.utoronto.ca/distinguished-professors/ www.provost.utoronto.ca/awards-funding/university-professors/

Chapter 5: **Awards & Rankings**

5.1	**Summary of University of Toronto Engineering Performance in World Rankings, 2020–2021**	Compiled from other figures in this chapter.

QS World University Rankings for Engineering and Technology

5.2a	**QS Top 50 World Universities for Engineering & Technology, 2021**	Data from QS World University Ranking website: www.topuniversities.com/university-rankings/university-subject-rankings/2021/engineering-technology
5.2b	**QS Top North American Public Universities for Engineering & Technology, 2021**	Data from QS World University Ranking website: www.topuniversities.com/university-rankings/university-subject-rankings/2021/engineering-technology
5.2c	**Canadian U15 in QS Top 200 for Engineering & Technology, 2021**	Data from QS World University Ranking website: www.topuniversities.com/university-rankings/university-subject-rankings/2021/engineering-technology
5.2d	**Canadian Universities in QS Engineering and Technology ranking by Subject, 2021**	Data from QS World University Ranking website: www.topuniversities.com/university-rankings/university-subject-rankings/2021/engineering-technology

Times Higher Education (THE)–Elsevier World University Ranking for Engineering and Technology

5.3a	**THE Top 50 World Universities for Engineering & Technology, 2021**	Data from THE World University Ranking website: www.timeshighereducation.com/world-university-rankings/2021/subject-ranking/engineering-and-IT
5.3b	**THE Top North American Public Universities for Engineering & Technology, 2021**	Data from THE World University Ranking website: www.timeshighereducation.com/world-university-rankings/2021/subject-ranking/engineering-and-IT
5.3c	**Canadian U15 in THE Top 200 for Engineering & Technology, 2021**	Data from THE World University Ranking website: www.timeshighereducation.com/world-university-rankings/2021/subject-ranking/engineering-and-IT

Academic Ranking of World Universities (ARWU) for Engineering Subjects

5.4	**Canadian Universities in the Top 200 of the Academic Ranking of World Universities (ARWU) by Subject, 2020**	Data from ARWU website: http://www.shanghairanking.com/rankings/gras/2020

National Taiwan University (NTU) Performance Ranking of Engineering Papers

5.5a	**NTU Top 80 World Universities for Engineering, 2020**	Data from National Taiwan University Performance Ranking of Scientific Papers for World Universities website: nturanking.lis.ntu.edu.tw/ranking/ByField/ENG. Data compiled from Thomson Reuters' science citation indexes.
5.5b	**NTU Top North American Public Universities for Engineering, 2020**	Data from National Taiwan University Performance Ranking of Scientific Papers for World Universities website: nturanking.lis.ntu.edu.tw/ranking/ByField/ENG. Data compiled from Thomson Reuters' science citation indexes.
5.5c	**Canadian U15 Universities in NTU Top 200 for Engineering, 2020**	Data from National Taiwan University Performance Ranking of Scientific Papers for World Universities website: nturanking.lis.ntu.edu.tw/ranking/ByField/ENG. Data compiled from Thomson Reuters' science citation indexes.
5.5d	**Canadian Universities in NTU Engineering ranking by Subject, 2020**	Data from National Taiwan University Performance Ranking of Scientific Papers for World Universities website: nturanking.lis.ntu.edu.tw/ranking/ByField/ENG. Data compiled from Thomson Reuters' science citation indexes.

Rankings Based on Publications and Citations / Summary of Ranking Results

5.6a	**Number of Engineering Publications Indexed by Thomson Reuters for Association of American Universities (AAU) Public and Canadian Peer Institutions, 2015 to 2019**	Data from Thomson Reuters InCites™ covering 2015 to 2019. Includes public peer institutions in Canada (U15) and U.S. (AAU plus University of California at San Francisco). Schema = Essential Science Indicators (Engineering, Materials Science).
5.6b	**Summary of U15 Bibliometrics for Publications (Thomson Reuters/AAU, 2015 to 2019)**	Data from Thomson Reuters InCites™ covering 2015 to 2019. Includes public peer institutions in Canada (U15) and U.S. (AAU plus University of California at San Francisco). Schema = Essential Science Indicators (Engineering, Materials Science). Faculty counts for analysis of U15 citations per faculty member are from the Engineers Canada 2019 Resources Report.
5.6c	**Number of Engineering Citations Indexed by Thomson Reuters for Association of American Universities (AAU) Public and Canadian Peer Institutions, 2015 to 2019**	Data from Thomson Reuters InCites™ covering 2015 to 2019. Includes public peer institutions in Canada (U15) and U.S. (AAU plus University of California at San Francisco). Schema = Essential Science Indicators (Engineering, Materials Science).
5.6d	**Summary of U15 Bibliometrics for Citations (Thomson Reuters/AAU, 2015 to 2019)**	Data from Thomson Reuters InCites™ covering 2015 to 2019. Includes public peer institutions in Canada (U15) and U.S. (AAU plus University of California at San Francisco). Schema = Essential Science Indicators (Engineering, Materials Science). Faculty counts for analysis of U15 citations per faculty member are from the Engineers Canada 2019 Resources Report.

5.7	**Summary of Major International, National and Provincial Awards and Honours, 2011 to 2020**	Information provided by the Director, Awards and Honours, Faculty of Applied Science & Engineering.
5.8a	**Number of Major National and International Awards Received by U of T Engineering Compared to Other Canadian Engineering Faculties, 2020**	Information provided by the Director, Awards and Honours, Faculty of Applied Science & Engineering.
5.8b	**Percentage of Engineering Faculty and Total Major Awards Received in Canadian Engineering Faculties, 2020**	Information provided by the Director, Awards and Honours, Faculty of Applied Science & Engineering. Faculty FTEs are based on the Engineering Deans Canada (EDC) 2019 Resources Report prepared by Engineers Canada and circulated to Canadian engineering deans in July 2020.
5.9	**Number of Awards Received by U of T Engineering Faculty Compared to Other Canadian Engineering Faculties, 2016 to 2020**	Information provided by the Director, Awards and Honours, Faculty of Applied Science & Engineering.
5.10	**Selected Awards Received by Faculty and Staff, 2020–2021**	Information provided by the Director, Awards and Honours, Faculty of Applied Science & Engineering.
5.11a	**2021 U of T Engineering Staff and Faculty Awards**	Information provided by the Director, Awards and Honours, Faculty of Applied Science & Engineering.
5.11b	**2020 Engineering Alumni Network Awards**	Information provided by the Office of Advancement and Alumni Relations, Faculty of Applied Science & Engineering.

Chapter 6: **Advancement & Communications**

6.1a	**Philanthropic Support, 2020–2021**	Statistics provided by the Office of Advancement and Alumni Relations, Faculty of Applied Science & Engineering.
6.1b	**Philanthropic Support, 2011–2012 to 2020–2021**	Statistics provided by the Office of Advancement and Alumni Relations, Faculty of Applied Science & Engineering.
6.1c	**Gift Designations, 2020–2021**	Statistics provided by the Office of Advancement and Alumni Relations, Faculty of Applied Science & Engineering.
6.1d	**Alumni Engagement, 2020–2021**	Statistics provided by the Office of Advancement and Alumni Relations, Faculty of Applied Science & Engineering.
6.2a	**U of T Engineering Media Stories and Impressions, May 2020 to April 2021**	Information collected via Cormex Research (May 1, 2020 to April 30, 2021)

6.2b	**Proportion of U of T Engineering Impressions by Academic Area, 2020–2021**	Information collected via Cormex Research (May 1, 2020 to April 30, 2021)
6.2c	**Proportion of U of T Engineering Impressions by Strategic Priority Area, 2020–2021**	Information collected via Cormex Research (May 1, 2020 to April 30, 2021)
6.2d	**Proportion of U of T Engineering Media Stories by Outlet Location, 2020–2021**	Information collected via Cormex Research (May 1, 2020 to April 30, 2021)
6.3a	**Twitter Statistics: Tweets, Mentions, Retweets, Likes, May 2020 to April 2021**	Data collected via Sprout Social (May 1, 2020 to April 30, 2021)
6.3b	**Facebook Statistics: Posts, Comments, Shares, Reactions, May 2020 to April 2021**	Data collected via Sprout Social (May 1, 2020 to April 30, 2021)
6.3c	**Instagram Statistics: Posts, Comments, Likes, May 2020 to April 2021**	Data collected via Sprout Social (May 1, 2020 to April 30, 2021)
6.3d	**LinkedIn Statistics: Posts, Shares, Reactions, May 2020 to April 2021**	Data collected via Sprout Social (May 1, 2020 to April 30, 2021)
6.4	**Summary of Analytics for U of T Engineering Faculty site and U of T Engineering News site, 2020–2021**	Websites: engineering.utoronto.ca and news.engineering.utoronto.ca. Information provided by Engineering Strategic Communications, Faculty of Applied Science & Engineering. Website statistics sourced from Google Analytics (May 1, 2020 to April 30, 2021).
6.5	**Social Media Referrals for U of T Engineering News, 2020–2021**	Information provided by Engineering Strategic Communications, Faculty of Applied Science & Engineering. Website statistics sourced from Google Analytics (May 1, 2020 to April 30, 2021)
6.6	**Summary of Analytics for Discover Engineering, You Belong Here and Engineering Graduate Studies sites, 2020–2021**	Websites: discover.engineering.utoronto.ca, www.admit.engineering.utoronto.ca and gradstudies.engineering.utoronto.ca. Website statistics sourced from Google Analytics (May 1, 2020 to April 30, 2021).
6.7	**Top 25 Stories on the Engineering News and U of T News Websites, 2020–2021**	Information provided by Engineering Strategic Communications, Faculty of Applied Science & Engineering and University of Toronto Strategic Communications. Website statistics sourced from Google Analytics (May 1, 2020 to April 30, 2021)

Chapter 7: **Financial & Physical Resources**

7.1	**Total Revenue, 2011–2012 to 2020–2021**	Information provided by the Chief Financial Officer, Faculty of Applied Science & Engineering.
7.2	**Total Central Costs, 2011–2012 to 2020–2021**	Information provided by the Chief Financial Officer, Faculty of Applied Science & Engineering.
7.3	**Budget Data, 2011–2012 to 2020–2021**	Information provided by the Chief Financial Officer, Faculty of Applied Science & Engineering.
7.4	**Revenue Sources, 2020–2021**	Information provided by the Chief Financial Officer, Faculty of Applied Science & Engineering.
7.5	**Revenue Distribution, 2020–2021**	Information provided by the Chief Financial Officer, Faculty of Applied Science & Engineering.
7.6	**Total Operating Budget: Breakdown by Expenses (Net of Central University Costs), 2020–2021**	Information provided by the Chief Financial Officer, Faculty of Applied Science & Engineering.
7.7	**Summary of Buildings Occupied by Engineering, 2020–2021**	Data provided by the Director, Facilities & Infrastructure Planning, Faculty of Applied Science & Engineering.
7.8	**Selected Infrastructure Investments, 2020–2021**	Data provided by the Director, Facilities & Infrastructure Planning, Faculty of Applied Science & Engineering.
7.9	**The Engineering Neighbourhood**	Information from the Office of Space Management. Visit map.utoronto.ca for a full campus map.

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