

UOIT ENROLMENT 2017-2022

DISCUSSION PAPER SERIES

PROVOST'S ADVISORY COMMITTEE ON INTEGRATED PLANNING

OCTOBER 2016

Current Environment

UOIT's 2017- 2020 Strategic Plan positions the university as Canada's emerging leader in career-ready education, aiming for recognition as a global leader in technology-driven research and scholarship. The plan highlights the significance of collaborative research that produces new and useful ideas. Although UOIT still intends to grow to 20,000 students, over the term of this Strategic Plan, we will focus on quality rather than quantity. This will position us to develop our reputation for high quality programs and research that answers the pressing questions of our time.

UOIT's environment has not changed drastically since the 2014 release of the *Strategic Enrolment Management Plan 2014-2020: Vision Critical*¹. UOIT still recruits the majority of its students from the GTA, the international population of student remains at around 6% of the total population, space continues hinder any significant student growth, retention rates remain lower than the system average, and the Ontario population of 18 – 20 year olds remains in a decline over the next few years. The original SEM document positioned UOIT as beginning the 'Period of Growth' in the 2017-18 academic year. This assumption was predicated on new buildings, increased graduate allocations, and enhanced resources to support instruction and research. Although we have made important gains in each of these areas, it is not to the desired levels and for this reason a decision has been made to continue to control growth. Furthermore, the era of growing enrolment to secure increases in funding is being replaced with the latest Ministry initiatives that focus more on differentiation, experiential learning and student access (i.e. changes to Ontario Student Assistance Program). Although not driven by the government agenda, our plan is informed by changes at the Ministry in funding for students and universities. As such, UOIT has to align its enrolment and program plan with these initiatives in order to be successful in the future.

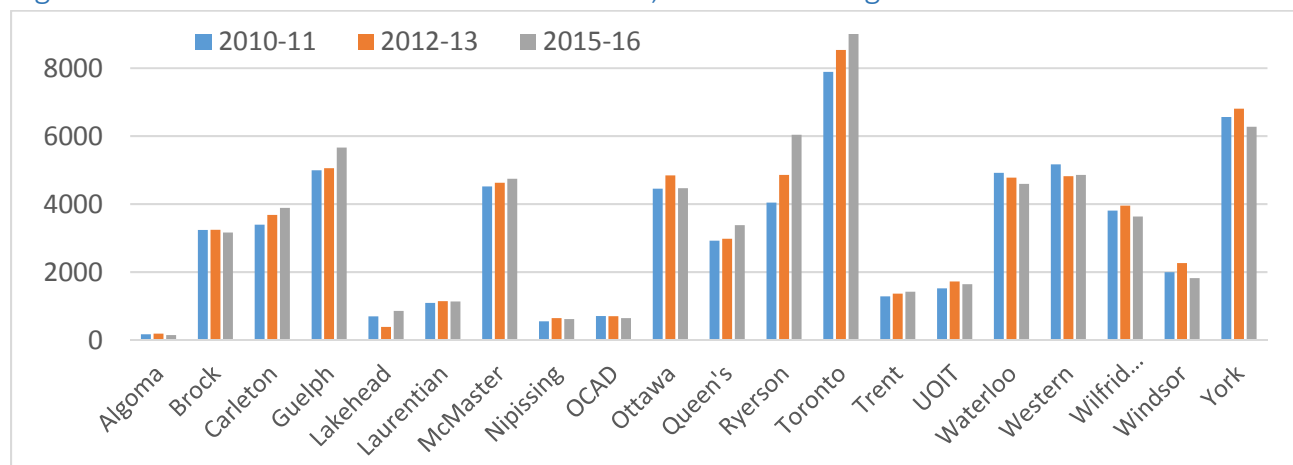
The purpose of this paper is to provide information on the enrolment landscape and highlight some issues that UOIT has to consider moving forward. In doing so, reviewing UOIT's history will provide important insight that will shape future decisions. The paper will be an overview of many different topics that all assemble into enrolment decision making. Future papers will be provided to discuss some of the topics individually in more detail.

Undergraduate Students

The data below, Figure 1, show the intake trends across the system for domestic students entering into first year directly from high school (also referred to as 101 students). Figure 1 demonstrates that there are institutions that are consistently able to recruit large numbers of incoming students; however, only a few have experienced substantial overall growth over the years shown. For perspective, UOIT recruits only 2.5% of the Ontario intake totals for this cohort of students.

¹ Strategic Enrolment Management Plan 2014-2020: Vision Critical is available on the UOIT website. <https://www.uoit.ca/about/governance/office-of-the-provost/pacip/PACIP-committees/Sem-committee/publications.php>

Figure 1: Intake trends for Ontario Institutions, Direct from High School

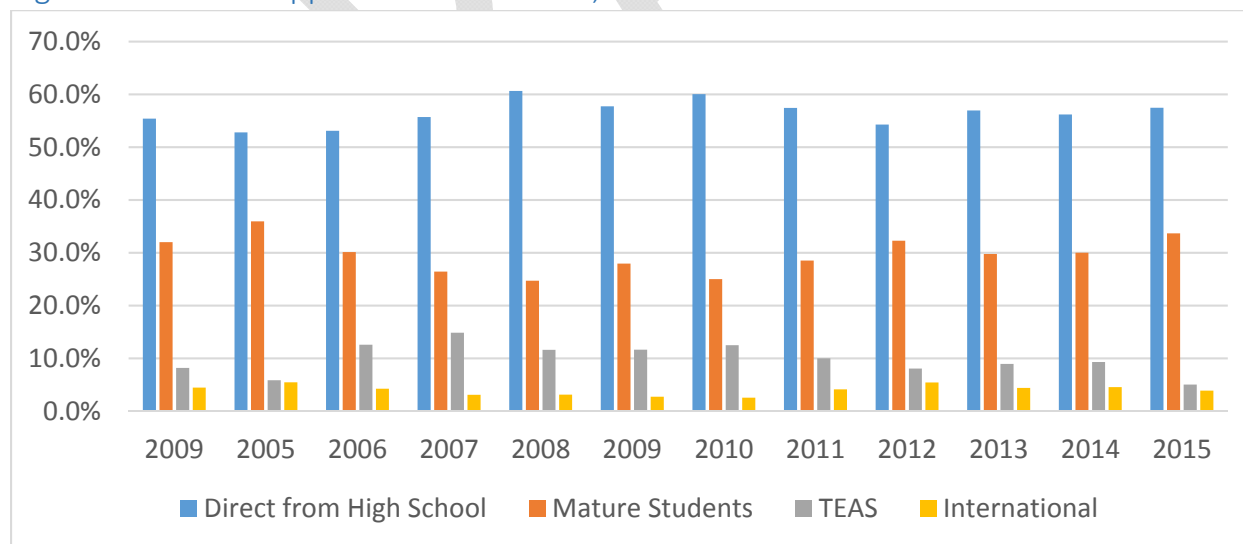


During the years that traditionally aged students in Ontario are in decline (Table 1), UOIT will face greater competition for new students. Recruiting our historical system share will still result in fewer students. A decreased pool of students and increased demand for these students may result in lower than usual conversion rates if we rely on traditional recruitment efforts.

Table 1: Expected Growth Rates²

	2016	2017	2018	2019	2020	2021	2022
Ontario	-2.4%	-2.5%	-1.1%	-1.3%	-0.6%	-0.6%	0.8%
Toronto	-2.5%	-2.4%	-1.2%	-1.3%	-0.9%	-0.9%	0.1%
Greater Toronto Area	-1.3%	-2.0%	-0.4%	-0.5%	0.3%	0.2%	1.7%

Figure 2: UOIT Fall application breakdown, 2004-2015

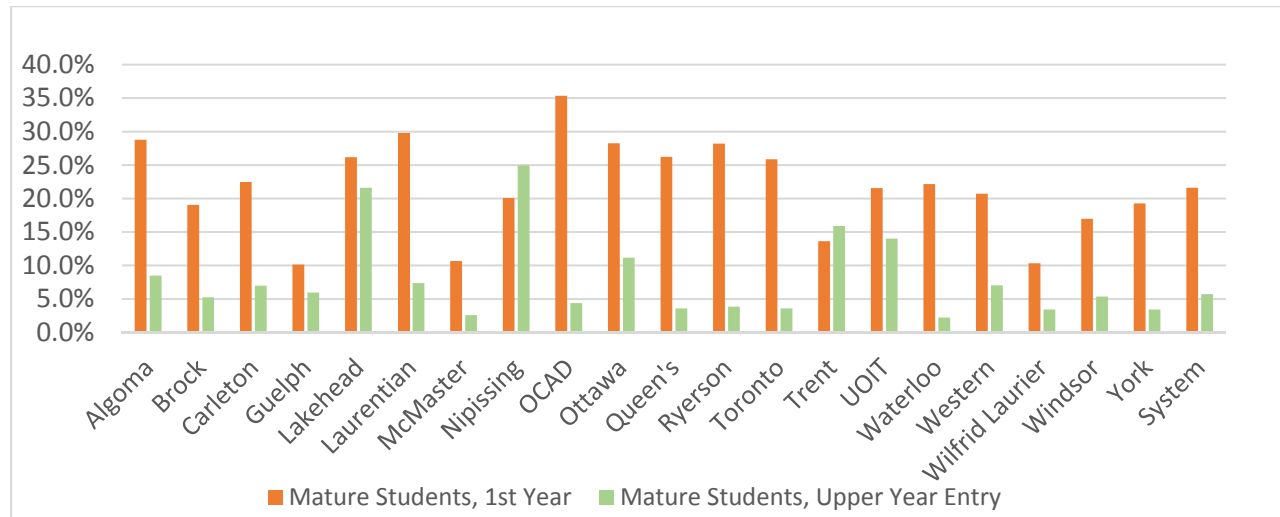


Historically, the 101 demographic accounts for just under 60% of the incoming students at UOIT. UOIT receives about 30% of its incoming students from the mature cohort and another 4% of incoming from international, students (Figure 2). The remaining portion of students are teacher education students. UOIT is among the top recruiters for mature students in the system (Figure 3), especially in the upper

² Provided by the Council of Ontario Universities (COU) to all senior Council on University Planning and Analysis (CUPA) members in August 2016.

year entry portion. The ability for UOIT to attract the mature and upper year entry students into pathway or advanced entry programs will aid its ability to maintain student numbers during a time when the 101 group is diminishing. However, UOIT has to be prepared for increased competition for these students as well. Particularly given the Ministry focus on pathway and degree completion programs, and subsequent participation of many institutions in this area³.

Figure 3: Mature Student Confirmations for Ontario Institutions, 2016



With the domestic population of 101 students decreasing and the competition for all domestic students on the rise, some may argue that the most logical alternative is to start to recruit more international students. With only 4% of our student intake coming from international students this may be a potential area of growth for UOIT. However, this too will be met with increased competition from other institutions. UOIT’s confirmation rates for international students currently sit at 1% of the entire system. Furthermore, the majority of international applications are in very select programs such as engineering and business – areas we may not be looking to grow. If UOIT was successful in attracting more international students away from larger institutions, the issue of proper infrastructure to support these students still remains. The starting of our own English Language Center in 2017 will enable growth and provide some support to these students. However, as an institution we believe the overall percentage of international students will remain steady.

Figure 4 (below) shows the impact that the Greater Toronto Area (GTA) population has on UOIT’s recruitment efforts. It also shows the significant reliance on registrations originating from populations who reside in the city of Toronto. UOIT will continue to focus on the GTA and Toronto population projections, as this represents the area where the majority of UOITs domestic direct entry students originate. The good news for UOIT is that the GTA region is also the area that is predicted to have the lower population decline and earliest rebound, Table 1.

³ UOIT has seen a shift of system share for mature students from 6% to 3%. This is due to greater focus by other institutions focusing on this group of students.

Figure 4: Regional intake by UOIT, 2015-16

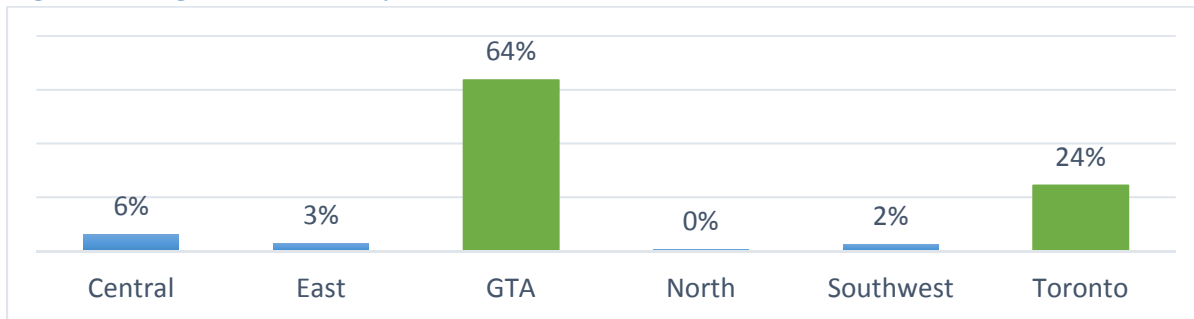
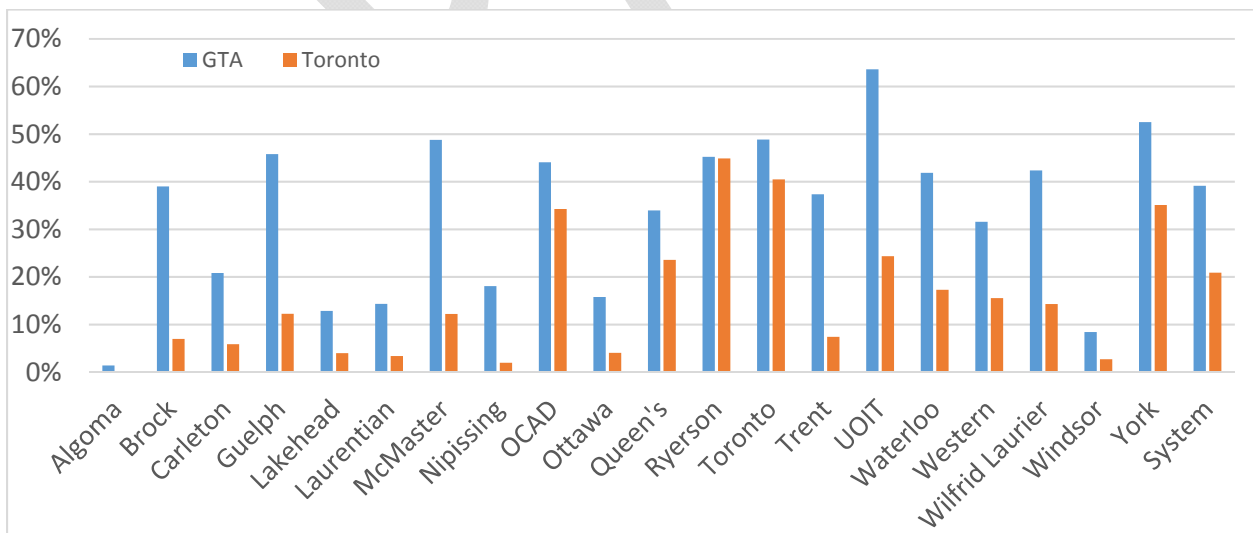


Figure 5 shows that UOIT is in competition for new students with many larger and more established institutions, particularly in the GTA and Toronto city areas. Typically, these institutions have intake shares that are 2.5 to 5 times larger than UOITs, Figure 2. If these schools choose to continue to increase their intake, UOIT’s recruitment may be significantly and negatively impacted. As such, this possibility will definitely be something that UOIT has to be aware of and consider when creating the recruitment strategy moving forward.

However, our Ministry is currently in discussions about a new funding formula that may include defined targets for all institutions. We have seen this occur in the undergraduate level with restrictions on enrollment in teacher education programs that began in 2015/16. Further we note that there is no expectation at this time that these allotments may increase in future years. Finally, the Ministry may try to mitigate significant and profound decreases in northern populations by allowing regional institutions like Nipissing try to increase their recruitment efforts in the GTA students, with Toronto based institutions being “asked” to take fewer. If the Ministry pursues this initiative, then additional strategies would have to be considered for UOIT.

Figure 5: Regional intake by Ontario institutions, 2015-16



Given the various constraints in traditional student recruitment; declining population, increasing competition and limited space⁴, UOIT has decided to purposefully limit the growth of the overall

⁴ Currently UOIT is about 50% below COU formula standards in Teaching/Research/Academic Support space category. Current modelling shows that UOIT will be at 4.2-4.4 NASMs/FTE over the next 5 years, while COU standards are set at 8.53.

undergraduate intake so that UOIT can focus on increasing the quality of the educational experience. These limits are not across the board, rather we may increase enrolment in some areas while decreasing targets in others. By doing this we will be increasing the entrance averages in certain programs, and ensuring access for other qualified applicants in other programs. Planning assumptions are:

- Declines that follow GTA population participation rates, with some program specific exceptions⁵;
- Consistent international portion of the undergraduate population - approximately 6%; and
- Retention rates that increase 0.5% per year for the next 3 years.

The proposed domestic and international headcount for new students for the next five years are currently under discussion with the deans but a general data at the faculty level is displayed in Table 2 and Table 3 respectively.

Table 2: Domestic New Student Intake Projections, by Faculty

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	486	473	471	469	470	471
Education	152	134	134	134	134	134
Nuclear	81	80	110	110	110	110
Engineering	491	489	489	489	489	489
Health Sciences	570	603	602	602	602	602
Science	292	285	284	283	283	284
Social Science and Humanities	386	379	378	376	377	378
Total	2470	2450	2474	2468	2472	2474

Table 3: International New Student Intake Projections, by Faculty

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	28	27	27	27	29	30
Education	1	1	1	1	1	1
Nuclear	2	2	2	2	2	2
Engineering	62	64	66	66	70	72
Health Sciences	12	12	12	13	13	14
Science	21	22	23	23	24	25
Social Science and Humanities	10	10	10	11	11	11
Total	146	140	143	144	151	155

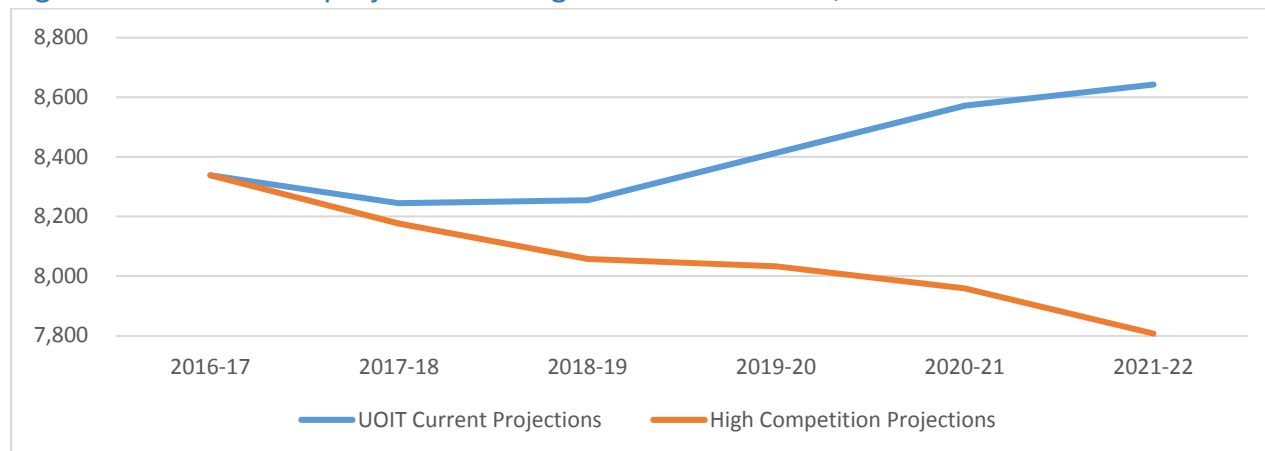
Each faculty has its own unique recruitment and enrolment concerns in the upcoming years, these concerns will be elaborated more in faculty specific reports, a summary of which has been provided in the Appendices. While some faculties may continue to see application growth with current programs (i.e. Engineering) others may require new programs just to maintain current numbers (i.e. Social Science and Humanities and Science).

Achieving the intake targets above will result in the enrolment depicted in Figure 6 for the upcoming five years. Enrolment projections by Faculty are provided in Appendix A. Current UOIT projections are indicated by the blue line. The orange line represents possible overall enrolment should the larger more established GTA institutions actively increase their current levels of student intake by 2%, resulting in

⁵ High demand programs and programs where enrolment caps are placed have been held constant (0% increase). These include Nursing, Education and Engineering programs.

other institutions seeing a 35% reduction overall. The difference in the two models shows a 10% reduction of students attending UOIT by the year 2021-22.

Figure 6: UOIT overall projected undergraduate enrolment, 2016-2022



Although UOIT has been successful in meeting enrolment targets each year, the next few years will provide the recruitment and admissions offices challenges that they will have to overcome. Tailoring recruitment strategies for the upcoming tight years may mean; gearing efforts to attract more females⁶ to the institution, recruiting to efficient program size, or advertise in different ways to attract students.

If UOIT improved its student retention, some of the pressures on recruitment will lessen. However, the literature suggests that retention rates are directly correlated with admission averages and UOIT traditionally ranks the low on both measures (Figure 7 and Figure 8); thus, changes in retention are a long term action. Although decreasing UOIT enrollments may result in increased admission averages, this may be offset by other institutions decreasing their admission averages to meet their intake targets. In summary, this strategy is most likely to maintain admission standards rather than increase them.

Strategies to increase retention rates at UOIT should focus on efforts to facilitate success for students who have similar preparedness indicators as currently observed in our student population. A paper dedicated to UOIT retention issues is intended to be released in early 2017.

⁶ Females show post-secondary participation rates 4.5% higher than males. UOIT traditionally has an intake of ~40% female students compared to the system average of ~60%.

Figure 7: Admission averages Ontario institutions, 2014

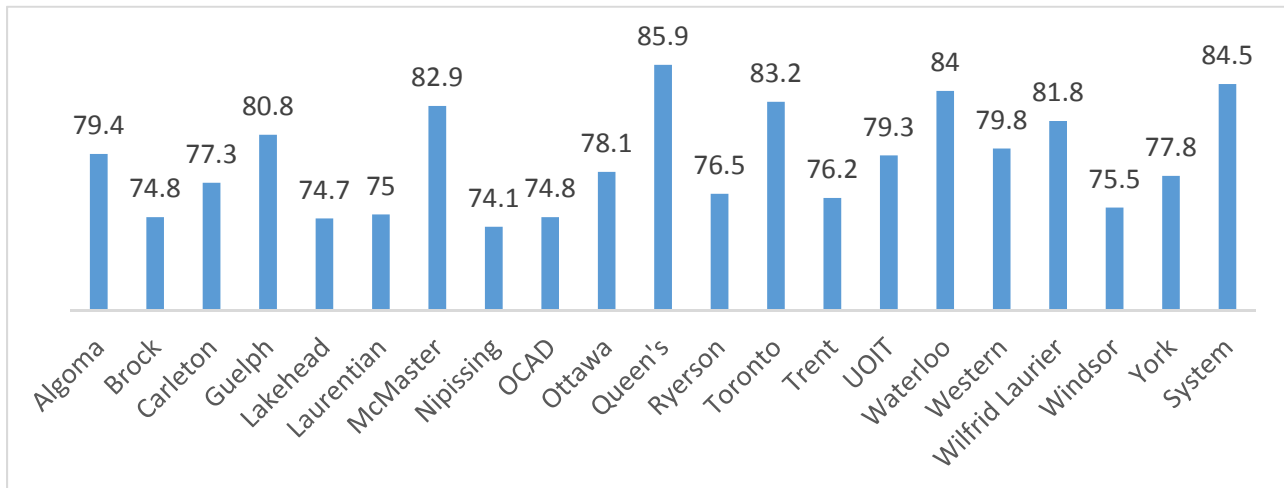
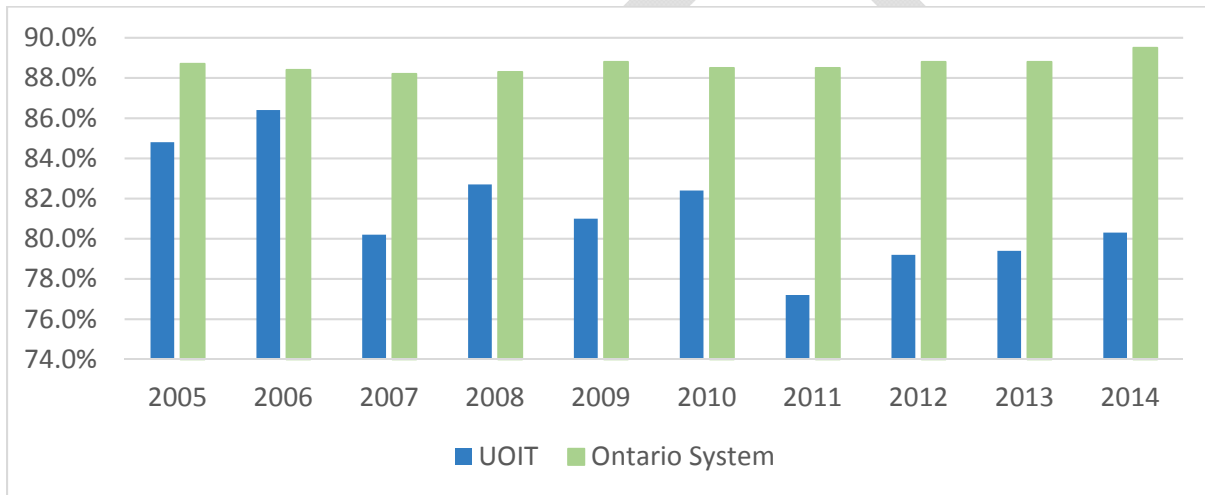


Figure 8: Retention Rates, Ontario System vs UOIT

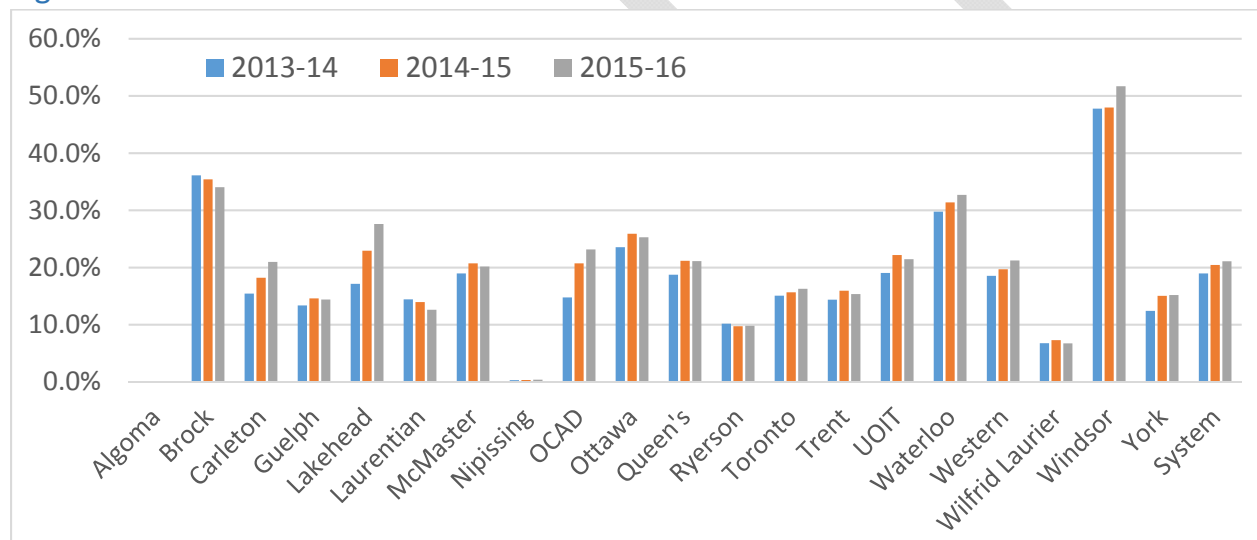


Graduate Students

Research intensive institutions require a graduate student body sufficient for ongoing research support and future research opportunities. The Strategic Mandate Agreement (SMA) that UOIT and the Ministry entered into in 2014 provided a defined number of eligible funded spaces for graduate students. As UOIT enters into discussions with the Ministry on the next SMA and future graduate growth, UOIT has to balance between aspirational goals and realistic achievements. UOIT has struggled to attract graduate students, particularly at the doctoral level⁷. The recruitment of two new Canada Research Chairs (CRCs) and new tenure track faculty members in the upcoming years will bring more research production to UOIT, thereby increasing graduate student demand within the institution.

The portion of UOIT's graduate student body that is international is relatively high; however this is not substantially different from other graduate programs across the system (Figure 9). The types of STEM based graduate program offerings at UOIT lead to a greater likelihood that a large portion of our students are recruited internationally. However, UOIT cannot increase the portion of international students in its graduate programs until domestic targets are consistently achieved, unless UOIT is willing to risk reductions in graduate allotment from the Ministry in subsequent SMA negotiations.

Figure 9: Per Cent International Graduate Students Ontario Universities



With this in mind, the enrolment growth that has been incorporated within the preliminary planning model uses:

- Domestic eligible enrolment to meet but be no more than 10% higher than the SMA target;
- Consistent international portion of the graduate population, which should not exceed 30%;

The proposed domestic and international headcount for new students for the next five years are displayed in Table 4 and Table 5, respectively.

Achieving the intake targets will result in the enrolment depicted in Figure 10 for the upcoming five years. These enrolments satisfy the projected SMA targets and maintain current International ratio.

⁷ In 2014-15 and 2015-16 UOIT was 1% and 17% below PhD allocations, respectively. Current projections show the 2016-17 BIU-eligible enrolment being low by 15%.

Figure 10: UOIT overall projected graduate enrolment, 2016-2022

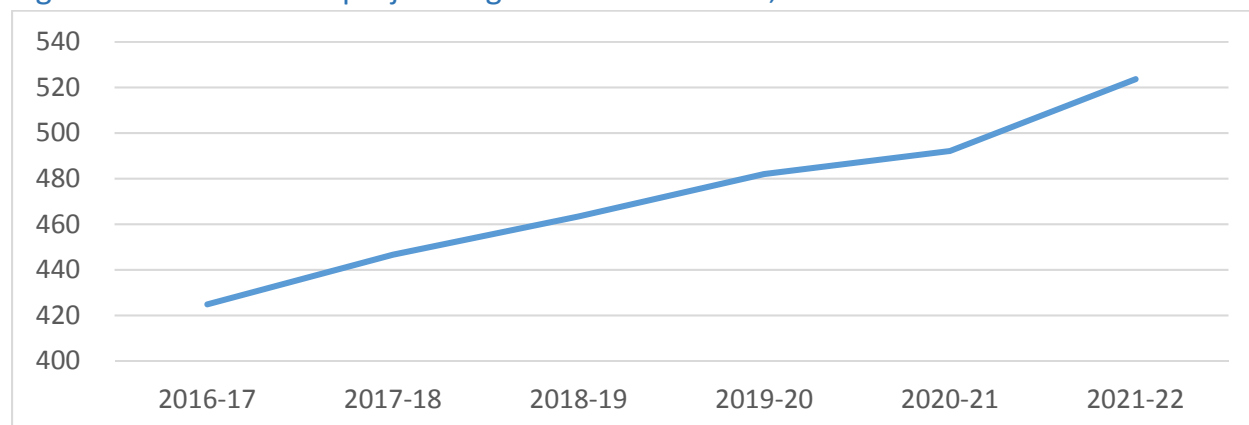


Table 4: Domestic New Graduate Student Intake Projections, by Faculty

Master's Faculty and Program	Domestic					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	5	22	22	22	22	22
Education	61	62	63	63	63	63
Nuclear	97	99	100	100	100	100
Engineering	30	31	31	31	31	31
Health Sciences	23	24	24	24	24	24
Science	11	11	11	11	11	11
Social Science and Humanities	25	26	27	27	27	27
Cross-Faculty Programs	4	4	4	4	4	4
Special Student	-	-	-	-	-	-
TOTAL MASTER'S	253	274	278	278	278	278
PhD Faculty and Program	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	-	-	-	-	-	-
Nuclear	-	1	2	2	2	2
Engineering	11	11	14	14	14	14
Health Sciences	-	1	1	2	2	2
Science	3	3	3	3	3	3
Social Science and Humanities	4	4	4	4	4	4
Cross-Faculty Programs	1	1	1	3	3	3
TOTAL PhD	19	21	25	28	28	28
TOTAL GRADUATE	271	294	303	306	306	306

Table 5: International New Graduate Student Intake Projections, by Faculty

Master's Faculty and Program	International					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	11	11	11	11	11	11
Education	-	-	-	-	-	-
Nuclear	2	2	2	2	2	2
Engineering	27	28	28	28	28	28
Health Sciences	1	1	1	1	1	1
Science	1	1	1	1	1	1
Social Science and Humanities	1	1	1	1	1	1
Cross-Faculty Programs	6	6	6	6	6	6
Special Student	1	-	-	-	-	-
TOTAL MASTER'S	44	44	45	45	45	45
PhD Faculty and Program	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	-	-	-	-	-	-
Nuclear	1	1	1	1	1	1
Engineering	17	17	17	17	17	17
Health Sciences	-	-	-	-	-	-
Science	2	2	2	2	2	2
Social Science and Humanities	-	-	-	-	-	-
Cross-Faculty Programs	1	1	1	1	1	1
TOTAL PhD	21	21	21	21	21	21
TOTAL GRADUATE	65	65	66	66	66	66

Summary

Recruitment over the next few years will be challenging due to increased competition for a shrinking base of students. However, with the proper plan and initiatives in place, a planned decrease in student intakes will allow UOIT to take time to find space to educate and inspire students, and, allow for program planning that will shape the institution for the future.

Appendix A: Overall Enrolment Projections by Faculty, Undergraduate

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Business and IT	1738	1706	1726	1741	1759	1767
Education	311	311	294	295	295	296
Nuclear	300	278	287	305	331	357
Engineering	1790	1925	1990	2060	2112	2129
Health Sciences	1738	1814	1911	1994	2046	2058
Science	1000	949	921	895	897	901
Social Science and Humanities	1546	1436	1371	1307	1297	1301
Undeclared	7	7	6	6	6	6
Total	8429	8427	8506	8602	8743	8815

DRAFT

Areas of Concern in Undergraduate Enrolment Planning						
	101 Population Decline	105 recruitment	Application Numbers*	Admission Averages (101)**	Retention Rates**	Space for Instruction and Research
Business & Information Tech						
Business	●		●	●	●	
Information Technology , Game Development	●		●		●	●
Information Technology , Netw orking & IT Security	●		●		●	●
Commerce Bridge		●	●			
Direct Entry - Accounting		●				
Direct Entry - Finance		●				
Direct Entry - Marketing		●				
Direct Entry - Org. Behaviour & HR Mgmt		●				
Direct Entry - Information Technology		●				●
Education						
Educational Studies and Digital Tech - Adult Ed		●	●			
Educational Studies and Digital Technology - ECS		●	●			
Education (Intermediate/Senior)			●			
Education (Primary/Junior)						
Energy Systems & Nuclear Sci						
Nuclear Engineering	●					●
Health Physics and Radiation Science	●		●	●	●	
Engineering & Applied Science						
Automotive Engineering	●			●		●
Electrical Engineering	●					●
Manufacturing Engineering	●		●	●		●
Mechanical Engineering	●					●
Mechanical Engineering - Energy Eng	●					●
Mechatronics Engineering	●					●
Softw are Engineering	●					●
Health Sciences						
Allied Health Sciences		●				
Health Science	●				●	
Kinesiology	●					●
Kinesiology - degree completion		●				●
Kinesiology - Trent			●			●
Medical Laboratory Science	●		●			●
Nursing (Collaborative)	●		●			●
Nursing Post-PN Bridge - Barrie Campus		●	●			●
Nursing Post-PN Bridge - Oshaw a Campus		●	●			●
Science						
Applied and Industrial Mathematics	●		●			
Biological Science	●		●		●	
Biological Science - Life Sciences	●		●			
Chemistry	●		●	●		
Chemistry - Pharmaceutical Chemistry	●		●			
Computing Science - Comprehensive	●			●	●	
Computing Science - Digital Media	●		●			
Forensic Science	●				●	
Physics	●		●	●	●	
Physics - Astrophysics	●					
Physics - Energy and Environmental Physics	●					
Direct Entry - Science						
Direct Entry - Computing Science						
Social Science and Humanities						
Communication & Digital Media Studies	●				●	
Community Development and Policy Studies	●					
Criminology and Justice	●		●	●	●	
Forensic Psychology	●		●	●		
Legal Studies	●		●			
Political Science	●			●		
Communication and Digital Media Studies Bridge		●				
Community Development and Policy Studies Bridge		●				
Criminology and Justice Bridge		●	●			
Forensic Psychology Bridge		●				
Legal Studies Bridge		●	●			

*w hen yr/yr applications showed decline, ** indicated w hen rate is below UOIT average

Appendix C: Areas of Interest, by Faculty

	# Applicants	Yr/Yr Applicant Growth	% 1st Generation	# TTT/TF (2015/16)	SF Ratio (2015/16)	Research \$ (2015-16)	Graduate Diploma Enrolment	Masters Enrolment	PhD Enrolment
Business & Information Tech	2156	0%	57.4	54.8	32:1	\$ 0.848M	0.0	18.0	0.0
Education	750	-3%	16.6	18.5	14:1	\$ 0.462M	9.0	125.0	0.0
Energy Systems & Nuclear Science	256	-9%	68.5	14.5	26:1	\$ 0.800M	113.0	42.0	20.0
Engineering & Applied Science	2249	6%	63.0	46.8	38:1	\$ 3.275M	1.0	110.0	77.0
Health Sciences	2298	-7%	57.7	50.0	34:1	\$ 0.749M	0.0	75.0	0.0
Science	1576	-1%	61.4	46.8	23:1	\$ 1.425M	0.0	73.0	44.0
Social Science and Humanities	1483	-7%	56.4	46.0	36:1	\$ 0.645M	0.0	37.0	9.0

Appendix D: Areas of Interest, 101 students by Program

	101 Applicants	Avg Admission Average	% incoming with >75% average	% incoming with >80% average	Yr1 - Yr2 Retention (2015)	7 Year Grad Rate (2015)
Business	1161	77.3	56.5	30.4	78.0	66.2
Information Technology , Game Development	272	79.4	74.6	42.3	68.4	53.5
Information Technology , Netw orking & IT Security	222	79.9	81.3	53.1	51.6	73.7
Business & Information Tech	1655	78.3	64.9	37.1	71.9	64.2
Nuclear Engineering	179	81.3	93.5	54.8	90.9	67.9
Health Physics and Radiation Science	20	77.2	100.0	0.0	33.3	50.0
Energy Systems & Nuclear Sci	199	81.1	93.9	51.5	87.9	65.6
Automotive Engineering	205	79.1	89.5	40.4	83.6	69.4
Electrical Engineering	314	80.2	88.6	44.3	81.5	59.5
Manufacturing Engineering	39	75.7	57.9	10.5	82.4	45.5
Mechanical Engineering	511	80.0	89.2	42.4	84.6	65.6
Mechanical Engineering - Energy Eng	20					
Mechatronics Engineering	274	80.8	92.0	46.0		
Software Engineering	269	81.3	91.1	53.3	80.9	61.1
Engineering & Applied Science	1632	80.0	88.5	43.0	83.1	63.5
Health Science	336	79.6	83.5	49.5	78.8	59.4
Kinesiology	410	79.7	80.4	39.1	90.6	
Medical Laboratory Science	93	85.4	100.0	92.0	91.7	75.0
Nursing (Collaborative)	481	87.1	100.0	100.0	98.4	89.6
Health Sciences	1320	81.5	86.9	58.7	89.1	75.8

Appendix D: Areas of Interest, 101 students by Program, continued

	101 Applicants	Avg Admission Average	% incoming with >75% average	% incoming with >80% average	Yr1 - Yr2 Retention (2015)	7 Year Grad Rate (2015)
Applied and Industrial Mathematics	24	82.0	100.0	50.0	83.3	33.3
Biological Science	126	81.2	78.5	49.4	73.6	60.0
Biological Science - Life Sciences	320					63.2
Chemistry	42	78.9	75.0	37.5	86.0	46.2
Chemistry - Pharmaceutical Chemistry	103					
Computing Science - Comprehensive	269	78.4	79.6	33.3	75.0	73.3
Computing Science - Digital Media	52					80.0
Forensic Science	209	81.2	83.3	61.1	73.6	65.8
Physics	12	75.3	38.9	16.7	76.9	0.0
Physics - Astrophysics	33					
Physics - Energy and Environmental Physics	5					
Science	1195	79.8	76.4	43.1	76.5	62.6
Communication & Digital Media Studies	178	79.7	69.0	44.8	76.9	74.2
Community Development and Policy Studies	61	73.1	0.0	0.0	100.0	
Criminology and Justice	508	77.3	56.6	30.2	79.1	66.9
Forensic Psychology	226	77.9	54.3	39.1	85.3	
Legal Studies	107	81.2	84.6	53.8	92.0	84.4
Political Science		76.2	42.9	28.6		
Social Science and Humanities	1080	78.0	58.9	35.6	82.0	71.3