

# 2022-23 Inventory of Physical Facilities of Ontario Universities

Committee on Space Standards and Reporting

February 2025

# Council of Ontario Universities’ Triennial Inventory of Physical Facilities of Ontario Universities: 2022-23

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## 1. Executive Summary

Ontario universities continue to adapt and optimize physical spaces, from creating interactive and collaborative spaces that help students learn to improving energy efficiency, safety, and the inclusivity of their environments. They are also planning for changes to physical space. The COVID-19 pandemic pushed organizations across the globe to rethink space needs, and how space is used, in light of changes to remote and hybrid working and learning policies and practices.

This report catalogues the total physical space occupied by Ontario's universities by category of space as of 2022-23. Space standards help institutions to use existing space more efficiently to accommodate trends and changing needs, and to better plan. The COU space standards were originally developed in the 1970s as a systematic, analytical approach to evaluate the use of existing physical space and to forecast future needs and requirements. However, in light of evolving needs, future reports are likely to present this data differently as Ontario universities think through changes to space planning guidelines. See the section: [Task Force on University Space Transformation: 2018 to present](#).

**For now, these are Ontario's universities, by the numbers:**

- 1,500 +: Number of total university buildings/assets.
- 10 million: Total gross square meters of all facilities.
- 44 years: Average weighted age of university buildings, up from 39.3 years in the last reporting cycle.

**Highlights from the 2022-23 report:**

- Overall, Ontario universities occupied approximately 8.9 million Net Assignable Square Metres (NASMs) in 2022-23.<sup>1</sup> Total space has increased two per cent between 2019-20 and 2022-23, while Full-Time Equivalent (FTE) student enrolment has increased 3.3 per cent.
  - Since 2007-08, there has been a nearly 18 per cent increase in the number of FTE full-time faculty and a nearly 34 per cent increase in FTE students.
- Actual space per FTE student has remained relatively stable over the last decade: 8.27 NASM/FTE were reported in 2010-11 compared to 8.08 NASM/FTE in 2022-23.<sup>2</sup>
- Universities are operating with 74.8 per cent of the space they should have according to the current formula and standards. This is referred to as “generated space” in this report — space generated by the standards. This ratio of Actual Inventoried Space (“I”) to Generated Space (“G”) is consistent with the previous report's 77.1 per cent calculation. With the exception of office space, all major functional areas in universities are operating with less space than is generated by the standards.

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<sup>1</sup> Net Assignable Square Metres (NASM) is the amount of area that can be used by the occupants of the building.

<sup>2</sup> Actual space includes Categories 1-15. [Appendix A: Space Categories: Definitions, Sub-Categories and Formulae](#) includes a detailed overview of the categories, formulae and definitions.

- Teaching, research and academic support space has remained relatively stable, operating at 81.4 per cent I/G, with Class Lab space slightly lower at 72.2 per cent I/G vs. 76.2 per cent in the previous reporting period. Generated space for Student Services has decreased slightly from 65.3 per cent in 2019-20 to 63.9 per cent in 2022-23.
- Notably, administrative office space has declined from 103.6 per cent in 2019-20 to 87 per cent in 2022-23.

Overall, the report demonstrates that universities are using space more efficiently, especially with regards to administrative office space, and the growth of students continues to outpace the growth in physical space. Universities are achieving some efficiencies by increasing collaborative, multi-purpose and short-term spaces, both when new spaces are being built and when existing buildings are undergoing major renovations.

## 2. Overview of the 2022-23 Inventory of Physical Facilities of Ontario Universities report

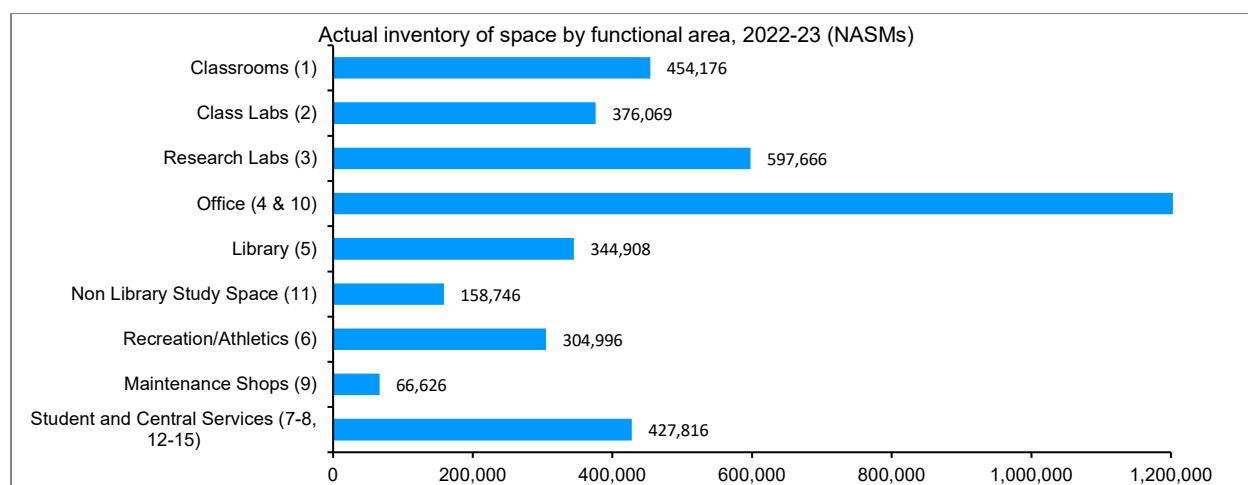
This section discusses changes made to this year's report and provides a sector summary, identifies factors affecting space, and summarizes trends over time for those factors.

To see a summary of the major changes that have been made since 1999, please see [Historical Changes to the Inventory](#).

### 2.1. Space Inventory: sector summary

Below, several graphs show the **actual inventory** of physical space by major functional areas.

**Figure 1: Actual Inventory of Space by Functional Area, 2022-23 (NASMs)<sup>3</sup>**



Office Space comprises the largest amount of space, followed by Research Labs and Classrooms.



**Figure 2: Actual Inventory as a Percentage of Generated Space by Functional Area, 2022-23 (“% I/G”)**

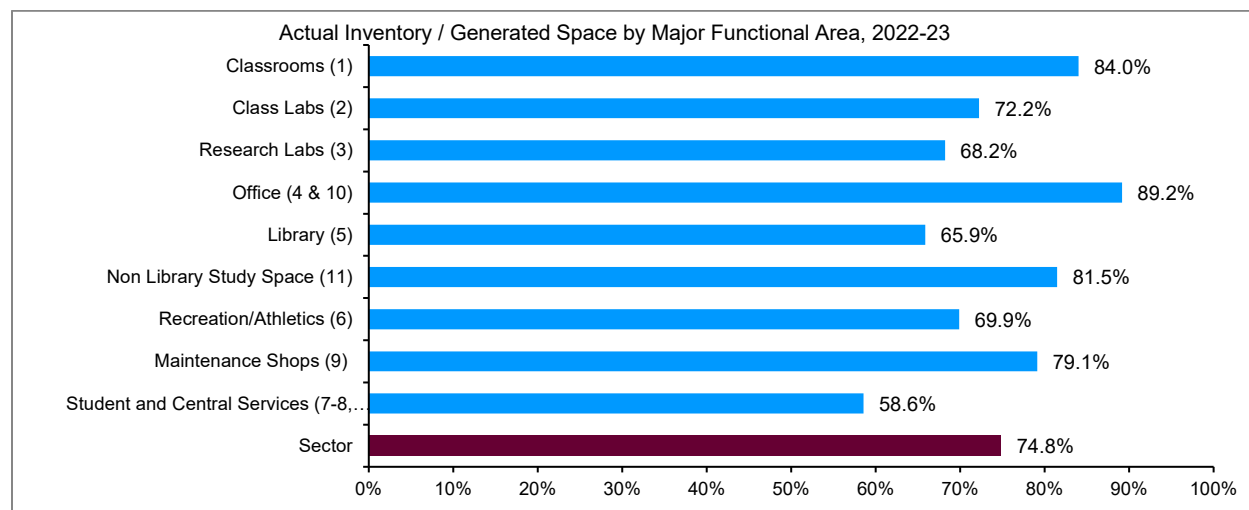
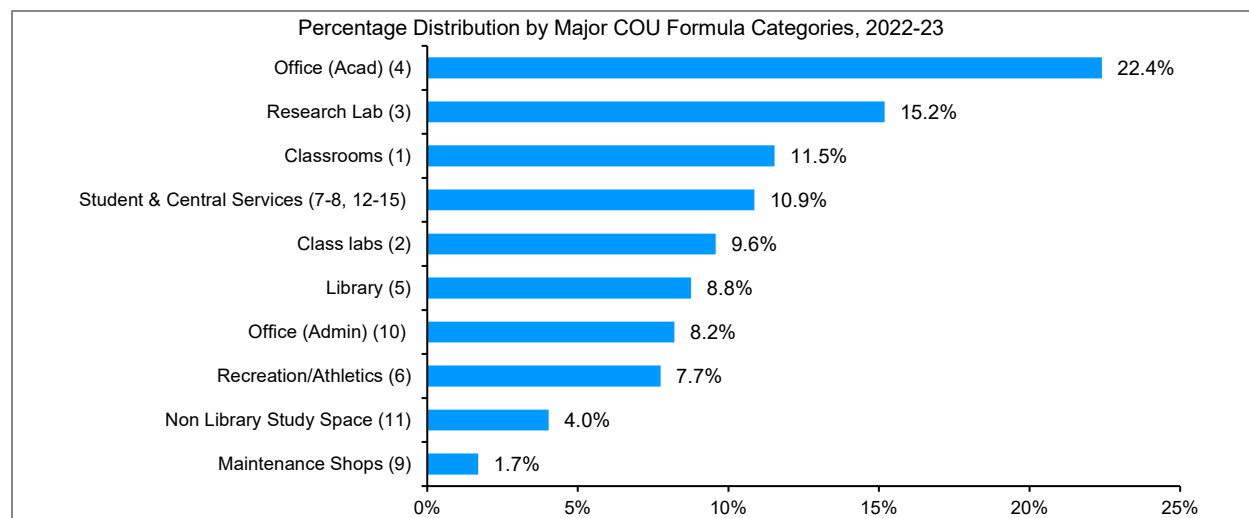


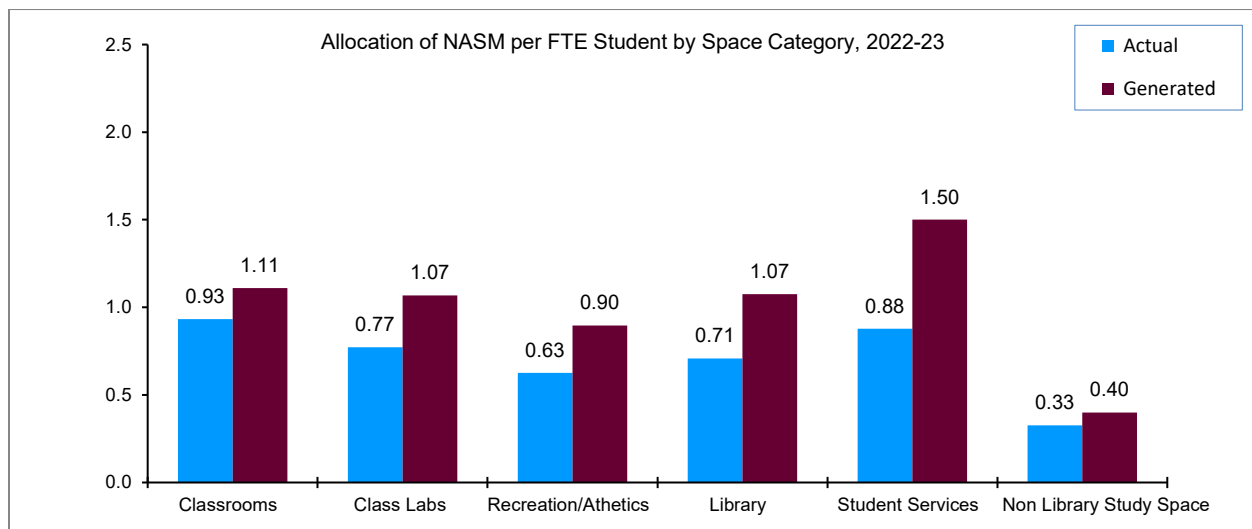
Figure 2 shows that universities are functioning with less space than they should, according to the standards.

**Figure 3: Distribution of Actual Space by Major “Formula Categories,” 2022-23**



“Formula space” is usable space where space factors can normally be developed, like classrooms, research labs and office space (See [Appendix C: Definitions](#) for further details). The formula categories provide for the full range of functions and services of institutions.

The chart above shows the percentage distribution of COU formula space. Primary academic facilities (academic offices, research labs, classrooms, class labs and library) account for 67.5 per cent of total space, a slight drop from 67.9 per cent reported in 2019-20.

**Figure 4: Space per Student Full-time Equivalent (FTE) by Category, 2022-23 (NASMs)**

The table above shows that universities' inventory of space is below the generated space per FTE student in all categories. While Classrooms constitute the most actual space per FTE, this still falls short of the space needed per FTE. Student Services has the largest gap between actual and generated space per FTE.

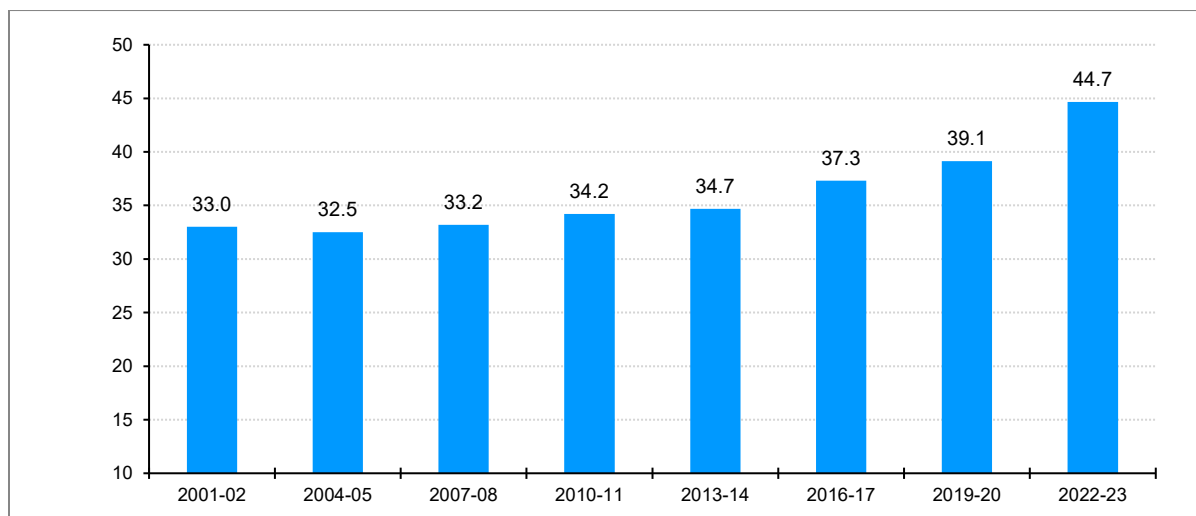
**Table 1: SYSTEM SUMMARY – Actual Inventory of Space and Generated (Required) Space as Measured by COU Space Standards, 2022-23**

SYSTEM SUMMARY						
	Input Measure	Space Factor	Generated Space	Inventory	% I / G	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>						
CLASSROOMS (1)	487,096.2	1.11	540,676.83	454,175.8	84.0	85.2
CLASS LABS (2)						
Lab Contact Hours W	76,363.8	0.8	61,091.1	34,648.9		
Lab Contact Hours X	492,447.8	0.6	295,468.7	216,202.3		
Lab Contact Hours Y	217,782.0	0.5	108,891.0	73,925.3		
Lab Contact Hours Z	183,690.1	0.3	55,107.0	48,680.4		
Unclassified	0.0			2,612.5		
Total Class Lab	970,283.7		520,557.8	376,069.3	72.2	76.2
RESEARCH LABS (3)						
Research Disciplines A	7,738.8	45.0	348,246.7	278,705.6		
Research Disciplines B	9,117.7	30.0	273,532.3	148,224.8		
Research Disciplines C	4,460.9	20.0	89,218.5	57,523.1		
Research Disciplines D	6,202.3	10.0	62,022.6	56,595.8		
Research Disciplines E	15,867.1	5.0	79,335.3	32,235.8		
Research Disciplines F	12,035.3	2.0	24,070.5	9,599.7		
Unclassified	51,783.5			14,781.0		
Total Research	107,205.6		876,425.9	597,665.8	68.2	67.9
OFFICE - ACADEMIC (4)						
Total FTE Faculty	22,134.4	12.0	265,613.1	312,767.1	117.8	115.1
Research Appointments	8,395.0	12.0	100,739.7	55,921.2	55.5	63.1
Total FTE Grads	78,227.7	3.0	234,683.1	147,362.7	62.8	67.1
Total FTE Non-Acd Staff	15,359.9	12.0	184,318.7	168,334.6	91.3	102.7
Office Service	785,354.6	0.25	196,338.6	197,656.1	100.7	107.7
Total Academic Office			981,693.2	882,041.7	89.8	95.2
OFFICE - ADMINISTRATIVE (10)						
Total FTE Non-Acd Staff	20,527.0	12.0	246,323.5	206,182.4	83.7	98.2
Office Service	246,323.5	0.5	123,161.8	116,883.5	94.9	114.4
Total Admin. Office			369,485.3	323,065.8	87.4	103.6
Total Office - Academic & Administrative			1,351,178.5	1,205,107.5	89.2	97.2
<b>LIBRARY FACILITIES &amp; CAMPUS STUDY SPACE (5)</b>						
Study (Total FTE Students)	487,096.2	0.50	243,548.1	126,353.6	51.9	50.9
Traditional Static Shelving Space	23,420,574.9	0.005	117,102.9	n/a		
Mobile Compact Shelving	5,080,821.1	0.004	20,323.3	n/a		
Super High Density	10,822,714.1	0.0035	37,879.5	n/a		
Total Stack	39,324,110.0		175,305.7	144,614.7	82.5	79.8
Library Support	418,853.8	0.25	104,713.4	73,939.6	70.6	69.2
Total Library Facilities & Campus Study Space			523,567.2	344,907.9	65.9	64.8
NON-LIBRARY STUDY AND COLLAB	487,096.2	0.4	194,838.5	158,746.1	81.5	79.6
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>4,007,244.68</b>	<b>3,136,672.39</b>	<b>78.3</b>	<b>80.8</b>
<b>OTHER SPACE</b>						
RECREATION / ATHLETICS (6)						
Total FTE Students	487,096.2	0.9	436,393.4	304,996.2	69.9	70.5
MAINTENANCE SHOPS (9)						
Total NASM Inv. (exc. 16.0)	5,613,683.7	0.015	84,205.3	66,626.4	79.1	80.2
STUDENT AND CENTRAL SERVICES (7, 8, 12-15)						
Total FTE Students	487,096.2	1.5	730,644.4	427,815.6	58.6	60.5
<b>SUB-TOTAL: OTHER SPACE</b>			<b>1,251,243.02</b>	<b>799,438.18</b>	<b>63.9</b>	<b>65.3</b>
<b>TOTAL FORMULA AREAS</b>			<b>5,258,487.70</b>	<b>3,936,110.56</b>	<b>74.9</b>	<b>77.1</b>

## 2.2. Age of Building Space

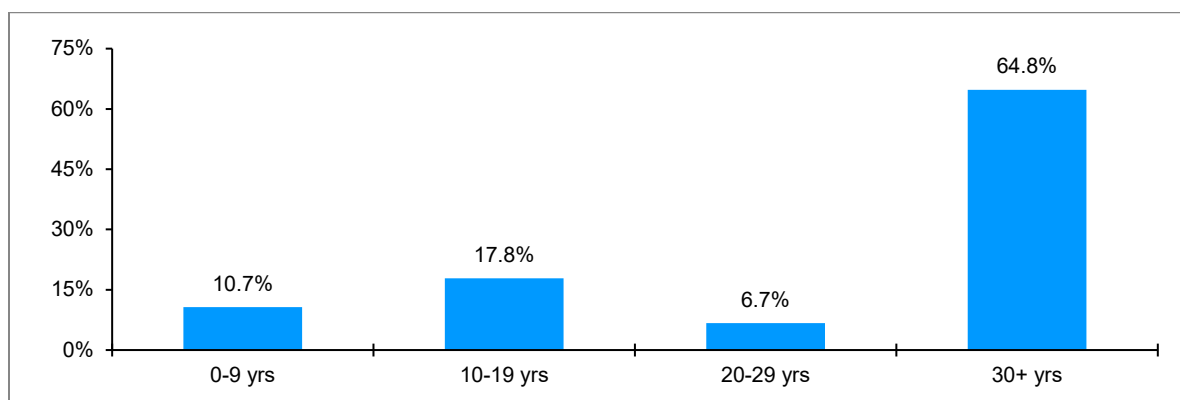
As shown in Figure 5 below, the weighted average age of buildings in the university sector is 44.7 years, up from 39.1 years in 2019-20.

**Figure 5: Average Age of Building Space, 2001-02 to 2022-23**



Nearly 65 per cent of buildings are over 30 years old, as per Figure 6. This is generally recognized as the age at which major building components should be renewed.

**Figure 6: Percentage of Inventory by Age Grouping, 2022-23**



**Table 2: Age Profile of Ontario University Space (as of November 1, 2022)**

Institution	0-9 Years (NASM)	10-19 Years (NASM)	20-29 Years (NASM)	30-39 Years (NASM)	40-49 Years (NASM)	50+ Years (NASM)	Total (NASM)	Weighted Average Age
Algoma	2,454	5,123	150	5,953	0	2,538	16,219	33.3
Brock	7,782	16,167	13,699	8,123	12,531	43,671	101,972	36.6
Carleton	14,960	31,721	13,633	25,794	10,663	72,843	169,614	30.1
Guelph	2,742	44,635	8,263	22,527	24,168	150,807	253,142	52.9
Lakehead	69	11,009	7,796	9,609	0	59,028	87,511	82.3
Laurentian	3,089	1,618	0	12,066	0	30,546	47,319	33.5
Laurentian (Hearst)	0	935	0	0	0	3,385	4,320	44.2
McMaster	61,366	42,367	22,602	11,685	6,309	124,074	268,404	29.9
Nipissing	8,404	4,512	0	0	0	20,516	33,431	34.2
NOSM	0	6,447	0	1,914	0	0	8,361	20.2
OCADU	1,330	0	0	0	5,035	20,972	27,337	93.9
Ontario Tech	9,801	37,746	143	0	3,324	3,364	54,377	22.3
Ottawa	33,038	43,829	31,132	8,157	61,460	104,302	281,918	42.6
Queen's	11,222	54,810	30,147	22,705	33,710	107,610	260,203	39.7
Toronto Metropolitan	24,816	36,707	3,914	13,172	20,996	92,601	192,206	52.7
Toronto (St. George)	42,504	54,199	43,481	51,775	85,815	296,745	574,520	49.9
Toronto (Mississauga)	8,825	28,888	2,023	1,833	0	25,192	66,761	24.5
Toronto (Scarborough)	25,318	22,699	0	135	4,463	20,988	73,603	24.9
Trent	2,803	8,056	345	4,384	4,581	21,130	41,298	22.5
Waterloo	24,473	68,557	15,686	36,103	13,199	186,571	344,589	49.7
Western	43,105	58,266	11,061	25,814	11,967	211,699	361,913	74.3
WLU	24,668	27,251	21,628	8,548	5,598	24,307	111,999	32.0
WLU (Brantford)	4,229	8,260	2,794	5,700	0	0	20,984	18.9
Windsor	29,506	17,972	7,121	2,345	12,271	78,757	147,972	23.8
York (Keele)	24,994	52,221	21,827	36,371	940	134,614	270,967	33.6
York (Glendon)	0	0	0	0	0	17,927	17,927	65.8
<b>TOTAL</b>	<b>411,497</b>	<b>683,992</b>	<b>257,444</b>	<b>314,716</b>	<b>317,030</b>	<b>1,854,186</b>	<b>3,838,866</b>	<b>44.7</b>

The table above shows that the average age of Ontario university buildings is nearly 45 years; 30 years is generally recognized as the age at which major building components need to be renewed. The guidelines for reporting building age in the COU space survey specify that major renovations that substantially renew a building should be reflected in the age reported.

Notes: Includes Categories 1-15 only, excluding Rentals; Institutions in red are reporting 2016-17 data, while Nipissing is reporting 2019-20 data.

**Table 3: Percent Distribution Age Profile of Ontario University Space (as of November 1, 2022)**

Institution	0-9 Years (NASM)	10-19 Years (NASM)	20-29 Years (NASM)	30-39 Years (NASM)	40-49 Years (NASM)	50+ Years (NASM)
Algoma	15.1%	31.6%	0.9%	36.7%	-	15.7%
Brock	7.6%	15.9%	13.4%	8.0%	12.3%	42.8%
Carleton	8.8%	18.7%	8.0%	15.2%	6.3%	42.9%
Guelph	1.1%	17.6%	3.3%	8.9%	9.5%	59.6%
Lakehead	0.1%	12.6%	8.9%	11.0%	-	67.5%
Laurentian	6.5%	3.4%	-	25.5%	-	64.6%
Laurentian (Hearst)	-	21.6%	-	-	-	78.4%
McMaster	22.9%	15.8%	8.4%	4.4%	2.4%	46.2%
Nipissing	25.1%	13.5%	-	-	-	61.4%
NOSM	-	77.1%	-	22.9%	-	-
OCADU	4.9%	-	-	-	18.4%	76.7%
Ontario Tech	18.0%	69.4%	0.3%	-	6.1%	6.2%
Ottawa	11.7%	15.5%	11.0%	2.9%	21.8%	37.0%
Queen's	4.3%	21.1%	11.6%	8.7%	13.0%	41.4%
TMU	12.9%	19.1%	2.0%	6.9%	10.9%	48.2%
Toronto (St. George)	7.4%	9.4%	7.6%	9.0%	14.9%	51.7%
Toronto (Mississauga)	13.2%	43.3%	3.0%	2.7%	-	37.7%
Toronto (Scarborough)	34.4%	30.8%	-	0.2%	6.1%	28.5%
Trent	6.8%	19.5%	0.8%	10.6%	11.1%	51.2%
Waterloo	7.1%	19.9%	4.6%	10.5%	3.8%	54.1%
Western	11.9%	16.1%	3.1%	7.1%	3.3%	58.5%
WLU	22.0%	24.3%	19.3%	7.6%	5.0%	21.7%
WLU (Brantford)	20.2%	39.4%	13.3%	27.2%	-	-
Windsor	19.9%	12.1%	4.8%	1.6%	8.3%	53.2%
York (Keele)	9.2%	19.3%	8.1%	13.4%	0.3%	49.7%
York (Glendon)	-	-	-	-	-	100.0%
<b>TOTAL</b>	<b>10.7%</b>	<b>17.8%</b>	<b>6.7%</b>	<b>8.2%</b>	<b>8.3%</b>	<b>48.3%</b>

Notes: Includes Categories 1-15 only, excluding Rentals; institutions in red are reporting 2016-17 data, while Nipissing is reporting 2019-20 data.

### 3. Historical Trends in the Space Inventory

As summarized in Table 5 below, total inventory increased by 26.2 per cent between 2007-08 and 2022-23. Administrative Offices saw the largest increase in inventory at 39.9 per cent, followed by Classroom Facilities at 32.8 per cent. The addition of a standalone Non-Library Study Space category accounts for the drop in Student and Central Services category.

**Table 4: Change in Space, Total and by Function – Trend (2007-08 to 2022-23)**

	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23	% Change 2007-08 to 2022- 23
FTE Enrolment	363,872	399,124	426,392	442,037	471,485	487,096	33.9%
FTE Faculty	18,774	19,813	20,338	19,962	22,607	22,134	17.9%
<b>Inventory (Formula Space)</b>	<b>3,119,793</b>	<b>3,299,896</b>	<b>3,538,292</b>	<b>3,674,894</b>	<b>3,890,884</b>	<b>3,937,056</b>	<b>26.2%</b>
Classroom Facilities	342,013	362,011	391,395	406,247	445,643	454,176	32.8%
Class Labs	350,201	350,482	368,105	381,246	390,914	376,069	7.4%
Research Labs	461,727	488,284	541,952	556,469	584,494	597,805	29.5%
Academic Office	676,235	747,041	807,733	827,512	876,414	882,042	30.4%
Administrative Office	230,935	250,843	272,100	293,139	307,826	323,066	39.9%
Library Study Space & Library Facilities	374,720	384,044	396,144	340,945	343,654	344,908	-8.0%
Non Library Study Space				126,157	150,160	158,746	
Recreation/Athletic Space	231,927	251,246	272,410	290,748	297,521	304,996	31.5%
Maintenance Shops	53,684	55,335	57,807	59,328	66,700	66,626	24.1%
Student and Central Services	398,351	410,609	430,647	393,104	427,558	427,816	7.4%

**Table 5: Distribution of Space Inventory by Aggregated Functional Groups Remains Constant: 2016-17 to 2022-23**

	2016-17	2019-20	2022-23
Teaching (1,2)	21.4%	21.5%	21.1%
Research Lab (3)	15.1%	15.0%	15.2%
Office (Acad) (4)	22.5%	22.5%	22.4%
Office (Admin) (10)	8.0%	7.9%	8.2%
Library (5)	9.3%	8.8%	8.8%
Non Library Study Space (11)	3.4%	3.9%	4.0%
Recreation/Athletics (6)	7.9%	7.6%	7.7%
Maintenance Shops (9)	1.6%	1.7%	1.7%
Student & Other Central Services (7-8, 12-15)	10.7%	11.0%	10.9%

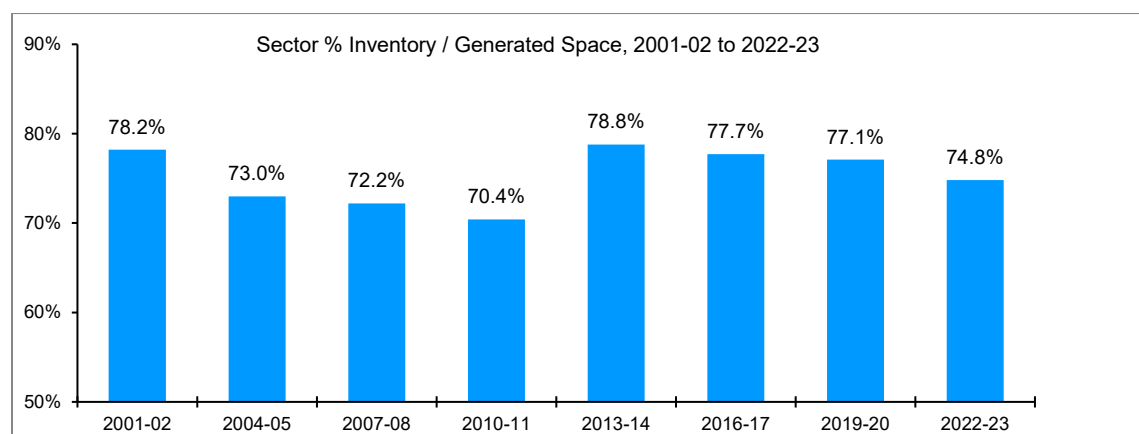
**Figure 7: Sector Inventory as a Percentage of Generated Space (%I/G), 2001-02 to 2022-23**

Figure 7 shows the trend over time in the percentage of inventory over generated space (%I/G). Universities are operating with 74.8 per cent of the space they should have, a slight decrease from the last reporting cycle.

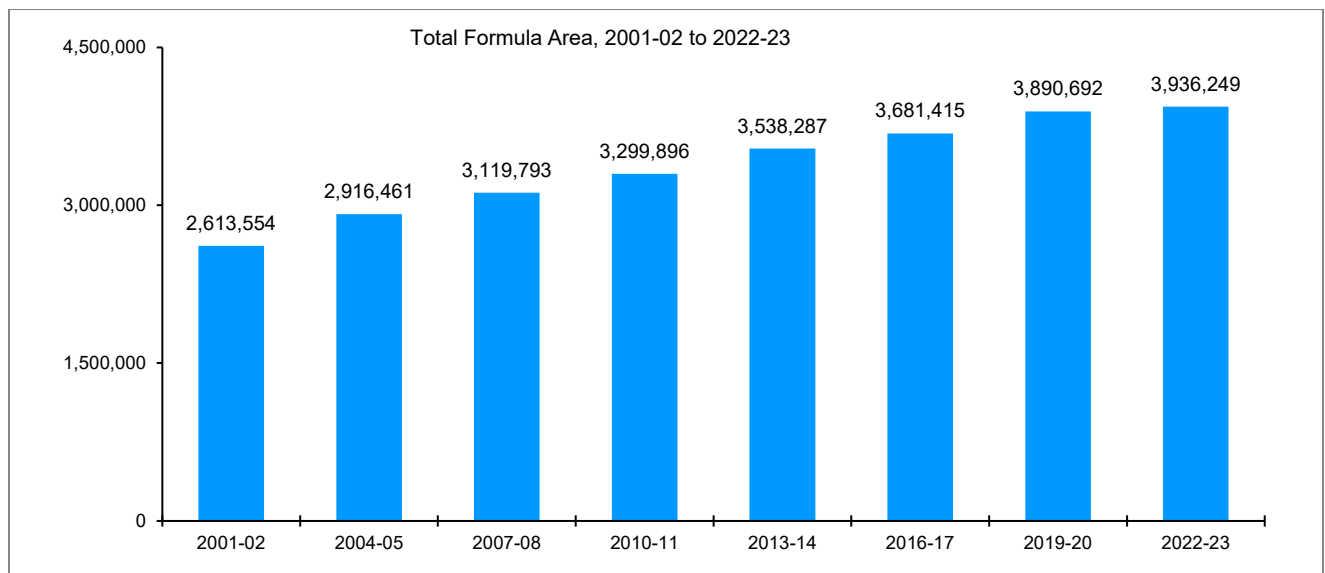
**Table 6: Actual Inventory vs. Generated Space (% I/G), Trend Over Time, by Category**

	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
Classroom Facilities	76.4%	73.7%	82.7%	82.8%	85.2%	84.0%
Class Labs	64.7%	66.5%	69.1%	71.7%	76.2%	72.2%
Research Labs	74.7%	68.8%	73.3%	72.1%	67.9%	68.2%
Academic Office	83.3%	81.5%	99.6%	99.5%	95.2%	89.8%
Administrative Office	98.4%	100.2%	109.0%	103.3%	97.2%	89.2%
Library Study Space & Library Facilities	70.6%	68.4%	67.7%	63.6%	64.8%	65.9%
Non-Library Study & Collaborative Space				71.6%	79.6%	81.5%
Recreation/Athletic Space	68.1%	69.9%	71.0%	73.1%	70.5%	69.9%
Maintenance Shops	77.0%	76.1%	75.4%	75.7%	80.2%	79.1%
Student and Central Services	56.7%	53.5%	68.2%	59.3%	60.5%	58.6%
<b>Total</b>	<b>72.2%</b>	<b>70.4%</b>	<b>78.8%</b>	<b>77.7%</b>	<b>77.1%</b>	<b>74.9%</b>

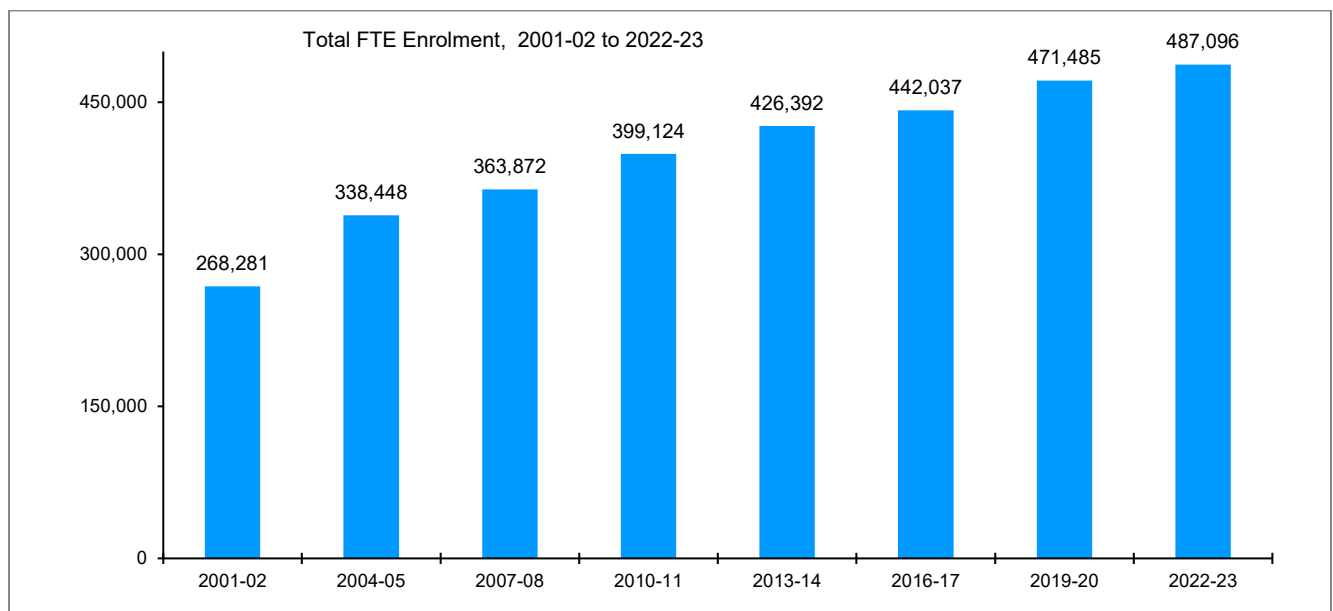
Table 6 above shows the trend in formula categories. There has been a slight increase in generated space for Classrooms while office spaces are dropping. A new category 11, Non Library Study Space, should be noted since it includes space that was formerly included in Library Study Space and Student and Central Services.



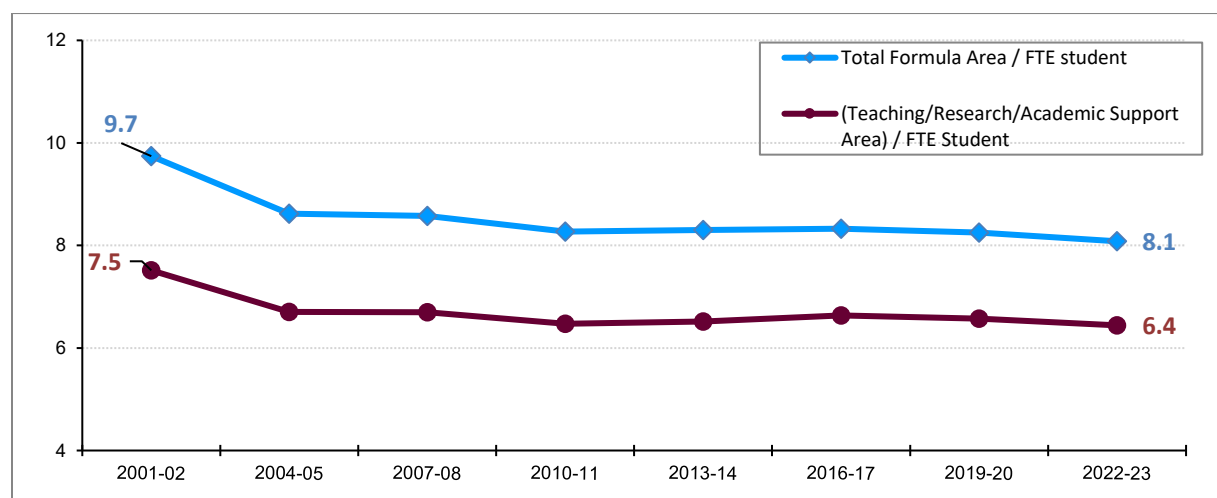
**Figure 8: Total Formula Area, 2001-02 to 2022-23**



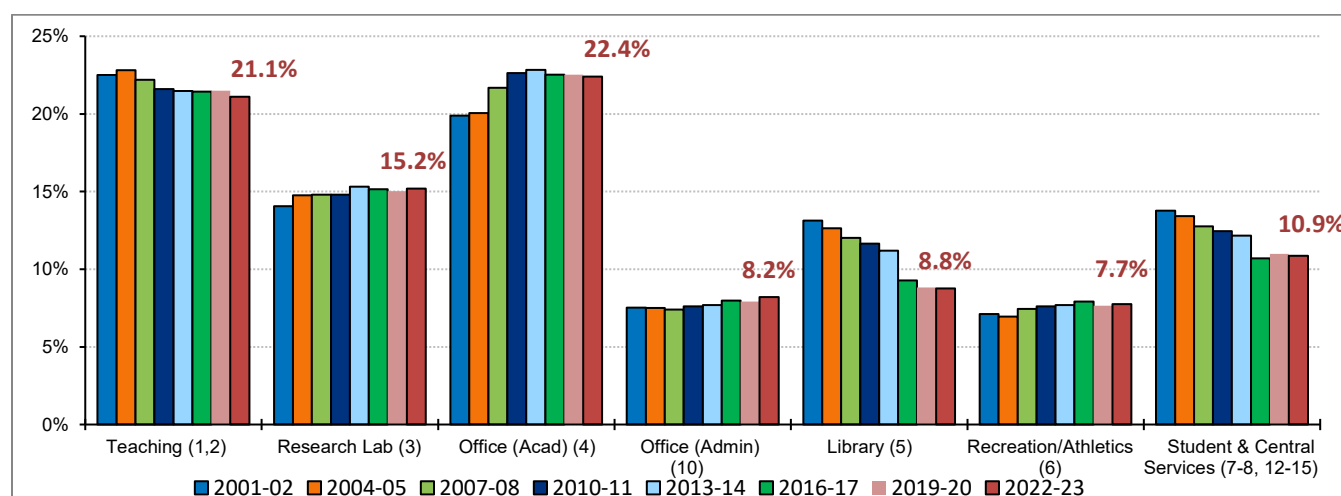
**Figure 9: Total FTE Enrolment, 2001-01 to 2022-23**



Overall, both total formula area and total FTE enrolment has grown year-over-year, as indicated in Figures 8 and 9.

**Figure 10: Total Formula Area / FTE Student, 2001-02 to 2022-23**

As per Figure 10, total formula area per student is 8.1 NASM and has been relatively constant since 2004-05. Teaching/Research/Academic Support Area per FTE Student also has remained constant at 6.4 NASM.

**Figure 11: Distribution of Space Inventory by Aggregated Functional Groups, 2001-02 to 2022-23**

The drop between 2013-14 and 2016-17 in Library and Student & Central Service space are partially accounted for by the creation of a new Category 11, Non Library Study Space. Notwithstanding the new category, there is a historically downward trend in the amount of inventory for both Library and Student and Central Service space that has leveled off in the previous two reporting cycles.

Teaching, research labs and offices and have been constant between 2016-17 and 2022-23.

Actual Space Summary Trend Tables<sup>4</sup>

Table 7: Total Actual Space Inventory by COU Space Categories, 2001-02 to 2022-23

Category	Space Category	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
<b>FORMULA AREAS (NASM)</b>									
<b>(A) Teaching/Research/Academic Support</b>									
1.	Classroom Facilities	265,015	324,465	342,013	362,011	391,395	406,247	445,643	454,176
2.	Class Labs	323,384	340,900	350,201	350,482	368,105	381,246	390,914	376,928
3.	Research Labs	367,422	430,612	461,727	488,284	541,952	556,469	584,494	597,752
4.	Acad. Office & Related	519,890	585,085	676,235	747,041	807,733	827,512	876,414	882,042
5.	Library Study Space & Library Facilities	343,363	368,804	374,720	384,044	396,144	340,945	343,654	344,908
10.	Admin. Office & Related	196,723	219,055	230,935	250,843	272,100	293,139	307,826	323,066
11.	Non Library Study Space						126,157	150,160	158,746
<b>(B) Other Space</b>									
6.	Recreation/Athletic Space	186,153	202,931	231,927	251,246	272,410	290,748	297,521	304,996
9.	Plant maintenance	51,640	53,462	53,684	55,335	57,807	59,328	66,700	66,626
7-8, 12-15	Student and Central Services	359,964	391,147	398,351	410,609	430,647	393,104	427,558	427,816
<b>Subtotal - Formula Areas</b>		<b>2,613,554</b>	<b>2,916,461</b>	<b>3,119,793</b>	<b>3,299,896</b>	<b>3,538,292</b>	<b>3,674,894</b>	<b>3,890,884</b>	<b>3,937,056</b>
16.	<b>Non-Assignable (SM)</b>	1,714,576	2,099,122	2,372,324	2,533,549	2,669,094	2,975,156	3,138,392	3,246,808
<b>NON-FORMULA AREAS (NASM)</b>									
17.	Residential Space	964,840	1,154,665	1,243,783	1,288,264	1,284,890	1,301,861	1,359,958	1,367,392
18.	Animal Space	10,324	9,366	12,395	21,340	22,956	22,828	23,971	25,944
19.	Other	157,215	101,526	196,593	161,010	188,961	173,525	198,272	208,169
20.	Health Sci. Clinical Facilities	80,440	79,549	77,863	79,632	75,209	72,861	74,643	75,123
<b>Subtotal - Non-Formula Areas</b>		<b>1,212,818</b>	<b>1,345,105</b>	<b>1,530,635</b>	<b>1,550,246</b>	<b>1,572,016</b>	<b>1,571,076</b>	<b>1,656,844</b>	<b>1,676,628</b>
<b>Total</b>		<b>5,540,949</b>	<b>6,360,688</b>	<b>7,022,751</b>	<b>7,383,690</b>	<b>7,779,403</b>	<b>8,221,126</b>	<b>8,686,120</b>	<b>8,860,492</b>

Overall, Ontario universities occupied approximately 8.9 million NASMs in 2022-23. Total space has increased two per cent between 2019-20 and 2022-23, and nearly 60 per cent since 2001-02.

Teaching/Research/Academic support space accounts for 79.7 per cent of the formula space and Other space accounts for the remaining 20.3 per cent of the formula space. Laboratory (undergraduate, graduate and faculty) space accounts for 31.1 per cent of total Teaching/Research/Academic space.

<sup>4</sup> For all tables in this section, the following notes and caveats apply:

- Student and Central Services space includes: Food Service, Bookstore & Merch. Facilities, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.
- As of 2016-17, former category 5.5 and category 14.3 are now part of the new category of Non Library Study Space (11). As a result, caution needs to be taken when comparing the results of Library Study Space and Student and Central Services to previous years. Please refer to [Historical Changes to the Inventory](#) for changes made over time.

**Table 8: Percentage Distribution of Total Actual Space Inventory by all COU Space Categories, 2001-02 to 2022-23**

Category	Space Category	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
<b>FORMULA AREAS (NASM)</b>									
<b>(A) Teaching/Research/Academic Support</b>									
1.	Classroom Facilities	4.8%	5.1%	4.9%	4.9%	5.0%	4.9%	5.1%	5.1%
2.	Class Labs	5.8%	5.4%	5.0%	4.7%	4.7%	4.6%	4.5%	4.3%
3.	Research Labs	6.6%	6.8%	6.6%	6.6%	7.0%	6.8%	6.7%	6.7%
4.	Academic Office & Related	9.4%	9.2%	9.6%	10.1%	10.4%	10.1%	10.1%	10.0%
5.	Campus Study Space & Library Facilities	6.2%	5.8%	5.3%	5.2%	5.1%	4.1%	4.0%	3.9%
10.	Admin. Office & Related	3.6%	3.4%	3.3%	3.4%	3.5%	3.6%	3.5%	3.6%
11	Non Library Study Space						1.5%	1.7%	1.8%
<b>(B) Other Space</b>									
6.	Recreation/Athletic Space	3.4%	3.2%	3.3%	3.4%	3.5%	3.5%	3.4%	3.4%
9.	Plant maintenance	0.9%	0.8%	0.8%	0.7%	0.7%	0.7%	0.8%	0.8%
7-8, 12-15	Student and Central Services	6.5%	6.1%	5.7%	5.6%	5.5%	4.8%	4.9%	4.8%
<b>Subtotal - Formula Areas</b>		47.2%	45.9%	44.4%	44.7%	45.5%	44.7%	44.8%	44.4%
16.	<b>Non-Assignable (SM)</b>	30.9%	33.0%	33.8%	34.3%	34.3%	36.2%	36.1%	36.6%
<b>NON-FORMULA AREAS (NASM)</b>									
17.	Residential Space	17.4%	18.2%	17.7%	17.4%	16.5%	15.8%	15.7%	15.4%
18.	Animal Space	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
19.	Other	2.8%	1.6%	2.8%	2.2%	2.4%	2.1%	2.3%	2.3%
20.	Health Science Clinical Facilities	1.5%	1.3%	1.1%	1.1%	1.0%	0.9%	0.9%	0.8%
<b>Subtotal - Non-Formula Areas</b>		21.9%	21.1%	21.8%	21.0%	20.2%	19.1%	19.1%	18.9%
<b>Total</b>		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Formula space (space funded by the Ministry of Colleges and Universities [MCU]), accounts for nearly 45 per cent (3.9 million NASM) of the total space, while non-formula space (space not funded by MCU) accounts for 19 per cent (1.7 million NASM) of the total space.

Non-assignable space (space that is necessary for the support of buildings) (see [Appendix A, Category 16](#)) accounts for 36.6 per cent (3.2 million NASM) of the total space.

The percentage of space allocated to non-assignable space has increased from 31 per cent to 36.6 per cent between 2001-02 and 2022-23.

**Table 9: Percentage Distribution of Total Actual Space Inventory by COU Formula Space Categories, 2001-02 to 2022-23**

Category	Space Category	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
<b>FORMULA AREAS (NASM)</b>									
<b>(A) Teaching/Research/Academic Support</b>									
1.	Classroom Facilities	10.1%	11.1%	11.0%	11.0%	11.1%	11.1%	11.5%	11.5%
2.	Class Labs	12.4%	11.7%	11.2%	10.6%	10.4%	10.4%	10.0%	9.6%
3.	Research Labs	14.1%	14.8%	14.8%	14.8%	15.3%	15.1%	15.0%	15.2%
4.	Academic Office & Related	19.9%	20.1%	21.7%	22.6%	22.8%	22.5%	22.5%	22.4%
5.	Library Study Space & Library Facilities	13.1%	12.6%	12.0%	11.6%	11.2%	9.3%	8.8%	8.8%
10.	Admin. Office & Related	7.5%	7.5%	7.4%	7.6%	7.7%	8.0%	7.9%	8.2%
11	Non Library Study Space						3.4%	3.9%	4.0%
<b>Total - Teaching/ Research/ Academic Support</b>		<b>77.1%</b>	<b>77.8%</b>	<b>78.1%</b>	<b>78.3%</b>	<b>78.5%</b>	<b>76.3%</b>	<b>75.8%</b>	<b>79.7%</b>
<b>(B) Other Space</b>									
6.	Recreation/Athletic Space	7.1%	7.0%	7.4%	7.6%	7.7%	7.9%	7.6%	7.7%
9	Plant maintenance	2.0%	1.8%	1.7%	1.7%	1.6%	1.6%	1.7%	1.7%
7-8, 12-15	Student and Central Services	13.8%	13.4%	12.8%	12.4%	12.2%	10.7%	11.0%	10.9%
<b>Total - Other Space</b>		<b>22.9%</b>	<b>22.2%</b>	<b>21.9%</b>	<b>21.7%</b>	<b>21.5%</b>	<b>20.2%</b>	<b>20.3%</b>	<b>20.3%</b>

Classroom facilities occupy approximately 11 per cent of the total formula area space, and have remained almost unchanged since 2004-05.

Student and Other Central Services space had been steadily losing space in favor of other space categories, though there was a slight uptick in 2019-20. The drop in 2016-17 is more pronounced due to shifting of former Category 14.3 to Category 11.

The Library Study Space and Library Facilities category has been steadily losing space. This also is a result of major restructuring of library space over the past few years with more library materials stored in compact storage areas rather than traditional shelving units. 2016-17 shows a more pronounced drop due to shifting of space from former Category 5.5 to Category 11.

**Table 10: Percentage Distribution of Generated Space (NASM) by COU Formula Space Classification, 2001-02 to 2022-23**

Category	Space Classification	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
<b>FORMULA AREAS (NASM)</b>									
<b>(A) Teaching/Research/Academic Support</b>									
1.	Classroom Facilities	9.9%	10.4%	10.4%	10.5%	10.5%	10.4%	10.4%	10.3%
2.	Class Labs	12.2%	12.5%	12.5%	11.2%	11.9%	11.2%	10.2%	9.9%
3.	Research Labs	13.6%	13.9%	14.3%	15.1%	16.5%	16.5%	17.0%	16.7%
4.	Academic Office & Related	18.1%	17.4%	18.8%	19.6%	18.1%	17.5%	18.3%	18.6%
5.	Campus Study Space & Library Facilities	16.0%	13.7%	12.3%	12.0%	13.0%	11.3%	10.5%	10.0%
10.	Administrative Office & Related	4.8%	5.3%	5.4%	5.3%	5.6%	5.3%	5.9%	7.1%
11	Non Library Study Space						3.7%	3.7%	3.7%
<b>Total - Teaching/Research/Academic Support</b>		<b>74.5%</b>	<b>73.4%</b>	<b>73.7%</b>	<b>73.8%</b>	<b>75.5%</b>	<b>75.9%</b>	<b>76.0%</b>	<b>76.2%</b>
<b>(B) Other Space</b>									
6.	Recreation/Athletics	7.7%	8.0%	7.9%	7.7%	8.5%	8.4%	8.4%	8.3%
9	Plant maintenance	1.7%	1.6%	1.6%	1.6%	1.7%	1.7%	1.6%	1.6%
7-8, 12-15	Student and Central Services	16.1%	16.9%	16.9%	17.0%	14.3%	14.0%	14.0%	13.9%
<b>Total - Other Space</b>		<b>25.5%</b>	<b>26.6%</b>	<b>26.3%</b>	<b>26.2%</b>	<b>24.5%</b>	<b>24.1%</b>	<b>24.0%</b>	<b>23.8%</b>

**Table 11: ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification, 2001-02 to 2022-23**

Category	Space Classification	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
<b>FORMULA AREAS (NASM)</b>									
<b>(A) Teaching/Research/Academic Support</b>									
1	Classroom Facilities	80.3%	77.9%	76.4%	73.7%	82.7%	82.8%	85.2%	84.0%
2	Class Labs	79.2%	68.0%	64.7%	66.5%	69.1%	71.7%	76.2%	72.2%
3	Research Labs	80.8%	77.3%	74.7%	68.8%	73.3%	72.1%	67.9%	68.2%
4	Academic Office & Related	86.1%	84.0%	83.3%	81.5%	99.6%	99.5%	95.2%	90.0%
5	Library Study Space & Library Facilities	64.2%	67.2%	70.6%	68.4%	67.7%	63.6%	64.8%	65.9%
10	Administrative Office & Related	123.9%	103.1%	98.4%	100.2%	109.0%	103.3%	97.2%	89.2%
11	Non Library Study Space						71.6%	79.6%	81.5%
<b>Total - Teaching/Research/Academic Support</b>		<b>80.9%</b>	<b>77.4%</b>	<b>76.5%</b>	<b>74.7%</b>	<b>81.9%</b>	<b>81.6%</b>	<b>80.8%</b>	<b>78.3%</b>
<b>(B) Other Space</b>									
6	Recreation/Athletics	72.6%	63.1%	68.1%	69.9%	71.0%	73.1%	70.5%	69.9%
9	Plant maintenance	90.0%	83.0%	77.0%	76.1%	75.4%	75.7%	80.2%	79.1%
7-8, 12-15	Student and Central Services	69.3%	60.0%	56.7%	53.5%	68.2%	59.3%	60.5%	58.6%
<b>Total - Other Space</b>		<b>70.3%</b>	<b>60.9%</b>	<b>60.1%</b>	<b>58.3%</b>	<b>69.2%</b>	<b>65.3%</b>	<b>65.3%</b>	<b>63.9%</b>
<b>Total - Formula Areas</b>		<b>78.2%</b>	<b>73.0%</b>	<b>72.2%</b>	<b>70.4%</b>	<b>78.8%</b>	<b>77.7%</b>	<b>77.1%</b>	<b>74.8%</b>

Student and Other Central Services space includes: Food Service, Bookstore & Merch. Facilities, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, Assembly/Exhibition Facilities and Plant Maintenance. From 2016-17 former Category 5.5 and Category 14.3 are now part of the new category of Non Library Study Space (11). As a result, a caution needs to be taken while comparing the results of Library Study Space and Student and Central Services to previous years.

**Table 12: Historical Summary of Statistics, 2001-02 to 2022-23**

	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23
% Undergraduate FTE Enrolment per Total FTE Enrolment	88.58	89.05	87.48	86.87	86.41	85.71	84.70	83.94
% Graduate FTE Enrolment per Total FTE Enrolment	11.42	10.95	12.52	13.13	13.59	14.29	15.30	16.06
WSCH <sup>1</sup> per Undergraduate FTE Enrolment	3.09	2.95	3.11	2.79	2.60	2.48	2.41	2.37
Classroom NASM <sup>2</sup> per FTE Student	0.99	0.96	0.94	0.91	0.92	0.92	0.95	0.93
Graduate Office NASM per FTE Graduate Student	2.39	2.22	2.12	2.16	2.26	2.12	2.01	1.88
Administrative Office NASM per FTE Non-Academic Office Staff	20.93	20.11	19.19	19.54	19.62	20.83	18.65	15.74
Library Study Space and Library Facilities NASM per FTE Student	1.28	1.09	1.03	0.96	0.93	0.77	0.73	0.71
Non Library study space per FTE student						0.29	0.32	0.33
Recreation/Athletics NASM per FTE Student	0.69	0.60	0.64	0.63	0.64	0.66	0.63	0.63
Student & Central Services NASM per FTE Student	1.34	1.16	1.09	1.03	1.01	0.89	0.91	0.88
Total NASM per FTE Student (categories 1-15)	9.74	8.62	8.57	8.27	8.30	8.32	8.25	8.08

Due to the expansion of graduate enrolment, the percentage of enrolment in graduate programs has increased from 11.4 per cent in 2001-02 to 16.1 per cent in 2022-23.

Student contact hours per undergraduate FTE student have declined from 3.1 in 2001-02 to 2.4 in 2022-23.

Library Study Space and Library Facilities NASM per FTE student declined from 1.3 in 2001-02 to 0.71 in 2022-23. The decline is more pronounced in 2016-17 than in previous years as the 2016-17 numbers do not include former Category 5.5.

## Graduate Enrolment Expansion

As noted in Table 12 above, graduate students as a percentage of total FTE students increased from 11.4 per cent in 2001-02 to 16.1 per cent in 2022-23, in response to student demand and the need to enhance the social and economic impact of universities. Table 13 below shows that FTE graduate enrolment increased eight per cent between 2019-20 and 2022-23 and **increased by 135 per cent since 2001-02.**

Overall, graduate students require more space per student than undergraduate students, as graduate classes are typically held in smaller classrooms and/or seminar rooms, not lecture theatres. Also, the student-faculty ratio is lower for graduate students than undergraduates.

With trends in graduate enrolment generally, and a specific focus on space-intensive Science, Technology, Engineering and Math (STEM) programs, additional pressure will be placed on existing space to accommodate the ongoing increase in students.

**Table 13: FTE Graduate Enrolment Trend**

	2001-02	2004-05	2007-08	2010-11	2013-14	2016-17	2019-20	2022-23	% change from 2019
FTE Graduate Enrolment	30,627	37,071	45,569	52,387	57,937	63,186	72,147	78,228	8.4%

The table below shows the Graduate FTE enrolment over time, by program grouping. Groups A and B comprise the majority of programs in physical sciences, health professions, and engineering. Enrolment in Group B programs has increased nearly 200 per cent since 2004-05, the most significant percentage increase of any of the program groupings. Groups A and B require the most space per student as they include hard and physical sciences, medicine and engineering.

**Table 14: Graduate FTE enrolment, by program grouping**

By Program Group	2004-05 Graduate FTEs	2013-14 Graduate FTEs	2016-17 Graduate FTEs	2019-20 Graduate FTEs	2022-23 Graduate FTEs	% change since 2004-05	% change since 2013-14	% change since 2016-17	% change since 2019-20
Group A	7,187	8,864	9,264	9,674	8,983	25%	1%	-3%	-7%
Group B	4,487	7,719	9,993	12,488	13,303	196%	72%	33%	7%
Group C	3,137	5,120	4,461	6,324	6,257	99%	22%	40%	-1%
Group D	4,280	6,544	6,721	6,862	8,780	105%	34%	31%	28%
Group E	17,634	27,640	31,730	20,449	22,744	29%	-18%	-28%	11%
Group F	-	-	-	15,380	16,254	-	-	-	-
<b>Total**</b>	<b>36,822</b>	<b>57,325</b>	<b>62,880</b>	<b>71,815</b>	<b>76,634</b>	<b>108%</b>	<b>34%</b>	<b>22%</b>	<b>7%</b>

\*\*Includes enrolment for which no group is assigned.

Program Groups attempt to organize programs that have similar space requirements. However, “like” programs can fall in different Groups. For example, animal sciences require more space than plant sciences and nuclear engineering requires more space than electrical engineering. Therefore, like programs can be assigned to different Program Groups. Please see [Appendix D: Program Classification Scheme](#) for the detailed breakdown.



## 4. Institutional Tables: 2022-23

### CAVEAT

The tables that follow are the result of the 2022-23 space survey issued to universities.

In interpreting the data from smaller and specialized institutions, it should be noted that the Building Blocks formula was developed for institutions having a full range of university programs and functions.<sup>5</sup>

**The application of all 15 categories to a very small or special-purpose institution may not be appropriate, so results must be interpreted carefully.**

The same considerations apply in the formula for analysis at the departmental level within an institution.

Université de Hearst and NOSM are reported as separate institutions, but due to the size and specialized missions of those institutions they are not included in the total counts.

Hearst and NOSM are reporting 2016-17 survey data.

Nipissing is reporting 2019-20 survey data.

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<sup>5</sup> "Building Blocks" is a series of seven COU publications that were published between 1972 and 1988. These publications led to the development of the current COU space standards.

Table 15: Inventory of University Space, November 1, 2022

Institution	Categories 1-15 (NASM)	Category 16 (SM)	Categories 17-20 (NASM)	Scheduled for Demolition	Rentals	Gross Square Metres	Construction	Gross Square Metres/NASM (1-15, 17-20)
Algoma	16,218.60	7,762.78	4,438.76	0.00	2,058.73	32,158.93	0.00	1.56
Brock	101,972.49	75,495.23	66,811.59	0.00	11.00	278,490.29	0.00	1.65
Carleton	189,791.43	161,866.66	67,133.75	0.00	0.00	501,693.03	0.00	1.95
Guelph	256,015.96	177,498.91	132,983.80	0.00	0.00	651,856.45	0.00	1.68
Lakehead	87,510.59	51,554.27	44,054.15	0.00	0.00	219,373.64	0.00	1.67
Laurentian	68,906.92	50,799.12	43,516.92	0.00	3,917.13	183,844.39	0.00	1.64
Laurentian (Hearst)	5,116.23	2,129.88	2,178.37	0.00	0.00	NR	0.00	NA
McMaster	274,254.45	184,520.06	133,582.14	0.00	7,871.03	695,263.28	24,518.56	1.70
Nipissing	33,431.07	16,086.91	33,927.17	0.00	0.00	32,243.35	0.00	0.48
NOSM	8,360.80	4,346.80	0.00	0.00	0.00	15,248.30	0.00	1.82
OCADU	27,337.06	11,260.61	1,111.99	0.00	8,074.90	45,779.04	0.00	1.61
Ontario Tech	54,377.07	42,759.75	9,974.45	0.00	7,643.74	127,539.01		1.98
Ottawa	287,486.11	260,977.88	109,284.41	0.00	10,352.63	803,860.90	0.00	2.03
Queen's	262,472.57	292,118.98	119,004.20	0.00	0.00	782,062.95	0.00	2.05
Toronto Metropolitan	192,205.87	142,740.61	28,032.36	0.00	20,925.68	441,998.40	0.00	2.01
Toronto (St. George)	591,112.20	485,220.91	175,398.72	9,544.82	15,947.56	1,440,173.92	82,438.00	1.88
Toronto (Mississauga)	77,370.86	79,766.11	34,534.11	1,251.96	0.00	219,052.44	13,789.00	1.96
Toronto (Scarborough)	73,603.15	58,375.75	29,327.83	0.00	0.00	185,300.20	43,458.00	1.80
Trent	60,626.49	43,135.27	42,300.92	466.17	0.00	160,680.85	0.00	1.56
Waterloo	344,588.50	258,564.20	155,613.50	0.00	7,168.30	879,537.00	8,167.00	1.76
Western	376,326.11	258,592.87	213,393.32	0.00	0.00	946,904.65	0.00	1.61
WLU	112,697.32	103,292.62	119,863.23	0.00	4,740.41	386,773.96	3,362.41	1.66
WLU (Brantford)	21,113.80	29,497.13	20,919.73	0.00	130.00	81,311.93	3,000.00	1.93
Windsor	147,972.35	119,200.05	22,838.58	0.00	1,149.64	344,583.21	6,303.40	2.02
York (Keele)	270,966.50	330,283.20	108,370.30	0.00	3,356.04	847,573.92	0.00	2.23
York (Glendon)	17,926.54	14,785.52	7,822.79	0.00	0.00	46,916.17	0.00	1.82
<b>TOTAL</b>	<b>3,959,761.03</b>	<b>3,262,632.07</b>	<b>1,726,417.09</b>	<b>11,262.95</b>	<b>93,346.79</b>	<b>10,350,220.21</b>	<b>185,036.37</b>	<b>1.84</b>

The inventory NASM figures for categories 1-20 may not necessarily agree at some institutions with the inventory figures reported in Table 2.

Table 16: Distribution of Actual Inventory by Major Space Category and Institution, 2022-23 (PART ONE)

	Classroom Facilities (Cat 1)	Lab Undergrad (Cat 2)	Lab Grad & Faculty (Cat 3)	Acad Office & Related (Cat 4)	Lib Facilities & Library Study Space (Cat 5)	Recreation/ Athletic Space (Cat 6)	Food Service (Cat 7)	Bookstore & Merch Facilities (Cat 8)	Plant Maintenance (Cat 9)	Admin Office & Related (Cat 10)	Non-Library Study Space (Cat 11)	Central Services (Cat 12)
Algoma	2,379	1,809	559	1,313	986	4,027	419	98	298	1,823	1,161	594
Brock	13,765	10,918	12,464	18,561	7,183	10,152	6,094	1,104	1,997	9,367	3,734	2,500
Carleton	22,102	18,613	22,427	39,520	20,963	24,207	8,358	1,699	1,863	16,920	4,868	4,210
Guelph	18,668	25,385	61,663	49,453	17,030	28,816	9,640	1,516	6,579	24,621	5,708	244
Lakehead	9,880	12,438	10,210	11,233	6,284	11,277	4,409	632	1,013	8,075	2,180	3,140
Laurentian	6,435	8,259	6,836	12,799	7,015	9,189	3,140	208	1,862	7,396	1,788	1,043
Laurentian (Hearst)	1,063	201	0	788	887	490	475	17	102	249	177	284
McMaster	34,852	19,046	53,832	67,760	21,743	18,722	8,652	3,067	3,393	18,940	9,314	3,295
Nipissing	5,709	3,761	1,481	3,766	2,089	2,031	1,952	51	103	3,501	511	743
NOSM	988	849	1,538	1,597	604	0	0	0	0	2,306	368	75
OCADU	4,172	8,465	2,044	3,673	1,436	0	72	0	172	2,755	1,300	1,677
OntarioTech	8,112	7,296	8,828	6,953	3,416	5,731	1,045	145	499	6,012	2,448	2,615
Ottawa	29,734	23,606	46,142	65,951	26,579	23,310	6,728	3,532	5,342	27,847	12,705	3,289
Queen's	24,227	24,781	42,173	66,100	24,101	22,599	10,668	2,193	2,941	17,112	7,204	4,143
Toronto Metropolitan	23,510	31,461	20,393	36,247	9,897	14,286	3,877	1,040	3,362	18,014	12,792	4,364
Toronto (St. George)	61,161	42,373	102,249	163,455	83,395	29,822	13,736	3,240	10,035	28,105	20,476	3,738
Toronto (Mississauga)	13,588	9,031	9,891	11,634	5,260	6,903	4,783	336	1,749	6,601	2,982	1,428
Toronto (Scarborough)	7,460	6,223	9,962	12,172	2,965	9,534	3,241	719	3,547	7,270	4,004	1,486
Trent	8,589	5,235	11,176	10,150	5,126	3,910	3,655	486	1,101	6,397	2,462	1,027
Waterloo	35,690	31,201	59,302	84,930	16,535	19,913	12,025	2,841	7,310	33,771	21,351	6,107
Western	47,175	30,855	62,268	89,827	31,997	20,010	16,570	3,217	3,666	21,780	17,123	8,523
WLU	10,907	4,641	6,225	17,626	8,012	7,494	3,219	1,273	2,583	14,216	5,006	2,448
WLU (Brantford)	3,408	537	529	2,504	410	3,242	30	400	592	3,292	2,713	85
Windsor	16,924	18,312	19,752	28,184	16,057	15,689	4,824	1,074	1,284	12,539	6,781	2,849
York (Keele)	40,347	30,671	25,599	71,907	23,107	10,709	9,543	2,680	4,848	22,930	9,302	4,292
York (Glendon)	3,331	962	209	3,938	1,833	2,932	888	178	384	1,227	290	196
<b>TOTAL</b>	<b>454,176</b>	<b>376,928</b>	<b>597,752</b>	<b>882,042</b>	<b>344,908</b>	<b>304,996</b>	<b>138,044</b>	<b>31,745</b>	<b>66,626</b>	<b>323,066</b>	<b>158,746</b>	<b>64,394</b>

Table 17: Distribution of Actual Inventory by Major Space Category and Institution, 2022-23 (PART TWO)

	Health Service Facilities (Cat 13)	Student Activity Space (Cat 14)	Assembly, Exhibition Facilities (Cat 15)	Subtotal Formula Areas (Cat 1-15)	Residential Space (Cat 17)	Animal Space (Cat 18)	Other (Cat 19)	Health Sci Clinical Facilities (Cat 20)	Subtotal Non-Formula (Cat 17-20)	Non-Assignable (Cat 16)	Total (Cat 1-20)
Algoma	58	315	381	16,219	4,161	65	213	-	4,439	7,763	28,420
Brock	609	1,879	1,644	101,972	55,347	701	10,088	676	66,812	75,495	244,279
Carleton	1,416	2,613	8,303	198,080	61,088	764	5,932	0	67,783	176,815	442,678
Guelph	2,010	2,867	1,817	256,016	110,565	10,945	3,528	7,946	132,984	177,499	566,499
Lakehead	1,220	2,861	2,659	87,511	39,611	0	4,435	0	44,046	51,554	183,111
Laurentian	354	2,140	443	68,907	28,684	68	14,765	0	43,517	50,799	163,223
Laurentian (Hearst)	0	15	369	5,116	499	0	1,679	0	2,178	2,130	9,424
McMaster	1,998	4,257	5,385	274,254	69,422	1,665	4,093	58,402	133,582	184,520	592,357
Nipissing	111	93	0	25,900	3,356	0	0	0	3,356	14,475	43,731
NOSM	0	37	0	8,361	0	0	0	0	0	4,347	12,708
OCADU	308	194	1,069	27,337	167	0	945	0	1,112	11,261	39,710
Ontario Tech	0	889	386	54,377	233	0	9,741	0	9,974	42,760	107,111
Ottawa	1,935	4,656	6,127	287,486	96,209	1,953	11,122	0	109,284	260,978	657,748
Queen's	1,127	5,682	7,420	262,473	98,813	2,548	14,875	2,767	119,004	292,119	673,596
Toronto Metropolitan	461	7,230	5,272	192,206	23,052	0	4,980	0	28,032	142,741	362,979
Toronto (St. George)	2,164	13,174	13,989	591,112	124,073	2,422	48,904	0	175,399	485,221	1,251,732
Toronto (Mississauga)	263	1,318	1,605	77,371	32,041	0	2,493	0	34,534	79,766	191,671
Toronto (Scarborough)	302	1,656	3,064	73,603	15,078	0	14,250	0	29,328	58,376	161,307
Trent	155	1,004	153	60,626	38,040	963	3,299	0	42,301	43,135	146,063
Waterloo	1,962	5,981	4,692	343,612	141,782	0	11,643	2,188	155,613	258,563	757,787
Western	1,546	7,058	14,711	376,326	192,365	3,590	14,768	2,670	213,393	258,593	848,312
WLU	387	1,776	5,472	91,285	97,454	260	2,198	0	99,912	73,486	264,684
WLU (Brantford)	287	553	1,391	19,972	12,411	0	8,600	0	21,011	29,904	70,888
Windsor	400	1,102	2,202	147,972	18,098	0	4,267	474	22,839	119,200	290,011
York (Keele)	755	8,024	6,253	270,967	97,232	0	11,138	0	108,370	330,283	709,620
York (Glendon)	0	682	946	17,994	7,609	0	214	0	7,823	15,026	40,843
<b>TOTAL</b>	<b>19,824</b>	<b>78,054</b>	<b>95,754</b>	<b>3,937,056</b>	<b>1,367,392</b>	<b>25,944</b>	<b>208,169</b>	<b>75,123</b>	<b>1,676,628</b>	<b>3,246,808</b>	<b>8,860,492</b>

Table 18: Percent Distribution of Actual Inventory by Major Formula Space Category and Institution, 2022-23

	Classroom Facilities (Cat 1)	Lab Undergrd (Cat 2)	Lab Grad & Faculty (Cat 3)	Acad Office & Related Cat 4)	Library Facilities & Library Study (Cat 5)	Recreatn/ Athletic Space (Cat 6)	Food Service (Cat 7)	Bookstore & Merch Facilities Cat 8)	Plant Mtce (Cat 9)	Admin Office & Related (Cat 10)	Non- Library Study Space (Cat 11)	Central Services (Cat 12)	Health Service Facilities (Cat 13)	Student Activity & Space (Cat 14)	Assembly & Exhibition Facilities (Cat 15)	Formula Areas (Cat 1-15)
Algoma	14.7%	11.2%	3.4%	8.1%	6.1%	24.8%	2.6%	0.6%	1.8%	11.2%	7.2%	3.7%	0.4%	1.9%	2.3%	100.0%
Brock	13.5%	10.7%	12.2%	18.2%	7.0%	10.0%	6.0%	1.1%	2.0%	9.2%	3.7%	2.5%	0.6%	1.8%	1.6%	100.0%
Carleton	11.2%	9.4%	11.3%	20.0%	10.6%	12.2%	4.2%	0.9%	0.9%	8.5%	2.5%	2.1%	0.7%	1.3%	4.2%	100.0%
Guelph	7.3%	9.9%	24.1%	19.3%	6.7%	11.3%	3.8%	0.6%	2.6%	9.6%	2.2%	0.1%	0.8%	1.1%	0.7%	100.0%
Lakehead	11.3%	14.2%	11.7%	12.8%	7.2%	12.9%	5.0%	0.7%	1.2%	9.2%	2.5%	3.6%	1.4%	3.3%	3.0%	100.0%
Laurentian	9.3%	12.0%	9.9%	18.6%	10.2%	13.3%	4.6%	0.3%	2.7%	10.7%	2.6%	1.5%	0.5%	3.1%	0.6%	100.0%
Laurentian (Hearst)	20.8%	3.9%	0.0%	15.4%	17.3%	9.6%	9.3%	0.3%	2.0%	4.9%	3.5%	5.5%	0.0%	0.3%	7.2%	100.0%
McMaster	12.7%	6.9%	19.6%	24.7%	7.9%	6.8%	3.2%	1.1%	1.2%	6.9%	3.4%	1.2%	0.7%	1.6%	2.0%	100.0%
Nipissing	22.0%	14.5%	5.7%	14.5%	8.1%	7.8%	7.5%	0.2%	0.4%	13.5%	2.0%	2.9%	0.4%	0.4%	0.0%	100.0%
NOSM	11.8%	10.2%	18.4%	19.1%	7.2%	0.0%	0.0%	0.0%	0.0%	27.6%	4.4%	0.9%	0.0%	0.4%	0.0%	100.0%
OCADU	15.3%	31.0%	7.5%	13.4%	5.3%	0.0%	0.3%	0.0%	0.6%	10.1%	4.8%	6.1%	1.1%	0.7%	3.9%	100.0%
Ontario Tech	14.9%	13.4%	16.2%	12.8%	6.3%	10.5%	1.9%	0.3%	0.9%	11.1%	4.5%	4.8%	0.0%	1.6%	0.7%	100.0%
Ottawa	10.3%	8.2%	16.1%	22.9%	9.2%	8.1%	2.3%	1.2%	1.9%	9.7%	4.4%	1.1%	0.7%	1.6%	2.1%	100.0%
Queen's	9.2%	9.4%	16.1%	25.2%	9.2%	8.6%	4.1%	0.8%	1.1%	6.5%	2.7%	1.6%	0.4%	2.2%	2.8%	100.0%
Toronto Metropolitan	12.2%	16.4%	10.6%	18.9%	5.1%	7.4%	2.0%	0.5%	1.7%	9.4%	6.7%	2.3%	0.2%	3.8%	2.7%	100.0%
Toronto (St. George)	10.3%	7.2%	17.3%	27.7%	14.1%	5.0%	2.3%	0.5%	1.7%	4.8%	3.5%	0.6%	0.4%	2.2%	2.4%	100.0%
Toronto (Mississauga)	17.6%	11.7%	12.8%	15.0%	6.8%	8.9%	6.2%	0.4%	2.3%	8.5%	3.9%	1.8%	0.3%	1.7%	2.1%	100.0%
Toronto (Scarborough)	10.1%	8.5%	13.5%	16.5%	4.0%	13.0%	4.4%	1.0%	4.8%	9.9%	5.4%	2.0%	0.4%	2.2%	4.2%	100.0%
Trent	14.2%	8.6%	18.4%	16.7%	8.5%	6.5%	6.0%	0.8%	1.8%	10.6%	4.1%	1.7%	0.3%	1.7%	0.3%	100.0%
Waterloo	10.4%	9.1%	17.3%	24.7%	4.8%	5.8%	3.5%	0.8%	2.1%	9.8%	6.2%	1.8%	0.6%	1.7%	1.4%	100.0%
Western	12.5%	8.2%	16.5%	23.9%	8.5%	5.3%	4.4%	0.9%	1.0%	5.8%	4.6%	2.3%	0.4%	1.9%	3.9%	100.0%
WLU	11.9%	5.1%	6.8%	19.3%	8.8%	8.2%	3.5%	1.4%	2.8%	15.6%	5.5%	2.7%	0.4%	1.9%	6.0%	100.0%
WLU (Brantford)	17.1%	2.7%	2.6%	12.5%	2.1%	16.2%	0.2%	2.0%	3.0%	16.5%	13.6%	0.4%	1.4%	2.8%	7.0%	100.0%
Windsor	11.4%	12.4%	13.3%	19.0%	10.9%	10.6%	3.3%	0.7%	0.9%	8.5%	4.6%	1.9%	0.3%	0.7%	1.5%	100.0%
York (Keele)	14.9%	11.3%	9.4%	26.5%	8.5%	4.0%	3.5%	1.0%	1.8%	8.5%	3.4%	1.6%	0.3%	3.0%	2.3%	100.0%
York (Glendon)	18.5%	5.3%	1.2%	21.9%	10.2%	16.3%	4.9%	1.0%	2.1%	6.8%	1.6%	1.1%	0.0%	3.8%	5.3%	100.0%
<b>TOTAL</b>	<b>11.5%</b>	<b>9.6%</b>	<b>15.2%</b>	<b>22.4%</b>	<b>8.8%</b>	<b>7.7%</b>	<b>3.5%</b>	<b>0.8%</b>	<b>1.7%</b>	<b>8.2%</b>	<b>4.0%</b>	<b>1.6%</b>	<b>0.5%</b>	<b>2.0%</b>	<b>2.4%</b>	<b>100.0%</b>
<b>AVERAGE</b>	<b>13.3%</b>	<b>10.4%</b>	<b>12.0%</b>	<b>18.8%</b>	<b>8.1%</b>	<b>9.4%</b>	<b>3.8%</b>	<b>0.7%</b>	<b>1.7%</b>	<b>10.1%</b>	<b>4.4%</b>	<b>2.2%</b>	<b>0.5%</b>	<b>1.9%</b>	<b>2.7%</b>	

**Table 19: Percent Distribution of Actual Inventory by Major Space Category and Institution, 2022-23**

	<i>Formula space (Cat 1-15)</i>	<i>Non-Formula: Residential space (Cat 17)</i>	<i>Non-Formula: Other Space (Cat 18-20)</i>	<i>Non- Formula space (Cat 17-20)</i>	<i>Non- Assignable space (Cat 16)</i>	<i>Total Space (Cat 1-20)</i>
Algoma	57.1%	14.6%	1.0%	15.6%	27.3%	100%
Brock	41.7%	22.7%	4.7%	27.4%	30.9%	100%
Carleton	44.7%	13.8%	1.5%	15.3%	39.9%	100%
Guelph	45.2%	19.5%	4.0%	23.5%	31.3%	100%
Lakehead	47.8%	21.6%	2.4%	24.1%	28.2%	100%
Laurentian	42.2%	17.6%	9.1%	26.7%	31.1%	100%
Laurentian (Hearst)	54.3%	5.3%	17.8%	23.1%	22.6%	100%
McMaster	46.3%	11.7%	10.8%	22.6%	31.2%	100%
Nipissing	59.2%	7.7%	0.0%	7.7%	33.1%	100%
NOSM	65.8%	0.0%	0.0%	0.0%	34.2%	100%
OCADU	68.8%	0.4%	2.4%	2.8%	28.4%	100%
Ontario Tech	50.8%	0.2%	9.1%	9.3%	39.9%	100%
Ottawa	43.7%	14.6%	2.0%	16.6%	39.7%	100%
Queen's	39.0%	14.7%	3.0%	17.7%	43.4%	100%
Toronto Metropolitan	53.0%	6.4%	1.4%	7.7%	39.3%	100%
Toronto (St. George)	47.2%	9.9%	4.1%	14.0%	38.8%	100%
Toronto (Mississauga)	40.4%	16.7%	1.3%	18.0%	41.6%	100%
Toronto (Scarborough)	45.6%	9.3%	8.8%	18.2%	36.2%	100%
Trent	41.5%	26.0%	2.9%	29.0%	29.5%	100%
Waterloo	45.3%	18.7%	1.8%	20.5%	34.1%	100%
<b>Western</b>	<b>44.4%</b>	<b>22.7%</b>	<b>2.5%</b>	<b>25.2%</b>	<b>30.5%</b>	<b>100%</b>
WLU	34.5%	36.8%	0.9%	37.7%	27.8%	100%
WLU (Brantford)	28.2%	17.5%	12.1%	29.6%	42.2%	100%
Windsor	51.0%	6.2%	1.6%	7.9%	41.1%	100%
York (Keele)	38.2%	13.7%	1.6%	15.3%	46.5%	100%
York (Glendon)	44.1%	18.6%	0.5%	19.2%	36.8%	100%
<b>TOTAL</b>	<b>44.4%</b>	<b>15.4%</b>	<b>3.5%</b>	<b>18.9%</b>	<b>36.6%</b>	<b>100%</b>
<b>AVERAGE</b>	<b>46.9%</b>	<b>14.1%</b>	<b>4.1%</b>	<b>18.2%</b>	<b>34.8%</b>	

## 5. Institutional Space Requirements as Measured by COU Space Standards: Tables by University

**Table 20: ALGOMA: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	3,415.60	1.11	3,791.32	2,378.91	62.7	84.0	195.2
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	3,648.00	0.6	2,188.80	1,023.38			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	1,465.50	0.3	439.65	446.70			
Unclassified	0.00			0.00			
<b>Total Class Lab</b>	<b>5,113.50</b>		<b>2,628.45</b>	<b>1,470.08</b>	55.9	72.2	162.0
RESEARCH LABS							
Research Disciplines A	5.90	45.0	265.50	469.96			
Research Disciplines B	7.20	30.0	216.00	9.53			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	15.60	10.0	156.00	82.16			
Research Disciplines E	10.40	5.0	52.00	0.00			
Research Disciplines F	21.20	2.0	42.40	65.16			
Unclassified	0.00			0.00			
Total Research	60.30		731.90	626.81	85.6	68.2	105.4
OFFICE - ACADEMIC							
Total FTE Faculty	152.60	12.0	1,831.20	817.89	44.7	117.8	64.5
Research Appointments	3.00	12.0	36.00	150.14			
Total FTE Grads	0.00	3.0	0.00	0.00	n/a	62.8	n/a
Total FTE Non-Acd Staff	19.00	12.0	228.00	173.05	75.9	91.3	92.8
Office Service	2,095.20	0.25	523.80	171.51	32.7	100.7	64.9
Total Academic Office			2,619.00	1,312.59	50.1	89.8	74.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	152.00	12.0	1,824.00	1,316.72	72.2	83.7	69.2
Office Service	1,824.00	0.5	912.00	506.15	55.5	94.9	66.5
Total Admin. Office			2,736.00	1,822.87	66.6	87.4	68.3
Total Office - Academic & Administrative			5,355.00	3,135.46	58.6	89.2	71.0
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	3,415.60	0.5	1,707.80	428.56	25.1	51.9	91.1
Traditional Static Shelving Space	85,566.28	0.005	427.83				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	85,566.28		427.83	383.48	89.6	82.5	87.3
Library Support	2,135.63	0.25	533.91	174.25	32.6	70.6	72.2
Total Library Facilities & Campus Study Space			2,669.54	986.29	36.9	65.9	85.9
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	3,415.60	0.4	1,366.24	1,161.12	85.0	81.5	141.9
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>16,542.45</b>	<b>9,758.67</b>	<b>59.0</b>	<b>78.3</b>	<b>106.6</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	3,415.60	0.9	3,074.04	4,026.54	131.0	69.9	437.1
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	20,657.36	0.015	309.86	297.96	96.2	79.1	100.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	3,415.60	1.5	5,123.40	1,864.65	36.4	58.6	140.5
<b>SUB-TOTAL: OTHER SPACE</b>			<b>8,507.30</b>	<b>6,189.15</b>	<b>72.8</b>	<b>63.9</b>	<b>235.3</b>
<b>TOTAL FORMULA AREAS</b>			<b>25,049.75</b>	<b>15,947.82</b>	<b>63.7</b>	<b>74.9</b>	<b>139.2</b>

**Table 21: BROCK: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	16,380.55	1.11	18,182.41	13,765.17	75.7	84.0	73.3
CLASS LABS							
Lab Contact Hours W	6.00	0.8	4.80	53.59			
Lab Contact Hours X	15,500.00	0.6	9,300.00	5,859.51			
Lab Contact Hours Y	2,750.00	0.5	1,375.00	1,191.14			
Lab Contact Hours Z	12,154.00	0.3	3,646.20	3,813.96			
Unclassified	0.00			0.00			
Total Class Lab	30,410.00		14,326.00	10,918.20	76.2	72.2	60.8
RESEARCH LABS							
Research Disciplines A	163.80	45.0	7,371.00	6,349.51			
Research Disciplines B	54.30	30.0	1,629.00	1,094.36			
Research Disciplines C	17.00	20.0	340.00	1,210.50			
Research Disciplines D	207.80	10.0	2,078.00	1,757.90			
Research Disciplines E	347.05	5.0	1,735.25	811.18			
Research Disciplines F	546.40	2.0	1,092.80	1,128.78			
Unclassified	0.00			112.24			
Total Research	1,336.35		14,246.05	12,464.47	87.5	68.2	89.0
OFFICE - ACADEMIC							
Total FTE Faculty	671.60	12.0	8,059.20	8,254.28	102.4	117.8	105.3
Research Appointments	32.00	12.0	384.00	219.54	57.2		51.4
Total FTE Grads	1,549.90	3.0	4,649.70	3,072.28	66.1	62.8	70.3
Total FTE Non-Acd Staff	228.50	12.0	2,742.00	3,113.90	113.6	91.3	115.5
Office Service	15,834.90	0.25	3,958.73	3,900.85	98.5	100.7	96.7
Total Academic Office			19,793.63	18,560.85	93.8	89.8	95.0
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	498.35	12.0	5,980.20	6,495.47	108.6	83.7	107.2
Office Service	5,980.20	0.5	2,990.10	2,871.84	96.0	94.9	86.2
Total Admin. Office			8,970.30	9,367.31	104.4	87.4	100.2
Total Office - Academic & Administrative			28,763.93	27,928.16	97.1	89.2	96.6
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	16,380.55	0.5	8,190.28	3,515.53	42.9	51.9	44.1
Traditional Static Shelving Space	816,652.74	0.005	4,083.26				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	816,652.74		4,083.26	1,997.51	48.9	82.5	50.2
Library Support	12,273.54	0.25	3,068.38	1,670.40	54.4	70.6	53.2
Total Library Facilities & Campus Study Space			15,341.92	7,183.44	46.8	65.9	47.5
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	16,380.55	0.4	6,552.22	3,734.34	57.0	81.5	58.6
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>97,412.53</b>	<b>75,993.78</b>	<b>78.0</b>	<b>78.3</b>	<b>75.2</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	16,380.55	0.9	14,742.50	10,151.59	68.9	69.9	60.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	168,784.08	0.015	2,531.76	1,997.01	78.9	79.1	111.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	16,380.55	1.5	24,570.83	13,830.11	56.3	58.6	52.2
<b>SUB-TOTAL: OTHER SPACE</b>			<b>41,845.08</b>	<b>25,978.71</b>	<b>62.1</b>	<b>63.9</b>	<b>58.5</b>
<b>TOTAL FORMULA AREAS</b>			<b>139,257.61</b>	<b>101,972.49</b>	<b>73.2</b>	<b>74.9</b>	<b>70.3</b>



**Table 22: CARLETON: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
<b>CLASSROOMS</b>							
Total FTE Students	25,124.27	1.11	27,887.94	22,101.78	79.3	84.0	66.2
<b>CLASS LABS</b>							
Lab Contact Hours W	9,662.00	0.8	7,729.60	1,626.12			
Lab Contact Hours X	18,117.00	0.6	10,870.20	6,247.48			
Lab Contact Hours Y	20,203.58	0.5	10,101.79	7,718.36			
Lab Contact Hours Z	21,042.00	0.3	6,312.60	3,020.72			
Unclassified	0.00			0.00			
Total Class Lab	69,024.58		35,014.19	18,612.67	53.2	72.2	47.4
<b>RESEARCH LABS</b>							
Research Disciplines A	347.58	45.0	15,641.10	8,259.40			
Research Disciplines B	313.70	30.0	9,411.00	4,118.74			
Research Disciplines C	338.34	20.0	6,766.80	3,359.94			
Research Disciplines D	405.93	10.0	4,059.30	2,227.42			
Research Disciplines E	779.99	5.0	3,899.95	2,391.17			
Research Disciplines F	812.36	2.0	1,624.72	411.28			
Unclassified	0.00			1,658.73			
Total Research	2,997.90		41,402.87	22,426.67	54.2	68.2	45.5
<b>OFFICE - ACADEMIC</b>							
Total FTE Faculty	1,032.11	12.0	12,385.32	17,440.75	140.8	117.8	129.8
Research Appointments	148.00	12.0	1,776.00	1,304.14	73.4		92.6
Total FTE Grads	3,995.00	3.0	11,985.00	5,565.63	46.4	62.8	48.0
Total FTE Non-Acd Staff	292.65	12.0	3,511.80	6,581.11	187.4	91.3	136.3
Office Service	29,658.12	0.25	7,414.53	8,627.99	116.4	100.7	147.0
Total Academic Office			37,072.65	39,519.62	106.6	89.8	106.0
<b>OFFICE - ADMINISTRATIVE</b>							
Total FTE Non-Acd Staff	919.59	12.0	11,035.08	11,554.00	104.7	83.7	103.0
Office Service	11,035.08	0.5	5,517.54	5,365.83	97.3	94.9	194.4
Total Admin. Office			16,552.62	16,919.83	102.2	87.4	133.5
Total Office - Academic & Administrative			53,625.27	56,439.45	105.2	89.2	113.4
<b>Total Library Facilities &amp; Campus Study Space</b>							
Study (Total FTE Students)	25,124.27	0.5	12,562.13	10,058.10	80.1	51.9	70.4
Traditional Static Shelving Space	610,311.12	0.005	3,051.56				
Mobile Compact Shelving	199,881.53	0.004	799.53				
Super High Density	281,258.07	0.0035	984.40				
Total Stack	1,091,450.72		4,835.48	7,103.13	146.9	82.5	102.0
Library Support	17,397.62	0.25	4,349.40	3,801.76	87.4	70.6	71.8
Total Library Facilities & Campus Study Space			21,747.02	20,962.99	96.4	65.9	79.9
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	25,124.27	0.4	10,049.71	4,867.72	48.4	81.5	41.9
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>							
			<b>189,726.99</b>	<b>145,411.29</b>	<b>76.6</b>	<b>78.3</b>	<b>70.0</b>
<b>OTHER SPACE</b>							
<b>RECREATION / ATHLETICS</b>							
Total FTE Students	25,124.27	0.9	22,611.84	24,207.07	107.1	69.9	102.4
<b>MAINTENANCE SHOPS</b>							
Total NASM Inv. (exc. 16.0)	265,863.17	0.015	3,987.95	1,862.76	46.7	79.1	48.7
<b>STUDENT AND CENTRAL SERVICES</b>							
Total FTE Students	25,124.27	1.5	37,686.40	26,598.64	70.6	58.6	64.4
<b>SUB-TOTAL: OTHER SPACE</b>							
			<b>64,286.19</b>	<b>52,668.47</b>	<b>81.9</b>	<b>63.9</b>	<b>76.9</b>
<b>TOTAL FORMULA AREAS</b>							
			<b>254,013.18</b>	<b>198,079.76</b>	<b>78.0</b>	<b>74.9</b>	<b>71.8</b>

**Table 23: GUELPH: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	23,182.53	1.11	25,732.61	18,667.53	72.5	84.0	66.3
CLASS LABS							
Lab Contact Hours W	10,153.78	0.8	8,123.03	4,137.01			
Lab Contact Hours X	39,895.50	0.6	23,937.30	12,823.08			
Lab Contact Hours Y	15,083.00	0.5	7,541.50	6,390.02			
Lab Contact Hours Z	13,884.00	0.3	4,165.20	2,035.17			
Unclassified	0.00			0.00			
Total Class Lab	79,016.28		43,767.03	25,385.28	58.0	72.2	63.8
RESEARCH LABS							
Research Disciplines A	936.64	45.0	42,148.65	43,716.80			
Research Disciplines B	357.25	30.0	10,717.41	8,711.41			
Research Disciplines C	183.32	20.0	3,666.45	7,665.86			
Research Disciplines D	153.06	10.0	1,530.64	396.91			
Research Disciplines E	263.21	5.0	1,316.03	1,111.26			
Research Disciplines F	452.70	2.0	905.40	60.86			
Unclassified	0.00			0.00			
Total Research	2,346.18		60,284.58	61,663.10	102.3	68.2	96.1
OFFICE - ACADEMIC							
Total FTE Faculty	1,037.64	12.0	12,451.64	15,809.13	127.0	117.8	129.1
Research Appointments	572.02	12.0	6,864.28	2,580.14	37.6		49.5
Total FTE Grads	2,936.30	3.0	8,808.90	9,360.08	106.3	62.8	104.1
Total FTE Non-Acd Staff	535.96	12.0	6,431.57	7,376.74	114.7	91.3	127.3
Office Service	34,556.38	0.25	8,639.10	14,326.98	165.8	100.7	167.9
Total Academic Office			43,195.48	49,453.07	114.5	89.8	120.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,098.01	12.0	13,176.08	11,147.80	84.6	83.7	98.8
Office Service	13,176.08	0.5	6,588.04	13,473.06	204.5	94.9	100.2
Total Admin. Office			19,764.13	24,620.86	124.6	87.4	99.3
Total Office - Academic & Administrative			62,959.60	74,073.93	117.7	89.2	113.9
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	23,182.53	0.5	11,591.27	7,042.57	60.8	51.9	57.1
Traditional Static Shelving Space	493,173.01	0.005	2,465.87				
Mobile Compact Shelving	646,005.10	0.004	2,584.02				
Super High Density	603,974.40	0.0035	2,113.91				
Total Stack	1,743,152.51		7,163.80	6,501.70	90.8	82.5	109.2
Library Support	18,755.06	0.25	4,688.77	3,485.86	74.3	70.6	81.9
Total Library Facilities & Campus Study Space			23,443.83	17,030.13	72.6	65.9	77.4
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	23,182.53	0.4	9,273.01	5,707.72	61.6	81.5	43.2
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>225,460.65</b>	<b>202,527.69</b>	<b>89.8</b>	<b>78.3</b>	<b>87.0</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	23,182.53	0.9	20,864.28	28,816.40	138.1	69.9	167.7
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	388,999.76	0.015	5,835.00	6,579.38	112.8	79.1	124.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	23,182.53	1.5	34,773.80	18,092.49	52.0	58.6	74.5
<b>SUB-TOTAL: OTHER SPACE</b>			<b>61,473.07</b>	<b>53,488.27</b>	<b>87.0</b>	<b>63.9</b>	<b>110.9</b>
<b>TOTAL FORMULA AREAS</b>			<b>286,933.72</b>	<b>256,015.96</b>	<b>89.2</b>	<b>74.9</b>	<b>92.1</b>

**Table 24: LAKEHEAD: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	7,630.94	1.11	8,470.35	9,879.52	116.6	84.0	116.1
CLASS LABS							
Lab Contact Hours W	2,515.50	0.8	2,012.40	1,442.99			
Lab Contact Hours X	7,113.21	0.6	4,267.93	5,052.14			
Lab Contact Hours Y	9,042.48	0.5	4,521.24	3,317.04			
Lab Contact Hours Z	7,586.80	0.3	2,276.04	2,481.20			
Unclassified	0.00			144.44			
Total Class Lab	26,257.98		13,077.60	12,437.81	95.1	72.2	92.6
RESEARCH LABS							
Research Disciplines A	95.93	45.0	4,316.85	3,000.61			
Research Disciplines B	179.86	30.0	5,395.71	3,180.22			
Research Disciplines C	76.17	20.0	1,523.34	1,086.17			
Research Disciplines D	285.70	10.0	2,856.97	1,265.95			
Research Disciplines E	119.75	5.0	598.77	109.22			
Research Disciplines F	166.12	2.0	332.24	127.29			
Unclassified	157.50			1,440.59			
Total Research	1,081.02		15,023.88	10,210.05	68.0	68.2	63.8
OFFICE - ACADEMIC							
Total FTE Faculty	525.71	12.0	6,308.54	5,931.90	94.0	117.8	94.9
Research Appointments	76.40	12.0	916.82	822.30	89.7		72.6
Total FTE Grads	1,462.70	3.0	4,388.10	1,382.78	31.5	62.8	31.4
Total FTE Non-Acd Staff	149.90	12.0	1,798.80	1,528.12	85.0	91.3	96.5
Office Service	13,412.27	0.25	3,353.07	1,568.33	46.8	100.7	40.6
Total Academic Office			16,765.34	11,233.43	67.0	89.8	66.1
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	369.90	12.0	4,438.80	5,204.80	117.3	83.7	95.9
Office Service	4,438.80	0.5	2,219.40	2,869.76	129.3	94.9	109.9
Total Admin. Office			6,658.20	8,074.56	121.3	87.4	100.6
Total Office - Academic & Administrative			23,423.54	19,307.99	82.4	89.2	77.2
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	7,630.94	0.5	3,815.47	3,295.82	86.4	51.9	86.2
Traditional Static Shelving Space	788,512.97	0.005	3,942.56				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	788,512.97		3,942.56	1,878.89	47.7	82.5	59.0
Library Support	7,758.04	0.25	1,939.51	1,108.83	57.2	70.6	63.3
Total Library Facilities & Campus Study Space			9,697.55	6,283.54	64.8	65.9	71.7
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	7,630.94	0.4	3,052.38	2,180.06	71.4	81.5	71.4
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>72,745.28</b>	<b>60,298.97</b>	<b>82.9</b>	<b>78.3</b>	<b>81.0</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	7,630.94	0.9	6,867.85	11,276.87	164.2	69.9	135.0
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	131,556.99	0.015	1,973.35	1,013.33	51.4	79.1	51.9
STUDENT AND CENTRAL SERVICES							
Total FTE Students	7,630.94	1.5	11,446.42	14,921.42	130.4	58.6	130.3
<b>SUB-TOTAL: OTHER SPACE</b>			<b>20,287.62</b>	<b>27,211.62</b>	<b>134.1</b>	<b>63.9</b>	<b>124.4</b>
<b>TOTAL FORMULA AREAS</b>			<b>93,032.90</b>	<b>87,510.59</b>	<b>94.1</b>	<b>74.9</b>	<b>90.2</b>

**Table 25: LAURENTIAN: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	5,820.00	1.11	6,460.20	6,434.72	99.6	84.0	108.3
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	7,111.00	0.6	4,266.60	4,500.64			
Lab Contact Hours Y	1,227.00	0.5	613.50	2,515.02			
Lab Contact Hours Z	1,402.00	0.3	420.60	1,243.05			
Unclassified	0.00			0.00			
Total Class Lab	9,740.00		5,300.70	8,258.71	155.8	72.2	120.6
RESEARCH LABS							
Research Disciplines A	98.95	45.0	4,452.75	5,535.90			
Research Disciplines B	126.75	30.0	3,802.50	917.92			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	49.60	10.0	496.00	45.87			
Research Disciplines E	86.60	5.0	433.00	0.00			
Research Disciplines F	212.45	2.0	424.90	336.46			
Unclassified	0.00			0.00			
Total Research	574.35		9,609.15	6,836.15	71.1	68.2	64.6
OFFICE - ACADEMIC							
Total FTE Faculty	298.70	12.0	3,584.40	4,611.76	128.7	117.8	123.7
Research Appointments	49.00	12.0	588.00	1,495.44	254.3		103.1
Total FTE Grads	858.00	3.0	2,574.00	1,632.30	63.4	62.8	77.4
Total FTE Non-Acd Staff	57.00	12.0	684.00	2,054.58	300.4	91.3	212.9
Office Service	7,430.40	0.25	1,857.60	3,005.36	161.8	100.7	121.2
Total Academic Office			9,288.00	12,799.44	137.8	89.8	120.3
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	247.70	12.0	2,972.40	4,074.76	137.1	83.7	130.5
Office Service	2,972.40	0.5	1,486.20	3,321.13	223.5	94.9	232.7
Total Admin. Office			4,458.60	7,395.89	165.9	87.4	164.5
Total Office - Academic & Administrative			13,746.60	20,195.33	146.9	89.2	133.5
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	5,820.00	0.5	2,910.00	3,166.12	108.8	51.9	90.7
Traditional Static Shelving Space	815,214.40	0.005	4,076.07				
Mobile Compact Shelving	68,675.61	0.004	274.70				
Super High Density	0.00	0.0035	0.00				
Total Stack	883,890.01		4,350.77	2,881.97	66.2	82.5	79.1
Library Support	7,260.77	0.25	1,815.19	966.90	53.3	70.6	61.9
Total Library Facilities & Campus Study Space			9,075.97	7,014.99	77.3	65.9	80.1
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	5,820.00	0.4	2,328.00	1,788.19	76.8	81.5	74.1
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>46,520.62</b>	<b>50,528.09</b>	<b>108.6</b>	<b>78.3</b>	<b>104.2</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	5,820.00	0.9	5,238.00	9,189.45	175.4	69.9	147.5
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	112,423.84	0.015	1,686.36	1,861.54	110.4	79.1	78.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	5,820.00	1.5	8,730.00	7,327.84	83.9	58.6	87.4
<b>SUB-TOTAL: OTHER SPACE</b>			<b>15,654.36</b>	<b>18,378.83</b>	<b>117.4</b>	<b>63.9</b>	<b>106.7</b>
<b>TOTAL FORMULA AREAS</b>			<b>62,174.98</b>	<b>68,906.92</b>	<b>110.8</b>	<b>74.9</b>	<b>104.8</b>

**Table 26: HEARST: Institutional Space Requirements as Measured by COU Space Standards, 2019 -20**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G (2016-17)	System Average	2013-14 % I/G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
<b>CLASSROOMS</b>							
Total FTE Students	114.80	1.11	127.43	1,063.00	834.2	84.0	1006.1
<b>CLASS LABS</b>							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	12.00	0.3	3.60	50.26			
Unclassified	0.00			150.78			
Total Class Lab	12.00		3.60	201.04	5584.4	72.2	2792.2
<b>RESEARCH LABS</b>							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	1.00	10.0	10.00	0.00			
Research Disciplines E	0.00	5.0	0.00	0.00			
Research Disciplines F	0.00		0.00	0.00			
Unclassified	0.00			0.00			
Total Research	1.00		10.00	0.00	n/a	68.2	na
<b>OFFICE - ACADEMIC</b>							
Total FTE Faculty	1.00	12.0	12.00	456.34	3802.8	117.8	4058.3
Research Appointments	0.00	12.0	0.00	102.92			
Total FTE Grads	0.00	3.0	0.00	0.00	n/a	62.8	na
Total FTE Non-Acd Staff	5.00	12.0	60.00	90.49	150.8	91.3	165.4
Office Service	72.00	0.25	18.00	138.72	770.7	100.7	1293.7
Total Academic Office			90.00	788.47	876.1	89.8	1219.3
<b>OFFICE - ADMINISTRATIVE</b>							
Total FTE Non-Acd Staff	10.00	12.0	120.00	213.88	178.2	83.7	127.3
Office Service	120.00	0.5	60.00	35.17	58.6	94.9	180.7
Total Admin. Office			180.00	249.05	138.4	87.4	145.1
Total Office - Academic & Administrative			270.00	1,037.52	384.3	89.2	349.3
<b>Total Library Facilities &amp; Campus Study Space</b>							
Study (Total FTE Students)	114.80	0.5	57.40	127.74	222.5	51.9	258.4
Traditional Static Shelving Space	82,550.06	0.005	412.75				
Mobile Compact Shelving	9,350.00	0.004	37.40				
Super High Density	0.00	0.0035	0.00				
Total Stack	91,900.06		450.15	690.45	153.4	82.5	196.5
Library Support	507.55	0.25	126.89	68.47	54.0	70.6	68.3
Total Library Facilities & Campus Study Space			634.44	886.66	139.8	65.9	177.0
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	114.80	0.4	45.92	176.61	384.6	81.5	na
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>1,091.39</b>	<b>3,364.83</b>	<b>308.3</b>	<b>78.3</b>	<b>339.8</b>
<b>OTHER SPACE</b>							
<b>RECREATION / ATHLETICS</b>							
Total FTE Students	114.80	0.9	103.32	490.34	474.6	69.9	0.0
<b>MAINTENANCE SHOPS</b>							
Total NASM Inv. (exc. 16.0)	7,294.61	0.015	109.42	102.47	93.6	79.1	96.9
<b>STUDENT AND CENTRAL SERVICES</b>							
Total FTE Students	114.80	1.5	172.20	1,158.60	672.8	58.6	1489.4
<b>SUB-TOTAL: OTHER SPACE</b>			<b>384.94</b>	<b>1,751.41</b>	<b>455.0</b>	<b>63.9</b>	<b>640.0</b>
<b>TOTAL FORMULA AREAS</b>			<b>1,476.33</b>	<b>5,116.24</b>	<b>346.6</b>	<b>74.9</b>	<b>414.5</b>

**Table 27: MCMASTER: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	33,346.44	1.11	37,014.55	34,851.60	94.2	84.0	103.7
CLASS LABS							
Lab Contact Hours W	10,884.83	0.8	8,707.87	2,860.89			
Lab Contact Hours X	23,721.80	0.6	14,233.08	11,962.65			
Lab Contact Hours Y	11,522.84	0.5	5,761.42	1,340.54			
Lab Contact Hours Z	7,371.24	0.3	2,211.37	1,434.39			
Unclassified	0.00			1,447.32			
Total Class Lab	53,500.71		30,913.74	19,045.79	61.6	72.2	61.7
RESEARCH LABS							
Research Disciplines A	701.23	45.0	31,555.13	18,682.05			
Research Disciplines B	622.13	30.0	18,663.90	10,862.65			
Research Disciplines C	395.75	20.0	7,914.90	949.46			
Research Disciplines D	363.77	10.0	3,637.65	12,373.66			
Research Disciplines E	605.58	5.0	3,027.90	2,031.97			
Research Disciplines F	674.87	2.0	1,349.73	322.24			
Unclassified	0.00			8,609.86			
Total Research	3,363.31		66,149.21	53,831.89	81.4	68.2	83.4
OFFICE - ACADEMIC							
Total FTE Faculty	1,175.70	12.0	14,108.40	17,988.78	127.5	117.8	143.6
Research Appointments	932.35	12.0	11,188.20	12,116.71	108.3		116.9
Total FTE Grads	4,713.40	3.0	14,140.20	9,510.92	67.3	62.8	70.9
Total FTE Non-Acd Staff	1,254.23	12.0	15,050.76	14,586.12	96.9	91.3	110.6
Office Service	54,487.56	0.25	13,621.89	13,557.18	99.5	100.7	110.1
Total Academic Office			68,109.45	67,759.71	99.5	89.8	109.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,151.06	12.0	13,812.72	13,504.62	97.8	83.7	112.3
Office Service	13,812.72	0.5	6,906.36	5,434.97	78.7	94.9	92.8
Total Admin. Office			20,719.08	18,939.59	91.4	87.4	105.8
Total Office - Academic & Administrative			88,828.53	86,699.30	97.6	89.2	108.7
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	33,346.44	0.5	16,673.22	8,957.32	53.7	51.9	58.7
Traditional Static Shelving Space	1,146,559.54	0.005	5,732.80				
Mobile Compact Shelving	644,260.56	0.004	2,577.04				
Super High Density	234,353.66	0.0035	820.24				
Total Stack	2,025,173.76		9,130.08	8,492.64	93.0	82.5	93.0
Library Support	25,803.30	0.25	6,450.82	4,293.53	66.6	70.6	70.4
Total Library Facilities & Campus Study Space			32,254.12	21,743.49	67.4	65.9	71.3
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	33,346.44	0.4	13,338.58	9,313.84	69.8	81.5	76.3
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>268,498.72</b>	<b>225,485.91</b>	<b>84.0</b>	<b>78.3</b>	<b>89.6</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	33,346.44	0.9	30,011.80	18,721.66	62.4	69.9	64.6
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	407,836.59	0.015	6,117.55	3,393.09	55.5	79.1	56.4
STUDENT AND CENTRAL SERVICES							
Total FTE Students	33,346.44	1.5	50,019.66	26,653.79	53.3	58.6	58.5
<b>SUB-TOTAL: OTHER SPACE</b>			<b>86,149.00</b>	<b>48,768.54</b>	<b>56.6</b>	<b>63.9</b>	<b>60.4</b>
<b>TOTAL FORMULA AREAS</b>			<b>354,647.72</b>	<b>274,254.45</b>	<b>77.3</b>	<b>74.9</b>	<b>82.6</b>

**Table 28: NIPISSING: Institutional Space Requirements as Measured by COU Space Standards, 2019-20**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G (2019-20)	System Average	2016-17 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	3,919.50	1.11	4,350.65	5,708.51	131.2	84.0	131.2
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	2,539.00	0.6	1,523.40	1,227.19			
Lab Contact Hours Y	5,417.50	0.5	2,708.75	1,701.05			
Lab Contact Hours Z	3,515.00	0.3	1,054.50	833.10			
Unclassified	0.00			0.00			
Total Class Lab	11,471.50		5,286.65	3,761.34	71.1	72.2	67.3
RESEARCH LABS							
Research Disciplines A	11.30	45.0	508.50	738.75			
Research Disciplines B	0.00	30.0	0.00	397.92			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	4.00	10.0	40.00	199.39			
Research Disciplines E	0.00	5.0	0.00	0.00			
Research Disciplines F	64.45	2.0	128.90	15.39			
Unclassified	0.00			129.10			
Total Research	79.75		677.40	1,480.55	218.6	68.2	49.2
OFFICE - ACADEMIC							
Total FTE Faculty	336.70	12.0	4,040.40	2,950.79	73.0	117.8	73.0
Research Appointments	7.00	12.0	84.00	170.29	202.7		202.7
Total FTE Grads	157.50	3.0	472.50	123.34	26.1	62.8	26.1
Total FTE Non-Acd Staff	258.00	12.0	3,096.00	509.94	16.5	91.3	16.5
Office Service	7,692.90	0.25	1,923.23	11.39	0.6	100.7	0.6
Total Academic Office			9,616.13	3,765.75	39.2	89.8	39.2
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	18.00	12.0	216.00	2,133.24	987.6	83.7	987.6
Office Service	216.00	0.5	108.00	1,367.61	1266.3	94.9	1266.3
Total Admin. Office			324.00	3,500.85	1080.5	87.4	1080.5
Total Office - Academic & Administrative			9,940.13	7,266.60	73.1	89.2	73.1
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	3,919.50	0.5	1,959.75	0.00	0.0	51.9	0.0
Traditional Static Shelving Space	218,384.61	0.005	1,091.92				
Mobile Compact Shelving	15,551.13	0.004	62.20				
Super High Density	0.00	0.0035	0.00				
Total Stack	233,935.74		1,154.13	1,645.00	142.5	82.5	0.6
Library Support	3,113.88	0.25	778.47	444.00	57.0	70.6	49.6
Total Library Facilities & Campus Study Space			3,892.35	2,089.00	53.7	65.9	10.1
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	3,919.50	0.4	1,567.80	510.72	32.6	81.5	32.6
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>25,714.97</b>	<b>20,816.72</b>	<b>81.0</b>	<b>78.3</b>	<b>67.5</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	3,919.50	0.9	3,527.55	2,030.70	57.6	69.9	83.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	29,256.17	0.015	438.84	102.73	23.4	79.1	24.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	3,919.50	1.5	5,879.25	2,949.85	50.2	58.6	50.2
<b>SUB-TOTAL: OTHER SPACE</b>			<b>9,845.64</b>	<b>5,083.28</b>	<b>51.6</b>	<b>63.9</b>	<b>61.1</b>
<b>TOTAL FORMULA AREAS</b>			<b>35,560.61</b>	<b>25,900.00</b>	<b>72.8</b>	<b>74.9</b>	<b>65.8</b>

**Table 29: Northern Ontario School of Medicine (NOSM): Institutional Space Requirements as Measured by COU Space Standards, 2019-20**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G (2016-17)	System Average	2013-14 % I/G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	512.00	1.11	568.32	987.90	173.8	84.0	695.3
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	384.00	0.6	230.40	848.70			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	0.00	0.3	0.00	0.00			
Unclassified	0.00			0.00			
Total Class Lab	384.00		230.40	848.70	368.4	72.2	368.4
RESEARCH LABS							
Research Disciplines A	45.50	45.0	2,047.50	1,538.20			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	0.00	5.0	0.00	0.00			
Research Disciplines F	0.00	2.0	0.00	0.00			
Unclassified	0.00			0.00			
Total Research	45.50		2,047.50	1,538.20	75.1	68.2	122.1
OFFICE - ACADEMIC							
Total FTE Faculty	26.00	12.0	312.00	694.60	222.6	117.8	222.6
Research Appointments	4.00	12.0	48.00	0.00	0.0		0.0
Total FTE Grads	0.00	3.0	0.00	0.00		62.8	
Total FTE Non-Acd Staff	203.00	12.0	2,436.00	815.10	33.5	91.3	33.5
Office Service	2,796.00	0.25	699.00	87.30	12.5	100.7	12.5
Total Academic Office			3,495.00	1,597.00	45.7	89.8	45.7
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	37.00	12.0	444.00	1,418.20	319.4	83.7	319.2
Office Service	444.00	0.5	222.00	887.40	399.7	94.9	399.7
Total Admin. Office			666.00	2,305.60	346.2	87.4	346.2
Total Office - Academic & Administrative			4,161.00	3,902.60	93.8	89.2	93.8
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	512.00	0.5	256.00	0.00	0.0	51.9	156.4
Traditional Static Shelving Space	7,869.41	0.005	39.35				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	7,869.41		39.35	449.30	1141.9	82.5	1141.9
Library Support	295.35	0.25	73.84	155.00	209.9	70.6	533.8
Total Library Facilities & Campus Study Space			369.18	604.30	163.7	65.9	499.0
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	512.00	0.4	204.80	367.50	179.4	81.5	na
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>7,581.20</b>	<b>8,249.20</b>	<b>108.8</b>	<b>78.3</b>	<b>134.7</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	512.00	0.9	460.80	0.00	0.0	69.9	0.0
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	8,360.80	0.015	125.41	0.00	0.0	79.1	0.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	512.00	1.5	768.00	111.60	14.5	58.6	187.0
<b>SUB-TOTAL: OTHER SPACE</b>			<b>1,354.21</b>	<b>111.60</b>	<b>8.2</b>	<b>63.9</b>	<b>83.0</b>
<b>TOTAL FORMULA AREAS</b>			<b>8,935.42</b>	<b>8,360.80</b>	<b>93.6</b>	<b>74.9</b>	<b>131.2</b>



**Table 30: OCADU: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	4,233.80	1.11	4,699.52	4,172.35	88.8	84.0	39.9
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	65,414.00	0.6	39,248.40	8,205.00			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	277.00	0.3	83.10	0.00			
Unclassified	0.00			0.00			
Total Class Lab	65,691.00		39,331.50	8,205.00	20.9	72.2	33.3
RESEARCH LABS							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	3.20	30.0	96.00	0.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	103.60	10.0	1,036.00	450.00			
Research Disciplines E	324.20	5.0	1,621.00	3,638.00			
Research Disciplines F	9.40	2.0	18.80	0.00			
Unclassified	0.00			0.00			
Total Research	440.40		2,771.80	4,088.00	147.5	68.2	105.7
OFFICE - ACADEMIC							
Total FTE Faculty	454.60	12.0	5,455.20	1,259.85	23.1	117.8	33.8
Research Appointments	36.00	12.0	432.00	113.94	26.4		38.9
Total FTE Grads	257.20	3.0	771.60	1,155.25	149.7	62.8	144.8
Total FTE Non-Acd Staff	112.00	12.0	1,344.00	852.66	63.4	91.3	260.2
Office Service	8,002.80	0.25	2,000.70	290.82	14.5	100.7	16.1
Total Academic Office			10,003.50	3,672.52	36.7	89.8	54.9
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	168.00	12.0	2,016.00	2,085.03	103.4	83.7	71.8
Office Service	2,016.00	0.5	1,008.00	670.33	66.5	94.9	30.8
Total Admin. Office			3,024.00	2,755.36	91.1	87.4	58.1
Total Office - Academic & Administrative			13,027.50	6,427.88	49.3	89.2	56.2
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	4,233.80	0.5	2,116.90	308.05	14.6	51.9	7.8
Traditional Static Shelving Space	128,724.30	0.005	643.62				
Mobile Compact Shelving	7,790.73	0.004	31.16				
Super High Density	0.00	0.0035	0.00				
Total Stack	136,515.03		674.78	738.78	109.5	82.5	133.9
Library Support	2,791.68	0.25	697.92	388.71	55.7	70.6	34.4
Total Library Facilities & Campus Study Space			3,489.61	1,435.54	41.1	65.9	25.4
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	4,233.80	0.4	1,693.52	1,300.13	76.8	81.5	30.0
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>65,013.44</b>	<b>25,628.90</b>	<b>39.4</b>	<b>78.3</b>	<b>40.1</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	4,233.80	0.9	3,810.42	0.00	0.0	69.9	0.0
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	28,449.05	0.015	426.74	171.91	40.3	79.1	39.2
STUDENT AND CENTRAL SERVICES							
Total FTE Students	4,233.80	1.5	6,350.70	3,319.75	52.3	58.6	30.0
<b>SUB-TOTAL: OTHER SPACE</b>			<b>10,587.86</b>	<b>3,491.66</b>	<b>33.0</b>	<b>63.9</b>	<b>19.2</b>
<b>TOTAL FORMULA AREAS</b>			<b>75,601.30</b>	<b>29,120.56</b>	<b>38.5</b>	<b>74.9</b>	<b>34.9</b>

**Table 31: ONTARIO TECH: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	9,085.04	1.11	10,084.40	8,112.17	80.4	84.0	90.4
CLASS LABS							
Lab Contact Hours W	751.07	0.8	600.85	1,492.47			
Lab Contact Hours X	8,276.63	0.6	4,965.98	3,160.47			
Lab Contact Hours Y	4,447.38	0.5	2,223.69	1,483.97			
Lab Contact Hours Z	3,643.82	0.3	1,093.15	1,159.16			
Unclassified	0.00			0.00			
Total Class Lab	17,118.90		8,883.67	7,296.07	82.1	72.2	78.4
RESEARCH LABS							
Research Disciplines A	70.91	45.0	3,191.15	2,389.88			
Research Disciplines B	145.57	30.0	4,367.22	2,894.62			
Research Disciplines C	69.37	20.0	1,387.49	1,018.16			
Research Disciplines D	111.20	10.0	1,111.97	1,402.62			
Research Disciplines E	181.74	5.0	908.69	1,008.18			
Research Disciplines F	83.15	2.0	166.30	114.94			
Unclassified	0.50			0.00			
Total Research	662.45		11,132.81	8,828.40	79.3	68.2	84.9
OFFICE - ACADEMIC							
Total FTE Faculty	314.00	12.0	3,768.00	4,523.77	120.1	117.8	119.3
Research Appointments	57.59	12.0	691.13	88.92	12.9		17.3
Total FTE Grads	834.30	3.0	2,502.90	654.68	26.2	62.8	32.6
Total FTE Non-Acd Staff	85.04	12.0	1,020.49	926.75	90.8	91.3	83.4
Office Service	7,982.53	0.25	1,995.63	759.06	38.0	100.7	52.0
Total Academic Office			9,978.16	6,953.18	69.7	89.8	78.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	401.31	12.0	4,815.75	3,478.15	72.2	83.7	92.6
Office Service	4,815.75	0.5	2,407.87	2,534.33	105.3	94.9	91.7
Total Admin. Office			7,223.62	6,012.48	83.2	87.4	92.3
Total Office - Academic & Administrative			17,201.78	12,965.66	75.4	89.2	84.1
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	9,085.04	0.5	4,542.52	1,737.44	38.2	51.9	37.7
Traditional Static Shelving Space	64,059.04	0.005	320.30				
Mobile Compact Shelving	6,972.50	0.004	27.89				
Super High Density	0.00	0.0035	0.00				
Total Stack	71,031.54		348.19	964.41	277.0	82.5	310.1
Library Support	4,890.71	0.25	1,222.68	713.96	58.4	70.6	63.7
Total Library Facilities & Campus Study Space			6,113.38	3,415.81	55.9	65.9	59.3
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	9,085.04	0.4	3,634.02	2,448.45	67.4	81.5	46.2
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>57,050.06</b>	<b>43,066.56</b>	<b>75.5</b>	<b>78.3</b>	<b>79.3</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	9,085.04	0.9	8,176.54	5,731.44	70.1	69.9	74.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	64,351.53	0.015	965.27	498.91	51.7	79.1	57.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	9,085.04	1.5	13,627.56	5,080.17	37.3	58.6	36.5
<b>SUB-TOTAL: OTHER SPACE</b>			<b>22,769.37</b>	<b>11,310.52</b>	<b>49.7</b>	<b>63.9</b>	<b>51.2</b>
<b>TOTAL FORMULA AREAS</b>			<b>79,819.43</b>	<b>54,377.08</b>	<b>68.1</b>	<b>74.9</b>	<b>71.2</b>

**Table 32: OTTAWA: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	41,873.60	1.11	46,479.69	29,734.45	64.0	84.0	73.7
CLASS LABS							
Lab Contact Hours W	2,444.50	0.8	1,955.60	2,133.99			
Lab Contact Hours X	31,021.50	0.6	18,612.90	13,745.55			
Lab Contact Hours Y	25,540.50	0.5	12,770.25	4,378.73			
Lab Contact Hours Z	8,016.18	0.3	2,404.85	3,623.29			
Unclassified	0.00			0.00			
Total Class Lab	67,022.68		35,743.60	23,881.56	66.8	72.2	72.2
RESEARCH LABS							
Research Disciplines A	724.10	45.0	32,584.50	21,272.13			
Research Disciplines B	941.50	30.0	28,245.00	11,277.05			
Research Disciplines C	603.15	20.0	12,063.00	3,212.01			
Research Disciplines D	283.30	10.0	2,833.00	3,005.60			
Research Disciplines E	1,026.15	5.0	5,130.75	4,762.96			
Research Disciplines F	1,580.60	2.0	3,161.20	2,433.59			
Unclassified	0.00			1,362.49			
Total Research	5,158.80		84,017.45	47,325.83	56.3	68.2	53.9
OFFICE - ACADEMIC							
Total FTE Faculty	2,259.04	12.0	27,108.48	23,607.03	87.1	117.8	68.7
Research Appointments	718.59	12.0	8,623.08	3,817.30	44.3		49.9
Total FTE Grads	7,529.50	3.0	22,588.50	11,518.80	51.0	62.8	61.4
Total FTE Non-Acd Staff	1,092.51	12.0	13,110.12	14,199.60	108.3	91.3	130.5
Office Service	71,430.18	0.25	17,857.55	12,808.64	71.7	100.7	77.6
Total Academic Office			89,287.73	65,951.37	73.9	89.8	74.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,665.60	12.0	19,987.20	20,182.54	101.0	83.7	94.1
Office Service	19,987.20	0.5	9,993.60	7,664.48	76.7	94.9	106.7
Total Admin. Office			29,980.80	27,847.02	92.9	87.4	98.3
Total Office - Academic & Administrative			119,268.53	93,798.39	78.6	89.2	78.6
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	41,873.60	0.5	20,936.80	10,494.84	50.1	51.9	57.0
Traditional Static Shelving Space	2,170,260.98	0.005	10,851.30				
Mobile Compact Shelving	44,352.00	0.004	177.41				
Super High Density	1,331,583.60	0.0035	4,660.54				
Total Stack	3,546,196.58		15,689.26	11,179.06	71.3	82.5	79.6
Library Support	36,626.05	0.25	9,156.51	4,905.46	53.6	70.6	60.9
Total Library Facilities & Campus Study Space			45,782.57	26,579.36	58.1	65.9	65.5
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	41,873.60	0.4	16,749.44	12,704.90	75.9	81.5	89.9
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>348,041.28</b>	<b>234,024.49</b>	<b>67.2</b>	<b>78.3</b>	<b>70.0</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	41,873.60	0.9	37,686.24	23,310.36	61.9	69.9	69.9
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	396,770.52	0.015	5,951.56	5,342.49	89.8	79.1	108.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	41,873.60	1.5	62,810.40	26,267.81	41.8	58.6	48.0
<b>SUB-TOTAL: OTHER SPACE</b>			<b>106,448.19</b>	<b>54,920.66</b>	<b>51.6</b>	<b>63.9</b>	<b>59.3</b>
<b>TOTAL FORMULA AREAS</b>			<b>454,489.47</b>	<b>288,945.15</b>	<b>63.6</b>	<b>74.9</b>	<b>67.5</b>

**Table 33: QUEEN'S: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	29,195.00	1.11	32,406.45	24,227.41	74.8	84.0	75.8
CLASS LABS							
Lab Contact Hours W	1,419.25	0.8	1,135.40	3,111.95			
Lab Contact Hours X	26,495.54	0.6	15,897.32	14,573.78			
Lab Contact Hours Y	18,288.46	0.5	9,144.23	6,165.71			
Lab Contact Hours Z	4,511.25	0.3	1,353.38	763.30			
Unclassified	0.00			165.79			
Total Class Lab	50,714.49		27,530.32	24,780.53	90.0	72.2	88.1
RESEARCH LABS							
Research Disciplines A	573.03	45.0	25,786.46	15,768.77			
Research Disciplines B	633.36	30.0	19,000.92	13,722.24			
Research Disciplines C	273.45	20.0	5,469.00	9,070.37			
Research Disciplines D	412.74	10.0	4,127.43	3,591.48			
Research Disciplines E	1,074.66	5.0	5,373.30	19.89			
Research Disciplines F	1,179.17	2.0	2,358.34	0.00			
Unclassified	0.00			0.00			
Total Research	4,146.42		62,115.45	42,172.75	67.9	68.2	66.4
OFFICE - ACADEMIC							
Total FTE Faculty	1,178.69	12.0	14,144.27	19,618.36	138.7	117.8	145.3
Research Appointments	768.53	12.0	9,222.30	3,730.98	40.5		63.2
Total FTE Grads	5,803.00	3.0	17,409.00	10,660.06	61.2	62.8	71.1
Total FTE Non-Acd Staff	1,105.13	12.0	13,261.56	17,604.16	132.7	91.3	131.7
Office Service	54,037.13	0.25	13,509.28	14,486.80	107.2	100.7	121.1
Total Academic Office			67,546.41	66,100.36	97.9	89.8	109.0
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,132.00	12.0	13,583.98	11,849.34	87.2	83.7	95.4
Office Service	13,583.98	0.5	6,791.99	5,262.65	77.5	94.9	117.6
Total Admin. Office			20,375.96	17,111.99	84.0	87.4	102.8
Total Office - Academic & Administrative			87,922.37	83,212.35	94.6	89.2	107.6
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	29,195.00	0.5	14,597.50	8,649.45	59.3	51.9	64.8
Traditional Static Shelving Space	1,659,851.97	0.005	8,299.26				
Mobile Compact Shelving	139,620.78	0.004	558.48				
Super High Density	43,923.82	0.0035	153.73				
Total Stack	1,843,396.57		9,011.48	10,660.92	118.3	82.5	63.9
Library Support	23,608.98	0.25	5,902.24	4,791.07	81.2	70.6	59.8
Total Library Facilities & Campus Study Space			29,511.22	24,101.44	81.7	65.9	63.4
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	29,195.00	0.4	11,678.00	7,204.27	61.7	81.5	86.4
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>251,163.81</b>	<b>205,698.75</b>	<b>81.9</b>	<b>78.3</b>	<b>83.3</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	29,195.00	0.9	26,275.50	22,599.22	86.0	69.9	89.5
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	381,476.77	0.015	5,722.15	2,941.47	51.4	79.1	45.1
STUDENT AND CENTRAL SERVICES							
Total FTE Students	29,195.00	1.5	43,792.50	31,233.13	71.3	58.6	74.8
<b>SUB-TOTAL: OTHER SPACE</b>			<b>75,790.15</b>	<b>56,773.82</b>	<b>74.9</b>	<b>63.9</b>	<b>77.5</b>
<b>TOTAL FORMULA AREAS</b>			<b>326,953.97</b>	<b>262,472.57</b>	<b>80.3</b>	<b>74.9</b>	<b>82.0</b>

**Table 34: TORONTO METROPOLITAN UNIVERSITY: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	37,153.32	1.11	41,240.18	23,509.81	57.0	84.0	54.0
CLASS LABS							
Lab Contact Hours W	12,980.00	0.8	10,384.00	4,402.19			
Lab Contact Hours X	48,929.50	0.6	29,357.70	17,004.56			
Lab Contact Hours Y	11,928.00	0.5	5,964.00	5,392.89			
Lab Contact Hours Z	33,624.00	0.3	10,087.20	4,661.10			
Unclassified	0.00			0.00			
Total Class Lab	107,461.50		55,792.90	31,460.74	56.4	72.2	57.0
RESEARCH LABS							
Research Disciplines A	181.94	45.0	8,187.38	4,236.73			
Research Disciplines B	396.02	30.0	11,880.67	7,969.76			
Research Disciplines C	261.50	20.0	5,230.08	3,216.66			
Research Disciplines D	208.37	10.0	2,083.71	842.07			
Research Disciplines E	849.44	5.0	4,247.21	2,315.39			
Research Disciplines F	497.59	2.0	995.17	1,812.41			
Unclassified	0.00			0.00			
Total Research	2,394.87		32,624.23	20,393.03	62.5	68.2	59.2
OFFICE - ACADEMIC							
Total FTE Faculty	1,428.89	12.0	17,146.66	17,457.59	101.8	117.8	106.5
Research Appointments	548.34	12.0	6,580.05	1,324.68	20.1		50.8
Total FTE Grads	2,716.60	3.0	8,149.80	1,558.14	19.1	62.8	13.4
Total FTE Non-Acd Staff	751.60	12.0	9,019.16	5,112.34	56.7	91.3	53.0
Office Service	40,895.67	0.25	10,223.92	10,794.69	105.6	100.7	118.6
Total Academic Office			51,119.59	36,247.44	70.9	89.8	77.6
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,477.24	12.0	17,726.92	11,393.39	64.3	83.7	75.5
Office Service	17,726.92	0.5	8,863.46	6,620.27	74.7	94.9	83.9
Total Admin. Office			26,590.38	18,013.66	67.7	87.4	78.3
Total Office - Academic & Administrative			77,709.96	54,261.10	69.8	89.2	77.8
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	37,153.32	0.5	18,576.66	3,592.63	19.3	51.9	20.1
Traditional Static Shelving Space	547,878.73	0.005	2,739.39				
Mobile Compact Shelving	20,185.00	0.004	80.74				
Super High Density	0.00	0.0035	0.00				
Total Stack	568,063.73		2,820.13	3,947.71	140.0	82.5	99.7
Library Support	21,396.79	0.25	5,349.20	2,356.19	44.0	70.6	44.3
Total Library Facilities & Campus Study Space			26,745.99	9,896.53	37.0	65.9	35.4
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	37,153.32	0.4	14,861.33	12,792.15	86.1	81.5	90.3
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>248,974.60</b>	<b>152,313.35</b>	<b>61.2</b>	<b>78.3</b>	<b>62.3</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	37,153.32	0.9	33,437.99	14,285.80	42.7	69.9	43.3
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	220,238.23	0.015	3,303.57	3,362.26	101.8	79.1	104.7
STUDENT AND CENTRAL SERVICES							
Total FTE Students	37,153.32	1.5	55,729.98	22,244.45	39.9	58.6	39.2
<b>SUB-TOTAL: OTHER SPACE</b>			<b>92,471.54</b>	<b>39,892.52</b>	<b>43.1</b>	<b>63.9</b>	<b>43.1</b>
<b>TOTAL FORMULA AREAS</b>			<b>341,446.14</b>	<b>192,205.87</b>	<b>56.3</b>	<b>74.9</b>	<b>56.9</b>

**Table 35: TORONTO-ST. GEORGE: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	59,676.89	1.11	66,241.35	61,161.16	92.3	84.0	98.8
CLASS LABS							
Lab Contact Hours W	3,508.37	0.8	2,806.69	2,991.34			
Lab Contact Hours X	40,802.03	0.6	24,481.22	28,386.98			
Lab Contact Hours Y	12,361.26	0.5	6,180.63	8,062.95			
Lab Contact Hours Z	2,460.00	0.3	738.00	2,931.23			
Unclassified	0.00			0.00			
Total Class Lab	59,131.66		34,206.54	42,372.50	123.9	72.2	127.3
RESEARCH LABS							
Research Disciplines A	1,012.08	45.0	45,543.38	48,075.65			
Research Disciplines B	1,721.38	30.0	51,641.25	27,779.80			
Research Disciplines C	1,224.65	20.0	24,493.00	15,976.53			
Research Disciplines D	638.29	10.0	6,382.90	3,605.04			
Research Disciplines E	4,203.80	5.0	21,019.00	5,481.32			
Research Disciplines F	2,499.45	2.0	4,998.90	1,330.79			
Unclassified	0.00			0.00			
Total Research	11,299.64		154,078.43	102,249.13	66.4	68.2	61.5
OFFICE - ACADEMIC							
Total FTE Faculty	2,586.63	12.0	31,039.56	50,324.91	162.1	117.8	163.9
Research Appointments	1,623.15	12.0	19,477.80	9,465.58	48.6		44.9
Total FTE Grads	19,262.60	3.0	57,787.80	29,199.65	50.5	62.8	50.2
Total FTE Non-Acd Staff	3,507.63	12.0	42,091.56	34,872.35	82.8	91.3	93.9
Office Service	150,396.72	0.25	37,599.18	39,592.11	105.3	100.7	108.2
Total Academic Office			187,995.90	163,454.60	86.9	89.8	89.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,967.39	12.0	23,608.68	19,890.60	84.3	83.7	101.1
Office Service	23,608.68	0.5	11,804.34	8,214.85	69.6	94.9	81.2
Total Admin. Office			35,413.02	28,105.45	79.4	87.4	94.4
Total Office - Academic & Administrative			223,408.92	191,560.05	85.7	89.2	90.2
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	59,676.89	0.5	29,838.45	28,776.71	96.4	51.9	90.6
Traditional Static Shelving Space	6,712,545.23	0.005	33,562.73				
Mobile Compact Shelving	1,680,210.27	0.004	6,720.84				
Super High Density	4,682,608.73	0.0035	16,389.13				
Total Stack	13,075,364.23		56,672.70	35,728.80	63.0	82.5	63.2
Library Support	86,511.14	0.25	21,627.79	18,889.10	87.3	70.6	86.2
Total Library Facilities & Campus Study Space			108,138.93	83,394.61	77.1	65.9	74.8
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	59,676.89	0.4	23,870.76	20,475.81	85.8	81.5	90.4
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>609,944.92</b>	<b>501,213.26</b>	<b>82.2</b>	<b>78.3</b>	<b>82.2</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	59,676.89	0.9	53,709.20	29,822.04	55.5	69.9	59.5
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	766,510.92	0.015	11,497.66	10,035.07	87.3	79.1	88.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	59,676.89	1.5	89,515.34	50,041.83	55.9	58.6	60.0
<b>SUB-TOTAL: OTHER SPACE</b>			<b>154,722.20</b>	<b>89,898.94</b>	<b>58.1</b>	<b>63.9</b>	<b>62.0</b>
<b>TOTAL FORMULA AREAS</b>			<b>764,667.12</b>	<b>591,112.20</b>	<b>77.3</b>	<b>74.9</b>	<b>78.3</b>

**Table 36: TORONTO-MISSISSAUGA: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	13,386.60	1.11	14,859.13	13,588.36	91.4	84.0	90.5
CLASS LABS							
Lab Contact Hours W	19.00	0.8	15.20	0.00			
Lab Contact Hours X	11,045.53	0.6	6,627.32	6,511.22			
Lab Contact Hours Y	3,009.17	0.5	1,504.58	988.27			
Lab Contact Hours Z	7,036.00	0.3	2,110.80	1,531.11			
Unclassified	0.00			0.00			
Total Class Lab	21,109.70		10,257.90	9,030.60	88.0	72.2	96.8
RESEARCH LABS							
Research Disciplines A	158.25	45.0	7,121.25	5,623.29			
Research Disciplines B	89.50	30.0	2,685.00	2,324.71			
Research Disciplines C	48.00	20.0	960.00	623.78			
Research Disciplines D	45.50	10.0	455.00	622.97			
Research Disciplines E	79.70	5.0	398.50	229.34			
Research Disciplines F	396.41	2.0	792.82	466.99			
Unclassified	0.00			0.00			
Total Research	817.36		12,412.57	9,891.08	79.7	68.2	82.8
OFFICE - ACADEMIC							
Total FTE Faculty	506.06	12.0	6,072.72	6,545.33	107.8	117.8	111.6
Research Appointments	129.30	12.0	1,551.60	529.10	34.1		58.2
Total FTE Grads	867.30	3.0	2,601.90	1,232.40	47.4	62.8	55.3
Total FTE Non-Acd Staff	186.07	12.0	2,232.84	1,835.73	82.2	91.3	102.2
Office Service	12,459.06	0.25	3,114.77	1,491.86	47.9	100.7	68.7
Total Academic Office			15,573.83	11,634.42	74.7	89.8	87.0
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	395.30	12.0	4,743.60	4,486.23	94.6	83.7	108.8
Office Service	4,743.60	0.5	2,371.80	2,114.36	89.1	94.9	101.8
Total Admin. Office			7,115.40	6,600.59	92.8	87.4	106.5
Total Office - Academic & Administrative			22,689.23	18,235.01	80.4	89.2	93.2
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	13,386.60	0.5	6,693.30	2,676.54	40.0	51.9	39.4
Traditional Static Shelving Space	10,219.34	0.005	51.10				
Mobile Compact Shelving	307,265.93	0.004	1,229.06				
Super High Density	65,545.00	0.0035	229.41				
Total Stack	383,030.27		1,509.57	1,508.87	100.0	82.5	73.6
Library Support	8,202.87	0.25	2,050.72	1,074.62	52.4	70.6	47.4
Total Library Facilities & Campus Study Space			10,253.58	5,260.03	51.3	65.9	47.3
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	13,386.60	0.4	5,354.64	2,981.73	55.7	81.5	56.2
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>75,827.05</b>	<b>58,986.81</b>	<b>77.8</b>	<b>78.3</b>	<b>81.6</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	13,386.60	0.9	12,047.94	6,902.56	57.3	69.9	55.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	111,904.99	0.015	1,678.57	1,749.19	104.2	79.1	105.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	13,386.60	1.5	20,079.90	9,732.32	48.5	58.6	45.9
<b>SUB-TOTAL: OTHER SPACE</b>			<b>33,806.41</b>	<b>18,384.07</b>	<b>54.4</b>	<b>63.9</b>	<b>52.3</b>
<b>TOTAL FORMULA AREAS</b>			<b>109,633.46</b>	<b>77,370.88</b>	<b>70.6</b>	<b>74.9</b>	<b>72.1</b>

**Table 37: TORONTO-SCARBOROUGH: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	11,417.60	1.11	12,673.54	7,459.56	58.9	84.0	59.0
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	9,422.00	0.6	5,653.20	4,988.06			
Lab Contact Hours Y	1,452.00	0.5	726.00	600.25			
Lab Contact Hours Z	577.00	0.3	173.10	634.54			
Unclassified	0.00			0.00			
Total Class Lab	11,451.00		6,552.30	6,222.85	95.0	72.2	115.3
RESEARCH LABS							
Research Disciplines A	205.65	45.0	9,254.25	7,657.64			
Research Disciplines B	72.00	30.0	2,160.00	1,485.47			
Research Disciplines C	45.00	20.0	900.00	529.47			
Research Disciplines D	20.50	10.0	205.00	0.00			
Research Disciplines E	134.21	5.0	671.05	179.85			
Research Disciplines F	69.89	2.0	139.78	109.85			
Unclassified	0.00			0.00			
Total Research	547.25		13,330.08	9,962.28	74.7	68.2	77.2
OFFICE - ACADEMIC							
Total FTE Faculty	456.01	12.0	5,472.12	5,903.67	107.9	117.8	117.6
Research Appointments	145.78	12.0	1,749.36	471.27	26.9		35.0
Total FTE Grads	366.40	3.0	1,099.20	1,946.07	177.0	62.8	176.3
Total FTE Non-Acd Staff	127.19	12.0	1,526.28	1,387.63	90.9	91.3	99.6
Office Service	9,846.96	0.25	2,461.74	2,463.22	100.1	100.7	124.4
Total Academic Office			12,308.70	12,171.86	98.9	89.8	112.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	501.63	12.0	6,019.56	4,581.87	76.1	83.7	102.0
Office Service	6,019.56	0.5	3,009.78	2,688.60	89.3	94.9	111.0
Total Admin. Office			9,029.34	7,270.47	80.5	87.4	105.0
Total Office - Academic & Administrative			21,338.04	19,442.33	91.1	89.2	109.7
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	11,417.60	0.5	5,708.80	1,385.44	24.3	51.9	28.6
Traditional Static Shelving Space	117,897.01	0.005	589.49				
Mobile Compact Shelving	64,674.82	0.004	258.70				
Super High Density	119,672.00	0.0035	418.85				
Total Stack	302,243.82		1,267.04	642.50	50.7	82.5	85.3
Library Support	6,975.84	0.25	1,743.96	936.61	53.7	70.6	50.1
Total Library Facilities & Campus Study Space			8,719.80	2,964.55	34.0	65.9	42.3
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	11,417.60	0.4	4,567.04	4,003.54	87.7	81.5	90.0
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>67,180.79</b>	<b>50,055.11</b>	<b>74.5</b>	<b>78.3</b>	<b>81.8</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	11,417.60	0.9	10,275.84	9,533.99	92.8	69.9	91.9
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	102,930.98	0.015	1,543.96	3,547.03	229.7	79.1	228.8
STUDENT AND CENTRAL SERVICES							
Total FTE Students	11,417.60	1.5	17,126.40	10,467.02	61.1	58.6	61.3
<b>SUB-TOTAL: OTHER SPACE</b>			<b>28,946.20</b>	<b>23,548.04</b>	<b>81.4</b>	<b>63.9</b>	<b>81.1</b>
<b>TOTAL FORMULA AREAS</b>			<b>96,127.00</b>	<b>73,603.15</b>	<b>76.6</b>	<b>74.9</b>	<b>81.6</b>



**Table 38: TRENT: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	10,990.00	1.11	12,198.90	8,589.43	70.4	84.0	80.6
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	538.80	0.6	323.28	139.88			
Lab Contact Hours Y	16,467.03	0.5	8,233.52	3,269.23			
Lab Contact Hours Z	3,967.90	0.3	1,190.37	1,483.27			
Unclassified	0.00			0.00			
Total Class Lab	20,973.73		9,747.17	4,892.38	50.2	72.2	50.3
RESEARCH LABS							
Research Disciplines A	40.85	45.0	1,838.25	6,091.88			
Research Disciplines B	47.35	30.0	1,420.50	687.69			
Research Disciplines C	0.00	20.0	0.00	325.93			
Research Disciplines D	237.42	10.0	2,374.20	2,765.36			
Research Disciplines E	93.20	5.0	466.00	0.00			
Research Disciplines F	186.28	2.0	372.55	20.28			
Unclassified	0.00			0.00			
Total Research	605.10		6,471.50	9,891.14	152.8	68.2	157.2
OFFICE - ACADEMIC							
Total FTE Faculty	248.50	12.0	2,982.00	4,889.99	164.0	117.8	77.7
Research Appointments	23.79	12.0	285.48	747.66	261.9		112.9
Total FTE Grads	728.00	3.0	2,184.00	1,730.70	79.2	62.8	89.2
Total FTE Non-Acd Staff	212.40	12.0	2,548.80	1,307.07	51.3	91.3	85.7
Office Service	8,000.28	0.25	2,000.07	1,474.25	73.7	100.7	60.5
Total Academic Office			10,000.35	10,149.67	101.5	89.8	77.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	398.40	12.0	4,780.80	4,485.82	93.8	83.7	105.2
Office Service	4,780.80	0.5	2,390.40	1,910.93	79.9	94.9	84.1
Total Admin. Office			7,171.20	6,396.75	89.2	87.4	98.2
Total Office - Academic & Administrative			17,171.55	16,546.42	96.4	89.2	84.4
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	10,990.00	0.5	5,495.00	2,383.16	43.4	51.9	44.3
Traditional Static Shelving Space	547,720.47	0.005	2,738.60				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	2,705.00	0.0035	9.47				
Total Stack	550,425.47		2,748.07	1,601.59	58.3	82.5	59.4
Library Support	8,243.07	0.25	2,060.77	1,141.44	55.4	70.6	66.7
Total Library Facilities & Campus Study Space			10,303.84	5,126.19	49.8	65.9	53.1
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	10,990.00	0.4	4,396.00	2,462.48	56.0	81.5	58.7
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>60,288.95</b>	<b>47,508.04</b>	<b>78.8</b>	<b>78.3</b>	<b>77.5</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	10,990.00	0.9	9,891.00	3,910.49	39.5	69.9	45.6
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	102,927.42	0.015	1,543.91	1,101.36	71.3	79.1	27.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	10,990.00	1.5	16,485.00	6,479.39	39.3	58.6	44.4
<b>SUB-TOTAL: OTHER SPACE</b>			<b>27,919.91</b>	<b>11,491.24</b>	<b>41.2</b>	<b>63.9</b>	<b>43.8</b>
<b>TOTAL FORMULA AREAS</b>			<b>88,208.86</b>	<b>58,999.28</b>	<b>66.9</b>	<b>74.9</b>	<b>67.3</b>

**Table 39: WATERLOO: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	34,307.78	1.11	38,081.64	35,690.20	93.7	84.0	93.8
CLASS LABS							
Lab Contact Hours W	2,557.50	0.8	2,046.00	3,253.60			
Lab Contact Hours X	25,530.70	0.6	15,318.42	17,264.50			
Lab Contact Hours Y	15,384.00	0.5	7,692.00	8,079.70			
Lab Contact Hours Z	2,911.00	0.3	873.30	2,580.20			
Unclassified	0.00			23.80			
Total Class Lab	46,383.20		25,929.72	31,201.80	120.3	72.2	127.7
RESEARCH LABS							
Research Disciplines A	447.85	45.0	20,153.25	22,362.50			
Research Disciplines B	651.55	30.0	19,546.50	18,727.20			
Research Disciplines C	452.85	20.0	9,057.00	6,919.90			
Research Disciplines D	996.30	10.0	9,963.00	8,614.10			
Research Disciplines E	970.95	5.0	4,854.75	855.10			
Research Disciplines F	428.10	2.0	856.20	355.60			
Unclassified	8.50			1,468.00			
Total Research	3,956.10		64,430.70	59,302.40	92.0	68.2	88.8
OFFICE - ACADEMIC							
Total FTE Faculty	1,642.30	12.0	19,707.60	24,997.00	126.8	117.8	127.0
Research Appointments	599.10	12.0	7,189.20	4,127.80	57.4		51.0
Total FTE Grads	5,115.80	3.0	15,347.40	23,584.00	153.7	62.8	150.4
Total FTE Non-Acd Staff	1,047.99	12.0	12,575.87	14,232.40	113.2	91.3	100.4
Office Service	54,820.07	0.25	13,705.02	17,988.70	131.3	100.7	127.1
Total Academic Office			68,525.09	84,929.90	123.9	89.8	118.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,661.40	12.0	19,936.80	21,126.40	106.0	83.7	127.0
Office Service	19,936.80	0.5	9,968.40	12,644.90	126.8	94.9	152.5
Total Admin. Office			29,905.20	33,771.30	112.9	87.4	135.5
Total Office - Academic & Administrative			98,430.29	118,701.20	120.6	89.2	122.9
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	34,307.78	0.5	17,153.89	4,712.30	27.5	51.9	28.9
Traditional Static Shelving Space	1,389,174.82	0.005	6,945.87				
Mobile Compact Shelving	348,499.00	0.004	1,394.00				
Super High Density	619,304.02	0.0035	2,167.56				
Total Stack	2,356,977.83		10,507.43	7,764.30	73.9	82.5	76.8
Library Support	27,661.32	0.25	6,915.33	4,058.07	58.7	70.6	56.1
Total Library Facilities & Campus Study Space			34,576.66	16,534.67	47.8	65.9	48.6
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	34,307.78	0.4	13,723.11	21,350.70	155.6	81.5	147.9
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>275,172.11</b>	<b>282,780.97</b>	<b>102.8</b>	<b>78.3</b>	<b>103.3</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	34,307.78	0.9	30,877.00	19,913.00	64.5	69.9	59.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	499,224.69	0.015	7,488.37	7,310.10	97.6	79.1	100.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	34,307.78	1.5	51,461.67	33,608.22	65.3	58.6	64.1
<b>SUB-TOTAL: OTHER SPACE</b>			<b>89,827.04</b>	<b>60,831.32</b>	<b>67.7</b>	<b>63.9</b>	<b>65.7</b>
<b>TOTAL FORMULA AREAS</b>			<b>364,999.15</b>	<b>343,612.29</b>	<b>94.1</b>	<b>74.9</b>	<b>94.1</b>

**Table 40: WESTERN: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
<b>CLASSROOMS</b>							
Total FTE Students	40,292.20	1.11	44,724.34	47,174.82	105.5	84.0	117.2
<b>CLASS LABS</b>							
Lab Contact Hours W	14,784.55	0.8	11,827.64	4,373.55			
Lab Contact Hours X	60,522.55	0.6	36,313.53	23,081.52			
Lab Contact Hours Y	14,992.60	0.5	7,496.30	1,344.37			
Lab Contact Hours Z	22,918.50	0.3	6,875.55	2,055.48			
Unclassified	0.00			0.00			
Total Class Lab	113,218.20		62,513.02	30,854.92	49.4	72.2	56.7
<b>RESEARCH LABS</b>							
Research Disciplines A	1,296.93	45.0	58,361.85	34,922.04			
Research Disciplines B	1,405.48	30.0	42,164.25	23,309.42			
Research Disciplines C	224.32	20.0	4,486.40	1,066.49			
Research Disciplines D	169.38	10.0	1,693.80	1,721.94			
Research Disciplines E	1,251.16	5.0	6,255.78	1,109.35			
Research Disciplines F	875.36	2.0	1,750.71	138.75			
Unclassified	0.00			0.00			
Total Research	5,222.62		114,712.79	62,267.99	54.3	68.2	59.6
<b>OFFICE - ACADEMIC</b>							
Total FTE Faculty	1,947.35	12.0	23,368.20	28,912.03	123.7	117.8	135.5
Research Appointments	1,199.93	12.0	14,399.16	4,433.57	30.8		25.5
Total FTE Grads	6,897.20	3.0	20,691.60	17,524.43	84.7	62.8	87.7
Total FTE Non-Acd Staff	1,743.90	12.0	20,926.80	19,565.24	93.5	91.3	129.4
Office Service	79,385.76	0.25	19,846.44	19,391.69	97.7	100.7	116.6
Total Academic Office			99,232.20	89,826.96	90.5	89.8	105.3
<b>OFFICE - ADMINISTRATIVE</b>							
Total FTE Non-Acd Staff	1,658.90	12.0	19,906.80	12,767.17	64.1	83.7	75.5
Office Service	19,906.80	0.5	9,953.40	9,012.34	90.5	94.9	129.2
Total Admin. Office			29,860.20	21,779.51	72.9	87.4	93.4
Total Office - Academic & Administrative			129,092.40	111,606.47	86.5	89.2	102.6
<b>Total Library Facilities &amp; Campus Study Space</b>							
Study (Total FTE Students)	40,292.20	0.5	20,146.10	11,280.40	56.0	51.9	49.8
Traditional Static Shelving Space	1,457,943.46	0.005	7,289.72				
Mobile Compact Shelving	130,487.42	0.004	521.95				
Super High Density	2,632,501.87	0.0035	9,213.76				
Total Stack	4,220,932.75		17,025.42	11,714.97	68.8	82.5	85.7
Library Support	37,171.52	0.25	9,292.88	9,001.93	96.9	70.6	97.9
Total Library Facilities & Campus Study Space			46,464.40	31,997.30	68.9	65.9	72.8
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	40,292.20	0.4	16,116.88	17,123.34	106.2	81.5	92.9
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>413,623.83</b>	<b>301,024.84</b>	<b>72.8</b>	<b>78.3</b>	<b>81.8</b>
<b>OTHER SPACE</b>							
<b>RECREATION / ATHLETICS</b>							
Total FTE Students	40,292.20	0.9	36,262.98	20,010.14	55.2	69.9	55.5
<b>MAINTENANCE SHOPS</b>							
Total NASM Inv. (exc. 16.0)	589,719.43	0.015	8,845.79	3,666.36	41.4	79.1	33.9
<b>STUDENT AND CENTRAL SERVICES</b>							
Total FTE Students	40,292.20	1.5	60,438.30	51,624.77	85.4	58.6	83.8
<b>SUB-TOTAL: OTHER SPACE</b>			<b>105,547.07</b>	<b>75,301.27</b>	<b>71.3</b>	<b>63.9</b>	<b>69.7</b>
<b>TOTAL FORMULA AREAS</b>			<b>519,170.90</b>	<b>376,326.11</b>	<b>72.5</b>	<b>74.9</b>	<b>79.3</b>

**Table 41: WILFRID LAURIER: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	16,213.64	1.11	17,997.14	10,906.86	60.6	84.0	66.8
CLASS LABS*							
Lab Contact Hours W	1,897.49	0.8	1,517.99	0.00			
Lab Contact Hours X	4,572.96	0.6	2,743.78	1,918.21			
Lab Contact Hours Y	1,879.83	0.5	939.92	548.05			
Lab Contact Hours Z	10,693.62	0.3	3,208.09	1,494.67			
Unclassified	0.00			680.35			
Total Class Lab	19,043.90		8,409.77	4,641.28	55.2	72.2	59.0
RESEARCH LABS							
Research Disciplines A	85.95	45.0	3,867.75	2,258.70			
Research Disciplines B	88.90	30.0	2,667.00	1,157.94			
Research Disciplines C	4.40	20.0	88.00	0.00			
Research Disciplines D	118.90	10.0	1,189.00	2,388.56			
Research Disciplines E	359.00	5.0	1,795.00	0.00			
Research Disciplines F	441.20	2.0	882.40	258.07			
Unclassified	0.00			0.00			
Total Research	1,098.35		10,489.15	6,063.27	57.8	68.2	69.0
OFFICE - ACADEMIC							
Total FTE Faculty	509.00	12.0	6,108.00	7,994.13	130.9	117.8	147.2
Research Appointments	60.32	12.0	723.84	1,017.92	140.6		458.4
Total FTE Grads	1,293.70	3.0	3,881.10	2,368.03	61.0	62.8	62.8
Total FTE Non-Acd Staff	230.15	12.0	2,761.80	1,956.54	70.8	91.3	76.6
Office Service	13,474.74	0.25	3,368.69	4,289.79	127.3	100.7	129.9
Total Academic Office			16,843.43	17,626.41	104.6	89.8	113.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	870.59	12.0	10,447.08	8,673.19	83.0	83.7	105.3
Office Service	10,447.08	0.5	5,223.54	5,542.67	106.1	94.9	140.7
Total Admin. Office			15,670.62	14,215.86	90.7	87.4	117.1
Total Office - Academic & Administrative			32,514.05	31,842.27	97.9	89.2	115.3
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	16,213.64	0.5	8,106.82	2,055.83	25.4	51.9	25.5
Traditional Static Shelving Space	655,717.42	0.005	3,278.59				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	205,262.11	0.0035	718.42				
Total Stack	860,979.53		3,997.00	4,867.01	121.8	82.5	118.8
Library Support	12,103.82	0.25	3,025.96	1,088.83	36.0	70.6	41.0
Total Library Facilities & Campus Study Space			15,129.78	8,011.66	53.0	65.9	55.0
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	16,213.64	0.4	6,485.46	5,005.84	77.2	81.5	86.7
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>91,025.34</b>	<b>66,471.18</b>	<b>73.0</b>	<b>78.3</b>	<b>82.2</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	16,213.64	0.9	14,592.27	7,494.25	51.4	69.9	53.1
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	191,197.38	0.015	2,867.96	2,583.30	90.1	79.1	76.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	16,213.64	1.5	24,320.46	14,574.85	59.9	58.6	61.2
<b>SUB-TOTAL: OTHER SPACE</b>			<b>41,780.69</b>	<b>24,652.40</b>	<b>59.0</b>	<b>63.9</b>	<b>59.5</b>
<b>TOTAL FORMULA AREAS</b>			<b>132,806.03</b>	<b>91,123.59</b>	<b>68.6</b>	<b>74.9</b>	<b>75.0</b>

**Table 42: WILFRID LAURIER (BRANTFORD): Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	2,214.70	1.11	2,458.32	3,408.28	138.6	84.0	128.0
CLASS LABS							
Lab Contact Hours W	8.98	0.8	7.18	0.00			
Lab Contact Hours X	58.07	0.6	34.84	61.43			
Lab Contact Hours Y	52.87	0.5	26.44	11.92			
Lab Contact Hours Z	87.31	0.3	26.19	302.36			
Unclassified	0.00			0.00			
Total Class Lab	207.23		94.65	375.71	396.9	72.2	613.8
RESEARCH LABS							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	4.00	30.0	120.00	36.10			
Research Disciplines C	3.00	20.0	60.00	0.00			
Research Disciplines D	12.30	10.0	123.00	259.32			
Research Disciplines E	94.85	5.0	474.25	112.59			
Research Disciplines F	29.10	2.0	58.20	103.03			
Unclassified	0.00			0.00			
Total Research	143.25		835.45	511.04	61.2	68.2	22.5
OFFICE - ACADEMIC							
Total FTE Faculty	88.00	12.0	1,056.00	1,224.23	115.9	117.8	138.3
Research Appointments	3.08	12.0	36.96	54.61	147.8		126.8
Total FTE Grads	120.50	3.0	361.50	183.86	50.9	62.8	64.2
Total FTE Non-Acd Staff	34.04	12.0	408.48	372.49	91.2	91.3	101.5
Office Service	1,862.94	0.25	465.74	668.51	143.5	100.7	153.1
Total Academic Office			2,328.68	2,503.70	107.5	89.8	124.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	114.59	12.0	1,375.08	1,464.28	106.5	83.7	85.7
Office Service	1,375.08	0.5	687.54	1,827.80	265.8	94.9	165.1
Total Admin. Office			2,062.62	3,292.08	159.6	87.4	112.2
Total Office - Academic & Administrative			4,391.30	5,795.78	132.0	89.2	118.6
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	2,214.70	0.5	1,107.35	233.72	21.1	51.9	19.2
Traditional Static Shelving Space	17,674.56	0.005	88.37				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	17,674.56		88.37	130.00	147.1	82.5	151.5
Library Support	1,195.72	0.25	298.93	45.83	15.3	70.6	14.1
Total Library Facilities & Campus Study Space			1,494.65	409.55	27.4	65.9	25.2
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	2,214.70	0.4	885.88	2,712.72	306.2	81.5	103.3
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>10,160.25</b>	<b>13,213.08</b>	<b>130.0</b>	<b>78.3</b>	<b>106.6</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	2,214.70	0.9	1,993.23	3,241.79	162.6	69.9	148.1
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	40,983.59	0.015	614.75	591.63	96.2	79.1	71.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	2,214.70	1.5	3,322.05	2,745.86	82.7	58.6	75.3
<b>SUB-TOTAL: OTHER SPACE</b>			<b>5,930.03</b>	<b>6,579.28</b>	<b>110.9</b>	<b>63.9</b>	<b>99.5</b>
<b>TOTAL FORMULA AREAS</b>			<b>16,090.28</b>	<b>19,792.36</b>	<b>123.0</b>	<b>74.9</b>	<b>103.8</b>

**Table 43: WINDSOR: Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	16,249.43	1.11	18,036.87	16,924.35	93.8	84.0	100.0
CLASS LABS							
Lab Contact Hours W	2,771.00	0.8	2,216.80	2,769.18			
Lab Contact Hours X	12,823.50	0.6	7,694.10	10,090.72			
Lab Contact Hours Y	5,864.00	0.5	2,932.00	2,592.24			
Lab Contact Hours Z	5,545.50	0.3	1,663.65	2,859.94			
Unclassified	0.00			0.00			
Total Class Lab	27,004.00		14,506.55	18,312.07	126.2	72.2	106.1
RESEARCH LABS							
Research Disciplines A	290.25	45.0	13,061.25	9,844.68			
Research Disciplines B	1,072.75	30.0	32,182.50	5,574.48			
Research Disciplines C	14.50	20.0	290.00	168.51			
Research Disciplines D	877.90	10.0	8,779.00	3,761.68			
Research Disciplines E	356.78	5.0	1,783.88	109.71			
Research Disciplines F	809.03	2.0	1,618.05	126.65			
Unclassified	0.00			0.00			
Total Research	3,421.20		57,714.68	19,585.71	33.9	68.2	41.0
OFFICE - ACADEMIC							
Total FTE Faculty	583.00	12.0	6,996.00	12,499.96	178.7	117.8	166.4
Research Appointments	271.00	12.0	3,252.00	732.26	22.5		28.1
Total FTE Grads	5,779.90	3.0	17,339.70	4,924.87	28.4	62.8	42.0
Total FTE Non-Acd Staff	362.00	12.0	4,344.00	3,891.57	89.6	91.3	82.8
Office Service	31,931.70	0.25	7,982.93	6,135.37	76.9	100.7	78.9
Total Academic Office			39,914.63	28,184.03	70.6	89.8	81.2
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	389.00	12.0	4,668.00	8,080.05	173.1	83.7	162.1
Office Service	4,668.00	0.5	2,334.00	4,459.11	191.1	94.9	180.3
Total Admin. Office			7,002.00	12,539.16	179.1	87.4	168.1
Total Office - Academic & Administrative			46,916.63	40,723.19	86.8	89.2	96.3
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	16,249.43	0.5	8,124.72	3,799.70	46.8	51.9	50.9
Traditional Static Shelving Space	1,174,426.34	0.005	5,872.13				
Mobile Compact Shelving	146,644.85	0.004	586.58				
Super High Density	0.00	0.0035	0.00				
Total Stack	1,321,071.20		6,458.71	9,354.90	144.8	82.5	137.2
Library Support	14,583.43	0.25	3,645.86	2,902.00	79.6	70.6	81.3
Total Library Facilities & Campus Study Space			18,229.28	16,056.60	88.1	65.9	90.0
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	16,249.43	0.4	6,499.77	6,780.92	104.3	81.5	82.5
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>161,903.77</b>	<b>118,382.84</b>	<b>73.1</b>	<b>78.3</b>	<b>80.2</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	16,249.43	0.9	14,624.49	15,689.31	107.3	69.9	79.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	170,810.93	0.015	2,562.16	1,283.58	50.1	79.1	56.2
STUDENT AND CENTRAL SERVICES							
Total FTE Students	16,249.43	1.5	24,374.15	12,450.62	51.1	58.6	57.9
<b>SUB-TOTAL: OTHER SPACE</b>			<b>41,560.80</b>	<b>29,423.51</b>	<b>70.8</b>	<b>63.9</b>	<b>65.5</b>
<b>TOTAL FORMULA AREAS</b>			<b>203,464.57</b>	<b>147,806.35</b>	<b>72.6</b>	<b>74.9</b>	<b>77.1</b>

**Table 44: YORK (KEELE): Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	40,102.06	1.11	44,513.29	40,347.00	90.6	84.0	78.3
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	28,965.00	0.6	17,379.00	17,525.70			
Lab Contact Hours Y	20,868.50	0.5	10,434.25	6,365.20			
Lab Contact Hours Z	8,213.50	0.3	2,464.05	6,749.20			
Unclassified	0.00			0.00			
Total Class Lab	58,047.00		30,277.30	30,640.10	101.2	72.2	101.6
RESEARCH LABS							
Research Disciplines A	244.20	45.0	10,989.00	9,910.50			
Research Disciplines B	180.00	30.0	5,400.00	1,926.30			
Research Disciplines C	226.15	20.0	4,523.00	1,123.40			
Research Disciplines D	480.10	10.0	4,801.00	5,215.80			
Research Disciplines E	2,531.35	5.0	12,656.75	5,865.90			
Research Disciplines F	0.00	2.0	0.00	0.00			
Unclassified	0.00			0.00			
Total Research	3,661.80		38,369.75	24,041.90	62.7	68.2	75.3
OFFICE - ACADEMIC							
Total FTE Faculty	2,494.00	12.0	29,928.00	25,617.22	85.6	117.8	77.6
Research Appointments	383.70	12.0	4,604.40	6,152.28	133.6		817.0
Total FTE Grads	4,880.30	3.0	14,640.90	8,455.39	57.8	62.8	59.6
Total FTE Non-Acd Staff	1,673.00	12.0	20,076.00	12,762.52	63.6	91.3	88.6
Office Service	69,249.30	0.25	17,312.33	18,919.80	109.3	100.7	114.7
Total Academic Office			86,561.63	71,907.21	83.1	89.8	90.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	3,133.00	12.0	37,596.00	13,702.53	36.4	83.7	61.9
Office Service	37,596.00	0.5	18,798.00	9,227.88	49.1	94.9	83.3
Total Admin. Office			56,394.00	22,930.41	40.7	87.4	69.1
Total Office - Academic & Administrative			142,955.63	94,837.62	66.3	89.2	84.5
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	40,102.06	0.5	20,051.03	7,223.38	36.0	51.9	34.6
Traditional Static Shelving Space	1,491,497.50	0.005	7,457.49				
Mobile Compact Shelving	600,393.87	0.004	2,401.58				
Super High Density	21.78	0.0035	0.08				
Total Stack	2,091,913.16		9,859.14	10,715.16	108.7	82.5	85.3
Library Support	29,910.17	0.25	7,477.54	5,168.12	69.1	70.6	61.8
Total Library Facilities & Campus Study Space			37,387.71	23,106.66	61.8	65.9	55.3
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	40,102.06	0.4	16,040.82	9,301.83	58.0	81.5	55.5
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>309,544.50</b>	<b>222,275.11</b>	<b>71.8</b>	<b>78.3</b>	<b>78.3</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	40,102.06	0.9	36,091.85	10,709.16	29.7	69.9	28.5
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	379,336.80	0.015	5,690.05	4,847.79	85.2	79.1	84.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	40,102.06	1.5	60,153.09	31,546.29	52.4	58.6	50.2
<b>SUB-TOTAL: OTHER SPACE</b>			<b>101,935.00</b>	<b>47,103.24</b>	<b>46.2</b>	<b>63.9</b>	<b>44.3</b>
<b>TOTAL FORMULA AREAS</b>			<b>411,479.49</b>	<b>269,378.35</b>	<b>65.5</b>	<b>74.9</b>	<b>69.0</b>

**Table 45: YORK (GLENDON): Institutional Space Requirements as Measured by COU Space Standards, 2022-23**

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2019-20 % I / G
<b>TEACHING/RESEARCH/ACADEMIC SUPPORT</b>							
CLASSROOMS							
Total FTE Students	1,257.96	1.11	1,396.34	3,330.94	238.5	84.0	172.6
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	0.00	0.5	0.00	468.60			
Lab Contact Hours Z	775.00	0.3	232.50	493.00			
Unclassified	0.00			0.00			
Total Class Lab	775.00		232.50	961.60	413.6	72.2	218.2
RESEARCH LABS							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	4.00	30.0	120.00	59.30			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	123.30	5.0	616.50	93.40			
Research Disciplines F	0.00	2.0	0.00	0.00			
Unclassified	0.00			0.00			
Total Research	127.30		736.50	152.70	20.7	68.2	20.5
OFFICE - ACADEMIC							
Total FTE Faculty	180.60	12.0	2,167.20	2,435.80	112.4	117.8	84.8
Research Appointments	3.00	12.0	36.00	151.67	421.3	n.a.	
Total FTE Grads	102.60	3.0	307.80	19.08	6.2	62.8	7.2
Total FTE Non-Acd Staff	86.00	12.0	1,032.00	626.38	60.7	91.3	55.9
Office Service	3,543.00	0.25	885.75	705.18	79.6	100.7	69.4
Total Academic Office			4,428.75	3,938.11	88.9	89.8	76.1
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	91.00	12.0	1,092.00	872.27	79.9	83.7	158.6
Office Service	1,092.00	0.5	546.00	355.05	65.0	94.9	110.5
Total Admin. Office			1,638.00	1,227.32	74.9	87.4	142.5
Total Office - Academic & Administrative			6,066.75	5,165.43	85.1	89.2	84.8
Total Library Facilities & Campus Study Space							
Study (Total FTE Students)	1,257.96	0.5	628.98	452.24	71.9	51.9	52.0
Traditional Static Shelving Space	210,189.55	0.005	1,050.95				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	210,189.55		1,050.95	1,071.65	102.0	82.5	71.7
Library Support	1,679.93	0.25	419.98	308.64	73.5	70.6	52.2
Total Library Facilities & Campus Study Space			2,099.91	1,832.53	87.3	65.9	62.0
NON-LIBRARY STUDY AND COLLABORATIVE SPACE	1,257.96	0.4	503.18	289.50	57.5	81.5	41.6
<b>SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT</b>			<b>11,035.18</b>	<b>11,732.70</b>	<b>106.3</b>	<b>78.3</b>	<b>90.4</b>
<b>OTHER SPACE</b>							
RECREATION / ATHLETICS							
Total FTE Students	1,257.96	0.9	1,132.16	2,932.00	259.0	69.9	187.4
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	25,817.12	0.015	387.26	383.63	99.1	79.1	99.1
STUDENT AND CENTRAL SERVICES							
Total FTE Students	1,257.96	1.5	1,886.94	2,890.18	153.2	58.6	110.8
<b>SUB-TOTAL: OTHER SPACE</b>			<b>3,406.36</b>	<b>6,205.81</b>	<b>182.2</b>	<b>63.9</b>	<b>136.1</b>
<b>TOTAL FORMULA AREAS</b>			<b>14,441.54</b>	<b>17,938.51</b>	<b>124.2</b>	<b>74.9</b>	<b>102.3</b>



## 6. Summary Tables by Category of Space

**Table 46: Teaching/Research/Academic Support Space (1,2,3,4,5,10,11): Generated Space and Inventory, 2022-23**

	Generated Space	Inventory NASM	2022-23 % I/G	2019-20 % I/G
Algoma	16,542.4	9,758.7	59.0	106.6
Brock	97,412.5	75,993.8	78.0	75.2
Carleton	189,727.0	145,411.3	76.6	70.0
Guelph	225,460.7	202,527.7	89.8	87.0
Lakehead	72,745.3	60,299.0	82.9	81.0
Laurentian	46,520.6	50,528.1	108.6	104.2
McMaster	268,498.7	225,485.9	84.0	89.6
Nipissing (2019-20)*	25,715.0	20,816.7	81.0	81.0
OCADU	65,013.4	25,628.9	39.4	40.1
Ontario Tech	57,050.1	43,066.6	75.5	79.3
Ottawa	348,041.3	234,024.5	67.2	70.0
Queen's	251,163.8	205,698.8	81.9	83.3
Toronto Metropolitan	248,974.6	152,313.4	61.2	62.3
Toronto (St. George)	609,944.9	501,213.3	82.2	82.2
Toronto (Mississauga)	75,827.0	58,986.8	77.8	81.6
Toronto (Scarborough)	67,180.8	50,055.1	74.5	81.8
Trent	57,934.9	47,508.0	82.0	77.5
Waterloo	275,172.1	282,781.0	102.8	103.3
Western	413,623.8	301,024.8	72.8	81.8
Wilfrid Laurier	90,929.0	66,471.2	73.1	82.2
Wilfrid Laurier (Brantford)	10,160.2	13,213.1	130.0	106.6
Windsor	161,903.8	118,382.8	73.1	80.2
York (Keele)	312,442.5	222,275.1	71.1	78.3
York (Glendon)	11,035.2	11,732.7	106.3	90.4
<b>Subtotal</b>	<b>3,999,019.7</b>	<b>3,125,197.1</b>	<b>78.1</b>	<b>81.5</b>
Hearst (2016-17)**	1,091.4	3,364.8	308.3	308.3
NOSM (2016-17)**	7,581.2	8,249.2	108.8	108.8
<b>Total</b>	<b>4,007,692.3</b>	<b>3,136,811.1</b>	<b>78.3</b>	<b>80.8</b>

\* I/G% represents University's most recent data from 2019-20 Space Standards survey for both years.

\*\* I/G% represents University's most recent data from 2016-17 Space Standards survey for both years.

**Table 47: Student Experience / Other Space (6,7,8,9,12,13,14,15): Generated Space and Inventory, 2022-23**

	Generated Space	Inventory NASM	2022-23 % I/G	2019-20 % I/G
Algoma	8,507.3	6,189.2	72.8	235.3
Brock	41,845.1	25,978.7	62.1	58.5
Carleton	64,286.2	52,668.5	81.9	76.9
Guelph	61,473.1	53,488.3	87.0	110.9
Lakehead	20,287.6	27,211.6	134.1	124.4
Laurentian	15,654.4	18,378.8	117.4	106.7
McMaster	86,149.0	48,768.5	56.6	60.4
Nipissing (2019-20)*	9,845.6	5,083.3	51.6	51.6
OCADU	10,587.9	3,491.7	33.0	19.2
Ontario Tech	22,769.4	11,310.5	49.7	51.2
Ottawa	106,448.2	54,920.7	51.6	59.3
Queen's	75,790.2	56,773.8	74.9	77.5
Toronto Metropolitan	92,471.5	39,892.5	43.1	43.1
Toronto (St. George)	154,722.2	89,898.9	58.1	62.0
Toronto (Mississauga)	33,806.4	18,384.1	54.4	52.3
Toronto (Scarborough)	28,946.2	23,548.0	81.4	81.1
Trent	27,919.9	11,491.2	41.2	43.8
Waterloo	89,827.0	60,831.3	67.7	65.7
Western	105,547.1	75,301.3	71.3	69.7
Wilfrid Laurier	41,780.7	24,652.4	59.0	59.5
Windsor	41,560.8	29,423.5	70.8	65.5
York (Keele)	101,935.0	47,103.2	46.2	44.3
York (Glendon)	3,406.4	6,205.8	182.2	136.1
<b>Subtotal</b>	<b>1,245,567.1</b>	<b>790,995.9</b>	<b>63.5</b>	<b>65.2</b>
Hearst (2016-17)**	384.9	1,751.4	455.0	455.0
NOSM (2016-17)**	1,354.2	111.6	8.2	8.2
<b>Total</b>	<b>1,247,306.2</b>	<b>792,858.9</b>	<b>63.6</b>	<b>65.3</b>

A comparison of the Total Generated Space and existing inventory in Research/Teaching and Academic Support categories.

\* I/G% represents University's most recent data from 2019-20 Space Standards survey for both years.

\*\* I/G% represents University's most recent data from 2016-17 Space Standards survey for both years.

**Table 48: Classroom Facilities (1): Generated Space and Inventory, 2022-23**

	<b>FTE Students</b>	<b>Generated Space</b>	<b>Inventory NASM</b>	<b>Inventory/ FTE Student</b>	<b>2022-23 % I/G</b>	<b>2019-20 % I/G</b>
Algoma	3,415.6	3,791	2,379	0.70	62.7	195.2
Brock	16,380.6	18,182	13,765	0.84	75.7	73.3
Carleton	25,124.3	27,888	22,102	0.88	79.3	66.2
Guelph	23,182.5	25,733	18,668	0.81	72.5	66.3
Lakehead	7,630.9	8,470	9,880	1.29	116.6	116.1
Laurentian	5,820.0	6,460	6,435	1.11	99.6	108.3
McMaster	33,346.4	37,015	34,852	1.05	94.2	103.7
Nipissing (2019-20)*	3,919.5	4,351	5,709	1.46	131.2	131.2
OCADU	4,233.8	4,700	4,172	0.99	88.8	39.9
Ontario Tech	9,085.0	10,084	8,112	0.89	80.4	90.4
Ottawa	41,873.6	46,480	29,734	0.71	64.0	73.7
Queen's	29,195.0	32,406	24,227	0.83	74.8	75.8
Toronto Metropolitan	37,153.3	41,240	23,510	0.63	57.0	54.0
Toronto (St. George)	59,676.9	66,241	61,161	1.02	92.3	98.8
Toronto (Mississauga)	13,386.6	14,859	13,588	1.02	91.4	90.5
Toronto (Scarborough)	11,417.6	12,674	7,460	0.65	58.9	59.0
Trent	10,990.0	12,199	8,589	0.78	70.4	80.6
Waterloo	34,307.8	38,082	35,690	1.04	93.7	93.8
Western	40,292.2	44,724	47,175	1.17	105.5	117.2
Wilfrid Laurier	16,213.6	17,997	10,907	0.67	60.6	66.8
Wilfrid Laurier (Brantford)	2,214.7	2,458.3	3,408.3	1.54	138.6	128.0
Windsor	16,249.4	18,037	16,924	1.04	93.8	100.0
York (Keele)	40,102.1	44,513	40,347	1.01	90.6	78.3
York (Glendon)	1,258.0	1,396	3,331	2.65	238.5	172.6
<b>SUBTOTAL</b>	<b>486,469.4</b>	<b>539,981</b>	<b>452,125</b>	<b>0.93</b>	<b>83.7</b>	<b>82.5</b>
Hearst (2016-17)**	114.8	127	1,063	9.26	834.2	834.2
NOSM (2016-17)**	512.0	568	988	1.93	173.8	173.8
<b>TOTAL</b>	<b>487,096.2</b>	<b>540,677</b>	<b>454,176</b>	<b>0.93</b>	<b>84.0</b>	<b>85.2</b>

**Notes:**

- Input Measure: Total FTE Students
- Space Factor: 1.11 NASM
- System Average: 0.93 (Actual Classroom inventory divided by Total FTE Students.)
- \* I/G% represents University's most recent data from 2019-20 Space Standards survey for both years.
- \*\* I/G% represents University's most recent data from 2016-17 Space Standards survey for both years.

**Table 49: Class Lab Space (2): Generated Space and Inventory, 2022-23**

Note that the space factors for class labs have been updated starting with the 2016-17 report. Caution should be taken when making comparisons with previous years' data as, at some institutions, the Inventory NASM figures do not necessarily agree with the Lab-Undergraduate figures in Table 2. Only Class Labs that are associated with Groups W to Z are included in this table.

Input Measure: Total Laboratory Weekly Student Contact Hours (as defined in [Appendix C](#)) for programs in Groups W, X, Y, and Z (as defined in [Appendix D](#)). Actual Class Lab inventory divided by Class Lab Hours (weighted average as defined in Input Measure).

	Input Measure	Inventory	System Average	Space Factor
Group W	76,363.82	34,648.87	0.45	0.80
Group X	492,447.81	216,202.34	0.44	0.60
Group Y	217,781.99	73,925.25	0.34	0.50
Group Z	183,690.11	48,680.39	0.27	0.30

**Table 50: Lab - Research Facilities (3): Generated Space and Inventory, 2022-23**

	Research Staff	Generated Space	Inventory NASM	Inventory/ Research Staff	2022-23 % I/G	2019-20 % I/G
Algoma	60.3	732	627	10.4	85.6	105.4
Brock	1,336.4	14,246	12,464	9.3	87.5	89.0
Carleton	2,997.9	41,403	22,427	7.5	54.2	45.5
Guelph	2,346.2	60,285	61,663	26.3	102.3	96.1
Lakehead	1,081.0	15,024	10,210	9.4	68.0	63.8
Laurentian	574.4	9,609	6,836	11.9	71.1	64.6
McMaster	3,363.3	66,149	53,832	16.0	81.4	83.4
Nipissing (2019-20)*	79.8	677	1,481	18.6	218.6	49.2
OCADU	440.4	2,772	4,088	9.3	147.5	105.7
Ontario Tech	662.4	11,133	8,828	13.3	79.3	84.9
Ottawa	5,158.8	84,017	47,326	9.2	56.3	53.9
Queen's	4,146.4	62,115	42,173	10.2	67.9	66.4
Toronto Metropolitan	2,394.9	32,624	20,393	8.5	62.5	59.2
Toronto (St. George)	11,299.6	154,078	102,249	9.0	66.4	61.5
Toronto (Mississauga)	817.4	12,413	9,891	12.1	79.7	82.8
Toronto (Scarborough)	547.3	13,330	9,962	18.2	74.7	77.2
Trent	605.1	6,472	9,891	16.3	152.8	157.2
Waterloo	3,956.1	64,431	59,302	15.0	92.0	88.8
Western	5,222.6	114,713	62,268	11.9	54.3	59.6
Wilfrid Laurier	1,098.4	10,393	6,063	5.5	58.3	69.0
Wilfrid Laurier (Brantford)	143.3	835.5	511.0	3.6	61.2	22.5
Windsor	3,421.2	57,715	19,586	5.7	33.9	41.0
York (Keele)	3,661.8	38,370	24,042	6.6	62.7	75.3
York (Glendon)	127.3	737	153	1.2	20.7	20.5
<b>SUBTOTAL</b>	<b>55,542.1</b>	<b>874,272</b>	<b>596,266</b>	<b>10.7</b>	<b>68.2</b>	<b>72.2</b>
Hearst (2016-17)**	1.0	10	0	0.0	0.0	0.0
NOSM (2016-17)**	45.5	2,048	1,538	33.8	75.1	75.1
<b>TOTAL</b>	<b>55,588.6</b>	<b>876,330</b>	<b>597,805</b>	<b>10.8</b>	<b>68.2</b>	<b>67.9</b>

The Inventory NASM figures do not necessarily agree with the Lab-Grad & Faculty figures in Table 2, at some institutions. Only Research Labs that are associated with Groups A to F are included in this table.

Input Measure: Research Staff is calculated by summing the total of FTE Faculty plus one-half Graduate Students plus one-half Other Research Appointments in Research Disciplines (as defined in [Appendix B](#)). Actual Research space divided by Research Staff (weighted average as defined in Input Measure).

	Input Measure	Inventory	System Average	Space Factor
Group A	7,738.82	278,376.74	36.0	45
Group B	9,117.74	148,224.84	16.3	30
Group C	4,458.52	57,523.15	12.9	20
Group D	6,202.26	56,595.80	9.1	10
Group E	15,867.06	32,235.77	2.0	5
Group F	12,011.10	9,738.41	0.8	2

**Table 51: Academic Departmental Office Space and Related Space (4): Generated Space and Inventory, 2022-23**

	<b>FTE Faculty</b>	<b>Generated Space</b>	<b>Inventory NASM</b>	<b>2022-23 % I/G</b>	<b>2019-20 % I/G</b>
Algoma	152.6	2,619	1,313	50.1	74.5
Brock	671.6	19,794	18,561	93.8	95.0
Carleton	1,032.1	37,073	39,520	106.6	106.0
Guelph	1,037.6	43,195	49,453	114.5	120.4
Lakehead	525.7	16,765	11,233	67.0	66.1
Laurentian	298.7	9,288	12,799	137.8	120.3
McMaster	1,175.7	68,109	67,760	99.5	109.5
Nipissing (2019-20)*	336.7	9,616	3,766	39.2	39.2
OCADU	454.6	10,004	3,673	36.7	54.9
Ontario Tech	314.0	9,978	6,953	69.7	78.4
Ottawa	2,259.0	89,288	65,951	73.9	74.5
Queen's	1,178.7	67,546	66,100	97.9	109.0
Toronto Metropolitan	1,428.9	51,120	36,247	70.9	77.6
Toronto (St. George)	2,586.6	187,996	163,455	86.9	89.5
Toronto (Mississauga)	506.1	15,574	11,634	74.7	87.0
Toronto (Scarborough)	456.0	12,309	12,172	98.9	112.8
Trent	248.5	10,000	10,150	101.5	77.8
Waterloo	1,642.3	68,525	84,930	123.9	118.5
Western	1,947.4	99,232	89,827	90.5	105.3
Wilfrid Laurier	509.0	16,843	17,626	104.6	113.8
Wilfrid Laurier (Brantford)	88.0	1,056.0	1,224.2	115.9	138.3
Windsor	583.0	39,915	28,184	70.6	81.2
York (Keele)	2,494.0	86,562	71,907	83.1	90.5
York (Glendon)	180.6	4,429	3,938	88.9	76.1
<b>SUBTOTAL</b>	<b>22,107.4</b>	<b>976,836</b>	<b>878,377</b>	<b>89.9</b>	<b>99.7</b>
Hearst**	1.0	90	788	876.1	876.1
NOSM**	26.0	3,495	1,597	45.7	45.7
<b>TOTAL</b>	<b>22,134.4</b>	<b>980,421</b>	<b>880,762</b>	<b>89.8</b>	<b>95.2</b>

Input Measure: Total FTE Faculty (as defined in [Appendix C](#)), total Other Research Appointments, total FTE Non-Academic Staff requiring offices, and total FTE Graduate Students.

Space Factor: 12 NASM per FTE Faculty, Other Research Appointments and FTE Non-Academic Staff, 3 NASM per FTE Graduate Student, plus 25 per cent allowance for office support space.

**Table 52: Graduate Student Office Space (4.3): Generated Space and Inventory, 2022-23**

	Graduate Students	Generated Space	Inventory NASM	Inventory/ FTE Graduate Student	2022-23 % I/G	2019-20 % I/G
Algoma	not applicable					
Brock	1,549.9	4,650	3,072	2.0	66.1	70.3
Carleton	3,995.0	11,985	5,566	1.4	46.4	48.0
Guelph	2,936.3	8,809	9,360	3.2	106.3	104.1
Lakehead	1,462.7	4,388	1,383	0.9	31.5	31.4
Laurentian	858.0	2,574	1,632	1.9	63.4	77.4
McMaster	4,713.4	14,140	9,511	2.0	67.3	70.9
Nipissing (2019-20)*	157.5	473	123	0.8	26.1	26.1
OCADU	257.2	772	1,155	4.5	149.7	144.8
Ontario Tech	834.3	2,503	655	0.8	26.2	32.6
Ottawa	7,529.5	22,589	11,519	1.5	51.0	61.4
Queen's	5,803.0	17,409	10,660	1.8	61.2	71.1
Toronto Metropolitan	2,716.6	8,150	1,558	0.6	19.1	13.4
Toronto (St. George)	19,262.6	57,788	29,200	1.5	50.5	50.2
Toronto (Mississauga)	867.3	2,602	1,232	1.4	47.4	55.3
Toronto (Scarborough)	366.4	1,099	1,946	5.3	177.0	176.3
Trent	728.0	2,184	1,731	2.4	79.2	89.2
Waterloo	5,115.8	15,347	23,584	4.6	153.7	150.4
Western	6,897.2	20,692	17,524	2.5	84.7	87.7
Wilfrid Laurier	1,293.7	3,881	2,368	1.8	61.0	62.8
Wilfrid Laurier (Brantford)	120.5	361.5	183.9	1.5	50.9	64.2
Windsor	5,779.9	17,340	4,925	0.9	28.4	42.0
York (Keele)	4,880.3	14,641	8,455	1.7	57.8	59.6
York (Glendon)	102.6	308	19	0.2	n/a	n/a
<b>SUBTOTAL</b>	<b>78,227.7</b>	<b>234,683</b>	<b>147,363</b>	<b>1.9</b>	<b>62.8</b>	<b>67.1</b>
Hearst	not applicable					
NOSM	not applicable					
<b>TOTAL</b>	<b>78,227.7</b>	<b>234,683</b>	<b>147,363</b>	<b>1.9</b>	<b>62.8</b>	<b>67.1</b>

Input Measure: Total FTE Graduate Students.

Space Factor: 3.0 NASM

System Average: 2.01 NASM per Graduate Student (Actual Space for Graduate Students (including service space) divided by Total Graduate Students).

**Table 53: Administrative Office Space (10): Generated Space and Inventory, 2022-23**

	<b>FTE Non-Acad Office Staff</b>	<b>Space Generated</b>	<b>Inventory NASM</b>	<b>Inventory/ Office Staff</b>	<b>2022-23 % I/G</b>	<b>2019-20 % I/G</b>
Algoma	152.0	2,736	1,823	12.0	66.6	68.3
Brock	498.4	8,970	9,367	18.8	104.4	100.2
Carleton	919.6	16,553	16,920	18.4	102.2	133.5
Guelph	1,098.0	19,764	24,621	22.4	124.6	99.3
Lakehead	369.9	6,658	8,075	21.8	121.3	100.6
Laurentian	247.7	4,459	7,396	29.9	165.9	164.5
McMaster	1,151.1	20,719	18,940	16.5	91.4	105.8
<b>Nipissing (2019-20)*</b>	<b>18.0</b>	<b>324</b>	<b>3,501</b>	<b>194.5</b>	<b>1080.5</b>	<b>1,080.5</b>
OCADU	168.0	3,024	2,755	16.4	91.1	58.1
Ontario Tech	401.3	7,224	6,012	15.0	83.2	92.3
Ottawa	1,665.6	29,981	27,847	16.7	92.9	98.3
Queen's	1,132.0	20,376	17,112	15.1	84.0	102.8
Toronto Metropolitan	1,477.2	26,590	18,014	12.2	67.7	78.3
Toronto (St. George)	1,967.4	35,413	28,105	14.3	79.4	94.4
Toronto (Mississauga)	395.3	7,115	6,601	16.7	92.8	106.5
Toronto (Scarborough)	501.6	9,029	7,270	14.5	80.5	105.0
<b>Trent (2019-20)*</b>	<b>336.6</b>	<b>6,059</b>	<b>6,397</b>	<b>19.0</b>	<b>105.6</b>	<b>98.2</b>
Waterloo	1,661.4	29,905	33,771	20.3	112.9	135.5
Western	1,658.9	29,860	21,780	13.1	72.9	93.4
Wilfrid Laurier	870.6	15,671	14,216	16.3	90.7	117.1
Wilfrid Laurier (Brantford)	114.6	2,062.6	3,292	28.7	159.6	112.2
Windsor	389.0	7,002	12,539	32.2	179.1	168.1
York (Keele)	3,294.0	59,292	22,930	7.0	38.7	69.1
York (Glendon)	91.0	1,638	1,227	13.5	74.9	142.5
<b>SUBTOTAL</b>	<b>20,579.2</b>	<b>370,425</b>	<b>320,511</b>	<b>15.6</b>	<b>86.5</b>	<b>115.1</b>
<b>Hearst (2016-17)**</b>	<b>10.0</b>	<b>180</b>	<b>249</b>	<b>24.9</b>	<b>138.4</b>	<b>138.4</b>
<b>NOSM (2016-17)**</b>	<b>37.0</b>	<b>666</b>	<b>2,306</b>	<b>62.3</b>	<b>346.2</b>	<b>346.2</b>
<b>TOTAL</b>	<b>20,626.2</b>	<b>371,271</b>	<b>323,066</b>	<b>15.7</b>	<b>87.0</b>	<b>103.6</b>

Input Measure: Total FTE Non-Academic Office Staff requiring offices.

Space Factor: 12 NASM for FTE Non-Academic Office Staff, plus 50 per cent allowance for office support space.

System Average: 18.6 NASM per Non-Academic Office Staff (Total Actual Non-Academic Office Staff Space (including service space) divided by Non-Academic Staff).

\* Represents University's most recent data from 2019-20 Space Standards survey for inputs in red.

\*\* I/G% represents University's most recent data from 2016-17 Space Standards survey for both years.



**Table 54: Library Facilities & Library Study Space (5.1 to 5.4): Generated Space and Inventory, 2022-23**

	FTE Students	Generated Space	Inventory NASM	Inventory/ FTE Student	2022-23 % I/G	2019-20 % I/G
Algoma	3,415.6	2,670	986	0.3	36.9	85.9
Brock	16,380.6	15,342	7,183	0.4	46.8	47.5
Carleton	25,124.3	21,747	20,963	0.8	96.4	79.9
Guelph	23,182.5	23,444	17,030	0.7	72.6	77.4
Lakehead	7,630.9	9,698	6,284	0.8	64.8	71.7
Laurentian	5,820.0	9,076	7,015	1.2	77.3	80.1
McMaster	33,346.4	32,254	21,743	0.7	67.4	71.3
Nipissing (2019-20)*	3,919.5	3,892	2,089	0.5	53.7	53.7
OCADU	4,233.8	3,490	1,436	0.3	41.1	25.4
Ontario Tech	9,085.0	6,113	3,416	0.4	55.9	59.3
Ottawa	41,873.6	45,783	26,579	0.6	58.1	65.5
Queen's	29,195.0	29,511	24,101	0.8	81.7	63.4
Toronto Metropolitan	37,153.3	26,746	9,897	0.3	37.0	35.4
Toronto (St. George)	59,676.9	108,139	83,395	1.4	77.1	74.8
Toronto (Mississauga)	13,386.6	10,254	5,260	0.4	51.3	47.3
Toronto (Scarborough)	11,417.6	8,720	2,965	0.3	34.0	42.3
Trent	10,990.0	10,304	5,126	0.5	49.8	53.1
Waterloo	34,307.8	34,577	16,535	0.5	47.8	48.6
Western	40,292.2	46,464	31,997	0.8	68.9	72.8
Wilfrid Laurier	16,213.6	15,130	8,012	0.5	53.0	55.0
Wilfrid Laurier (Brantford)	2,214.7	1,495	410	0.2	27.4	25.2
Windsor	16,249.4	18,229	16,057	1.0	88.1	90.0
York (Keele)	40,102.1	37,388	23,107	0.6	61.8	55.3
York (Glendon)	1,258.0	2,100	1,833	1.5	87.3	62.0
<b>SUBTOTAL</b>	<b>486,469.4</b>	<b>522,564</b>	<b>343,417</b>	<b>0.7</b>	<b>65.7</b>	<b>63.5</b>
Hearst (2016-17)**	114.8	634	887	7.7	139.8	139.8
NOSM (2016-17)**	512.0	369	604	1.2	163.7	163.7
<b>TOTAL</b>	<b>487,096.2</b>	<b>523,567</b>	<b>344,908</b>	<b>0.7</b>	<b>65.9</b>	<b>64.8</b>

Input Measure: Total FTE Students and Total Equivalent Volumes.

Space Factor: 0.6 NASM for FTE Students, from 0.0035 NASM to 0.005 NASM for Equivalent Volumes, plus 25 per cent allowance for service space.

System Average: 0.73 NASM per FTE Student. (Stack space for total volumes, study space for FTE students, and service space for the number of volumes and students) divided by Total FTE Students.

**Table 55: Campus Study Space (5.4 and 11): Generated Space and Inventory, 2022-23**

	<b>FTE Students</b>	<b>Generated Space</b>	<b>Inventory NASM</b>	<b>Inventory/ FTE Students</b>	<b>2022-23 % I/G</b>	<b>2019-20 % I/G</b>
Algoma	3,415.6	3,074	1,590	0.47	51.7	95.2
Brock	16,380.6	14,742	7,250	0.44	49.2	50.7
Carleton	25,124.3	22,612	14,926	0.59	66.0	56.7
Guelph	23,182.5	20,864	12,750	0.55	61.1	45.4
Lakehead	7,630.9	6,868	5,476	0.72	79.7	81.7
Laurentian	5,820.0	5,238	4,954	0.85	94.6	67.1
McMaster	33,346.4	30,012	18,271	0.55	60.9	57.5
Nipissing (2019-20)*	3,919.5	3,528	511	0.13	14.5	14.5
OCADU	4,233.8	3,810	1,608	0.38	42.2	23.5
Ontario Tech	9,085.0	8,177	4,186	0.46	51.2	35.6
Ottawa	41,873.6	37,686	23,200	0.55	61.6	60.0
Queen's	29,195.0	26,276	15,854	0.54	60.3	78.4
Toronto Metropolitan	37,153.3	33,438	16,385	0.44	49.0	52.5
Toronto (St. George)	59,676.9	53,709	49,253	0.83	91.7	91.5
Toronto (Mississauga)	13,386.6	12,048	5,658	0.42	47.0	49.9
Toronto (Scarborough)	11,417.6	10,276	5,389	0.47	52.4	52.3
Trent	10,990.0	9,891	4,846	0.44	49.0	52.8
Waterloo	34,307.8	30,877	26,063	0.76	84.4	72.0
Western	40,292.2	36,263	28,404	0.70	78.3	53.4
Wilfrid Laurier	16,213.6	14,592	7,062	0.44	48.4	48.0
Wilfrid Laurier (Brantford)	2,214.7	1,993.2	2,946.4	1.33	147.8	
Windsor	16,249.4	14,624	10,581	0.65	72.3	59.8
York (Keele)	40,102.1	36,092	16,525	0.41	45.8	45.5
York (Glendon)	1,258.0	1,132	742	0.59	65.5	37.6
<b>SUBTOTAL</b>	<b>486,469.4</b>	<b>437,823</b>	<b>284,428</b>	<b>0.58</b>	<b>65.0</b>	<b>60.1</b>
Hearst (2016-17)**	114.8	103	304	2.65	294.6	294.6
NOSM (2016-17)**	512.0	461	368	0.72	79.8	79.8
<b>TOTAL</b>	<b>487,096.2</b>	<b>438,387</b>	<b>285,100</b>	<b>0.59</b>	<b>65.0</b>	<b>60.2</b>

Input Measure: Total FTE Students and Total Equivalent Volumes.

Space Factor: 0.5 NASM per FTE student for category 5.4 and 0.4 NASM per FTE Students for category 11

System Average: 0.57 NASM per FTE Student. (study space for FTE students, computing space, and service space for the number of students) divided by Total FTE Students.)

**Table 56: Campus Study Space (5.4 and 11), totals and sub-types of study space as a percentage of the total study space, 2022-23**

	Study Space within the Library (Cat 5.4)	Non Formula Study Space (Cat 11)	Total Study Space	% of Study Space (Cat 5.4)	% of Study Space (Cat 11)
Algoma	428.6	1,161.1	1,589.7	27.0%	73.0%
Brock	3,515.5	3,734.3	7,249.9	48.5%	51.5%
Carleton	10,058.1	4,867.7	14,925.8	67.4%	32.6%
Guelph	7,042.6	5,707.7	12,750.3	55.2%	44.8%
Lakehead	3,295.8	2,180.1	5,475.9	60.2%	39.8%
Laurentian	3,166.1	1,788.2	4,954.3	63.9%	36.1%
McMaster	8,957.3	9,313.8	18,271.2	49.0%	51.0%
Nipissing (2019-20)*	0.0	510.7	510.7	0.0%	100.0%
OCADU	308.1	934.1	1,242.1	24.8%	75.2%
Ontario Tech	1,737.4	2,448.5	4,185.9	41.5%	58.5%
Ottawa	10,494.8	12,704.9	23,199.7	45.2%	54.8%
Queen's	8,649.5	7,204.3	15,853.7	54.6%	45.4%
Toronto Metropolitan	3,592.6	12,792.1	16,384.8	21.9%	78.1%
Toronto (St. George)	28,776.7	20,475.8	49,252.5	58.4%	41.6%
Toronto (Mississauga)	2,676.5	2,981.7	5,658.3	47.3%	52.7%
Toronto (Scarborough)	1,385.4	4,003.5	5,389.0	25.7%	74.3%
Trent	2,383.2	2,462.5	4,845.6	49.2%	50.8%
Waterloo	4,712.3	21,350.7	26,063.0	18.1%	81.9%
Western	11,280.4	17,123.3	28,403.7	39.7%	60.3%
Wilfrid Laurier	2,055.8	5,005.8	7,061.7	29.1%	70.9%
Wilfrid Laurier (Brantford)	233.7	2,712.7	2,946.4	7.9%	92.1%
Windsor	3,799.7	6,780.9	10,580.6	35.9%	64.1%
York (Keele)	7,223.4	9,301.8	16,525.2	43.7%	56.3%
York (Glendon)	452.2	289.5	741.7	61.0%	39.0%
<b>SUBTOTAL</b>	<b>126,225.8</b>	<b>157,836.0</b>	<b>284,061.8</b>	<b>44.4%</b>	<b>55.6%</b>
Hearst (2016-17)**	127.7	176.6	304.4	42.0%	58.0%
NOSM (2016-17)**	0.0	367.5	367.5	0.0%	100.0%
<b>TOTAL</b>	<b>126,353.6</b>	<b>158,380.1</b>	<b>284,733.7</b>	<b>44.4%</b>	<b>55.6%</b>

**Table 57: Recreation / Athletics Space (6): Generated Space and Inventory, 2022-23**

	FTE Students	Generated Space	Inventory NASM	Inventory/ FTE Students	2022-23 % I/G	2019-20 % I/G
Algoma	3,415.6	3,074	4,027	1.2	131.0	437.1
Brock	16,380.6	14,742	10,152	0.6	68.9	60.8
Carleton	25,124.3	22,612	24,207	1.0	107.1	102.4
Guelph	23,182.5	20,864	28,816	1.2	138.1	167.7
Lakehead	7,630.9	6,868	11,277	1.5	164.2	135.0
Laurentian	5,820.0	5,238	9,189	1.6	175.4	147.5
McMaster	33,346.4	30,012	18,722	0.6	62.4	64.6
Nipissing (2019-20)*	3,919.5	3,528	2,031	0.5	57.6	57.6
OCADU	4,233.8	3,810	not applicable			
Ontario Tech	9,085.0	8,177	5,731	0.6	70.1	74.8
Ottawa	41,873.6	37,686	23,310	0.6	61.9	69.9
Queen's	29,195.0	26,276	22,599	0.8	86.0	89.5
Toronto Metropolitan	37,153.3	33,438	14,286	0.4	42.7	43.3
Toronto (St. George)	59,676.9	53,709	29,822	0.5	55.5	59.5
Toronto (Mississauga)	13,386.6	12,048	6,903	0.5	57.3	55.8
Toronto (Scarborough)	11,417.6	10,276	9,534	0.8	92.8	91.9
Trent	10,990.0	9,891	3,910	0.4	39.5	45.6
Waterloo	34,307.8	30,877	19,913	0.6	64.5	59.8
Western	40,292.2	36,263	20,010	0.5	55.2	55.5
Wilfrid Laurier	16,213.6	14,592	7,494	0.5	51.4	53.1
Wilfrid Laurier (Brantford)	2,214.7	1,993.2	3,241.8	1.5	162.6	148.1
Windsor	16,249.4	14,624	15,689	1.0	107.3	79.8
York (Keele)	40,102.1	36,092	10,709	0.3	29.7	28.5
York (Glendon)	1,258.0	1,132	2,932	2.3	259.0	187.4
<b>SUBTOTAL</b>	<b>486,469.4</b>	<b>437,823</b>	<b>304,506</b>	<b>0.6</b>	<b>69.6</b>	<b>73.1</b>
Hearst (2016-17)**	114.8	103	490	4.3	474.6	474.6
NOSM (2016-17)**	512.0	461	not applicable			
<b>TOTAL</b>	<b>487,096.2</b>	<b>438,387</b>	<b>304,506</b>	<b>0.6</b>	<b>69.5</b>	<b>70.5</b>

Input Measure: Total FTE Students (as defined in [Appendix C](#)).

Space Factor: 0.9 NASM

System Average: 0.63 NASM per FTE Student. (Total Actual Physical Education/Athletics space divided by Total FTE students.)

**Table 58: Maintenance Space (9): Generated Space and Inventory, 2022-23**

	<b>NASM Inventory</b>	<b>Generated Space</b>	<b>Inventory NASM</b>	<b>2022-23 % I/G</b>	<b>2019-20 % I/G</b>
Algoma	20,657.4	310	298	96.2	100.0
Brock	168,784.1	2,532	1,997	78.9	111.3
Carleton	265,863.2	3,988	1,863	46.7	48.7
Guelph	388,999.8	5,835	6,579	112.8	124.6
Lakehead	131,557.0	1,973	1,013	51.4	51.9
Laurentian	112,423.8	1,686	1,862	110.4	78.3
McMaster	407,836.6	6,118	3,393	55.5	56.4
Nipissing (2019-20)*	29,256.2	439	102.7	23.4	23.4
OCADU	28,449.1	427	172	40.3	39.2
Ontario Tech	64,351.5	965	499	51.7	57.6
Ottawa	396,770.5	5,952	5,342	89.8	108.6
Queen's	381,476.8	5,722	2,941	51.4	45.1
Toronto Metropolitan	220,238.2	3,304	3,362	101.8	104.7
Toronto (St. George)	766,510.9	11,498	10,035	87.3	88.0
Toronto (Mississauga)	111,905.0	1,679	1,749	104.2	105.6
Toronto (Scarborough)	102,931.0	1,544	3,547	229.7	228.8
Trent	102,927.4	1,544	1,101	71.3	27.0
Waterloo	499,224.7	7,488	7,310	97.6	100.6
Western	589,719.4	8,846	3,666	41.4	33.9
Wilfrid Laurier	191,197.4	2,868	2,583	90.1	76.6
Wilfrid Laurier (Brantford)	40,983.6	614.8	591.6	96.2	71.3
Windsor	170,810.9	2,562	1,284	50.1	56.2
York (Keele)	379,336.8	5,690	4,848	85.2	84.0
York (Glendon)	25,817.1	387	384	99.1	99.1
<b>SUBTOTAL</b>	<b>5,598,028.3</b>	<b>83,970</b>	<b>66,524</b>	<b>79.2</b>	<b>75.7</b>
Hearst (2016-17)**	7,294.6	109	102	93.6	96.9
NOSM (2016-17)**	8,360.8	125	0	0	n/a
<b>TOTAL</b>	<b>5,613,683.7</b>	<b>84,205</b>	<b>66,626</b>	<b>79.1</b>	<b>80.2</b>

Input Measure: Total NASM Inventory (excluding 16.0 Non-Assignable).

Space Factor: 0.015 NASM

System Average: 0.012 NASM (Total Actual Maintenance space divided by Total NASM Inventory).

**Table 59: Student and Central Services Space (7-8, 12-15): Generated Space and Inventory, 2022-23**

	FTE Students	Generated Space	Inventory NASM	Inventory/ FTE Students	2022-23 % I/G	2019-20 % I/G
Algoma	3,415.6	5,123.4	1,865	0.5	36.4	140.5
Brock	16,380.6	24,570.8	13,830	0.8	56.3	52.2
Carleton	25,124.3	37,686.4	26,599	1.1	70.6	64.4
Guelph	23,182.5	34,773.8	18,092	0.8	52.0	74.5
Lakehead	7,630.9	11,446.4	14,921	2.0	130.4	130.3
Laurentian	5,820.0	8,730.0	7,328	1.3	83.9	87.4
McMaster	33,346.4	50,019.7	26,654	0.8	53.3	58.5
Nipissing (2019-20)*	3,919.5	5,879.3	2,950	0.8	50.2	50.2
OCADU	4,233.8	6,350.7	3,320	0.8	52.3	30.0
Ontario Tech	9,085.0	13,627.6	5,080	0.6	37.3	36.5
Ottawa	41,873.6	62,810.4	26,268	0.6	41.8	48.0
Queen's	29,195.0	43,792.5	31,233	1.1	71.3	74.8
Toronto Metropolitan	37,153.3	55,730.0	22,244	0.6	39.9	39.2
Toronto (St. George)	59,676.9	89,515.3	50,042	0.8	55.9	60.0
Toronto (Mississauga)	13,386.6	20,079.9	9,732	0.7	48.5	45.9
Toronto (Scarborough)	11,417.6	17,126.4	10,467	0.9	61.1	61.3
Trent	10,990.0	16,485.0	6,479	0.6	39.3	44.4
Waterloo	34,307.8	51,461.7	33,608	1.0	65.3	64.1
Western	40,292.2	60,438.3	51,625	1.3	85.4	83.8
Wilfrid Laurier	16,213.6	24,320.5	14,575	0.9	59.9	61.2
Wilfrid Laurier (Brantford)	2,214.7	3,322.1	2,746	1.2	82.7	75.3
Windsor	16,249.4	24,374.1	12,451	0.8	51.1	57.9
York (Keele)	40,102.1	60,153.1	31,546	0.8	52.4	50.2
York (Glendon)	1,258.0	1,886.9	2,890	2.3	153.2	110.8
<b>SUBTOTAL</b>	<b>486,469.4</b>	<b>729,704.2</b>	<b>426,545</b>	<b>0.9</b>	<b>58.5</b>	<b>59.2</b>
Hearst (2016-17)**	114.8	172.2	1,159	10.1	672.8	672.8
NOSM (2016-17)**	512.0	768.0	112	0.2	14.5	14.5
<b>TOTAL</b>	<b>487,096.2</b>	<b>730,644.4</b>	<b>427,816</b>	<b>0.9</b>	<b>58.6</b>	<b>60.5</b>

Input Measure: Total FTE Students (as defined in [Appendix C](#)).

Space Factor: 1.5 NASM

System Average: 0.91 NASM per FTE Student.

A rounded total of recommended space factor ranges for the actual individual student central services categories divided by Total FTE Students.

**Table 60: Total Space (1-15): Generated Space and Inventory, 2022-23**

	FTE Students	Generated Space	Generated per FTE	Inventory NASM	Inventory per FTE	2022-23 % I/G	2019-20 % I/G	% of system share: Generated Space	% of system share: Inventory NASM
Algoma	3,415.6	25,049.7	7.3	15,948	4.7	63.7	139.2	0.5%	0.4%
Brock	16,380.6	139,257.6	8.5	101,972	6.2	73.2	70.3	2.6%	2.6%
Carleton	25,124.3	254,013.2	10.1	198,080	7.9	78.0	71.8	4.8%	5.0%
Guelph	23,182.5	286,933.7	12.4	256,016	11.0	89.2	92.1	5.5%	6.5%
Lakehead	7,630.9	93,032.9	12.2	87,511	11.5	94.1	90.2	1.8%	2.2%
Laurentian	5,820.0	62,175.0	10.7	68,907	11.8	110.8	104.8	1.2%	1.8%
McMaster	33,346.4	354,647.7	10.6	274,254	8.2	77.3	82.6	6.7%	7.0%
Nipissing (2019-20)*	3,919.5	35,560.6	9.1	25,900	6.6	72.8	72.8	0.7%	0.7%
OCADU	4,233.8	75,601.3	17.9	29,121	6.9	38.5	34.9	1.4%	0.7%
Ontario Tech	9,085.0	79,819.4	8.8	54,377	6.0	68.1	71.2	1.5%	1.4%
Ottawa	41,873.6	454,489.5	10.9	288,945	6.9	63.6	67.5	8.6%	7.3%
Queen's	29,195.0	326,954.0	11.2	262,473	9.0	80.3	82.0	6.2%	6.7%
Toronto Metropolitan	37,153.3	341,446.1	9.2	192,206	5.2	56.3	56.9	6.5%	4.9%
Toronto (St. George)	59,676.9	764,667.1	12.8	591,112	9.9	77.3	78.3	14.5%	15.0%
Toronto (Mississauga)	13,386.6	109,633.5	8.2	77,371	5.8	70.6	72.1	2.1%	2.0%
Toronto (Scarborough)	11,417.6	96,127.0	8.4	73,603	6.4	76.6	81.6	1.8%	1.9%
Trent	10,990.0	85,854.8	7.8	58,999	5.4	68.7	67.3	1.6%	1.5%
Waterloo	34,307.8	364,999.2	10.6	343,612	10.0	94.1	94.1	6.9%	8.7%
Western	40,292.2	519,170.9	12.9	376,326	9.3	72.5	79.3	9.9%	9.6%
Wilfrid Laurier	16,213.6	132,709.7	8.2	91,124	5.6	68.7	75.0	2.5%	2.3%
Wilfrid Laurier (Brantford)	2,214.7	16,090.3	7.3	19,792	8.9	123.0	103.8	0.3%	0.5%
Windsor	16,249.4	203,464.6	12.5	147,806	9.1	72.6	77.1	3.9%	3.8%
York (Keele)	40,102.1	414,377.5	10.3	269,378	6.7	65.0	69.0	7.9%	6.8%
York (Glendon)	1,258.0	14,441.5	11.5	17,939	14.3	124.2	102.3	0.3%	0.5%
<b>SUBTOTAL</b>	<b>486,469.4</b>	<b>5,250,516.8</b>	<b>10.8</b>	<b>3,922,772</b>	<b>8.1</b>	<b>74.7</b>	<b>77.6</b>	<b>99.8%</b>	<b>99.7%</b>
Hearst (2016-17)**	114.8	1,476.3	12.9	5,116	44.6	346.6	346.6	0.0%	0.1%
NOSM (2016-17)**	512.0	8,935.4	17.5	8,361	16.3	93.6	93.6	0.2%	0.2%
<b>TOTAL</b>	<b>487,096.2</b>	<b>5,260,928.5</b>	<b>10.8</b>	<b>3,936,249</b>	<b>8.1</b>	<b>74.8</b>	<b>77.1</b>	<b>100.0%</b>	<b>100.0%</b>

This table presents a comparison of the Total Generated Space and existing Inventory in categories 1 through 15 per FTE Student.

## 7. Appendices

### Appendix A: Space Categories: Definitions, Sub-Categories and Formulae

Note: no changes were made to the Categories or definitions between 2019 and 2022.

#### **Category 1: Classroom Facilities**

##### **Definition**

A room primarily used for scheduled teaching purposes which does not require special equipment of a kind that makes the room unsuitable for classroom instruction (i.e. laboratory benches), and rooms directly serving such facilities.

##### **Notes**

Do not prorate classroom space to create phantom space. Phantom space is included in the total classroom space. **In other words: the “whole room counts.”**

##### **Subcategories**

##### 1.1 Tiered classrooms

Tiered or sloped floored lecture theatres, lecture rooms, lecture demonstration rooms, and classrooms.

##### 1.2 Non-tiered classrooms

Flat floored lecture rooms, classrooms, seminar rooms, and tutorial rooms.

##### 1.3 Active learning classrooms (ALCs)

Pedagogical space primarily moderated for group interaction. The room may or may not utilize technology. The focus is on group learning. Report tiered and non-tiered space separately, if applicable:

##### 1.3a Tiered classroom

##### 1.3b Non-Tiered classroom

ALCs are defined as rooms that have multiple circular tables, or moveable tables that can be combined, and that are technology-rich and that have no front of room. Rooms that can be used for multiple modes of delivery (for traditional delivery or active group interaction) should not be included here.

##### 1.4 Classroom service and exam space

Examination rooms (including those for special accommodations), projection rooms, preparation rooms, closets, storage rooms and other related areas.

Room types excluded	Category
All instructional laboratory or studio space	2



Room types excluded	Category
Conference rooms	4.5 and 10.2
Assembly facilities (theatres, concert halls, etc.)	15
Rooms equipped with computers and is a requirement for the class	15

## Formula

The formula for generating classroom facilities including service space is as follows:

- # of FTE Students x 1.11 sq. m.

## Formula Assumptions

The amount of classroom space required by an institution is roughly proportional to the number of students it has. Hence, the input measure for this category is the number of full-time equivalent students.

To be more specific, the demand for space is proportional to the number of courses those students enroll in, multiplied by the number of hours per week of scheduled instruction that each course requires for academic credit. The unit of measurement is usually referred to as a weekly student classroom contact hour (WSCH), i.e., contact with an instructor in a classroom environment. The amount of space required to accommodate one classroom WSCH is derived from three separate variables. These are:

**A (area) = 1.7 sq. m.**

Average university classroom station size.

The area (A) required for a single seat or desk, expressed in square metres. This value varies according to the type of furniture used. An average value was chosen to represent a mix of classroom types and a provision for classroom service space.

**H = 30 to 35 hours per week**

Room utilization standard for a room Monday to Friday, during a 57-hour week.

The number of hours per week (H) that a classroom is expected to be used for scheduled instruction. This range represents a minimum utilization standard which will vary by room type, use and program.

The number of hours is 45 to 57 hours per week to include 4 three-hour evening sessions per week (45 daytime hours per week and 12 nighttime hours per week = 57 hours per week. The daytime utilization rate is 70% and nighttime utilization rate is 30%.

Therefore: 45 hours x .70 = 31.5 hours and 12 hours x .30 = 3.6 hours, for a total of 35.1 hours per week that a classroom is used.

**S = 0.70<sup>6</sup> (i.e., 70% seats occupied when the room is used)**

<sup>6</sup> In 2010-11 it was assumed that 65% of the seats would be occupied when the room is used. This

Station utilization standard when the room is used.

The percentage of seats that are occupied (S) when the room is in use.

The product of the room utilization standard (H) and station weight (S) should produce a combined utilization co-efficient of 24.5. The classroom space formula is:

- $NASM / WSCH \text{ (weekly student contact hour)} = A / (H \times S)$

Assuming that the average weekly student contact hours is 16 hours (non-laboratory), that the A (area) value is 1.7, and that the H and S values are 35 and 0.70\* respectively, the space formula is 1.11 sq. m.

$$\frac{NASM / FTE \text{ Student}}{35 \times .70} = \frac{1.7 \times 16 \text{ hours}}{35 \times .70} = 1.11 \times NASM$$

### Comments

While the total amount of classroom space generated using the COU space factor is considered adequate, mismatches between class section size and the size of available classrooms are problems on many campuses.

## Category 2: Laboratory – Undergraduate

### Definition

A room used for instruction of undergraduate students that requires special purpose equipment or is so arranged that use is restricted to a particular field of study; and rooms directly serving these facilities. Activities in these facilities would include student participation, experimentation, observation or practice in a field of study.

### Subcategories

#### 2.1 Scheduled class laboratory space

Teaching laboratories, special subject rooms, computer labs, instructional shops, drafting, art, dance and music studios, music practice rooms, language laboratories, and athletic facilities primarily used for instruction, and other specially designed rooms largely used for scheduled instruction, such as dental, rehabilitation, and psychology clinics.

#### 2.2 Unscheduled class laboratory space

This subcategory may be optionally used to classify general workrooms, studios, and other special-purpose facilities generally used for informal or irregularly scheduled instruction, or for practice.

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changed the space factor from 1.23 to 1.11 NASM.

## 2.3 Laboratory (instructional) support

Preparation rooms, balance rooms, laboratory storage rooms, demonstration rooms, animal areas, greenhouses, dark rooms, etc. directly serving the laboratory facilities.

**If the timetable states that it is a lab, count it as a lab and include the lab contact hours.**

Room types excluded	Category
A class where students may bring their computers to class, but is not a requirement of the class	1
Research laboratory space for graduate students and faculty	3
Athletic facilities	6
Clinic facilities for university health services	13
Non-university clinic facilities for health science programs in hospitals or other health care areas	20
Greenhouses classified elsewhere	3, 9 and 15
Animal areas classified elsewhere	3 and 18
Academic office	4
Computer labs for student study, not used for scheduled instruction	11.1
<b>Service areas for the above excluded room types</b>	

**Formula**

The formula for generating undergraduate teaching facilities (including service space) is a four-part formula with a different space factor for each of four academic program groupings:

$$\text{Laboratory space for specific group (W, X, Y, Z)} = \text{WSLabCH for group} \times \text{Space factor for group (0.8, 0.6, 0.5, 0.3)}$$

**WSLabCH** (i.e. Weekly Student Laboratory Contact Hours) is the input measure for this category. They are computed as the product of the course enrolment and the hours of scheduled instruction in a laboratory (lab or practical hour) received by each student enrolled during a typical academic week.

*Formula Assumptions*

The instructional laboratory formula is based on the following assumptions:

- It is recognized that there are differences in space requirements between disciplines; consequently, four space standards, with some relationship to discipline groups (denoted W, X, Y, Z), are used.
- Station areas associated with the groups W, X, Y and Z (see table below) were derived over time from data reported by the universities in the Ontario system together with standards used in other jurisdictions. The space factors are based on bench areas and

facility needs for the different disciplines. They include an allowance for preparation and storage space requirements.

- Space guidelines for teaching laboratories include a room utilization of 18 hours per week and 75% seat occupancy when in use. The relationship between the variables is described in the following table:

Group	Station Area (NASM), including Service Space outside the lab	Utilization Rate Hours x Seat Utilization	Space Factor NASM/WSLabCH
W	10.80	18 X 0.75 = 13.5	0.8
X	8.10	18 X 0.75 = 13.5	0.6
Y	6.75	18 X 0.75 = 13.5	0.5
Z	4.05	18 X 0.75 = 13.5	0.3

#### Formula:

NASM per WSLabCH	=	$\frac{\text{Area per Station}}{\text{Scheduled Hours per week x Seat Utilization}}$
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#### Comments

The university timetable should be the primary source for deriving WSLabCH, augmented if needed by information in the university calendar.

There is unscheduled activity by groups or individuals for study or experimentation related to course work and assignments used for scheduled teaching and in other specially designed labs. However, this unscheduled use of labs is to be excluded from the contact hour count when determining laboratory facilities entitlement. It is assumed that the use of scheduled contact hours combined with an 18-hour room utilization rate will generate enough space to adequately accommodate these activities in the unscheduled hours.

For class labs that meet in multiple-use facilities, for example, in theatres used for both drama instruction and general university assembly, it may be necessary to prorate.

### Category 3: Research Laboratory Space (Graduate & Faculty)

#### Definition

A room used for laboratory applications, research or training in research methodology which **requires special-purpose equipment** for staff or graduate student experimentation or observation and preparation, service and other rooms directly serving these facilities.

#### Subcategories

##### 3.1 Research Laboratory space

Faculty, graduate and general research facilities.

##### 3.2 Laboratory (graduate and faculty) support space

Rooms directly serving one or more research facilities that directly provide the necessary support to the research functions such as balance rooms, coat rooms, storage areas, dark rooms, workshops, animal areas, and greenhouses.

Room types excluded	Category
Undergraduate laboratories and their support space	2
Greenhouses not in support of research	2, 9 and 15
Animal areas classified elsewhere	2 and 18
Academic office	4
Graduate student space	4
Technicians' office/workroom	4
Non-Academic office	10

#### Formula

The formula for generating research laboratory facilities (including service space) is a five-part formula with a different space factor for each of five academic program groupings:

Research space for specific group (A, B, C, D, E, F)	= Count x	Space Factor for group (45, 30, 20, 10, 5, 2)
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Where Count = # FTE Faculty + (50% # post-doctoral fellows) + (50% # FTE research associates) + 50% #FTE graduate students)

#### Formula Assumptions

The research laboratory formula is based on the following assumptions:

- It is recognized that there are differences in space requirements between disciplines; consequently, six space standards are used: A = 45 NASM; B = 30 NASM; C = 20 NASM; D = 10 NASM; E = 5 NASM; F = 2 NASM.

- Station areas (i.e. space factors) associated with the letter groups were derived over time from data reported by the universities in the Ontario system together with standards from other jurisdictions; several groups were updated in 2019 to more rationally account for space requirements associated with specific programs or disciplines.
- The formula assumes a direct relationship, which is consistent throughout all disciplines within an academic grouping, between the numbers of faculty, other researchers and graduate students associated with a department and the amount of research being done by that department.

### Comments

Some universities have large research facilities that are used by other universities or non-university researchers. In the reporting of the inventory, this space is pro-rated, with the portion used for non-institutional purposes classified in Category 19.

### ***Category 4: Academic Departmental Offices and Related Space***

#### Definition

A room usually assigned to one or more individuals on a permanent basis, containing office-type equipment and used by faculty, departmental administrative and support staff, and students, or a room directly serving these facilities. Also included are general purpose offices and project rooms used for conducting research that may have previously been reported in Category 3.

#### Subcategories

##### 4.1 Academic offices

Single or multiple-occupancy offices for all academic appointments and academics with administrative appointments within a department or faculty, with rank up to and including department chairs, deans, vice deans and associate deans. Also includes offices for visiting professors, lecturers, emeriti professors, sessional staff, etc.

##### 4.2 Research office/project space

Space allocated by the department to principal investigators to accommodate their research support staff (includes post-doctoral fellows, research associates, non-academic staff, professional academic staff and technicians requiring offices who support the research of a faculty member as principal investigator). Includes offices and office support space for research activities paid from restricted funds. Excludes offices allocated to graduate students and to upper year undergraduate students who perform the work of graduate students that are included in Category 4.3.

##### 4.3 Graduate student offices

Single or multiple-occupancy rooms allocated by the department to graduate students for study and research, and to graduate and undergraduate students in their capacity as tutors, teaching or research assistants.

#### 4.4 Departmental administrative and support staff offices

Office space used by non-research administrative and support staff, including demonstrators, technicians, office administrative staff, other professional staff, and clerical support staff to academic departments. Includes offices for departmental administrative and support staff paid from operating funds.

#### 4.5 Office support space

Rooms directly serving office space in this category (both research and academic support space) such as conference rooms, computer rooms not for student study, server rooms and IT closets for specific departments/units, special reference libraries, file rooms, vaults, photocopy rooms, waiting and reception areas, interview rooms, storage areas, private toilets, lunchrooms, and private departmental lounges. Also includes collaborative or makerspace for entrepreneurship and innovation, and/or seminar and multipurpose spaces that are under the control of departments/units.

Room types excluded	Category
<b>All space under the administration of the university library system</b>	
Technicians' workshops classified elsewhere	2, 5, and 12
Graduate laboratory work stations	3
Lounge space that is a component of graduate student offices reported in Category 4.3	4.5
Collaborative or makerspace for entrepreneurship and innovation under the jurisdiction of the Library	5.4
Offices for general university administration	10
Lounges intended for general university use	11
Central photocopying and printing areas	12
Student offices associated with extra-curricular student organizations	14
Collaborative and entrepreneurial space not otherwise categorized	14.1

#### Formula

The formula for generating academic departmental office facilities has five components:

##### 1. Category 4.1 (Academic Offices)

- a. Faculty: # FTE Faculty x 12m<sup>2</sup>. <sup>7</sup> [12.0 NASM]

##### Faculty Offices

As a guide, include all persons holding an academic appointment and involved in teaching who receive remuneration via the university from all salary funding

<sup>7</sup> In 2010-11 the space factor for faculty, research appointments and non-academic departmental support staff was 13m<sup>2</sup>.

sources. This includes those up to and including deans, department heads or chairs.

Exclude faculty on unpaid leave of absence and academics with administrative appointments in the central administration of the university.

### **Instructor & TA Offices**

Include instructors/teachers. Exclude those below the rank of lecturer or institutional equivalent; exclude undergraduate staff.

## **2. Category 4.2 (Research office / project space)**

- a. Research Appointments: (# PDFs + FTE Research Associates + FTE Research Funded Support Staff) x 12m<sup>2</sup>. [12 NASM]

### **Post-Doctoral Fellows (PDFs) and Research Associates**

These individuals are generators of research who are not regular faculty as defined in "Faculty" but who have similar research space requirements. They are paid by the university and originate and direct their own research or are co-investigators.

### **Non-Academic Office Staff**

Non-academic staff, professional academic staff and technicians requiring offices who support the research of a faculty member as principal investigator. **Exclude** graduate students and upper year undergraduate students who perform the work of graduate students. Exclude lab-based technicians who do not require office space.

## **3. Category 4.3 (Graduate Student Offices)**

- a. Graduate Students: # FTE Graduate Students x 3m<sup>2</sup>.<sup>8</sup> [3.0 NASM]

## **4. Category 4.4 (Departmental administrative and support staff offices)**

- a. Non-Academic Departmental Support Staff: # FTE Non-Academic Staff, paid from operating funds, requiring offices x 12m<sup>2</sup>. [12 NASM]

Non-research administrative and support staff, including demonstrators, technicians, office administrative staff, other professional staff, and clerical support staff to academic departments. Includes offices for departmental administrative and support staff paid from operating funds. **Exclude** graduate students and upper-year undergraduate students who perform the work of graduate students.

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<sup>8</sup> In 2010-11 the space factor for graduate students was 4m<sup>2</sup>.



## 5. Category 4.5 (Office Service)

- a. Office Support Space: 25% of the total space generated for faculty, administrative staff and graduate students

### Formula Assumptions

The office facilities formula is based on the following assumptions:

- Commencing with the 2007 report, the counts for FTE Research Associates, Post-Doctoral Fellows and FTE Research-Funded Support Staff requiring office type work space have been included as a separate Input Measure for Category 4.2.
- Although 10-11 NASM is the accepted planning standard for a typical single office, a space factor of 12 NASM is used in the formula. This is to recognize existing office configurations, especially in older university buildings, where the average office size is larger. Further, it is recognized that deans and chairs are usually allocated larger offices than the average. The COU standard of 12 NASMs is not necessarily the institutional standard.
- The standard for non-academic staff offices is based on the same average office size used for academic staff. Although the layout of the spaces may be different, it is assumed that the requirement for space is the same. Library staff and staff of ancillary units are excluded from the FTE count as their office/work space is inventoried in other categories.
- The graduate student office standard is based on the assumption that all graduate students generate office type space. This is in addition to the space they generate in the research laboratory category and the Library Facilities and Library Study Space category.
- The requirement for office support space is directly related to the number of faculty, staff and graduate students in an institution.
- That 25% of the total entitlement for office facilities represents an average across all departments.
- The space generated under the formula is to accommodate a wide range of activities from photocopiers and file storage to conference rooms, departmental lounges, and resource rooms.

### Comments

Many older buildings in the Ontario system have been built with larger offices than the standard. For these institutions, the total amount of space inventoried, when measured against the space generated by the formula, may appear adequate but there will be too few office units.

Library office space is not included in this category. It is often difficult to distinguish what area is strictly office space and what area is library service for referencing, cataloguing and distributing books. The library service space formula covers this requirement.

Non-academic office space is calculated based on the FTE of non-academic staff as the institutional ratios of non-academic staff to faculty (and students) are quite variable.

FTE faculty and student data are readily collectible and verifiable but there is no equivalent data base for non-academic staff.

Due to a lack of office space at individual institutions, the ability to provide offices for graduate students is a matter of institutional policy; in some cases, only doctoral students or teaching assistants are assigned office space.

Further economies of scale can be achieved in open concept offices.

### **Category 5: Library Facilities & Library Study Space**

#### **Definition**

A room or group of rooms used for the acquisition, processing, storage, circulation, administration and management of books, periodicals, manuscripts and other media of published information under the administration of the university library system and rooms directly serving these facilities. (See definition of Circulation Space in [Appendix C: Definitions](#))

Also included are rooms or group of rooms used for study only under the administration of the university library system.

#### **Subcategories**

##### **5.1 Library Collection space under the Jurisdiction of the University Library System**

Stack and storage areas for books, archives, maps, documents, records, tapes, slides, micromaterials, periodicals, electronic volumes and music scores.

##### **5.2 Library / Office space under the Jurisdiction of the University Library System**

Office and related areas for library administration, library support staff (including those who provide reference services) and systems technical support space.

##### **5.3 Library Support space under the Jurisdiction of the University Library System**

Catalogue area, circulation desk, processing areas, bookbinding and repair areas, acquisition, cataloguing work areas and service space.

##### **5.4 Study and Collaborative Space under the Jurisdiction of the University Library System**

Reading rooms, study carrels, open-stack reading rooms and study areas available to the general university population and located within the university's library system. Also includes collaborative or makerspace for entrepreneurship and innovation, and/or seminar and multipurpose spaces that are under the jurisdiction of the Library.

<b>Room types excluded</b>	<b>Category</b>
Classrooms in libraries	1
Media storage for language laboratories	2

Room types excluded	Category
Faculty and instructional areas associated with academic programs in library science and teacher education	2, 3
Special reference libraries & departmental reading rooms not under the control of university library administration	4, 12, 17 and 19
Graduate office space and study areas assigned to individuals for their exclusive use in areas not administered by the university library system	4.3
Collaborative and entrepreneurial space under the control of departments/units	4.5
Study and collaborative space not under the jurisdiction of the University Library system	11
Media storage for audio-visual facilities	12.2
Media storage for recreational purposes	14
Collaborative and entrepreneurial space not otherwise categorized	14.1
Types of space located in the library that is not directly related to library function (e.g. Student services, health counsellors)	various

### Formula: Library Collection Space (Category 5.1)

The formula for generating space for library collections is as follows:

- 0.005 NASM per equivalent volume for traditional static shelving
- 0.004 NASM per equivalent volume for mobile compact storage
- 0.0035 NASM per equivalent volume for offsite/onsite high-density storage (if applicable)

### Formula Assumptions

The collection space formula is based on the following assumption:

- The formula assumes that 160 bound volumes can be shelved on a standard stack unit, leaving **15%** of the shelf space for sorting books when they are returned to the shelves. A standard stack is 2.28 m. high, 0.91 m. wide, 0.25 m. deep, and has 6 or 7 shelves. In Volume 6 of *Building Blocks*, it was determined that a standard stack unit occupied approximately 0.75 NASM, allowing approximately 1.1 m. for an aisle space. Therefore, one (1) volume would require 0.0047 NASM or 0.005 NASM.

### Formula: Library Support Areas (Categories 5.2 and 5.3)

The formula for generating space for library support office and work space is as follows:

- Area generated for Stack and Study space x 25%

### Formula Assumption

The library support formula is based on the following assumption:

- The size of the collection and number of users are the two most significant factors affecting the area required for support space. The standard for support space has been based, therefore, on a fixed percentage of collection size and user population.

### Comments

- The volume equivalencies were revised in 2007 by the Ontario Council of University Libraries (OCUL) and the COU Committee on Space Standards & Reporting.
- It is recognized that some efficiencies can be achieved through the use of compact storage, but this is not a universal solution for design, structural or functional reasons.
- Stack space may appear to exceed the standards if service space and non-assignable space such as phantom fire corridors are not reported as defined.
- Graduate students also generate space in the office and research laboratory categories.
- The increasing demand and provision of computer space and rooms as well as decentralized study space must be recognized within the need for overall library study space at institutions.
- Space allocation decisions vary among universities. Trade-offs between stack and study space are an increasingly large part of library space management decision-making as services and resources are adjusted to meet the changing needs of library customers.

### Formula: Study Space (Category 5.4)

The formula for generating (formal) study space is:

- 0.5 NASM / FTE student

### Formula Assumptions (applicable to study space in the library (5.4) and other areas (11.0))

The formula is based on the following assumptions:

- The formula assumes a study space size of 2 NASM and enough space to accommodate an average of 25% of the student population:  $2 \times .25 = 0.5 \text{ NASM/FTE student}$ .
- Formula assumption is based on 2 NASM per station regardless of the type of space. It is assumed that 0.5 NASM per FTE student will allow approximately one quarter of the student population to be housed at any one time. The assumption of accommodating 25% of the student population is an average figure: it is expected that commuter universities will need to accommodate a higher percentage of the student population in study space at any one time, compared to a residential university. Please note that this is only a benchmark; the percentage of students accommodated and the study space size will vary by university.
- Study space includes space physically located within the library system and space that is located elsewhere on the university campus (excluding residences).

Starting with the 2016-17 report, the study space outside the library, including lounges previously reported under 14.3, are reported in Category 11.

## **Category 6: Recreation / Athletic Space**

### **Definition**

All indoor areas used by students, staff, or the public for athletic activities, either for recreational or competitive purposes, and rooms directly serving these facilities.

### **Subcategories**

#### **6.1 Athletic activity areas**

Gymnasias, dance studios, swimming pools, basketball, handball and squash courts, combative rooms, ice rinks, indoor tracks, indoor rifle and archery ranges, and activity areas including those within field houses.

#### **6.2 Athletic seating areas**

All permanent seating and observation areas in gymnasias, swimming pools, field houses, ice rinks, and other indoor activity areas.

#### **6.3 Athletic service space**

All ancillary areas directly serving the above such as locker rooms, shower rooms, washrooms, coaches' rooms, equipment supply rooms, and rooms serving athletic facilities.

<b>Room types excluded</b>	<b>Category</b>
Laboratories required to support programs in Physical and Health Education	2, 3
Office and office-related space in support of programs in Physical and Health Education	4
Office and office-related space serving athletic facilities	10
Indoor rifle ranges associated with military training	19

### **Formula**

0.9 NASM / FTE student

### **Formula Assumptions**

- The recreation/athletic space formula is based on the following assumptions:
- The space factor for recreation and athletic facilities assumes that the FTE student population is the primary user.

The actual factor is derived from institutional averages.

## Comments

Assessing the adequacy of athletics and recreation space is a complex matter. Institutions are quite diverse in the match between generated space and inventories. Requirements for athletic and recreation space vary according to an institution's commitment to inter-university athletics, the recreational interests of its students, the proportion of students in residence, the availability of other facilities in the community, and the mix of extracurricular activities with academic programs in Physical Education and related disciplines.

There may be errors in the reporting of athletics inventory that is primarily for community or academic program use. The definitions are clarified so that any specialized space used exclusively or almost exclusively for academic programs is reported in the class lab category.

## Category 7: Food Service

### Definition

A room or group of rooms used for preparing or eating food or which directly serve these facilities including central facilities located in residences and faculty clubs, whether operated by the university or an external company. Includes coffee shops.

### Subcategories

#### 7.1 Food facilities

Dining rooms, cafeterias, snack bars, coffee shops, restaurants, vending machine and other refreshment areas primarily used for food service.

#### 7.2 Food facilities service

Kitchen, servery all food preparation areas, dishwashing areas, refrigeration and freezer rooms, kitchen storage rooms, receiving areas, refuse areas and staff lunch, locker and private washrooms.

Room types excluded	Category
Departmental lounges and kitchenettes	4.5
Refreshment booths in athletic facilities	6
Office and office related space which support university-administered food service facilities	10
Kitchen and dining areas located in private living quarters	17
Office and office related space which support externally administered food service facilities	19.3

### Formula

- Range of 0.5 to 0.7 NASM / FTE student

**Note:**

- The space factor for the aggregated Student & Central Services categories (7, 8, 12, 13, 14 and 15) is 1.5 NASM per FTE student to better align the standard with current space use at universities.

**Category 8: Bookstore and Other Merchandising Facilities**

A room or group of rooms used to sell products or services, exclusively or primarily for the university population, and rooms directly serving these facilities.

**Subcategory**

## 8.1 Bookstore/Merchandising

For example: bookstores, Canada Post office, banks, travel agencies, other stores and associated service space operated by the university or commercial enterprise renting space from the university. Includes staff offices in support of these functions.

Room types excluded	Category
Stores that service a particular department or program	4
Departmental and campus mail rooms	4, 10 and 12
General use food service facilities	7
Merchandising facilities exclusively or primarily to the non-university community	19.3

**Formula**

Range of 0.1 to 0.2 NASM / FTE student

**Note:**

The space factor for the aggregated Student & Central Services categories (7, 8, 12, 13, 14 and 15) is 1.5 NASM per FTE student to better align the standard with current space use at universities.

**Category 9: Plant Maintenance****Definition**

Space associated with the operation and maintenance of university buildings, grounds, vehicles and other elements of the physical plant. **Includes campus-wide facilities**, whereas Categories 12 and 16 include space specific to a building.

**Subcategory**

## 9.1 Plant maintenance

Shops and storage areas for carpentry, plumbing, painting, electrical and other trades, lunch, locker and change rooms for maintenance and custodial staff, garages for maintenance vehicles

and all grounds equipment, greenhouses and related areas and garages for storage and repair of vehicles and boats. Include janitorial storage and supply spaces.

Room types excluded	Category
Vocational, technical and academic support shops	2 and 3
Greenhouses for teaching and research	2.3 or 3.2
Office and office related	10
Security and security related	10
Central stores	12
Computer repair shops	12
AV/TV repair shops	12.2
Central utility plant and related	16
Other non-assignable spaced	16

### Formula

- $1.5\% \times \text{Physical Plant Net Assignable Area}$  (*which is the sum of NASM categories 1-15 and 17-20*)

### Category 10: Central Administrative Office and Related Space

#### Definition

A room usually assigned to one or more individuals on a permanent basis containing office-type equipment and used by central administrative and support staff in non-academic departments/faculties/divisions, or a room directly serving these facilities.

#### Subcategories

##### 10.1 Office areas

Single or multiple-occupancy rooms for executives and administrative staff.

##### 10.2 Office support space

Rooms directly serving office space in this category such as conference rooms, special reference libraries, file rooms, vaults, photocopy rooms, computer rooms for administrative use, waiting and reception areas, interview rooms, storage areas, private toilets, lunch rooms and private departmental lounges.

Room types excluded	Category
Deans, Associate or Vice-Deans and their immediate support personnel	4
Office and office-related areas classified elsewhere	4, 5, 8, 13, 14, 17 and 19
Library faculty and staff	5



Room types excluded	Category
Lounges intended for general use	11
Central mail, duplicating and printing areas	12

## Formula

The formula for generating central administrative office facilities has two components:

- Offices: # FTE Non-Academic Staff requiring offices x 12 sq. m.<sup>9</sup> [12.0 NASM]
  - Central administrative and support staff in non-academic units. This includes executives, administrative, professional and management staff as well as administrative support staff with offices.

**Include for example:** office, professional and managerial staff in the following departments; security, athletics, food service, plant maintenance, custodial, grounds, central services and student services and student housing services.

**Exclude for example:** library staff, **other staff working directly for** athletics, food services, grounds, security, shipping/receiving, printing, health services or residences.
- Office Support Space: 50% of the total space generated for the Non-Academic Staff

## Formula Assumptions

- The requirement for office support space is directly related to the number of non-academic staff requiring offices.
- 50% of the total entitlement for office facilities represents an average across all departments.
- The space generated under the formula is to accommodate a wide range of activities from photocopiers and file storage to conference rooms, departmental lounges and resource rooms.

## Category 11: Non-Library Study Space

### Definition

Non-traditional space located outside the library where students meet and study (either in groups or individually). Space includes formal study space (rooms available for students for study) and informal study space (lounge and study space).

<sup>9</sup> In 2010-11 the space factor for administrative offices was 13m<sup>2</sup>.

## Subcategories

### 11.1 Formal study space

Formal study space outside the library. This space includes rooms available for students for study. Also included are reading rooms, study carrels, open computing space, open-stack reading rooms, group rooms and study areas located in academic departments or other non-library departments.

### 11.2 Informal study space

Lounge and study space. This space includes all general lounge space and lounges in residences if available to non-residents, including related service space. Also includes space in corridors / hallways used as lounge space.

Room types excluded	Category
Graduate office space	4.3
Study and Collaborative Space under the jurisdiction of the University Library System	5.4
Space in untraditional space (cafeterias, unoccupied rooms)	7.1
Dedicated path of travel space in corridors and hallways	16.2

## Formula

- 0.4 NASM / FTE student

## Category 12: Central Services

A room or group of rooms used to provide campus-wide services (including the production, distribution and storage of non-print instructional media) for both academic and non-academic sections of the university, and rooms directly serving these facilities.

Include server rooms and closets.

## Subcategories

### 12.1 Computing facilities

Central data processing facilities (including big data centres), computer rooms, technical service and repair areas and their support spaces.

### 12.2 Other central services

Central and regional printing and duplicating shops, central receiving areas, central stores, university mail rooms, laundry and drying rooms located in a central laundry, and technical service and repair areas.

Radio, TV, sound, photography, and graphic studios, film and tape libraries, control rooms, storage rooms, recording rooms, repair and servicing work rooms, dark rooms, preparation rooms, and similar related areas.

## 12.3 Central student and student support services

Includes, for example, career services and related supports, student learning and/or academic success centres and support services, including accessible learning supports.

Room types excluded	Category
Computer rooms for scheduled instruction	2.1
Computer rooms for research	3
Data processing facilities and related areas intended for the sole use of the academic and non-academic staff of a single unit	4.5 and 10.2
Academic advising under an academic department or provided under central administration	4 and 10
Film and tape libraries located in the central library	5
Laundry and drying rooms classified elsewhere	6, 8, 17 and 19
Office or office-related space serving these facilities (including Student Housing Offices)	10
Counselling and health services	13
Campus infrastructure communications and data closets	16.2

**Formula**

- Range of 0.15 to 0.40 NASM / FTE student

**Note:**

- The space factor for the aggregated Student & Central Services categories (7, 8, 12, 13, 14 and 15) is 1.5 NASM per FTE student to better align the standard with current space use at universities.

**Category 13: Health Service Facilities**

A room or group of rooms intended to supply health services primarily to the general university population, and rooms directly serving these physical and wellness services facilities.

**Subcategory**

## 13.1 Health service facilities

Infirmaries, first aid rooms, physiotherapy rooms, doctors' offices/examining rooms, wellness and mental health counselling centres, their support areas, offices and related areas within health service facilities, and first-aid rooms located elsewhere and used for the general university.

Room types excluded	Category
Laboratory clinics for teaching or research	2 and 3
Clinic facilities for health science programs in hospitals or other health care areas	2, 3 and 20
Academic counselling/advising under an academic department or provided under central administration	4 and 10
Athletic / Recreation first-aid and physiotherapy rooms	6

### Formula

- Range of 0.03 to 0.05 NASM / FTE student

### Note:

- The space factor for the aggregated Student & Central Services categories (7, 8, 12, 13, 14 and 15) is 1.5 NASM per FTE student to better align the standard with current space use at universities.

## ***Category 14: Common Use and Student Activity Space***

A room or group of rooms accessible to the general university population intended for recreation, rest, or relaxation, or rooms directly serving these facilities.

### Subcategories

#### 14.1 Student offices and support space

Offices and support space for student government, publications, and clubs, including clubs run by a faculty for students. Also includes collaborative and entrepreneurial space, including incubators, makerspace, and digital labs that are not under the jurisdiction of the Library or a specific department/unit. This can include shared space for entrepreneurship and innovation that is not otherwise categorized.

#### 14.2 Recreational facilities and service

Bowling alleys, pool and billiard rooms, cinemas, television rooms, chess rooms, video games rooms, card playing areas, music listening areas, hobby rooms, faculty clubs, storage and equipment issue rooms, prayer and multi-faith rooms, quiet rooms, and pubs.

Room types excluded	Category
Lounge space classified elsewhere	4, 5 10, 11 and 17
Collaborative and entrepreneurial space under the control of departments/units	4.5
Collaborative and entrepreneurial space under the Jurisdiction of the Library	5.4

Room types excluded	Category
Athletic facilities, wherever situated, such as gymnasias, pools and basketball, handball & squash courts	6
Offices for administrative staff concerned with student affairs and services	10
Student lounge and study space	11

### Formula

- Range of 0.5 to 0.7 NASM / FTE student

### **Category 15: Assembly and Exhibition Facilities**

A room or group of rooms intended to serve the general university population and to be used for dramatic, musical, or devotional activities or for exhibition purposes, and rooms directly serving these facilities.

### **Subcategories**

#### 15.1 Assembly facilities

Theatres, auditoria, concert halls, chapels, and convocation halls and ancillary areas such as checkrooms, coat rooms, ticket booths, concession booths, dressing rooms, projection rooms, storage and control rooms.

#### 15.2 Exhibition facilities

Museums, art galleries, other exhibition areas, greenhouses used for display only and supporting areas.

Room types excluded	Category
Assembly facilities for the primary use of academic programs	1 and 2
Areas for displaying collections intended primarily for instructional and research purposes	2 and 3

### Formula

- Range of 0.15 to 0.40 NASM / FTE student

### **Category 16: Net Non-Assignable Space**

A room or area that is not available for assignment to the occupants of a building but which is necessary for the general occupation or mechanical support of one or a number of buildings.

**Note:** A block of bookstacks, auditoria, classrooms, large laboratories, accounts payable office with their file areas or spectator seating areas are considered part of the appropriate space category and are **not** considered non-assignable space.

## Subcategories

### 16.1 Central utility plant

All boiler rooms, refrigeration plant, electrical transformer stations, cooling towers, compressing stations, water treatment facilities, recycling facilities, hazardous waste storage, incinerator, distribution systems, service tunnels and their support areas serving more than one building or the entire campus.

### 16.2 Other non-assignable areas

Areas used or occupied by janitorial staff (janitors' closets), mechanical and electrical spaces, campus infrastructure communications and data closets, an incinerator serving one building, and public washrooms.

Circulation spaces required to provide general access within a building (i.e. corridors, stairwells, elevators), to a single room or work area (including their integral support areas) e.g. circulation space, is required to provide general access such as fire corridors in office landscaped areas, escape routes in warehousing areas or large congested machine shops, or routes necessary to provide physical access to some subdivision or block of space. Loading docks and service tunnels not assigned to a specific department.

Also includes stairwells.

Include here any other space in parking structures not counted in 16.4 (for example, stairs, electrical/mechanical and elevators.)

### 16.3 Inactive unassignable

Spaces which would require long lead time and extensive work to make them available for occupancy such as those left unfinished at the time of construction or those undergoing major repairs or renovations, i.e. large areas of the building being out of service for many months.

Include space that is being renovated and not available for occupancy for the long term; space occupied on a temporary basis by departments that are displaced due to renovations in their regular space.

### 16.4 Parking Structures

This space includes underground parking areas and parking structures that have a roof. If a parking structure does not have a roof, do not count the top floor.

Room types excluded	Category
IT closets for specific departments/units	4.5
Custodial lunch, locker, shower and change rooms	9.1
Offices for custodial supervisors and plant engineers	10
Space that is deemed available for immediate occupancy but which have not yet been assigned to individuals or groups	19.5

**Category 17: Residential Space**

A room or rooms used to accommodate one or more individuals and the ancillary areas in direct support of such rooms.

**Subcategories****17.1 Residence living space**

Single or multiple-occupancy bedrooms, apartments or other residential units (corridor). Include all space within the suite, including washrooms (if applicable).

**17.2 Residence service space**

Laundry rooms, recreational areas, music rooms, games rooms, locker rooms, lounges only available to occupants of that residence, tuck shops, washrooms in residential suites, and administrative offices in direct support of residential facilities.

<b>Room types excluded</b>	<b>Category</b>
General use study and library areas	5
Food services and merchandising (coded elsewhere)	7 and 8
Offices related to student housing services	10
General use lounges	11
General use recreation areas	14
Public washrooms in residences	16

**Category 18: Animal Space**

Centralized animal facilities (including long term holdings) in overall support of teaching or research and not normally integrated with or under the control of academic departments.

**Subcategories****18.1 Specialized central areas**

Rearing, conditioning, and holding facilities before animals are ready or required for teaching and research purposes as well as facilities for long-term holding and care of animals following surgical or other investigative treatment, located either on or off campus.

**18.2 Farm-type areas**

Barn structures, feed storage, and field service areas.

<b>Room types excluded</b>	<b>Category</b>
Short-term holding and care of animals either before or following surgical or other investigative treatment, located on campus and closely related to academic departments <b>in support of teaching</b>	2

Room types excluded	Category
Short-term holding and care of animals either before or following surgical or other investigative treatment, located on campus and closely related to academic departments <b>in support of research</b>	3
Specialized facilities within central animal areas which are in direct support of research by one or several academic departments such as operating suites	3

### **Category 19: Other University Facilities**

Any room or area not included in Categories 1 through 18.

#### **Subcategories**

19.1 Day care facilities

19.2 Rifle ranges and other space in support of military training

19.3 Merchandising facilities, excluding bookstore, exclusively or primarily to the non-university community (e.g. variety store)

19.4 Demonstration schools, and other instructional institutions for non-university students

19.5 Inactive assignable space

Spaces which are deemed to be available for immediate occupancy but which have not yet been assigned to individuals or groups, and are therefore empty.

19.6 Non-institutional agencies and external companies, or other institutions occupying university space. Includes entrepreneurial space for external use. Does not include commercial space, and other institutions that are using space.

19.7 Instructional service activities to the external community. Includes schools of continuing studies for non-academic credit.

Room types excluded	Category
Bookstore	8
Space that is unavailable for a long term due to construction	16.3



**Category 20: Health Science Clinical Facilities**

Space owned or operated by the university that is used in direct support of teaching and research related to clinical instruction, i.e. the clinical disciplines of Medicine and Veterinary Medicine.

To be included:

1. Health care areas, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms and service and supply areas;
2. All space in support of clinical instruction, research and service; and
3. Space where the corresponding input measures are not included in Categories 1-15 of the space formula and for which capital funding responsibility is assumed to be that of the Ministry of Health.

Room types excluded	Category
Space occupied by the basic medical sciences, such as Anatomy, Biochemistry, Biophysics, Genetics, Microbiology, Pathology (where non-clinical), Pharmacology and Physiology	1-15
Offices occupied by the Chair and associated staff of all clinical teaching departments	4
Space occupied by university health service	13

**Clinical Facilities**

The inventory of universities with programs in the health sciences may include spaces which are used as hospitals or may house clinical staff usually located in hospitals. Much, but not all of the funding for these facilities were provided under the Health Resources Development Plan (historically referred to as Z formula space). In the 1978 edition of Building Blocks, Volume 6, no specific method of reporting hospital or clinical facilities was identified.

The 1986 edition defines Category 20 as space that is used in direct support of instruction, research and service for clinical health science disciplines, that is, related to clinical instruction in the clinical disciplines of Medicine and Veterinary Medicine. This will include all areas used for patient care, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms, and service and supply areas.

In addition to the above categories of space, Category 20 should also be used for health science space in support of clinical instruction or research where the corresponding input measures are not included in Categories 1–15.

Input measures and inventory supporting the basic medical sciences (Anatomy, Biochemistry, Biophysics, Genetics, Microbiology, Pathology, Pharmacology, and Physiology) will continue to be reported in Categories 1–15, along with other health programs (Dentistry, Nursing, Pharmacy, Optometry, Rehabilitation Therapy) identified in the Undergraduate and Research Laboratory groups.

For convenience, the definition of FFTE Undergraduates has been drawn up in such a way that it will include interns and residents.

It is felt that the distortion of generated space is not serious.

The space inventory should relate only to clinical space owned and operated by the university. For more detailed information, see *Building Blocks Volume 3: Report of the Task Force Space for Health Sciences, 1973*.

## Appendix B: List of Input Measures & COU Space Formula

Below is a summary chart that shows the Category Number, Category Name, Space Factor and assigned Letter Group if applicable, as well as the Input Measures.

**Note:**

- The space factor for the aggregated Student & Central Services categories (7, 8, 12, 13, 14 and 15) is 1.5 NASM per FTE student to better align the standard with current space use at universities. The table below includes **suggested ranges** for each of the six categories.

Space Category	Space Factor & Letter Group	Input Measure
<b>1 Classroom Facilities</b>	1.11 NASM	FTE Students
<b>2 Laboratory – Instructional</b>	0.8 NASM (W) 0.6 NASM (X) 0.5 NASM (Y) 0.3 NASM (Z)	Weekly Student Laboratory Contact Hours
<b>3 Laboratory – Graduate and Faculty</b>	45 NASM (A) 30 NASM (B) 20 NASM (C) 10 NASM (D) 5 NASM (E) 2 NASM (F)	FTE Tenured/Leading to Tenure Faculty + 0.5 FTE Other Research Appointments (Post-Doctoral Fellows and FTE Research Associates) + 0.5 FTE Graduates
<b>4 Academic Departmental Offices</b>  <i>Category 4.1 (Academic Offices)</i>	12 NASM	FTE Faculty
<i>Category 4.2 (Research office/project space)</i>	12 NASM	Other Research Appointments  PDFs + FTE Research Associates + FTE Research Funded Support Staff (requiring office type work space)

Space Category	Space Factor & Letter Group	Input Measure
<i>Category 4.3 (Graduate student offices)</i>	3.0 NASM	FTE Graduate Students
<i>Category 4.4 (Departmental administrative and support staff offices)</i>	12 NASM	FTE Non-Academic Office Staff, paid from operating funds (requiring offices)
<i>Category 4.5 (office service)</i>		25% of the total space generated for faculty, non-academic staff and graduate students
<b>5 Library Facilities &amp; Library Study Space</b>		Library Collections (Equivalent Volumes) & FTE Students
<ul style="list-style-type: none"> <li><i>Stack</i></li> </ul>	0.005 NASM	Traditional static shelving
	0.004 NASM	Mobile compact storage
	0.0035 NASM	Offsite/onsite high-density storage
<ul style="list-style-type: none"> <li><i>Study</i></li> </ul>	0.5 NASM	FTE Students
<ul style="list-style-type: none"> <li><i>Support</i></li> </ul>		25% of stack and study
<b>6 Recreation / Athletic Space</b>	0.9 NASM	FTE Students
<b>7 Food Service</b>	0.5 to 0.7 NASM	FTE Students
<b>8 Bookstore &amp; Other Merchandising Facilities</b>	0.1 to 0.2 NASM	FTE Students
<b>9 Plant Maintenance</b>	0.015 x Total Net Assignable Inventory (Categories 1-15 and 17-20)	
<b>10 Administrative Offices</b>	12 NASM	FTE Non-Academic Office Staff (requiring offices)
<ul style="list-style-type: none"> <li><i>Office Service</i></li> </ul>	50% x total generated for FTE non-academic staff (for admin offices)	
<b>11 Non-Library Study &amp; Collaborative Space</b>	0.4 NASM	FTE Students

<b>Space Category</b>	<b>Space Factor &amp; Letter Group</b>	<b>Input Measure</b>
<b>12 Central Services</b>	0.15 to 0.40 NASM	FTE Students
<b>13 Health Service Facilities</b>	0.03 to 0.05 NASM	FTE Students
<b>14 Common Use &amp; Student Activity Space</b>	0.5 to 0.7 NASM	FTE Students
<b>15 Assembly and Exhibition Facilities</b>	0.15 to 0.4 NASM	FTE Students

## Appendix C: Definitions

### Building Blocks

Series of seven COU publications that were published between 1972 and 1988. These publications led to the development of the current COU space standards. See [Historical Changes to the Inventory](#) for a list of the publications.

### Circulation Area

Circulation area is that which is required for physical access to some subdivision of space, whether or not there are enclosed partitions.

Single rooms or work areas, plus integral support areas which serve a single purpose, (for example, a block of book stacks) should not include any spaces within them as Circulation Area.

### Clinical Facilities (reported in Category 20)

The inventory of universities with programs in health sciences may include spaces which are used as hospitals or may house clinical staff usually located in hospitals.

Category 20 is space that is used in direct support of instruction, research and service for clinical health science disciplines that is related to clinical instruction in the clinical disciplines of Medicine and Veterinary Medicine. This will include all areas used for patient care, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms, and service and supply areas.

The space inventory should relate only to clinical space owned and operated by the university.

### Double Cohort

In the academic year 1998-99 the provincial government announced the elimination of Grade 13, resulting in two cohorts (double cohort) of secondary school students (graduates of the old five-year and new four-year curriculum) both seeking university admission at the same time, with a peak effect on university enrolments between 2001-02 and 2004-05.

### Faculty (FTE)

The university's faculty count is to include all persons, up to and including deans, department heads or chairs, holding an academic appointment and involved in teaching, who receive remuneration via the university from all salary funding sources.

The university designates each member of the faculty as full-time or part-time based on appointment.

There is no common definition for FTE faculty. Each university will use the definition employed at their university.

### Formula Space

Usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary

university. There are 15 categories of formula space: classroom, undergraduate laboratory, research laboratory, academic offices, library, athletic, food services, bookstore, plant maintenance, administrative offices, AV/TV, central services, health services, student activity space and assembly space.

### **Generated Space**

Generated space is the space the institution should have, based on the product of the input measure and the COU space factor for each space category.

### **Gross Area**

Gross area is defined as the sum of the floor areas included within the outside faces of exterior walls for all stories, or areas, which have floor surfaces.

### **Input Measure**

Input Measures are used in the calculation of space requirements for the first 15 of the categories, for which quantitative space factors have been determined.

Input Measures include: student enrolment, faculty, research appointments, and non-academic staff full-time equivalent positions, laboratory contact hours, and equivalent volumes in the library calculations.

### **Inventory / Generated (I/G)**

The ratio of actual Inventory (I) and the inventory Generated (G) by COU space factors.

### **Laboratory Weekly Student Contact Hour (LWSCH)**

The total weekly-student-contact-hours of laboratory instruction offered by a university as part of a program of studies leading to a degree or diploma. The contact hours are computed as the product of the course enrolment and the hours of scheduled instruction (when the instructor is in the room) received by each enrolled student during a typical academic week in a “laboratory” setting.

Laboratory instruction pertains to activity facilitated by demonstration or experimentation requiring additional equipment and services not ordinarily available in classrooms.

This would normally include courses requiring the use of language laboratories, the subject classrooms of faculties of education, visual arts and other studios, the teaching of musical instruments, and didactic practice of a sport activity, as well as the traditional engineering, physical and biological science laboratories.

A contact hour is the time that the instructor of the course is supervising a formal laboratory session in a specialized teaching facility. Make up hours, or project time over and above formal instruction time are not counted (e.g., studio or musical practice where no instruction is given).

### **Library Collections (Equivalent Volumes)**

The library materials identified in the university library catalogue and contained in the table in [Appendix A: Category 5](#) are to be included at the stated volume equivalency rate.

- **Equivalent volumes:** An equivalent volume represents one bound volume. Other library materials are converted into bound volumes. Materials are given in terms of 160 bound volumes since 160 bound volumes represents a standard stack – a single faced section with dimensions approximately 7.5 feet high, with six or seven shelves, 3 feet wide.
- See [Category 5: Library Facilities & Library Study Space](#) for details of volume equivalencies.

### **Net Assignable Square Metres (NASM)**

The amount of area or net assignable square metres (NASM) is the amount of area, which can be used by the occupants of the building.

NASM is the sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant (except Custodial, Circulation and Mechanical area).

Net assignable space is counted for Categories 1-20, excluding Category 16.

### **Non-Academic Office Staff (FTE) and Research Funded Support Staff (FTE)**

The full-time equivalent of all filled established positions for **administrative, professional and management staff** with appointments of at least three months' duration as of October 1. This will include staff working in offices in the following areas: research-funded support staff (category 4.2), operating funded non-academic staff (category 4.4), library staff (category 5) and central administrative staff (category 10.1). Staff of ancillary operations are excluded. Technicians requiring offices are included in category 4.2 if paid from research funding and in category 4.4 if paid from operating funds. If technicians are lab-based and do not require office space, they should be excluded.

### **Non-Assignable Space**

A room or area that is not available for assignment to the occupants of a building, but that is necessary for the general occupation or mechanical support of one or a number of buildings. Non-assignable space includes central utility plant, circulation space, janitorial, mechanical and electrical spaces, public washrooms, parking structures and inactive unassignable space. This space is counted on Category 16.

See [Category 16: Net Non-Assignable Space](#) for a more detailed definition.

### **Non-Formula Space**

These are highly specialized facilities generally of a unique nature. There are four (4) categories of non-formula space, which are reported under categories 17 through 20. They are: residence, animal space, other facilities, and health science clinical facilities.

### **Ontario Ministry**

Ontario Ministry refers to the Ontario Ministry responsible for postsecondary education. Until February 1993, it was called Ministry of Colleges and Universities; from February 1993 until July 1999 it was called Ministry of Education and Training; from July 1999 to July 2016 it was called



Ministry of Training, Colleges and Universities; from July 2016 to September 2018 it was called the Ministry of Advanced Education and Skills Development; from September 2018 to the present it is called the Ministry of Colleges and Universities (MCU).

### Other Research Appointments (FTE)

Generators of research are those who are not regular faculty as defined in FTE Faculty, but who have similar research space requirements. This category includes post-doctoral fellows at any salary, and research associates who have equivalent-to-faculty research appointments. The annualized salary paid to a research associate via the university (irrespective of funding source) is normally equal to or higher than an academic appointment. The count date should be 1 October, or another date that accurately reflects demand during the Fall session. Since researchers who are at the university for a short time will normally not require separate space, the count should be limited to appointments of at least three months' duration.

This input measure is for staff appointed who “generate” research, who are originating and directing their own research, or are co-investigators. The staff who are hired to assist in their research are then accommodated with the space generated and are also counted separately under Research Funded Staff.

### Phantom Space

Phantom space is defined as the division of space within an open area where means of egress must be clearly established as corridor space rather than net assignable (NASM). Such space is usually generated due to code requirements to provide an unobstructed passage through an open area.

Examples of phantom space are:

- **Library stack area:** The space occupied by book stacks and the aisles serving the stacks. However, if an aisle exists, whose purpose is to provide a path through the room rather than access to the stacks, then this aisle is to be considered a corridor (Category 16) even though there are no actual walls bounding this corridor.
- **Open concept office:** A large open office suite is divided by system furniture into individual work cubicles. To accurately describe the use of the large office suite, it is necessary to recognize the office cubicles (Category 10 or 4) and the circulation space which permits movement through the suite but is not part of any specific function in the suite (Category 16).

### Space (Actual)

This refers to the inventory of space reported by each institution.

### Space Factor

A space factor is a multiplier resulting from the interaction of standards used for a particular type of space.

### **Space Formula / Standards**

A space standard is a common measurement that may be used to establish a goal for utilization, or allocation of space.

### **Students (FTE)**

- FTE Undergraduate Students: The definitions for student enrolment currently contained in the MTCU Operating Formula Manual will govern the input measures as they pertain to students. Thus, the FTE student count will be consistent with the numbers reported to the Ministry as of November 1.
- FTE Graduate Students: See definition for FTE Undergraduate Students.

Federated and affiliated institutions (both Arts & Science and Theological) are included as of November 1, 1992.

The number of FTE students reported will be the sum of:

1. Eligible plus ineligible fall term FFTE undergraduate students x 2; and
2. Eligible plus ineligible GFTE graduate full-time equivalent) graduate students.

## Appendix D: Program Classification Scheme

To more accurately classify programs, the 2016-17 report transitioned to the use of the [Classification of Instructional Programs \(CIP\)](#), which is a numeric taxonomy of programs used to classify fields of study. It started in the United States in 1980 and was adopted by Statistics Canada in 2000. It is updated every few years to account for new programs.

In previous *Inventory* reports, programs used SPEMAJ (Specialization or Major Field of Study) numeric codes, a made-in-Ontario classification scheme that predated CIP. SPEMAJ provided for broader, higher-level categories than CIP. In the 2016-17 report, SPEMAJ codes were mapped to CIP codes, and will be used going forward.

As was reported in the 2016-17 report, the move to CIP provides consistency across Ontario institutions and harmonization with other jurisdictions that use the Ontario space standards. It will also help ensure that new and emerging programs are identified and have accurate space factors applied to them, since CIP provides more granularity in classifying programs than SPEMAJ.

As reported in the 2019-20 report, the Committee updated space factors for several CIP Code categories to better align with actual use of space, following an analysis of current space use by program. Programs were aligned with their closest NASM/Letter Category in order to allow for better comparability and accuracy of the generated space required by institutions. It is important to note the below space factors are derived from existing averages, rather than a future-needs assessment or a “best practice.”

As noted in the table below, many similar programs are grouped together as they have similar space requirements/needs; however, there is no singular standard for any discipline. For example, engineering spans three different space categories depending on the specific type of engineering program. Below is a summary of the changes and the sample disciplines that fall under each research lab category.

2016-17	2019-20	Sample Disciplines
A = 45 NASM	A = 45 NASM	Hard sciences, animal science and agriculture, medicine/dentistry, engineering (e.g., physics, nuclear, electrical, construction)
B = 30 NASM	B = 30 NASM	Psychology, physical sciences technicians, engineering (e.g., chemical, material, industrial, biological)
C = 20 NASM	C = 20 NASM	Nutrition and family science, astronomy, anthropology, visual arts, engineering (e.g., aerospace, agriculture, architectural)
D = 10 NASM	D = 10 NASM	Visual and fine arts, natural resources/sciences, health education, engineering (e.g., computer, systems)
E = 1 NASM	E = 5 NASM	Architecture, journalism and communications, drama, teacher education, languages, mathematics, accounting

2016-17	2019-20	Sample Disciplines
	F = 2 NASM	History, French, sociology, area studies, business administration

COU space standards make use of program or discipline groups in the generation of instructional labs and research space.

The program/discipline groups are derived from the USER (University Statistical Enrolment Report) manual (Element 5815-CIP). The programs have been classified at the second level. The second level is made up of 'subseries' which are identified using four-digit codes.

CIP Codes and their associated letter categories and space factors for classroom labs and research labs are included in this document, but also appended as a separate Excel document for easier sorting and searching.

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
1.00	Agricultural, general	W	0.8	A	45
1.01	Agricultural business and management	W	0.8	A	45
1.02	Agricultural mechanization	W	0.8	A	45
1.03	Agricultural production operations	W	0.8	A	45
1.04	Agricultural and food products processing	W	0.8	A	45
1.05	Agricultural and domestic animal services	W	0.8	A	45
1.06	Applied horticulture/horticultural business services	W	0.8	A	45
1.07	International agriculture	W	0.8	A	45
1.08	Agricultural public services	W	0.8	A	45
1.09	Animal sciences	W	0.8	A	45
1.10	Food science and technology	Y	0.5	C	20
1.11	Plant sciences	Y	0.5	A	45
1.12	Soil science	Y	0.5	A	45
1.99	Agriculture, agriculture operations and related sciences, other	Y	0.5	A	45
3.01	Natural resources conservation and research	Y	0.5	D	10
3.02	Natural resources management and policy	Y	0.5	D	10
3.03	Fishing and fisheries sciences and management	Y	0.5	D	10
3.05	Forestry	X	0.6	B	30
3.06	Wildlife and wildlands science and management	Y	0.5	D	10

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
3.99	Natural resources and conservation, other	Y	0.5	D	10
4.02	Architecture	X	0.6	E	5
4.03	City/urban, community and regional planning	Y	0.5	D	10
4.04	Environmental design/architecture	X	0.6	F	2
4.05	Interior architecture	X	0.6	F	2
4.06	Landscape architecture	X	0.6	F	2
4.08	Architectural history and criticism	Z	0.3	F	2
4.09	Architectural sciences and technology	X	0.6	F	2
4.10	Real estate development	Z	0.3	F	2
4.99	Architecture and related services, other	X	0.6	F	2
5.01	Area studies	Z	0.3	F	2
5.02	Ethnic, cultural minority, gender and group studies	Z	0.3	F	2
5.99	Area, ethnic, cultural, gender, and group studies, other	Z	0.3	E	5
9.01	Communication and media studies	Z	0.3	F	2
9.04	Journalism	Z	0.3	E	5
9.07	Radio, television and digital communication	X	0.6	F	2
9.09	Public relations, advertising and applied communication	Z	0.3	E	5
9.10	Publishing	Z	0.3	F	2
9.99	Communication, journalism and related programs, other	Z	0.3	F	2
10.01	Communications technology/technician	X	0.6	E	5
10.02	Audiovisual communications technologies/technicians	X	0.6	E	5
10.03	Graphic communications	X	0.6	E	5
10.99	Communications technologies/technicians and support services, other	X	0.6	E	5
11.01	Computer and information sciences, general	Z	0.3	D	10
11.02	Computer programming	Z	0.3	D	10
11.03	Data processing and data processing technology/technician	Z	0.3	D	10

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
11.04	Information Science/Studies	X	0.6	E	5
11.05	Computer systems analysis/analyst	X	0.6	E	5
11.06	Data entry/microcomputer applications	X	0.6	E	5
11.07	Computer science	Z	0.3	D	10
11.08	Computer software and media applications	X	0.6	E	5
11.09	Computer systems networking and telecommunications	X	0.6	E	5
11.10	Computer/information technology administration and management	X	0.6	E	5
11.99	Computer and information sciences and support services, other	X	0.6	E	5
12.03	Funeral service and mortuary science	Y	0.5	F	2
12.04	Cosmetology and related personal grooming services	Y	0.5	F	2
12.05	Culinary arts and related services	Y	0.5	F	2
12.99	Personal and culinary services, other	Y	0.5	F	2
13.01	Education, general	Y	0.5	F	2
13.02	Bilingual, multilingual and multicultural education	Y	0.5	E	5
13.03	Curriculum and instruction	Y	0.5	E	5
13.04	Educational administration and supervision	Y	0.5	E	5
13.05	Educational/instructional media design	Y	0.5	E	5
13.06	Educational assessment, evaluation and research	Y	0.5	E	5
13.07	International and comparative education	Y	0.5	E	5
13.09	Social and philosophical foundations of education	Y	0.5	E	5
13.10	Special education and teaching	Y	0.5	E	5
13.11	Student counselling and personnel services	Y	0.5	E	5
13.12	Teacher education and professional development, specific levels and methods	Y	0.5	E	5

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
13.13	Teacher education and professional development, specific subject areas	Y	0.5	E	5
13.14	Teaching English or French as a second or foreign language	Y	0.5	E	5
13.15	Teaching assistants/aides	Y	0.5	E	5
13.99	Education, other	Y	0.5	E	5
14.01	Engineering, general	Y	0.5	B	30
14.02	Aerospace, aeronautical and astronautical /space engineering	Y	0.5	C	20
14.03	Agricultural engineering	Y	0.5	C	20
14.04	Architectural engineering	Y	0.5	C	20
14.05	Bioengineering and biomedical engineering	W	0.8	C	20
14.06	Ceramic sciences and engineering	W	0.8	B	30
14.07	Chemical engineering	W	0.8	B	30
14.08	Civil engineering	W	0.8	B	30
14.09	Computer engineering	X	0.6	D	10
14.10	Electrical, electronics and communications engineering	Y	0.5	C	20
14.11	Engineering mechanics	X	0.6	A	45
14.12	Engineering physics/applied physics	X	0.6	A	45
14.13	Engineering science	X	0.6	A	45
14.14	Environmental/environmental health engineering	W	0.8	B	30
14.18	Materials engineering	W	0.8	B	30
14.19	Mechanical engineering	Y	0.5	B	30
14.20	Metallurgical engineering	Y	0.5	B	30
14.21	Mining and mineral engineering	W	0.8	A	45
14.22	Naval architecture and marine engineering	W	0.8	A	45
14.23	Nuclear engineering	W	0.8	A	45
14.24	Ocean engineering	W	0.8	A	45
14.25	Petroleum engineering	W	0.8	A	45
14.27	Systems engineering	X	0.6	D	10
14.28	Textile sciences and engineering	W	0.8	B	30
14.32	Polymer/plastics engineering	W	0.8	B	30
14.33	Construction engineering	W	0.8	B	30
14.35	Industrial engineering	W	0.8	B	30
14.36	Manufacturing engineering	W	0.8	C	20

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
14.37	Operations research	W	0.8	B	30
14.38	Surveying engineering	W	0.8	B	30
14.39	Geological/geophysical engineering	W	0.8	B	30
14.40	Paper science and engineering	W	0.8	B	30
14.41	Electromechanical engineering	W	0.8	B	30
14.42	Mechatronics, robotics, and automation engineering	W	0.8	B	30
14.43	Biochemical engineering	W	0.8	B	30
14.44	Engineering chemistry	W	0.8	B	30
14.45	Biological/biosystems engineering	W	0.8	B	30
14.99	Engineering, other	W	0.8	B	30
15.00	Engineering technology, general	W	0.8	B	30
15.01	Architectural engineering technology/technician	X	0.6	A	45
15.02	Civil engineering technology/technician	X	0.6	A	45
15.03	Electrical and electronic engineering technologies / technicians	X	0.6	A	45
15.04	Electromechanical and instrumentation and maintenance technologies/technicians	X	0.6	A	45
15.05	Environmental control technologies/technicians	X	0.6	A	45
15.06	Industrial production technologies/technicians	X	0.6	A	45
15.07	Quality control and safety technologies/technicians	X	0.6	A	45
15.08	Mechanical engineering related technologies/technicians	X	0.6	A	45
15.09	Mining and petroleum technologies/technicians	X	0.6	A	45
15.10	Construction engineering technology/technician	X	0.6	A	45
15.11	Engineering-related technologies	X	0.6	A	45
15.12	Computer engineering technologies/technicians	W	0.8	A	45
15.13	Drafting/design engineering technologies/technicians	W	0.8	A	45
15.14	Nuclear engineering technology/technician	W	0.8	A	45



<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
15.15	Engineering-related fields	W	0.8	B	30
15.16	Nanotechnology	X	0.6	A	45
15.99	Engineering technologies and engineering-related fields, other	X	0.6	A	45
16.01	Linguistic, comparative and related language studies and services	Z	0.3	F	2
16.02	African languages, literatures and linguistics	Z	0.3	E	5
16.03	East Asian languages, literatures and linguistics	Z	0.3	E	5
16.04	Slavic, Baltic and Albanian languages, literatures and linguistics	Z	0.3	E	5
16.05	Germanic languages, literatures and linguistics	Z	0.3	E	5
16.06	Modern Greek language and literature	Z	0.3	E	5
16.07	South Asian languages, literatures and linguistics	Z	0.3	E	5
16.08	Iranian languages, literatures and linguistics	Z	0.3	E	5
16.09	Romance languages, literatures and linguistics	Z	0.3	E	5
16.10	Aboriginal languages, literatures and linguistics	Z	0.3	E	5
16.11	Middle/Near Eastern and Semitic languages, literatures and linguistics	Z	0.3	E	5
16.12	Classics and classical languages, literatures and linguistics, general	Z	0.3	E	5
16.13	Celtic languages, literatures and linguistics	Z	0.3	E	5
16.14	Southeast Asian and Australasian/Pacific languages, literatures and linguistics	Z	0.3	E	5
16.15	Turkic, Uralic-Altaic, Caucasian and Central Asian languages, literatures and linguistics	Z	0.3	E	5
16.16	Sign language	Z	0.3	E	5
16.17	Second language learning <sup>CAN</sup>	Z	0.3	E	5
16.99	Aboriginal and foreign languages, literatures and linguistics, other	Z	0.3	E	5

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
19.00	Work and family studies	Z	0.3	C	20
19.01	Family and consumer sciences/human sciences, genera	Z	0.3	C	20
19.02	Family and consumer sciences/human sciences business services	Z	0.3	C	20
19.04	Family and consumer economics and related services	Z	0.3	C	20
19.05	Foods, nutrition and related services	Y	0.5	C	20
19.06	Housing and human environments	Z	0.3	E	5
19.07	Human development, family studies and related services	Z	0.3	E	5
19.09	Apparel and textiles	X	0.6	E	5
19.99	Family and consumer sciences/human sciences, other	X	0.6	E	5
21.01	Pre-technology education/pre-industrial arts programs <sup>CAN</sup>	X	0.6	E	5
22.00	Non-professional general legal studies (undergraduate)	Z	0.3	E	5
22.01	Law (LLB, JD, BCL)	Z	0.3	E	5
22.02	Legal research and advanced professional studies (post-LLB/JD)	Z	0.3	E	5
22.03	Legal support services	Z	0.3	E	5
22.99	Legal professions and studies, other	Z	0.3	E	5
23.01	English language and literature, general	Z	0.3	E	5
23.13	English rhetoric and composition/writing studies	Z	0.3	E	5
23.14	English literature	Z	0.3	E	5
23.99	English language and literature/letters, other	Z	0.3	E	5
24.01	Liberal arts and sciences, general studies and humanities	W	0.8	F	2
25.01	Library science and administration	Z	0.3	E	5
25.03	Library and archives assisting	Z	0.3	E	5
25.99	Library science, other	Z	0.3	E	5
26.01	Biology, general	X	0.6	A	45
26.02	Biochemistry/biophysics and molecular biology	X	0.6	C	20

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
26.03	Botany/plant biology	X	0.6	A	45
26.04	Cell/cellular biology and anatomical sciences	X	0.6	A	45
26.05	Microbiological sciences and immunology	X	0.6	B	30
26.07	Zoology/animal biology	X	0.6	A	45
26.08	Genetics	X	0.6	A	45
26.09	Physiology, pathology and related sciences	X	0.6	B	30
26.10	Pharmacology and toxicology	X	0.6	A	45
26.11	Biomathematics, bioinformatics, and computational biology	X	0.6	A	45
26.12	Biotechnology	W	0.8	A	45
26.13	Ecology, evolution, systematics and population biology	X	0.6	A	45
26.14	Molecular medicine	X	0.6	A	45
26.15	Neurobiology and neurosciences	X	0.6	A	45
26.99	Biological and biomedical sciences, other	X	0.6	A	45
27.01	Mathematics	Z	0.3	F	2
27.03	Applied mathematics	Z	0.3	E	5
27.05	Statistics	Z	0.3	E	5
27.99	Mathematics and Statistics, Other	Z	0.3	E	5
28.08	Military science, leadership and operational art <sup>CAN</sup>	X	0.6	A	45
29.05	Military technologies and applied sciences <sup>CAN</sup>	X	0.6	A	45
30.01	Biological and physical sciences	X	0.6	A	45
30.05	Peace studies and conflict resolution	X	0.6	E	5
30.06	Systems science and theory	X	0.6	E	5
30.08	Mathematics and computer science	Z	0.3	E	5
30.10	Biopsychology	Z	0.3	E	5
30.11	Gerontology	Z	0.3	E	5
30.12	Historic preservation and conservation	Z	0.3	E	5
30.13	Medieval and renaissance studies	Z	0.3	E	5
30.14	Museology/museum studies	Z	0.3	E	5

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
30.15	Science, technology and society	Z	0.3	E	5
30.16	Accounting and computer science	Z	0.3	E	5
30.17	Behavioural sciences	X	0.6	D	10
30.18	Natural sciences	X	0.6	D	10
30.19	Nutrition sciences	Y	0.5	C	20
30.20	Global/international studies	Z	0.3	E	5
30.21	Holocaust and related studies	Z	0.3	E	5
30.22	Classical and ancient studies	Z	0.3	E	5
30.23	Intercultural/multicultural and diversity studies	Z	0.3	E	5
30.25	Cognitive science	X	0.6	A	45
30.26	Cultural studies/critical theory and analysis	Z	0.3	E	5
30.27	Human biology	Z	0.3	E	5
30.28	Dispute resolution	Z	0.3	E	5
30.29	Maritime studies	Z	0.3	E	5
30.30	Computational science	Z	0.3	E	5
30.31	Human computer interaction	Z	0.3	E	5
30.32	Marine sciences	Z	0.3	E	5
30.33	Sustainability studies	X	0.6	D	10
30.99	Multidisciplinary/interdisciplinary studies, other	X	0.6	D	10
31.01	Parks, recreation and leisure studies	Y	0.5	F	2
31.03	Parks, recreation and leisure facilities management	Y	0.5	F	2
31.05	Health and physical education/fitness	Z	0.3	D	10
31.06	Outdoor education	Z	0.3	D	10
31.99	Parks, recreation, leisure and fitness studies, other	Y	0.5	F	2
32.01	Basic skills (not for credit)	Z	0.3	E	5
33.01	Citizenship activities (not for credit)	Z	0.3	E	5
34.01	Health-related knowledge and skills (not for credit)	Z	0.3	E	5
35.01	Interpersonal and social skills (not for credit)	Z	0.3	E	5
36.01	Leisure and recreational activities (not for credit)	Z	0.3	E	5
37.01	Personal awareness and self-improvement (not for credit)	Z	0.3	E	5

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
38.00	Philosophy and religious studies, general	Z	0.3	E	5
38.01	Philosophy, logic and ethics	Z	0.3	E	5
38.02	Religion/religious studies	Z	0.3	E	5
38.99	Philosophy and religious studies, other	Z	0.3	E	5
39.00	Theology and religious vocations	Z	0.3	E	5
39.02	Bible/Biblical studies	Z	0.3	E	5
39.03	Missions/missionary studies and missiology	Z	0.3	E	5
39.04	Religious education	Z	0.3	E	5
39.05	Religious/sacred music	Z	0.3	E	5
39.06	Theological and ministerial studies	Z	0.3	E	5
39.07	Pastoral counselling and specialized ministries	Z	0.3	E	5
39.99	Theology and religious vocations, other	Z	0.3	E	5
40.01	Physical sciences, general	X	0.6	A	45
40.02	Astronomy and astrophysics	X	0.6	C	20
40.04	Atmospheric sciences and meteorology	X	0.6	C	20
40.05	Chemistry	X	0.6	A	45
40.06	Geological and Earth sciences/geosciences	X	0.6	A	45
40.08	Physics	X	0.6	A	45
40.10	Materials sciences	X	0.6	B	30
40.99	Physical sciences, other	X	0.6	A	45
41.00	Science technologies/technicians, general	X	0.6	B	30
41.01	Biology technician/biotechnology laboratory technician	X	0.6	B	30
41.02	Nuclear and industrial radiologic technologies/technicians	X	0.6	B	30
41.03	Physical science technologies/technicians	X	0.6	B	30
41.99	Science technologies/technicians, other	X	0.6	B	30
42.01	Psychology, general	Y	0.5	B	30
42.27	Research and experimental psychology	Y	0.5	B	30

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
42.28	Clinical, counselling and applied psychology	Y	0.5	B	30
42.99	Psychology, other	Y	0.5	B	30
43.01	Criminal justice and corrections	Z	0.3	D	10
43.02	Fire protection	Z	0.3	D	10
43.03	Security and protective services, specialized programs	Z	0.3	D	10
43.99	Security and protective services, other	Z	0.3	D	10
44.00	Human services, general	Z	0.3	F	2
44.02	Community organization and advocacy	Z	0.3	E	5
44.04	Public administration	Z	0.3	E	5
44.05	Public policy analysis	Z	0.3	E	5
44.07	Social work	Z	0.3	E	5
44.99	Public administration and social service professions, other	Z	0.3	E	5
45.01	Social sciences, general	Z	0.3	E	5
45.02	Anthropology	Y	0.5	C	20
45.03	Archaeology	Y	0.5	D	10
45.04	Criminology	Z	0.3	E	5
45.05	Demography and population studies	Y	0.5	D	10
45.06	Economics	Z	0.3	F	2
45.07	Geography and cartography	Y	0.5	D	10
45.09	International relations and national security studies	Z	0.3	E	5
45.10	Political science and government	Z	0.3	F	2
45.11	Sociology	Z	0.3	F	2
45.12	Urban studies / affairs	Z	0.3	E	5
45.13	Sociology and anthropology	Z	0.3	E	5
45.14	Rural sociology	Z	0.3	E	5
45.99	Social sciences, other	Z	0.3	E	5
46.00	Construction trades, general	Z	0.3	E	5
46.01	Masonry/mason	Z	0.3	E	5
46.02	Carpentry/carpenter	Z	0.3	E	5
46.03	Electrical and power transmission installers	Z	0.3	E	5
46.04	Building/construction finishing, management and inspection	Z	0.3	E	5
46.05	Plumbing and related water supply services	Z	0.3	E	5
46.99	Construction trades, other	Z	0.3	E	5

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
47.00	Mechanics and repairers, general	Z	0.3	E	5
47.01	Electrical/electronics maintenance and repair technology	Z	0.3	E	5
47.02	Heating, air conditioning, ventilation and refrigeration maintenance technology/technician	Z	0.3	E	5
47.03	Heavy/industrial equipment maintenance technologies	Z	0.3	E	5
47.04	Precision systems maintenance and repair technologies	Z	0.3	E	5
47.05	Stationary energy sources installer and operator <sup>CAN</sup>	Z	0.3	E	5
47.06	Vehicle maintenance and repair technologies	Z	0.3	E	5
47.99	Mechanic and repair technologies/technicians, other	Z	0.3	E	5
48.00	Precision production trades, general	Z	0.3	E	5
48.03	Leatherworking and upholstery	Z	0.3	E	5
48.05	Precision metal working	Z	0.3	E	5
48.07	Woodworking	Z	0.3	E	5
48.08	Boilermaking/boilermaker	Z	0.3	E	5
48.99	Precision production, other	Z	0.3	E	5
49.01	Air transportation	Z	0.3	E	5
49.02	Ground transportation	Z	0.3	E	5
49.03	Marine transportation	Z	0.3	E	5
49.99	Transportation and materials moving, other	Z	0.3	E	5
50.01	Visual, digital and performing arts, general	X	0.6	C	20
50.02	Crafts/craft design, folk art and artisanry	X	0.6	C	20
50.03	Dance	X	0.6	E	5
50.04	Design and applied arts	X	0.6	E	5
50.05	Drama/theatre arts and stagecraft	X	0.6	E	5
50.06	Film/video and photographic arts	X	0.6	E	5
50.07	Fine arts and art studies	X	0.6	D	10
50.09	Music	X	0.6	F	2

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
50.10	Arts, entertainment, and media management	X	0.6	E	5
50.99	Visual and performing arts, other	X	0.6	E	5
51.00	Health services/allied health/health sciences, general	X	0.6	D	10
51.01	Chiropractic (DC)	X	0.6	B	30
51.02	Communication disorders sciences and services	X	0.6	C	20
51.04	Dentistry	X	0.6	A	45
51.05	Advanced/graduate dentistry and oral sciences (Cert., MS, MSc, PhD)	X	0.6	A	45
51.06	Dental support services and allied professions	X	0.6	A	45
51.07	Health and medical administrative services	Z	0.3	E	5
51.08	Allied health and medical assisting services	Z	0.3	E	5
51.09	Allied health diagnostic, intervention and treatment professions	X	0.6	E	5
51.10	Clinical/medical laboratory science/research and allied professions	X	0.6	A	45
51.11	Health/medical preparatory programs	X	0.6	A	45
51.12	Medicine (MD)	X	0.6	A	45
51.14	Medical scientist (MS, MSc, PhD)	X	0.6	A	45
51.15	Mental and social health services and allied professions	X	0.6	A	45
51.17	Optometry (OD)	X	0.6	A	45
51.20	Pharmacy, pharmaceutical sciences and administration	X	0.6	B	30
51.21	Podiatric medicine/podiatry (DPM)	X	0.6	A	45
51.22	Public health	X	0.6	E	5
51.23	Rehabilitation and therapeutic professions	X	0.6	B	30
51.24	Veterinary medicine (DVM)	W	0.8	A	45
51.25	Veterinary biomedical and clinical sciences	W	0.8	A	45
51.26	Health aides/attendants/orderlies	X	0.6	E	5



CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
51.27	Medical illustration and informatics	X	0.6	E	5
51.31	Dietetics and clinical nutrition services	X	0.6	E	5
51.32	Bioethics/medical ethics	X	0.6	E	5
51.33	Alternative and complementary medicine and medical systems	X	0.6	E	5
51.34	Alternative and complementary medicine and medical systems <b>[includes midwifery]</b>	X	0.6	E	5
51.35	Somatic bodywork and related therapeutic services	X	0.6	E	5
51.36	Movement and mind-body therapies	X	0.6	E	5
51.37	Energy-based and biologically-based therapies	X	0.6	E	5
51.38	Registered nursing, nursing administration, nursing research and clinical nursing	Z	0.3	F	2
51.39	Practical nursing, vocational nursing and nursing assistants	Z	0.3	F	2
51.99	Health professions and related clinical sciences, other	X	0.6	A	45
52.01	Business/commerce, general	Z	0.3	F	2
52.02	Business administration, management and operations	Z	0.3	F	2
52.03	Accounting and related services	Z	0.3	F	2
52.04	Business operations support and assistant services	Z	0.3	E	5
52.05	Business/corporate communications	Z	0.3	E	5
52.06	Business/managerial economics	Z	0.3	E	5
52.07	Entrepreneurial and small business operations	Z	0.3	E	5
52.08	Finance and financial management services	Z	0.3	E	5
52.09	Hospitality administration/management	Z	0.3	E	5
52.10	Human resources management and services	Z	0.3	E	5
52.11	International business/trade/commerce	Z	0.3	E	5
52.12	Management information systems and services	Z	0.3	E	5

<b>CIP Code</b>	<b>CIP Name</b>	<b>Class lab category</b>	<b>Class lab space factor</b>	<b>Research lab category</b>	<b>Research lab space factor</b>
52.13	Management science and quantitative methods	Z	0.3	E	5
52.14	Marketing	Z	0.3	F	2
52.15	Real estate	Z	0.3	E	5
52.16	Taxation	Z	0.3	E	5
52.17	Insurance	Z	0.3	E	5
52.18	General sales, merchandising and related marketing operations	Z	0.3	E	5
52.19	Specialized sales, merchandising and marketing operations	Z	0.3	E	5
52.20	Construction management	Z	0.3	E	5
52.21	Telecommunications management	Z	0.3	E	5
52.99	Business, management, marketing and related support services, other	Z	0.3	E	5
53.01	High school/secondary diploma programs	Z	0.3	E	5
53.02	High school/secondary certificate programs	Z	0.3	E	5
54.01	History	Z	0.3	F	2
55.01	French language and literature, general	Z	0.3	F	2
55.13	French rhetoric and composition/writing studies <sup>CAN</sup>	Z	0.3	F	2
55.14	French literature <sup>CAN</sup>	Z	0.3	F	2
55.99	French language and literature/letters, other <sup>CAN</sup>	Z	0.3	F	2
60.01	Dental residency programs	X	0.6	A	45
60.03	Veterinary residency programs	X	0.6	A	45
60.04	Medical residency programs - general certificates	X	0.6	A	45
60.05	Medical residency programs - subspecialty certificates	X	0.6	A	45
60.06	Podiatric medicine residency programs	X	0.6	A	45
60.99	Dental, medical and veterinary residency programs, other	X	0.6	A	45

## Appendix E: Background & History: The Development of Space Standards in Ontario

### ***The Development and Use of Space Standards: “Building Blocks”***

The COU space formula and inventory classification system were developed in the 1970s by the COU Committee on Space Standards and Reporting. They developed guidelines in 1971 as a systematic, analytical approach to evaluate the utilization of existing physical resources and to forecast future requirements. This initial work culminated in the first report, *Building Blocks: Background Studies on the Development of a Capital Formula for Ontario*. The report, produced every three years since that time, provides a detailed examination of each space category in terms of the data collected, the input measures used and the rationale for the space factors that have been adopted.

The standards, which are based on a number of variables that go beyond space metrics to include issues such as enrolment, are respected benchmarks in Ontario’s university and government sectors. For example, the formula for calculating classroom space includes the average university classroom station size, the room utilization standard, and station utilization standard. Each of these components are reviewed on a regular basis to take into account changes in teaching pedagogies.

The COU Survey of Physical Facilities takes place during the winter of each third academic year. Data as of November 1 are requested, to coincide with the date for reporting of student enrolment to the Ontario government for the purposes of operating grants.

Major changes were made prior to the 1986-87 survey. In each subsequent survey, updates were made to the survey instrument and definitions to reflect changing space needs.

In the survey, each institution is asked to report current inventory in 20 space categories, and related input measures, such as student enrolment, faculty and staff full-time equivalent positions, laboratory contact hours, and equivalent volumes in the library collection. These input measures are used in the calculation of space requirements for the first 15 of the categories, for which quantitative space factors have been determined. The resulting calculations of space entitlement are used, with the data on existing inventory, in various ways. For example, COU uses the survey data to monitor changing space needs and as part of the case made to government about capital funding requirements for the university system as a whole.

Individual institutions may compare their existing inventory with space entitlement under the COU formula in proposals for capital funding for new buildings, and the COU formula (sometimes with modifications) is used in institutional planning, such as estimating the needs of a division for different types of space.

Outside agencies and institutions, including universities (for example, the University of British Columbia and Dalhousie University) and government ministries in British Columbia and Saskatchewan, are also users of Building Blocks. Consultants planning university facilities in Canada and in other countries frequently request COU space publications. The Canadian University Reciprocal Insurance Exchange (CURIE) uses the COU space categories as a basis for determining the value of university facilities for insurance purposes.

Since 1986-87, the Ontario Ministry has allocated funds for repair and renovation known as the Facilities Renewal Program (FRP) according to each institution's entitlement for space in the 15

formula categories. In 2020, universities recommended to the Ministry a modified formula for the FRP that considered various factors more closely related to the condition of physical facilities. The revised formula as developed was not accepted by the Ministry; at present, the Ministry is allocating the FRP based on a hybrid formula that includes a generated space component.

### ***COU Committee on Space Standards and Reporting***

In the late 1980s, the Committee began to coordinate the triennial survey, conducting periodic reviews of the space standards and special studies on the availability and utilization of university space. The Committee uses the detailed data collected in the survey to monitor changes in space needs, such as the changing needs of today's students. These include increasing demands for technology and non-traditional study space, as well as how changes to teaching and learning methods affect the use and design of classrooms.

Institutions refer to the "COU Building Blocks Users' Guide" as a reference to complete the survey. The Users' Guide details the space classification scheme, provides definitions and clarification on how specific space should be classified, as well as the space standards and their calculations.

A list of publications since 1991 is included below.

### ***Task Force on University Space Transformation: 2018 to present***

Under the leadership of the Council of Senior Administrative Officers (CSAO), the Task Force on University Space Transformation (the Task Force) was struck to take a strategic and forward-looking approach in reviewing current university space standards, especially in light of the COVID-19 pandemic, including the increase of remote work policies and reduced and/or changed use of physical space on campus.

Task Force delegated work on piloting potential changes to space reporting guidelines to the Committee on Space Standards and Reporting. Revised reporting is anticipated for the 2025-26 Triennial Report.

The Task Force will continue to provide strategic oversight to the review of issues related to overall capital planning and space management on an ad hoc basis.

### ***Historical Changes to the Inventory***

The following list includes major changes made to the space inventory definitions and space factors since 1991. For a list of major changes made prior to 1991, please refer to the *Inventory of Physical Facilities of Ontario Universities* 2010-11 report.

Time/Period	Major Change or Publication
January 1991	Published: Inventory of Physical Facilities of Ontario Universities, 1989-90 (#91-1)
1992	Published: COU Building Blocks - Users Guide (first edition)
1992-93	Changes made starting with the 1992-93 report:

Time/Period	Major Change or Publication
	<ul style="list-style-type: none"> <li>Federated and affiliated colleges are included in response to the Ontario Ministry's funding requirements. Data on space and activities at all of these institutions are now fully integrated into the reports of their constituent universities.</li> <li>Nipissing University appears as a separate university. In previous years, Nipissing was reported as an affiliated college of Laurentian University.</li> </ul>
December 1993	Published: Inventory of Physical Facilities of Ontario Universities, 1992-93 (#93-5)
1995-96	<p>Change made starting with the 1995-96 report:</p> <ul style="list-style-type: none"> <li>The library volume equivalencies used in the generation of stack space entitlement were reviewed in order to bring them up-to-date with changes in library materials, such as the use of CD-ROMS and on-line databases. The Committee adopted the methodology used by CARL (Canadian Association of Research Libraries).</li> </ul>
July 1997	Published: Inventory of Physical Facilities of Ontario Universities, 1995-96 (#330)
1998-99	<p>Change made starting with the 1998-99 report:</p> <ul style="list-style-type: none"> <li>OISE is included with University of Toronto (St. George campus) data. Prior to 1998-99, OISE was included as a separate institution.</li> </ul>
April 2000	Published: Inventory of Physical Facilities of Ontario Universities, 1998-99 (#670)
2001-02	<p>Changes made starting with the 2001-02 report:</p> <ul style="list-style-type: none"> <li>The inventory for Dean's office (which was previously reported under Category 10 (administrative office space)), is now reported under Category 4 (academic office space).</li> <li>The assumptions used in the classroom input measure were updated to reflect the way students are being taught today. As a result, (1) the station size increased from 1.4 NASM to 1.7 NASM, (2) the utilization rate increased from 62% to 65%, and (3) the number of hours per week that a classroom is expected to be used, increased from 30 to 34 (to account for evening classes and the lengthening of the teaching day). As a result, the space factor for classrooms changed from 1.2 NASM to 1.23 NASM.</li> </ul>

Time/Period	Major Change or Publication
	<ul style="list-style-type: none"> <li>Category 5 (Library and Study Space) has been renamed Campus Study Space &amp; Library Facilities) to reflect more accurately how this space is being utilized.</li> <li>Subcategory 12.3 (Student Computer Rooms) is now reported in Category 5 under Subcategory 5.4 (Computer-Equipped Study Space). This type of space is defined as campus-wide electronically equipped computer rooms available for students for study.</li> <li>Other Research Appointments are included in the faculty supplement calculation, Category 4.2. Also, technicians, if they occupy offices, are counted in Category 4.4</li> </ul>
January 2003	Published: Inventory of Physical Facilities of Ontario Universities, 2001-02 (#734)
2004-05	<p>Changes made starting with the 2004-05 report:</p> <ul style="list-style-type: none"> <li>UOIT (now Ontario Tech University) is included.</li> <li>The provision for academic support staff and service changed from 30% to 25% of the total generated for faculty and graduate students.</li> <li>The provision for administrative support staff and service changed from 30% to 50% of the total generated for non-academic staff.</li> <li>Study space is reported in Category 5. Previously, it was reported in Category 12.</li> <li>Parking structures are now reported in Category 16. Previously they were reported in Category 19.</li> <li>A number of changes to the Library/Learning Commons space were made.</li> </ul>
December 2005	Published: Inventory of Physical Facilities of Ontario Universities, 2004-05 (#779)
2007-08	<p>Changes made starting with the 2007-08 report:</p> <ul style="list-style-type: none"> <li>There were a number of changes made to Category 5 (Library Facilities and Campus Study Space). With the assistance of OCUL, the following changes were made: <ul style="list-style-type: none"> <li>Changes were made to equivalent volume calculations for various types of library material.</li> </ul> </li> </ul>

Time/Period	Major Change or Publication
	<ul style="list-style-type: none"> <li>○ The space factor for stack space changed. Traditional static shelving changed from a sliding scale depending on the number of volumes to one space factor (0.005). A new category of stack space was introduced – super high density (space factor of 0.0035) – to reflect this new mode of storing library materials.</li> <li>• Departmental research support staff offices/workspaces were moved from Category 3 to Category 4.</li> </ul>
February 2010	Published: Inventory of Physical Facilities of Ontario Universities, 2007-08 (#816)
2010-11	<p>Changes made starting with the 2010-11 report:</p> <ul style="list-style-type: none"> <li>• Northern School of Medicine (NOSM) is included.</li> <li>• The Recreation/Athletic space subsidy for universities with enrolment less than 8,000 FTEs was eliminated.</li> <li>• The amount of space devoted to AV/TV Facilities has declined over time. The Committee agreed to eliminate Category 11: AV/TV Facilities and report the space under Category 12.2 Central Services (Other Central Services).</li> </ul>
June 2013	Published: Inventory of Physical Facilities of Ontario Universities, 2010-11 (#874)
2013-14	<p>Changes made starting with the 2013-14 report:</p> <ul style="list-style-type: none"> <li>• The space factor for Student and Central Services was changed from 2.0 to 1.5 NASM / FTE student.</li> <li>• The office space factor (academic and administrative) was changed from 13 to 12 NASM / office.</li> <li>• The classroom space factor was changed from 1.23 to 1.11.</li> <li>• Graduate student office space was changed from 4 to 3 NASM/office.</li> <li>• The faculty supplement (15% of total FTE faculty) was eliminated.</li> </ul>
May 2015	Published: Inventory of Physical Facilities of Ontario Universities, 2013-14 (#905)
2016-17	Changes made starting with the 2016-17 report:

Time/Period	Major Change or Publication
	<ul style="list-style-type: none"> <li>• Category 1.0 (Classroom Facilities) has been expanded to include Active Learning Classroom space as Category 1.3. It is further divided into tiered and non-tiered ALC space. <ul style="list-style-type: none"> <li>○ Classroom Service Space (formerly 1.3) has been moved to a new Category 1.4.</li> </ul> </li> <li>• A new Category 11, Non-Library Study space, which captures data on study space outside the library. Data previously reported in Category 5.5 and 14.3 (areas reporting study space) are now included in this new category. <ul style="list-style-type: none"> <li>○ 11.1: Formal library study space (formerly Category 5.5, “study space not under the jurisdiction of the university library system”, which has been removed). A space factor of 0.5 has been assigned.</li> <li>○ 11.2: Informal study space (formerly Category 14.3, “lounge and lounge service,” which has been removed). A space factor of 0.4 has been assigned.</li> </ul> </li> </ul>
June 2018	Published: Inventory of Physical Facilities of Ontario Universities, 2016-17 (#934)
2019-20	<p>In 2019, the Committee updated space factors for several CIP Code categories to better align with actuals/reality, following an analysis of current space use by program. Consequently, programs have been aligned with their closest NASM/Letter Category in order to allow for better comparability and accuracy of the generated space required by institutions. It is important to note the space factors are derived from existing averages, rather than a future-needs assessment or a “best practice.”</p> <p>A new Category 12.3, Central student and student support services, was created to include, for example, career services and related supports, student learning and/or academic success centres and support services, including accessible learning supports.</p>



## Appendix F: Committee on Space Standards and Reporting: Contacts

Below is a list of contacts should readers of this report require assistance in interpreting individual institutional information.

University	Name and Title	Contact Information
Algoma University	Shane Maurice, Director of Physical Plant	<a href="mailto:shane.maurice@algomau.ca">shane.maurice@algomau.ca</a>
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