

Council of Ontario Universities (COU) “Building Blocks:” Users’ Guide for Space Standards Reporting

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Introduction & Background

The COU space formula and inventory classification system were developed in the 1970s, and have been revised over the years. 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.

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 operating grants purposes.

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 – or what space a university “should have” based on their inputs – are used, with the data on existing inventory, in various ways.

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 (e.g. UBC, Dalhousie) 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. From 1986-87 until 2018-19/present, 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.

The Users' Guide

This Users' Guide is designed to help university staff prepare their institutional submissions to the triennial survey of physical facilities conducted by COU on behalf of the sector. The survey consists of five forms:

Form 1: Actual Space Inventory by Space Category. Report the amount and type of existing space by space category.

Form 2: Actual Space Inventory by Building. Report the amount and type of existing space by building.

Form 3: Instructional and Research Laboratory Inventory and Related Input Measures for Categories 2, 3 and 4. Requires the reporting of space inventory information for categories 2 and 3. The form collects data on Laboratory Contact Hours, FTE Faculty (total and tenure/tenure track), FTE Graduate Students, and Other Research Appointments (including Post-Doctoral Fellows and Research Associates) at the departmental level.

Form 4: Summary of Selected Input Measures. Input measures are indicators of the need for space and are used in the calculation of space entitlement according to the COU formula. This form reports data on students, non-academic staff, and library equivalent volumes. The other input measures (faculty, laboratory weekly contact hours (see Form 4A) and other research appointments) are reported on Form 3.

Form 4a: Total Library Equivalent Volumes. Reports library volume counts, traditional static shelving, mobile compact storage, and offsite/onsite high-density storage.

At some institutions, one office may complete all the forms; at others, Forms 1 and 2 may be prepared by a different office than Forms 3 and 4. However it is done, the data required will no doubt come from a number of different offices or databases at the institution.

The Guide's other function is an analysis of space requirements, or generated space, which is the amount of space a university should have according to the current formula and standards. This section consists of a summary of the COU space standards and the generated space entitlement formula. Individual Ontario universities are not asked to complete the calculations for the triennial submission. However, the worksheet can be used internally for a preliminary space formula calculation prior to the publication of the final report after which time any necessary adjustments should be made.

Each component of the space factor and the assumptions on which the formula is based are defined in the [Input Measures & COU Space Formula](#) section of this Guide.

Survey Instrument: Forms and Instructions

Form 1 Instructions

Form 1 is used to report an institution's actual inventory in net assignable square metres for each of the twenty COU space categories and subcategories. The space categories are listed in [Space Classification Scheme](#) section.

The form itself is largely self-explanatory. Separate totals are calculated for categories in the COU space formula (1-15); for non-formula categories (17-20); and for the total. Category 16 (Net Non-Assignable) is not included in neither the subtotal nor the total.

Users are only required to enter their University Name on Form 1 as the entry will automatically appear on subsequent forms.

Exclusions:

Category 1.3 (Active Learning Classrooms) is 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.

Figure 1: Form 1 (screenshot 1 of 3) – Actual Inventory

Institution:				
			Area NASM	Subtotal
1.0	CLASSROOM FACILITIES			
	1.1	Tiered classroom		
	1.2	Non-tiered classroom		
	1.3	Active Learning classroom space		
		a) tiered space		
		b) non-tiered space		
	1.4	Classroom service space		
				0
2.0	LABORATORY - UNDERGRADUATE ¹			
	2.1	Scheduled class laboratory		
	2.2	Unscheduled class laboratory		
	2.3	Laboratory (undergraduate) support		
				0
3.0	RESEARCH LABORATORY SPACE ²			
	3.1	Research laboratory space		
	3.2	Research (graduate & faculty) support space		
				0
4.0	ACADEMIC DEPARTMENTAL OFFICE AND RELATED			
	4.1	Academic offices		
	4.2	Research Office / Project space		
	4.3	Graduate student offices		
	4.4	Departmental administrative & Support staff offices		
	4.5	Office support space		
				0
5.0	LIBRARY FACILITIES & LIBRARY STUDY SPACE			
	5.1	Library collection space		
	5.2	Library/Office space		
	5.3	Library Support space		
	5.4	Study Space under the Jurisdiction of the Univ Lib System		
				0
6.0	ATHLETIC / RECREATION SPACE			
	6.1	Athletic activity areas		
	6.2	Athletic seating areas		
	6.3	Athletic service space		
				0
7.0	FOOD SERVICE			
	7.1	Food facilities		
	7.2	Food facilities services		
				0

Figure 2: Form 1 (screenshot 2 of 3) - Actual Inventory

Institution:			
		Area NASM	Subtotal
8.0	BOOKSTORE AND OTHER MERCHANDISING FACILITIES		
8.1	Bookstore/Merchandising		0
9.0	PLANT MAINTENANCE		
9.1	Plant Maintenance		0
10.0	CENTRAL ADMINISTRATIVE OFFICE AND RELATED		
10.1	Administrative office areas		
10.2	Administrative office support space		0
11.0	NON-LIBRARY STUDY SPACE		
11.1	Formal study space (formerly 5.5)		
11.2	Informal study space (formerly 14.3)		0
12.0	CENTRAL SERVICES		
12.1	Computing facilities		
12.2	Other central services		
12.3	Central student and student support services		0
13.0	HEALTH SERVICE FACILITIES		
13.1	Health service facilities		0
14.0	COMMON USE AND STUDENT ACTIVITY SPACE		
14.1	Student offices and support space		
14.2	Recreational facilities and service		0
15.0	ASSEMBLY AND EXHIBITION FACILITIES		
15.1	Assembly facilities		
15.2	Exhibition facilities		0
SUBTOTAL - FORMULA AREAS ³ (sum of 1.0-15.0)			0

Figure 3: Form 1 (screenshot 3 of 3) - Actual Inventory

Institution:				
			Area NASM	Subtotal
16.0	NET NON-ASSIGNABLE (NNASM)			
	16.1	Central utility plant		
	16.2	Other non-assignable areas		
	16.3	Inactive unassignable (see classification notes)		
	16.4	Parking Structures		
				0
17.0	RESIDENTIAL SPACE			
	17.1	Residence living space		
	17.2	Residence service space		
				0
18.0	ANIMAL SPACE			
	18.1	Specialized central animal areas		
	18.2	Farm-type animal areas		
				0
19.0	OTHER UNIVERSITY FACILITIES			
	19.1	Day care facilities		
	19.2	Rifle ranges and military training		
	19.3	Extra-university merchandising facilities		
	19.4	Demonstration schools		
	19.5	Inactive assignable (see classification notes)		
	19.6	Non-instit. agencies occupying university space		
	19.7	Instructional service activities to external community		
				0
20.0	HEALTH SCIENCE CLINICAL FACILITIES			
	20.1	Health Science clinical facilities		0
	TOTAL - NON-FORMULA AREAS ⁴ (sum of 17.0 to 20.0)			0
	TOTAL - FORMULA AND NON-FORMULA AREAS			0
¹ Sum of 2.0 Laboratory - Undergraduate. It should equal the sum of CAT. 2 NASM on Form 3. ² Sum of 3.0 Research Laboratory (graduate & faculty). It should equal the sum of CAT. 3 NASM on Form 3. ³ Should agree with the sum of NASM 1-15 column on Form 2 (column 3). ⁴ Should agree with the sum of NASM 17-20 column on Form 2 (column 9).				

Form 2 Instructions

- a. **Building Name:** Use building name, street address or some other unique identifier.
- b. **Year:** Report the year of original construction completion. If part of a building has undergone major renovation¹ work (i.e. architectural, mechanical and electrical space renewal, a major renewal that effectively reduces the age of the building or a part of the building), identify the year that the renovation was completed and identify the NASM of the area renovated, subtracted from the original building NASM.
- c. **NASM 1-15:** The total net assignable square metres reported here should equal the total for categories 1 - 15 shown on Form 1 of the present update.
- d. **NASM 16:** The total net assignable square metres reported here should equal the total for category 16 shown on Form 1 of the present update. See [Definitions and Space Categories: Definitions, Sub-Categories and Formulae](#).
- e. **NASM 17-20:** The total net assignable square metres reported here should equal the total for categories 17 - 20 shown on Form 1 of the present update.

Scheduled for Demolition: If you are presently planning to demolish space reported under the NASM 1 - 15 column, enter 'yes' in this column.

Rentals: For buildings that the institution rents for institutional functions, report the amount of space that is reported in the NASM 1-15 column.

Gross Square Metres: Gross Area should be construed to mean the sum of the floor areas included within the outside faces of exterior walls for all stories, or areas, which have floor surfaces. For further details, see [Gross Area](#). **The data reported here will be compared to the data reported under the VFA software. Please ensure that the data is reported consistently.**

Under Construction: On the last column of Form 2, report the total GSM (gross square metres) of new buildings under construction that are expected to be occupied within the next three years (by November 1, 2019). Include buildings that have gone to tender and for which a contract has been signed.

¹ Renovation, as defined by MCU is, building construction activities that replace and/or upgrade facilities, or their components that have reached the end of their economic life, have failed prematurely or are required for code compliance. Upon completion of the renovation the facilities could be considered equivalent to new construction.

Figure 4: Form 2 – Inventory by Building

Institution:									
		0							
Code	Building Name	Year	NASM 1-15 ¹	NASM 16 ²	NASM 17-20 ³	Scheduled for Demolition	Rentals ⁴	Gross Sq. Metres	Under Construction ⁵
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
NOTES:									
¹ The column sum of NASM 1-15 should agree with the Subtotal - Formula Areas figure on Form 1.									
² The column sum of NASM 17-20 should agree with the Subtotal - Non-Formula Areas figure on Form 1.									
³ The column sum of NASM 16 should agree with the sum of 16.0 Non-Assignable on Form 1.									
⁴ The figures reported should refer to NASM 1-15 figures only.									
⁵ Report the building name(s) and the Gross Sq. Metres of the buildings under construction.									

Form 3 Instructions

Form 3 asks for a report by department or discipline of space inventory and activity measures for each of the laboratory categories: 2.0: Laboratory – Undergraduate; and 3.0: Research Laboratory space (Graduate & Faculty).

- a. **CIP (Classification of Instructional Programs) Code.** Please refer to the [Program Classification Scheme: CIP Codes](#), which is also an Excel addendum to this Guide. CIP codes are to be reported at the second level. The second level is made up of 'subseries' which are identified using four-digit codes.
- b. **Department Name:** Report the department name that is assigned to the CIP code in column 1.
- c. **Group W-Z:** Enter the program group for Category 2.0 for each department name. Refer to the [Program Classification Scheme: CIP Codes](#).
- d. **Cat. 2 NASM:** Report the actual inventory for instructional labs.
- e. **Contact Hours:** Refer to [Laboratory Weekly Student Contact Hours](#).
- f. **Group A-G:** Enter the program group for Category 3.0 for each department name. Refer to the [Program Classification Scheme: CIP Codes](#).
- g. **Cat. 3 NASM:** Report the actual inventory for research (graduate & faculty) labs.
- h. **Total FTE Faculty:** Refer to [FTE Faculty](#)
- i. **Tenured and Tenure Track FTE Faculty:** Using the same definition as (8) Total FTE Faculty, report the FTE faculty who are tenured and on the tenure track. The difference between Column 8 (Total FTE Faculty) and Column 8A will therefore be the number of FTE faculty who are teaching only and not conducting research.
- j. **Other Research Appointments:** Report the number of FTE Post-Doctoral Fellows and FTE Research Associates separately. Refer to [Library Collections \(Equivalent Volumes\)](#)
- k. **Graduate Students (FTE):** Refer to [FTE Graduate Students](#).

NOTES:

The NASM figures for class labs and research labs on Form 3 must agree with the NASM reported on Form 1 (Categories 2 and 3). Please note that if you are reporting space in Form 1, you must also report it in Form 3. All space reported on Form 3 should be associated with a Group and have a CIP code. If not, please provide an explanation.

Please ensure that the total FTE Faculty, Tenured and Tenure Track FTE Faculty, Other Research Appointments and FTE Graduate Student counts are provided for all departments.

Figure 5: Form 3 - Classroom Labs & Research Labs by Department

[illegible]

Form 4 Instructions

Data on the various Input Measures not reported in other forms are reported on Form 4.

Total Students: The figures reported here should agree MCU figures. If the figures do not agree, please provide an explanation in your submission.

See definition for **FTE Graduate Students**. These figures should agree with the corresponding figures reported on Form 3.

Total Library Equivalent Volumes: see **Form 4a Instructions**.

Figure 6: Form 4 - Input Measures

Institution:	0
Total Students ¹	
(1) Total FTE Fall Term Undergraduates (eligible + ineligible)	
Total FTE (<i>multiplied by 2</i>)	0
(2) Total FTE Fall Term Graduates (eligible + ineligible)	
Total FTE Students (undergraduate & graduate)	0
Total Non-Academic Office Staff	
(1) Academic Departments (offices in Cat 4)	
(a) paid through Operating Fund	
(b) paid through Research Fund	
(2) Administrative Departments (offices in Cat 10)	
Total Library Equivalent Volumes	<i>see Form 4A</i>
¹ Should agree with Ministry figures.	

Form 4a Instructions

Library Volume Counts: Report the actual count for each of the categories listed. COU will calculate the equivalencies. These categories are similar to those used by OCUL (Ontario Council of University Libraries). Refer to the [Library Material](#).

- a. **Traditional Static Shelving:** Report the count of library material on traditional library stacks.

Mobile Compact Storage: Report the count of library material stored in compact storage in restricted and unrestricted areas.

Offsite/Onsite High-Density Storage: Report the count of library materials stored in super high-density areas (e.g., UofT compact storage facility, Guelph/Waterloo/WLU storage facility).

The total of the above 3 categories will equal the total count of the university library system.

Figure 7: Form 4a - Library Volumes

Institution:	0			
Material	Units	Traditional Static Shelving Count	Mobile, Compact Shelving Count	Offsite/Onsite High Density Storage Count (if applicable)
Monograph Volumes - excluding Reference	# volumes			
Reference	# volumes			
Documents and Technical Reports	# reports			
Archival Materials	linear metres			
Serial Volumes - bound	paper copy			
Serial Volumes - unbound	paper copy			
OR Serial Volumes - bound and unbound	paper copy			
Maps	# sheets			
Microfilm	# reels			
Microfiche	# items			
Audio-Visual Holdings *	# titles			
Slides	# slides			
Printed Music	# scores			
NOTES:				
Report the actual count figures for each of these categories.				
Serial Volumes: If you are unable to report bound and unbound serial volumes separately, you may report the combined count under 'Serial Volumes - bound and unbound'				
* Audio-Visual Holdings includes CD-ROMs, DVDs, Learning Kits, Magnetic Tape, and Floppy Disks.				

Space Classification Scheme: Introductory Notes

These notes define the nature and scope of the inventory that is to be included in the reporting and addresses several recurring questions concerning space inventory and classification.

Categories of Space

'Definitions of Space Categories', found on pages 26 to 50, is the classification scheme itself. It includes 20 *categories* of space type which are accompanied by definitions aimed at the main intent of the classification. The first 15 of these categories identify the usable or *assignable* spaces in an institution for which space standards could normally be developed, while categories 17 through 20 classify *non-formula* spaces or highly specialized facilities generally of a unique nature. The definitions of the space types are meant to be mutually exclusive. Category 16 is Non-Assignable space which includes central utility plant, circulation space, janitorial, mechanical and electrical spaces, public washrooms, parking structures and inactive unassignable space.

Subcategories

Each of these 20 initial categories is further classified into one or more *subcategories*. These subcategories are identified merely by their names and by examples of specific room types that would likely be included. The examples of room types are neither exhaustive nor mutually exclusive, but are instead intended to characterize the nature of the subcategory. It should be emphasized that all rooms classified into a subcategory must meet the definition of the main category itself.

Exclusions

A specific set of *Room Types Excluded* has been specified for most categories of space to assist in the immediate identification of classification problems. For detailed commentary on individual rooms it is recommended that users consult the [Glossary by Type of Space](#).

Glossary

This is intended to be a flexible document, which will record detailed decisions regarding space classification problems. In some cases, use of the glossary is probably the only means by which a room could be classified. The [Glossary by Type of Space](#), therefore, forms an integral part of the classification scheme.

Scope of Inventory

The inventory of space that is to be reported is to include all spaces defined in the classification scheme regardless of whether the space is owned, leased or rented by the university or others, and regardless of the source of funds used for its construction or acquisition and regardless of the age or condition of the space. By this definition, the space reported may include facilities not owned by the university on one hand, or may exclude owned facilities on the other. Owned facilities which are excluded for example, could be houses used for domestic purposes or income and other properties which only incidentally serve the university population. In the

broadest terms, the space to be reported should be that necessary and useful to the university in supporting the institution and its faculty, staff and students in their mission of instruction, research and public service.

Coding Scheme

The classification coding scheme supports the institutional reporting and inter-university comparisons of space types at the Category and Subcategory levels of detail as well as at the departmental and building levels. Universities are encouraged to develop up-to-date databases perhaps with the integration of CAD data.

Pro-Rationing

One of the primary purposes of the classification scheme was to distinguish between spaces that were put to differing uses by means of adequate definitions. Pro-rationing should not, in general, be required: whole classifications should almost always be attempted on the basis of the closest definition. However, there are circumstances where pro-rationing is necessary. For example, laboratory support space used for both teaching and research will be prorated in categories 2 and 3. Large rooms in which there are phantom corridors will have to be prorated between assignable and non-assignable space. An institution may also choose to pro-rate space because of internal reporting requirements.

Source of Funds

As previously mentioned, all facilities that can be classified by the definitions are to be included regardless of source of funds for construction. While source of funds is an important component in the description of the capital assets of an institution, it was felt that these matters lie outside the development of a space classification scheme.

Space Categories: Definitions, Sub-Categories and Formulae

Note: Changes new to the 2022 reporting cycle are **highlighted in red**.

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
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 enrol 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 = 0.70² (i.e., 70% seats occupied when the room is used)

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.

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

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.

² In 2010-11 it was assumed that 65% of the seats would be occupied when the room is used. This changed the space factor from 1.23 to 1.11 NASM.

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.

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

Room types excluded	Category
Academic office	4
Computer labs for student study, not used for scheduled instruction	11.1
Service areas for the above excluded room types	

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

Group	Station Area (NASM), including Service Space outside the lab	Utilization Rate Hours x Seat Utilization	Space Factor NASM/WSLabCH
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 (denoted A, B, C, D, E and F) are used.
- 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
All space under the administration of the university library system	
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. Faculty: # FTE Faculty x 12m².³
2. Research Appointments: (# PDFs + FTE Research Associates + FTE Research Funded Support Staff) x 12m².
3. Non-Academic Departmental Support Staff: # FTE Non-Academic Staff, paid from operating funds, requiring offices x 12m².
4. Graduate Students: # FTE Graduate Students x 3m².⁴

³ In 2010-11 the space factor for faculty, research appointments and non-academic departmental support staff was 13m².

⁴ In 2010-11 the space factor for graduate students was 4m²

5. 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 Area.)

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.

Room types excluded	Category
Classrooms in libraries	1
Media storage for language laboratories	2
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

Room types excluded	Category
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

For further details, please refer to the [Glossary by Type of Space](#).

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 and demands 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.

Room types excluded	Category
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

For formulae related to Student and Central Services, See [Input Measures & COU Space Formula](#).

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

For formulae related to Student and Central Services, See [Input Measures & COU Space Formula](#).

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
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.⁵
- Office Support Space: 50% of the total space generated for the Non-Academic Staff

⁵ In 2010-11 the space factor for administrative offices was 13 sq. m.

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).

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

Room types excluded	Category
Counselling and health services	13
Campus infrastructure communications and data closets	16.2

For formulae related to Student and Central Services, See [Input Measures & COU Space Formula](#).

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

For formulae related to Student and Central Services, See [Input Measures & COU Space Formula](#).

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
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

For formulae related to Student and Central Services, See [Input Measures & COU Space Formula](#).

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

For formulae related to Student and Central Services, See [Input Measures & COU Space Formula](#).

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: Circulation aisles within single rooms or work area (including their integral support areas) For example, 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

Room types excluded	Category
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.

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 in support of teaching	2
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 in support of research	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:

- a. Health care areas, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms and service and supply areas;
- b. All space in support of clinical instruction, research and service;
- c. 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. (See definition of [FTE Graduate](#) Students)

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*.

Glossary by Type of Space

Type of Space	Definition	Category
Animal Space	Rearing, conditioning, and holding facilities before animals are ready or required for teaching and research purposes, located either on or off campus	18.1
	Facilities for long-term holding and care of animals following surgical or other investigative treatment, located either on or off campus	18.1
	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 in support of teaching	2.3
	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 in support of research	3.2
	Animal operating suites either for the use of one or several academic departments, located either on or off campus	3.2
Class Laboratories	Primarily used for scheduled instruction, classified as Scheduled Class Laboratory Space	2.1
	Used in an unknown fashion or intended for scheduled use but just not used at the time of reporting, classified as Scheduled Class Laboratory space	2.1
	Primarily used for informal or irregularly scheduled instruction, and for practice, classified as Unscheduled Class Laboratory Space	2.2
Clinical Facilities	All space owned or operated by the university that is used in direct support of teaching and research related to clinical instruction in the clinical disciplines of Medicine and Veterinary Medicine	20
Collaborative & Entrepreneurial Space	Collaborative or makerspace for entrepreneurship and innovation, and/or seminar and multipurpose spaces that are under the jurisdiction of a specific department/unit	4.5

Type of Space	Definition	Category
	Collaborative or makerspace for entrepreneurship and innovation, and/or seminar and multipurpose spaces that are under the jurisdiction of the library	5.4
	Collaborative and entrepreneurial space, including incubators, makerspace, and digital labs, and other innovation spaces that are not otherwise categorized (i.e. not under the control of the Library or a specific department/unit)	14.1
Computing Facilities	Centrally located and providing campus-wide services to both academic and non-academic sections of the university	12.1
	Located in space of an academic division for its convenience, or located in space under the jurisdiction of the university library system, in support of student study	5.4
	Located in space of an academic division for a specific use by that division as, for example, for scheduled instruction	2.1
	Located in space of an academic division for a specific use by that division as, for example, for service to research by departments of the Division	3.1
	Located in space of an academic division for a specific use by that division as, for example, for administration	4.5
	Open computing space	11.1
Data Closets & Processing Facilities	Server rooms and IT closets for specific departments/units	4.5
	Central data processing facilities (including big data centres), computer rooms, technical service and repair areas and their support spaces	12.1
	Campus infrastructure communications and data closets	16.2
Demonstration Schools	Facilities generally integrated with university facilities, in which children receive regular school instruction and are available for practice teaching and observation	19.4

Type of Space	Definition	Category
Examination Rooms	Space used exclusively or primarily for examination purposes throughout the academic year, including for special accommodation	1.4
	Space used only occasionally for examination purposes as for end-of-term examinations, the primary use of which is for other purposes, classified in the category of its primary use as for example, an arena or gymnasium	6.1
	Space used only occasionally for examination purposes as for end-of-term examinations, the primary use of which is for other purposes, classified in the category of its primary use as for example, a meeting or assembly hall	15.1
Greenhouses	Primarily in support of undergraduate instruction	2.3
	Primarily in support of graduate instruction and research	3.2
	Primarily in support of university grounds keeping	9.1
	Primarily for exhibition and display purposes	15.2
	For farm use	18.2
Health & Wellness	Health, first-aid, physical and mental health wellness and 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	13.1
Inactive Space	Space available for occupancy but not assigned at the time of the survey	19.5
	Space not available for occupancy which requires extensive construction or renovation	16.3
	Rooms not available for occupancy due to minor repairs, renovations, or remodelling	19.5
	Non-institutional agencies occupying university space	19.6
Kitchenette	For an academic department	4.5

Type of Space	Definition	Category
	For an administrative department	10.2
	For general lounge service	11.2
Language Laboratories	<i>See Class Laboratories</i>	
Lockers	In support of a particular room, classified in the category of the space it supports, as for example, for a classroom	1.3
	In support of a particular room, classified in the category of the space it supports, as for example, for a teaching laboratory	2.3
	In support of a particular room, classified in the category of the space it supports, as for example, for a cafeteria	7.0
	For the general use of the students in a building	14.2
	Lockers in corridors	16.2
Lounges	For the private use of an academic department	4.5
	For the private use of library staff	5.3
	For the private use of a department in central administration	10.2
	For the general use of students regardless of where located (excluding residences)	11.2
	For the private use of occupants of residences	17.2
Lunch, Locker, and Change Rooms	In support of a particular kind of space to be and classified in the category of the space it supports, for example, for physical education	6.3
	In support of a particular kind of space to be and classified in the category of the space it supports, for example, for a bowling alley	14.2
	In support of a particular kind of space to be and classified in the category of the space it supports, for example, for a research lab	3.2

Type of Space	Definition	Category
	Provided for the exclusive use of people as necessary in the performance of their jobs, to be classified as the characteristic kind of space for that department, for example, food service staff	7.2
	Provided for the exclusive use of people as necessary in the performance of their jobs, to be classified as the characteristic kind of space for that department, for example, security patrollers	10.2
	Provided for the exclusive use of people as necessary in the performance of their jobs, to be classified as the characteristic kind of space for that department, for example, maintenance personnel and custodial staff	9.1
Mail Rooms	A central facility for sorting and distributing mail for the campus	12.2
	Canada Post Office	8.1
	A room for sorting and distributing mail for academic departments	4.5
	A room for sorting and distributing mail for central library	5.3
	A room for sorting and distributing mail for service departments and central administration	10.2
Media Storage (Recorded Music)	<i>See Music Scores Storage and Tape Storage</i>	
Merchandising	Products or services provided by the university or a commercial enterprise renting space from the university exclusively or primarily for the university population. For example, a book store	8.1
	Products or services provided by the university or a commercial enterprise renting space from the university exclusively or primarily to the non-university community. For example, a bank, public office, or commercial building	19.3
Music Practice Rooms	<i>See Class Laboratories or Residences</i>	

Type of Space	Definition	Category
Music Scores Storage	For music studios or practice rooms as part of instruction in music	2.1
	For instruction or research, and located in libraries	5.1
	For music listening and recreation, and available to the university population at large, not in the central library	14.2
	For the exclusive use of occupants of residences	17.2
Offices	For faculty, post-doctoral fellows and other equivalent-to-faculty research appointments, and graduate students.	4.1 or 4.2 or 4.3
	For the most senior academic administrator in a major division of the university, usually called a dean or director, and their immediate support personnel	4.1
	For academic heads of single academic departments or small groups of closely related programs, usually called a chairman or department head but sometimes called a dean or director, especially of a school	4.1
	For shared support personnel between the above two categories	4.4
	For departmental support staff	4.4
	For library staff	5.2
	For central administrative staff	10.1
	For managers and administrative staff or merchandising operations providing services exclusively or primarily:	8.1
	For the university population	
	For recreation/athletic staff	10.1
	For food service staff	10.1, 19.3
	For maintenance staff	10.1
	For custodial supervisors	10.1

Type of Space	Definition	Category
	For AV-TV staff	10.1
	For central services staff	10.1
	For medical doctors, nurses, and administrative staff engaged in providing health care to students	13.1
	For student clubs or student government	14.1
	For technicians (<i>See Technicians' Space</i>)	
	For research associates	4.2
Research Funded Staff Space	Space primarily used as project rooms that does not require special servicing or equipment	4.2
	Space assigned to principal investigators and their support staff containing office-type equipment, classified as research office rooms	4.2
Special Reference Libraries	Reference libraries and reading rooms, not under the administration of the central library system, usually containing specialized or selected materials or special study facilities classified as part of the space they occupy as for example, in an academic department	4.5
	Reference libraries and reading rooms, not under the administration of the central library system, usually containing specialized or selected materials or special study facilities classified as part of the space they occupy as for example, in residences	17.2
	Reference libraries and reading rooms, not under the administration of the central library system, usually containing specialized or selected materials or special study facilities classified as part of the space they occupy as for example, in an academic department	4.5
	Reference libraries and reading rooms, not under the administration of the central library system, usually containing specialized or selected materials or special study facilities classified as part of the space they occupy as for example, in residences	17.2

Type of Space	Definition	Category
Stores and Storage	Central receiving and storing of equipment, materials, and supplies for university-wide use	12.2
	Storage areas within individual departments, classified in the category of the space they support as for example: classroom storage	1.3
	department office supplies storage	4.5
	building and grounds maintenance storage	9.1
	residence storage	17.2
Student Support	Central student and student support services, such as career services and related supports, student learning and/or academic success centres and support services, including accessible learning supports	12.3
	Academic advising under an academic department	4
	Academic advising provided under central administration	10
Study Space	Study and collaborative space for general or assigned use, under the administration of the university library system	5.4
	Study space or room for general use, under the administration of a non-library department	11.1
	Departmental space for individual use, restricted to individuals associated with the department for study and other office use (graduate student offices)	4.3
	Other departmental study space for undergraduate students in support of laboratory instruction (unscheduled class lab)	2.2
	Study space in residences for the exclusive use of the residents and not part of departmental or university library space	17.2
	General lounge and study space for students	11.2

Type of Space	Definition	Category
Tape Storage	In direct support of teaching	2.2
	In libraries	5.1
	In support of AV-TV	12.2
	Computer tape storage	12.2
Technicians' Space	Space which may contain a desk but is primarily used as a work room with special equipment, rather than an office, classified in the category of space it supports, as for example: • for teaching laboratories technicians	2.3
	• for research technicians	3.2
	• for AV-TV technicians	12.2
	• for technicians in central services	12.2
	Space containing office-type equipment and primarily used as an office, classified in the category of the office space of the department in which the technician works, as for example: • in teaching laboratories	4.4
	• in research laboratories	4.2
	• in central services	10.1
Unassigned or Unfinished Space	<i>See Inactive Space</i>	
Unscheduled Class Labs	<i>See Class Laboratories</i>	

Input Measures & COU Space Formula

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

NOTES:

- 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
1 Classroom Facilities	1.11 NASM	FTE Students
2 Laboratory – Instructional	0.8 NASM (W) 0.6 NASM (X) 0.5 NASM (Y) 0.3 NASM (Z)	Weekly Student Laboratory Contact Hours
3 Laboratory – Graduate and Faculty	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
4 Academic Departmental Offices <i>Category 4.1 (Academic Offices)</i>	12 NASM	FTE Faculty 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 sources. This includes those up to and

Space Category	Space Factor & Letter Group	Input Measure
		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.
<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) 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

Space Category	Space Factor & Letter Group	Input Measure
		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.
<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) 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.
<i>Category 4.5 (office service)</i>		25% of the total space generated for faculty, non-academic staff and graduate students
5 Library Facilities & Library Study Space		Library Collections (Equivalent Volumes) & FTE Students
<i>Stack</i>	0.005 NASM	Traditional static shelving

Space Category	Space Factor & Letter Group	Input Measure
	0.004 NASM	Mobile compact storage
	0.0035 NASM	Offsite/onsite high-density storage
• <i>Study</i>	0.5 NASM	FTE Students
• <i>Support</i>		25% of stack and study
6 Recreation / Athletic Space	0.9 NASM	FTE Students
7 Food Service	0.5 to 0.7 NASM	FTE Students
8 Bookstore & Other Merchandising Facilities	0.1 to 0.2 NASM	FTE Students
9 Plant Maintenance	0.015 x Total Net Assignable Inventory (Categories 1-15 and 17-20)	
10 Administrative Offices	12 NASM	FTE Non-Academic Office Staff (requiring offices) Include for example: office, professional and managerial staff in these departments; office staff supporting security, athletics, food service, plant maintenance, central services and student services. Exclude for example: library staff, staff working directly for athletics, food services, grounds, security, shipping/receiving, printing, health services or residences
• <i>Office Service</i>	50% x total generated for FTE non-academic staff (for admin offices)	
11 Non-Library Study & Collaborative Space	0.4 NASM	FTE Students

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

Definitions

FTE Graduate Students

Refer to [FTE Students](#).

FTE Faculty

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 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.

Rule of Thumb: If faculty are paid by the university, they should be included.

Notes and special considerations:

- The term academic appointment will normally be limited to those persons who are in or above the category "Rank Below Assistant Professor" (this rank includes lecturers and instructors, and teachers with comparable faculty status) as stated in Statistics Canada reporting. Do not include teachers below the rank of lecturer or equivalent and ungraded staff.
- Excluded are clinical staff with full- or (the part-time portion of) part-time hospital appointments, faculty on unpaid leaves of absence, and academics with administrative appointments in the central administration of the university.

FTE Non-Academic Office Staff

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 1 October. 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) and Central Administrative Staff (Category 10.1). Staff of ancillary operations and library staff (Category 5), 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.

Positions which are full-time for 8 months would be counted as 0.67. Similarly, half-time positions for 12 months would be counted as 0.50.

Notes and special considerations:

- Staff having offices inventoried in categories 4.0 (Academic Departmental Office) or 10.0 (Administrative Office) are included. Staff having offices inventoried in other categories: 5.0 Library Staff, 8.0 (Bookstore and other Merchandising Facilities), 13.0 (Health Service) and 17.0 (Residential Space) are excluded. Academic administrators or professionals already counted as FTE faculty or as other research appointments are also excluded.
- Avoid double counting (especially 4.0 Academic Departmental Office and 10.0 Central Administrative Office).

FTE Students

- FFTE Undergraduate Students: the definitions for student enrolment currently contained in the MCU 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 via the USER submission as of November 1.
- FTE Graduate Students See definition for FFTE (fiscal full-time equivalent) Undergraduate Students.

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

- a. eligible plus ineligible fall term FFTE undergraduate students x 2; and
- b. eligible plus ineligible GFTE (graduate full-time equivalent) graduate students;

Notes and special considerations:

- Include affiliated institutions (both Arts & Science and Theological), if applicable.
- The inclusion of the ineligible undergraduate and graduate students is appropriate in order to take into account all students who are making substantial demands on university facilities.

Laboratory Weekly Student Contact Hours

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).

Notes and special considerations:

- The course enrolment is the number of students participating in the instructional activities of the course.
- Sources of data for establishing contact hours can be the university timetable if it contains accurate and detailed information on laboratory instructional hours, and type of teaching provided; a separate survey of annual teaching activities and corroborating registration data; or the course description (with lab or practical hour requirements) contained in the university calendar, times course enrolments.
- The reporting week of a university is to be any representative week of the Fall term. This will correspond with the student enrolment as of November 1.

Library Collections (Equivalent Volumes)

The library materials identified in the university library catalogue and contained in the following tables 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, three feet wide.

The volume equivalencies and categories of library material were reviewed and updated by the Ontario Council of Universities Libraries (OCUL) in September, 2007. The categories are similar to that reported to OCUL.

Material	Items	Units	Equivalency
Monograph Volumes - excluding Reference	160	# volumes	160
Reference	90	# volumes	160
Documents and Technical Reports	830	# reports	160
Archival Materials	6.4	Linear metres	160

Material	Items	Units	Equivalency
Serial Volumes - bound	100	paper copy	160
Serial Volumes - unbound	120	paper copy	160
OR Serial Volumes – bound and unbound	110	paper copy	160
Maps	500	# sheets	160
Microfilm	320	# reels	160
Microfiche	70,000	# items	160
Audio-Visual Holdings	400	# titles	160
Slides	6450	# slides	160
Printed Music	350	# scores	160

Library Material: Definitions and Instructions

The following are definitions for some of the classifications of library material. The definitions are based on the CARL (Canadian Association of Research Libraries) questionnaire. Affiliated and federated institutions should be included in these counts. The University of Toronto's three campuses and York University's two campuses should be reported separately.

Monograph Volumes

A volume is defined as follows: a single physical unit of any printed, typewritten, handwritten, mimeographed, or processed work, distinguished from other units by a separate binding, encasement, portfolio, or other clear distinction, which has been catalogued, classified, and made ready for use, and which is typically the unit used to charge circulation transactions (ARL definition).

Reference

OCUL includes Reference material with Monograph Volumes. For the purpose of this report, report Reference separately from Monographs. If you cannot easily separate out Reference from Monographs, provide an estimate of Reference materials and subtract it from the total Monograph count. Please provide an explanation of how the estimate was calculated.

Documents & Technical Reports

Documents that are shelved in the general collection should be counted with Monograph Volumes. All other document holdings (if they are shelved) should be reported here.

For the purposes of this report, report Documents & Technical Reports separately from Monographs. If you cannot easily separate out these reports from Monographs, provide an estimate of Documents & Technical Reports and **subtract** it from the total Monograph count. Please provide an explanation of how the estimate was calculated.

Report the number of documents. **Do not divide the number of reports by 5.2, as is done for OCUL.**

Serial Volumes - bound and unbound

Include duplicates, and bound and complete unbound volumes of periodicals; and newspapers. For the purpose of this report, unclassified bound serials arranged in alphabetical order are considered classified.

Maps

Include air photos and satellite images. Maps published in machine readable form should be reported under Microfilm or Microfiche.

Microfilm, Microfiche

Include journals and maps published in microformat (microfilm, microfiche).

Microfiche

Include the total number of microcard, microfiche and microprint.

Report the number of items. **Do not divide the number of microfiche by 1.4, as is done for OCUL.**

Audio-Visual Holdings

Includes sound recordings, videos, films and film strips, DVD-CDs, and learning kits.

Slides

In the OCUL classification, Slides are included under Audio-Visual Holdings. For the purpose of this report, report Slides separate from Audio-Visual Holdings.

Printed Music

In the absence of a consistent and accepted definition for counting musical material, it has been decided to count titles only including scores.

Other Research Appointments

Generators of research 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 within the space generated and are also counted separately under Total Non-Academic Staff / (1) Academic Departments / (b) paid through Research fund on Form 4. See FTE Non-Academic Office Staff definition below.

Notes and special considerations:

- Exclude individuals already under other categories, such as faculty, graduate students, and administrative staff.

Total Net Assignable Inventory

All net assignable space inventory for Categories 1-20, excluding Category 16.

Program Classification Scheme: CIP Codes

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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
11.03	Data processing and data processing technology/technician	Z	0.3	D	10
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
15.15	Engineering-related fields	W	0.8	B	30

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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 ^{CAN}	Z	0.3	E	5
16.99	Aboriginal and foreign languages, literatures and linguistics, other	Z	0.3	E	5
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
19.07	Human development, family studies and related services	Z	0.3	E	5
19.09	Apparel and textiles [NOT fashion: see 50.04]	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 ^{CAN}	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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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 ^{CAN}	X	0.6	A	45
29.05	Military technologies and applied sciences ^{CAN}	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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
42.27	Research and experimental psychology	Y	0.5	B	30
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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	Z	0.3	E	5

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
	maintenance technology/technician				
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 ^{CAN}	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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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 [includes fashion]	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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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 [includes midwifery]	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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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
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

CIP Code	CIP Name	Class lab category	Class lab space factor	Research lab category	Research lab space factor
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 ^{CAN}	Z	0.3	F	2
55.14	French literature ^{CAN}	Z	0.3	F	2
55.99	French language and literature/letters, other ^{CAN}	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

Appendices

Measurement of Space

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.

Basis for measurement

Gross area should be computed by measuring from the outside face of exterior walls, disregarding cornices, pilasters, buttresses, etc., which extend beyond the wall face.

Description

In addition to ground to top storey internal floored spaces obviously covered in the definition of Gross Area (see above), gross area should include basements (except unexcavated portions), attics, garages, enclosed porches, penthouses and mechanical equipment floors, lobbies, mezzanines, all balconies inside or outside utilized for operational functions, and corridors, provided they are within the outside face lines of the building. Roofed loading or shipping platforms should be included whether within or outside the exterior face lines of the building.

Limitations

Open courts and light wells, or portions of upper floors eliminated by rooms or lobbies which rise above single floor ceiling height, should not be included in the gross area, nor should unenclosed roofed over areas or floored surfaces with less than 6 feet 6 inches clear head room be included unless they can properly be designated and used as either net assignable, mechanical, circulation, or custodial area.

Net Assignable Area

The main difference found in the definition of Net Assignable Area is in the terminology. Some institutions use the term Net Area when they mean the same thing as Net Assignable Area. Other institutions use Assignable Area when they mean the same thing as Net Assignable Area. To prevent any misconception of the term, the terminology Net Assignable Area is used.

Net Assignable Area, or net assignable square metres (NASM) as used in this text, is probably the most important area to be considered by the space analysts, as it is the amount of area which can be used by the occupants of the building.

Net Assignable Area is defined as 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).

Basis for Measurement

All areas comprising the net assignable should be computed by measuring from the inside finish of permanent outer building walls, to the office side of corridors and/or to permanent partitions. (Some buildings are constructed to have two corridors on a floor, thus providing interior rooms. Under these conditions, the net assignable space of the rooms will be obtained by measuring from the inside surfaces of the enclosing walls.)

Description

Included should be space subdivisions for offices, file rooms, office storage rooms, etc., including those for special purposes (e.g., auditoriums, cafeterias, courtrooms, telephone and telegraph rooms, garages), which can be put to useful purposes in accomplishment of an agency mission.

Limitations

Deductions should not be made for columns and projections necessary to the building.

Net Non-Assignable Area

Net Non-Assignable Area is defined as the sum of all areas on all floors of a building not available for assignment to an occupant. (Refer to [Category 16: Net Non-Assignable Space](#)).

Basis for Measurement

The definition is the same as for [Net Assignable Area](#).

Description

Included should be areas used for building protection, care, custodial maintenance and operation; circulation areas, whether or not enclosed by partitions, which are required for physical access to some subdivision of space; mechanical areas designed to house mechanical equipment, utility services and non-private toilet facilities, roofed loading or shipping platforms; unusable areas in attics or basements and spaces which would require long lead times and extensive work to make them available for occupancy (16.3 - Inactive Unassignable).

There are two areas however, in which recurring difficulty in the classification of space are apparent:

a. Inactive space

Broadly speaking, the intent of the classification scheme is to classify inactive spaces as either assignable or unassignable. Inactive Assignable (Category 19.5) spaces are those which are deemed to be available for immediate occupancy but which had not been assigned to individuals or groups at the time of the survey. These spaces are unassigned (to individuals or groups) but are assignable (available for immediate use). Also included in this group would be larger areas constructed, finished and held for future use, or areas removed from active use because of declining needs or lack of operating funds, for example, an entire floor of a building

which has been locked and kept under minimum heating. Such spaces, even though they may require some start up time, should be reported in Subcategory 19.5. Further reporting in this subcategory could be spaces of small or moderate size which were unavailable for use for periods of time of up to one half of an academic term, due to regular maintenance, refurbishing or minor renovations and for which the inclusion of the space either here (or for that matter in Categories 1 to 15), would not normally present a distortion of the needs of the institution.

The classification Inactive Unassignable (Category 16.3) should be then reserved for those spaces which would require long lead times and extensive work to make them available for occupancy. Such spaces would include those left unfinished at the time of construction or those undergoing renovations or major repairs requiring large areas of a building to be out of service for many months. In the case of very extensive renovations, it may in fact be more convenient to consider the building as "under construction" and simply not report the space at all.

b. Circulation Area

Circulation area is that which is required for physical access to some subdivision of space, whether or not enclosed by partitions. With increased use of office landscaped designs and the particular problems of measuring library space, there appears to be a need for some commentary in order that uniformity of measurement is achieved.

For such large unobstructed areas, it is noted that:

- Code requirements must be met. The Ontario Fire Marshall's Office requires that floor plans of office landscaped areas indicate fire corridors, which must be left unobstructed. In addition, in some work areas subject to congestion, for example, large machine shops or warehousing areas, corridor demarcations may be painted on the floor to indicate fire escape routes or areas that must be left unobstructed for safety reasons. These should be measured as Circulation Area.
- The divisions of space for which general access is required, as referred to in the Building Blocks definition, should certainly be construed to be those at the Category level of detail, and in most cases, the divisions should be made at the Subcategory level. In other words, routes necessary for general access to blocks of space which would be inventoried within a single subcategory, or corridor spaces which separate areas falling into separate subcategories, should be measured as Circulation Area.
- Single rooms or work areas, plus integral support areas which serve a single purpose, for example: a gymnasium; a block of book stacks; spectator seating areas; or accounts payable offices plus file areas; should not include any spaces within them as Circulation Area. It is general access to the area which is the determinant, not routine movements within those spaces. Once again, an interpretive judgement will often need to be made on this space type.

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. Do not report phantom space in an auditorium or classroom as it is a function of the room. In other words, do not prorate classroom/auditorium space to create phantom space.

Examples of phantom space are:

a. Library stack area

The space occupied by book stacks and the aisles serving the stacks are considered one use (i.e., COU category 5). 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 (COU category 16) even though there are no actual walls bounding this corridor. The corridor is considered a necessity for the functioning of the building and is not particularly a function of library space. A test of this reasoning is that actual walls could be built to partition the corridor space from the stack area, and the library could still function with access to the stack area by doors off of the corridor.

b. Open concept office

A large (i.e., 200 square metres or more) 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 (COU category 10.1, or 4.1, etc.) and the circulation space which permits movement through the suite but is not part of any specific function in the suite (COU category 16.2).

Committee on Space Standards and Reporting: Terms of Reference

The Committee on Space Standards and Reporting was established in 1988. As of 2006, the Committee is composed of at least one representative from each member institution of the Council of Ontario Universities, plus members from Hearst and the Northern Ontario School of Medicine (NOSM), as they are included in the triennial report. In 2007, the Committee became an affiliate of CSAO.

Mandate

1. To maintain a continuing review of COU Building Blocks space standards, proposing revisions where appropriate to reflect current conditions in Ontario universities.
2. To provide technical advice to Council and its member institutions and to the Ministry of Colleges and Universities (MCU, formerly MTCU) regarding the applicability of space standards and related issues.
3. To oversee the COU triennial survey of physical facilities and ensure that the report is produced in a timely manner.
4. To provide advice to the Council of Ontario Universities generally on matters of university space requirements.
5. To report on a regular basis to the Council of Senior Administrative Officers (CSAO) on the activities of the Committee.

Officers and Staff

The Committee will elect a Chair from among the members, for three-year terms, renewable. The Chair will serve without remuneration. Staff resources are provided by the Secretariat of the Council of Ontario Universities.

Ad Hoc Sub-Committees

The Committee may appoint such ad hoc sub-committees as it deems necessary. The sub-committees will report back to the Committee with their findings.

Meetings

The Committee shall meet a minimum of four times a year. The Committee will meet more frequently in the year the triennial survey is conducted.

At least once a year representative(s) from MCU will be invited to attend the Committee meeting, when required. The appointed CSAO Liaison should attend a Committee meeting at least once per year, or as required.

Frequently Asked Questions

Q: Two universities offer one program and share buildings and students. The students are enrolled in both universities and get a degree from both. How is the space/students counted?

A: Whichever university counts the students in their official MCU student count should also report the space.

Q: How do I distinguish between a lab and a classroom?

A: It is classified as a classroom:

- a. If a lab can take place in a classroom. It doesn't need specific equipment or layout. Technology has changed; in the past some equipment may have been needed, but it isn't necessarily needed now.
- b. If a room has WiFi and students bring their own computers.
- c. If the room is classified as an active learning room where students work in clusters.

It is classified as a lab:

- a. If the class requires specific equipment or layout.
- b. If computers are supplied by the university and are 'tied down' to the tables.

If a computer lab belongs to IT and not department, it is not a lab.

Q: How do you count space in a specific department that are designed as places where students do research? The department doesn't view it as study space, classroom space or a lab.

A: The categorization is not based on equipment in the room, but what takes place in the room.

Category 5.5 (Study Space Not Under the Jurisdiction of the University Library System) is the most likely place.

Another option would be Category 2.2 (Unscheduled Class Laboratory space); it is non-library space.

Q: Universities do not report technicians' space consistently. (1) not all technicians have offices and (2) technicians; offices are reported in Category 4.4, but if their desks are located in the lab, they would be reported in Category 3.3 (lab space).

A: Technicians run the gamut of types of jobs in universities. If you only count those who have an office, you will only be capturing a small number of the total number of technicians.

Other Research Appointment shouldn't include technicians. As a rule, they don't require 13 NASMs for office space.

If a department has office space that they use to conduct research in should it be coded as 3.1 or 4.2?

A: There is no consistent definition. Some universities code it in 3.1; others in 4.2. Whatever decision is made, ensure that it is coded consistently and you don't double count.

At some universities, project space is referred to as labs; in others, it is an office.

Q: How do you categorize space serving both academic and non-academic areas (for example, print shops)?

A: Category 12 (Central Services). This type of space (for example print shops and mail rooms) serves the entire university. Examples include print shops, mail room.

Q: How do you code computer wiring closets – spaces that house network drops and computer wiring which serve the departments on a given floor of a building? The space is generally managed by the IT department.

A: Category 16: Non assignable.

Q: Where do you report a parking deck that has a floor but no walls (except the stairwells)?

A: Category 16.4 (Parking Structures). Universities have not been reporting this space consistently.

Q: What are the criteria for including / excluding contact hours?

A: The rule of thumb is that if you include the space, include the contact hours. If you don't include the space, don't include the contact hours.

- If there is a 3 hour lab one week and a 3 hour seminar the next, only count the 3 hour lab (1.5 hours / week).
- A 3 hour art class with an instructor is included as contact hours, but the x hours spent completing the project is unscheduled time and not included.



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