

Inventory of Physical Facilities of Ontario Universities

2007-08

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FEBRUARY 2010

COUNCIL OF
ONTARIO UNIVERSITIES

CONSEIL DES
UNIVERSITÉS DE L'ONTARIO

Inventory of Physical Facilities of Ontario Universities 2007-08

Prepared February 2010 by:
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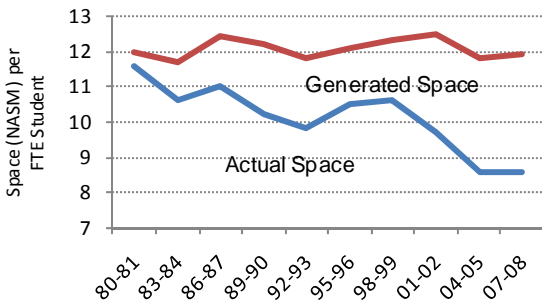
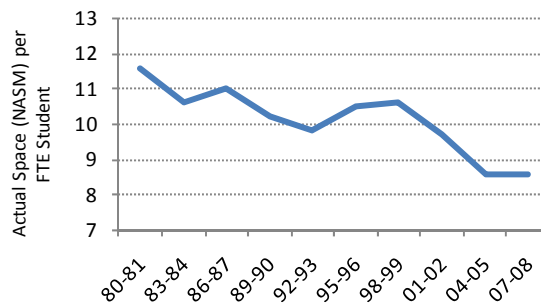
COU Inventory of Physical Facilities of Ontario Universities 2007-08¹

EXECUTIVE SUMMARY

This report indicates that teaching and research in Ontario's universities are currently impacted by a lack of sufficient space and by space that is inadequate to meet the needs of students and faculty. The expansion of graduate student enrolment will put even more pressure on university facilities.

The Ontario government has made a commitment to include academic infrastructure within its 10-year, \$60 billion infrastructure plan. The federal government committed \$2 billion in its January 2009 Budget for Canadian universities and colleges to upgrade and retrofit facilities. The province invested \$335 million in 2007-08 to address campus renewal. The federal government and the Ontario government have provided a significant investment in 2009 in new buildings and renewal through the Knowledge Infrastructure Program (KIP). Under KIP, Ontario universities received \$500 million in federal funding and \$607 million in provincial funding. This report does not capture the impact of these recent investments.

Overall, there is less space per FTE (full time equivalent) student and research staff on our campus today than there was 5 or even 10 years ago. This chart shows that an FTE student in 2007-08 had access to 26% less space than an FTE student in 1980-81. During this time, there has been a 31% decline in classroom space per student and a 22% decline in research space per research staff.

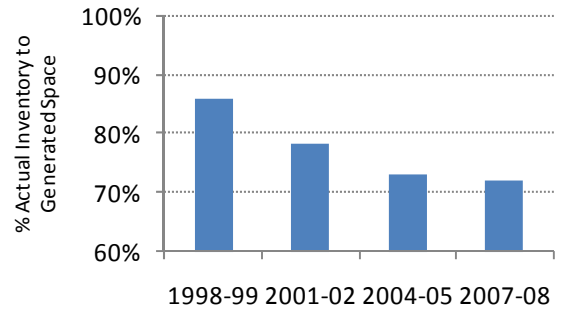


The gap between the space required (generated space²) and the space we have (actual space) has widened substantially between 1980-81 and 2007-08. Ontario universities expect continuing growth in undergraduate enrolment, responding both to increases in university-aged population and increased demand for university degrees.

1 The *COU Inventory of Physical Facilities of Ontario Universities* triennial report has been published since 1978. The report tracks changes in university facilities over time and compares the actual space to space that is required (generated space). This report deals with the quantity of space.

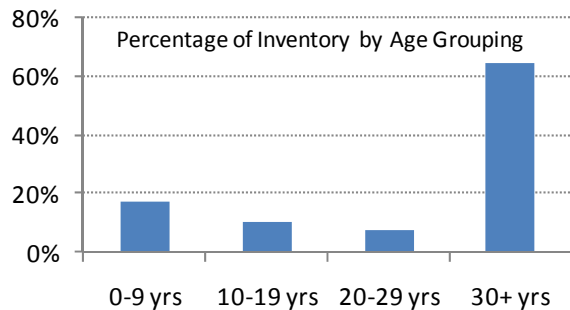
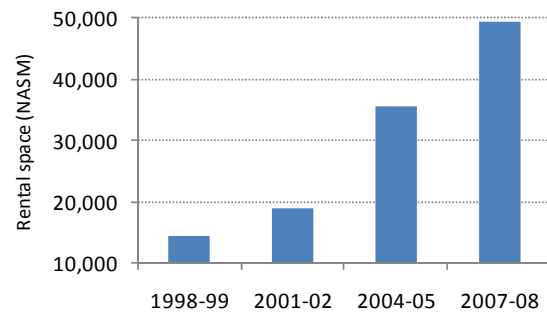
2 The COU Committee on Space Standards and Reporting developed COU space guidelines in 1971, and has maintained and updated them since then. COU space guidelines are a systematic, analytical approach to evaluate the utilization of existing physical resources and to forecast future requirements. The standards, which are based on a number of variables that go beyond space metrics to include issues such as enrolment, are respected benchmarks in Ontario's university and government sectors. For example, the formula for calculating classroom space includes the average university classroom station size, the room utilization standard and the station utilization standard. Each of these components are reviewed on a regular basis to take into account changes in teaching pedagogies.

The ratio between the actual space and the generated space (space required according to the COU standards) is no better today than it was in 2004-05, even though enrolment has increased by 25,424 students between 2004-05 and 2007-08. We gained some space as a result of the Ontario government's SuperBuild program. It is also not better than it was in 1998, when the volume of students was significantly lower – 241,986 versus 363,872 today.



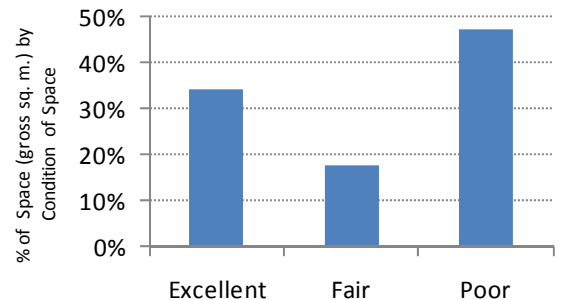
Graduate expansion that was initiated under the Reaching Higher plan in 2005 places additional pressure on space. Graduate students require more space than undergraduates because of their research, office and library space needs. The number of graduate students in Ontario universities increased from 11% in 2004-05 to 12.5% in 2007-08. Since graduate growth will continue until universities reach their targets, the pressure on space will also grow.

To accommodate the increased enrolment during the double cohort, universities resorted to renting space. This trend continued in 2007; between 2004 and 2007, the amount of rental space increased by 39%. The cost of renting space versus ownership puts a drain on the operating budget. Rental space needs to be adapted, and the buildings are not necessarily located on or near the campus.



Ontario university buildings are on average 33 years old and about 65% of the inventory is over 30 years old. The learning and research needs of today are far different than they were over three decades ago, and therefore infrastructure built then does not always meet the needs of delivering today's programs.

In addition to publishing this report, COU publishes a report titled *Facilities Condition Assessment Program* which examines the quality of space. The March 2007 report shows that almost 50% of the total space in Ontario universities is classified as in "poor" condition, when measured by the Facilities Condition Index (FCI). This indicator of the state of campus facilities is on average at about 0.10, which is just on the threshold for buildings in poor condition.



In addition to the lack of space and poor quality of space, there are new pressures on space emanating from the Accessibility for Ontarians with Disabilities Act (AODA) to accommodate persons with disabilities. These standards, which came into force in the summer of 2009, will require significant repurposing of space and retrofitting.

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Section 1

INTRODUCTION

INTRODUCTION

This report presents results of the latest in a series of triennial surveys conducted by the Council of Ontario Universities to monitor existing university space inventory and changes in space requirements, as determined by the *COU Building Blocks* space formula.

For the terminology used in the report, please see Appendix D: Definitions.

THE DEVELOPMENT AND USE OF BUILDING BLOCKS

The COU space formula and inventory classification system were developed in the 1970s, and have been revised over the years, most recently prior to publication of the 1986-87 survey data in Volume VII of the *Building Blocks* series.

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, as well as 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 to calculate the space requirements for the first 15 of the categories, for which quantitative space factors have been determined. The resulting calculations of space entitlement are used, with the data on existing inventory, in various ways. For example, COU uses the survey data to monitor changing space needs and to help make the case 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 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. And, since 1986-87, the "Ontario Ministry" has allocated funds for repair and renovation according to each institution's entitlement for space in the 15 formula categories.

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

THE COU COMMITTEE ON SPACE STANDARDS AND REPORTING

Co-ordination of the triennial survey, periodic reviews of the space standards, and special studies on the availability and utilization of university space are the responsibility of the Committee (established in 1988). The Committee uses the detailed data collected in the survey to monitor changes in space needs, such as the impact of computing on the laboratory, library and office categories.

A list of publications from the Committee and its predecessors is included in Appendix F of this report.

In 1992, the Committee prepared the *COU Building Blocks Users' Guide*, in response to requests for a document that would be more concise, up-to-date and user friendly than the volumes in the *Building Blocks* series, which describe in detail the space classification scheme, the assumptions in the space factors and the analysis used in developing, testing and revising the complete COU space formula.³ The *Users' Guide* contains instructions for the preparation of institutional responses to the triennial survey, and also explains how the COU space formula can be used to analyze space requirements for purposes other than the survey. The *Users' Guide* is revised every survey cycle.

ACCOUNTABILITY AND UTILIZATION ISSUES

Explaining how university space is being used is an ongoing responsibility of the Committee. With increasing emphasis on accountability, universities are expected to ensure that their use of resources, including physical facilities, is efficient and that appropriate information on utilization is available to government and the wider public. The space factors used in *Building Blocks* contain implicit utilization measures for classrooms and laboratories.

More than 30 years after they first appeared, the original *Building Blocks* publications are still requested by universities, government departments and planners in North America and abroad. The COU space formula retains its usefulness and credibility, in large part because it undergoes regular review and updating, a process that does not always occur in other jurisdictions.

COMMENTS ON THE 2007-08 INVENTORY REPORT

Overall, there is less space per FTE student and research staff on our campus today. In 2007-08, there was 8.6 Net Assignable Square Metres (NASM)/FTE student; according to COU space standards there should be 11.9 NASM/FTE student.

The ratio between the actual space and the generated space is no better today than it was in 2004-05. Overall the % I/G figure declined slightly (72.2%) from the 2004-05 Inventory report (73.0%).

Graduate expansion places additional pressure on space. Graduate students require more space than undergraduates because of their research, office and library needs. According to COU space standards, these students require at least four times the space as undergraduates, depending on the program.

Please see the Executive Summary (pages 1-2) for more details.

³*Building Blocks: Background Studies on the Development of a Capital Formula for Ontario. Volume I: Report of the Task Force - Space and Utilization* (Council of Ontario Universities, 1972), COU publication # 72-9; *Building Blocks: Volume VI: Report of the Subcommittee-Revisions to Building Blocks* (Council of Ontario Universities, 1978), COU publication # 78-12; and *Building Blocks: Volume VII: The Final Report of the Task Force to Review COU Space Standards* (Council of Ontario Universities, 1988), COU publication #88-1.

➤ Capital Issues

In 2009, the federal government announced the \$2 billion Knowledge Infrastructure Program (KIP), a two-year, economic stimulus measure to support infrastructure enhancement at postsecondary institutions across Canada. This program is part of the \$12 billion Government of Canada stimulus package announced in Budget 2009.

Postsecondary institutions have indicated that a major portion of their existing campus infrastructure is at or near the end of its projected life cycle, and often does not adequately meet the needs of today's research and training activities. The university component gives preference to projects that can improve the quality of research and development at the institution. KIP responds directly to this need by supporting deferred maintenance, repair and expansion projects at postsecondary institutions. Ontario universities received \$488 million in federal funding and \$607 million in provincial funding.

In 2008, the Government of Ontario announced two capital renewal programs:

1. The Capital Renewal Program was part of the \$1.4 billion infrastructure fund announced in the Fall Economic Statement, \$200 million for PSE (postsecondary education), of which \$135 million went to universities. Funding went toward energy efficiency, campus safety and security initiatives and the renewal of existing infrastructure.
2. Ontario invested \$200 million in the University Campus Renewal Fund. Funding went toward repairs to buildings and equipment, alterations and renovations to existing facilities, campus safety and security improvements, water and energy system improvements, and improved accessibility for students with disabilities.

In its May 1999 budget, the Government of Ontario announced the SuperBuild Growth Fund initiative for universities and colleges to support construction of new classrooms, laboratories, and other facilities. The capital funding recognized the significant increase expected in the demand for postsecondary education over the next decade, and the growing deferred maintenance requirement.

The total SuperBuild commitments totalled \$1.2 billion. For universities (excluding UOIT and joint projects with colleges), the total SuperBuild commitment was \$634 million, which accounted for 40% of the total estimated project costs.

The priorities for SuperBuild funding were (1) classrooms, (2) faculty offices, and (3) class labs. No government funding was provided for residences and associated student service space (recreation, athletics, food service).

➤ Space Inventory

Total inventory increased from 2.6 million NASM to 3.1 million NASM between 2001-02 and 2007-08, an increase of 19.4%. However, enrolment increased by 35.6% during this same time period.

	2001-02	2004-05	% Change 2001-02 to 2004-05	2007-08	% Change 2001-02 to 2007-08
FTE Enrolment ⁴	268,281	338,448	26.1%	363,872	35.6%
FTE Faculty	13,388	15,905	18.8%	18,774	40.2%
Inventory	2,613,557	2,916,461	11.6%	3,119,792	19.4%
Classrooms	265,015	324,465	22.4%	342,013	29.1%
Class Labs*	323,384	340,900	5.4%	350,201	8.3%
Research Labs*	367,422	430,612	17.2%	461,727	25.7%
Academic Office	519,890	585,085	12.5%	676,235	30.1%
Administrative Office	196,723	219,055	11.4%	230,935	17.4%
Library Facilities...	343,363	368,804	7.4%	374,720	9.1%
Recreation/Athletics	186,153	202,931	9.0%	231,927	24.6%
Student and Central Services	359,964	391,146	8.7%	398,351	10.7%

*Definitional change in 2007-08 for Class and Research Labs

The following table compares the % I/G⁵ figure by space category from 2001-02 to 2007-08: The % I/G for classrooms declined from 80.3% to 76.4%, but total inventory increased from 265,015 to 342,013.

	% I/G		
	2001-02	2004-05	2007-08
Classrooms	80.3	77.9	76.4
Class Labs*	79.2	68.0	64.7
Research Labs*	80.8	77.3	74.7
Academic Office	89.5	84.0	83.3
Administrative Office	107.4	103.1	98.4
Library Facilities	71.9	67.2	70.6
Recreation/Athletics	72.6	63.1	68.1
Maintenance Shops	90.0	83.6	77.0
Student and Central Services	67.1	57.8	54.7
TOTAL	79.6	73.0	72.2

*Definitional change in 2007-08 for Class and Research Labs.

⁴ See Appendix D Students (FTE) for the definition of FTE students.

⁵ Actual inventory (I) divided by Generated Space (G). For more detailed explanation see page 1, footnote #1.

The following table shows the trend in total Formula Areas (NASM)/FTE students from 1980-81 to 2007-08. In 2007-08, the COU formula generated 11.9 NASM per FTE student; the actual counts provided 8.6 NASM per FTE student.

	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
Generated	12.0	11.7	12.4	12.2	11.8	12.1	12.3	12.5	11.8	11.9
Actual	11.6	10.6	11.0	10.2	9.8	10.5	10.6	9.7	8.6	8.6

For more details, see Tables E and F (pages 26, 27).

➤ Graduate Enrolment Expansion

The 2005 Ontario Budget's Reaching Higher plan committed to substantially expand graduate education. In total (including the further announcement in February 2009) an additional 15,000 eligible graduate spaces will be available over 2002-03 levels. In 2002-03 there were a total of 30,749 full-time graduate students and 10,222 part-time graduate students.

Graduate FTE enrolment increased 21% (7,760 FTE enrolment) between 2004-05 and 2007-08. Most of the increases took place in Group E which are, for the most part, social science and humanities programs.

By Program Group	2004-05	2007-08	% Distribution 2004-05	% Distribution 2007-08	% Change 2004-05 to 2007-08	Space per graduate student (sq.m.)
Group A	7,187	7,923	19.6%	17.8%	10.2%	29.4
Group B	4,487	5,701	12.2%	12.8%	27.1%	21.9
Group C	3,137	3,636	8.5%	8.2%	15.9%	16.9
Group D	4,280	5,093	11.7%	11.4%	19.0%	11.9
Group E	17,634	22,132	48.0%	49.8%	25.5%	7.4
TOTAL	36,725	44,485	100.0%	100.0%	21.1%	14.5

NOTE: See pages 104 and 105 for definition on programs included in these groups. See Appendix E (Program Classification Scheme).

According to COU standards, each graduate student generates between 7.4 and 29.4 NASMs (classrooms, lab space, graduate offices, office support, library) depending on the program, compared to 1.8 NASMs (classrooms, library) for undergraduate students. Graduate classes are normally held in smaller classrooms and/or seminar rooms, not lecture theatres. Also, the student-faculty ratio is typically lower for graduate students than undergraduate students, which means that increasing graduate enrolment would require increasing the faculty complement.

➤ Research Space

More research space is required, especially with the double cohort moving through the system to graduate programs in the next few years, the increase in faculty, and accommodation for the increased number of Canada Research Chairs and their support staff. The SuperBuild program funded very little in

additional research space; funding for new research space was provided through the Canada Foundation for Innovation (CFI) and/or Ontario Innovation Trust (OIT), and through increased institutional funding. Some institutions built significant research space through the CFI program.

COU's space standards for research space are consistent with some U.S. data. For example, according to the MGT space analysis study for the university and community college system of Nevada in 2000, research lab space varies from 0 to 47 assignable square metres per FTE faculty, dependent on the department and/or discipline. Faculty in some departments and/or disciplines are allocated no research space. By comparison, in Ontario research lab space varies from 1 to 45 NASM, dependent on the department and/or discipline. All disciplines are allocated research lab space.

➤ Student and Central Services

The COU standards allocated 2.0 NASM/FTE student for Student and Central Services. The actual NASM/FTE student has been declining, particularly since 1998-99.

	7 Food Service	8 Bookstore	11 AV TV	12 Central Services	13 Health Services	14 Student Activity	15 Assembly Exhibition	NASM/FTE Student
1977	0.55	0.16	0.08	0.24	0.03	0.55	0.27	1.9
1980	0.54	0.17	0.08	0.22	0.03	0.52	0.27	1.8
1983	0.47	0.15	0.07	0.23	0.03	0.46	0.25	1.7
1986	0.48	0.15	0.07	0.24	0.03	0.42	0.23	1.6
1989	0.42	0.14	0.06	0.22	0.03	0.37	0.22	1.5
1992	0.43	0.12	0.06	0.20	0.02	0.37	0.23	1.4
1995	0.44	0.14	0.05	0.21	0.03	0.42	0.23	1.5
1998	0.44	0.16	0.05	0.22	0.03	0.42	0.23	1.6
2001	0.40	0.14	0.04	0.13	0.03	0.38	0.22	1.3
2004	0.34	0.11	0.04	0.10	0.03	0.35	0.19	1.2
2007	0.32	0.10	0.03	0.11	0.03	0.33	0.17	1.1

➤ Accessibility

There are new pressures on space emanating from Bill 118: Accessibility for Ontarians with a Disability Act (AODA) to accommodate people with disabilities, both learning and physical. These standards, which came into force in the summer of 2009, will require significant repurposing of space and retrofitting. Universities must now consider access to persons with disabilities in any future capital projects.

➤ Age of Buildings

Table 3 (page 51) shows the age of buildings. The average age is 33.2 years, a slight increase over the 2004 report which showed the average age as 32.5 years. To accommodate enrolment increases due to the double cohort, universities have increased the amount of rental space in their physical plant. In 2001, 18,868 NASM of building space was classified as rental space; by 2004 that figure increased to 35,731 NASM, an increase of 90%, and by 2007 it increased to 49,500 (the size of the Trent University campus).

➤ **Facilities Condition Assessment Program**

In 1999, Ontario universities collaboratively purchased a software package developed by Vanderweil Facilities Advisors (VFA), a database application for facility management. By moving to a common software program, the university community is in a position to provide useful system-wide analysis of deferred maintenance liabilities and the effects of added investment by the province and institutions.

The 2007 report, released July 2007, shows that with more than 80% of university buildings audited the overall FCI (facilities condition index) system average is 0.10 (an FCI of 0.10 or higher represents buildings in poor condition), a slight improvement over 2004 where the FCI was 0.11. However, much of this improvement is attributed to the construction of new buildings resulting in a 10% increase in the current replacement value. Deferred maintenance actually increased by 6%.

ISSUES REVIEWED BY THE COMMITTEE: 2005 TO 2007

Beginning with the 2007-08 report the following changes were made:

➤ **Categories 3 and 4**

In order to correctly identify office-type space used for research, departmental research support staff offices/workspaces were moved to Category 4.2 Research Office/Project space from Category 3.3 Laboratory Research Office space.

Category 4: Academic Departmental Offices and Related Space

Subcategory 4.1 was changed to Academic Offices to reflect the inclusion of offices for all academic appointments – professors emeriti, visiting professors, etc.

➤ **Category 5: Library Facilities & Campus Study Space**

A major reworking of this category was started in 2007 with the assistance of the Ontario Council of University Librarians (OCUL). Detailed reviews and analyses of volume counts and calculation of equivalent volumes were undertaken and new equivalencies have been established that more adequately reflect current stack standards. *See pages 111-114 for more details on the changes.*

These changes prompted a change in the space factors for library stack space. The sliding scale for calculating generated space (0.004 to 0.007) for stacks have been eliminated prior to this report and replaced with one space factor (0.005). Universities now report two (2) categories of compact shelving, each with their own space factor: mobile compact shelving (0.004) and super high density (0.0035). It was also determined that study space should be identified as either under the jurisdiction of the institution's library system or accommodated in non-library space. These spaces would be classified separately and would include computer equipped study space.

The methodology used in calculating library staff space and library support space is under review. Beginning this year, institutions were asked to report library FTE staff counts.

In addition, the Committee determined that all study spaces should be counted on the basis of two (2) square metres per station regardless of the type of space.

NOTE: Because of the above changes and improvements, caution should be made in making comparisons with previous reports.

SOME RECENT COMMITTEE ACTIVITIES

Ongoing Activities

- Review and publication of the institutional responses to triennial surveys of physical resources.
- Produced a Users' Guide for completing space surveys.
- Work with the COU Joint Task Force of Council of Senior Administrative Officers (CSAO) and Ontario Association of Physical Plant Administrators (OAPPA) on Facilities Condition Assessment.

Formula Space Updates

- Investigated the impact of computing on several space categories. (1992 to 2001)
- Reviewed and/or updated classroom formula, deans' space, computer space. (1999 to 2002)
- Classroom surveys conducted in 1997 and 1999.
- Reviewed and/or updated (1) Research space entitlements and effect of Canada Research Chairs on research space, (2) Academic and Administrative office support space, (3) Library / Learning Commons / Computing Space, and (4) Graduate student space (2004).
- Categories 3 and 4 (2007).

Library Facilities and Campus Study Space Updates

- The Committee on Space Standards and Reporting reviewed the library volume equivalencies used in the generation of stack space entitlement. With the assistance of OCUL, the Committee adopted the methodology used by the Canadian Association of Research Libraries (CARL). Worked with OCUL to review library space factors (1995 and 2004).
- The Committee worked with representatives from OCUL to review and update library stack, study and support space standards (2007).

Studies Conducted During Double Cohort

- Provided background information and scenarios for PricewaterhouseCoopers to examine the impact of the anticipated increase of students on the existing physical facilities of Ontario universities (1998).
- Provided input to COU on the impact of university facilities on increased enrolment due to double cohort (1999 to 2001).
- Presentation at Canadian Association of University Business Officers (CAUBO) conference entitled "Where Are We Going to Put Them?" (June 2001).

For information on committee activities in previous years, see earlier editions of this report.

Section 2

AN OVERVIEW

AN OVERVIEW

NOTES

Tables A through I show actual and generated space inventory figures by COU space categories. The reader should be aware that during this period, adjustments were made to the space factor and categorizations, therefore the data may not be directly comparable within this report, not historically.

- In the 1977-78 and 1980-81 reports, data were reported in NASF (net assignable square feet). For comparability purposes, the data were converted to NASM (net assignable square metres) using a factor of 10.764.
- A consistent set of institutions is not included for all survey years.
 - 1977-78: Algoma, Hearst, Nipissing, Ontario Institute for Studies in Education (OISE) and OCAD were not included.
 - 1980-81: Algoma, Hearst, Nipissing and OISE were not included.
 - 1983-84: Hearst and partial data for OISE were not included.
 - 1986-87: Algoma, Hearst, Nipissing, OISE and OCAD reported data, but were not included in the summary data because "COU standards can't be applied to small or special purpose institutions."
 - 1989-90: Algoma, OISE and OCAD were not included; Hearst and Nipissing reported data but were not included in the summary data. See 1986-87 note.
 - 1998-99: OISE is included with Toronto (St. George) data.
 - 2004-05: UOIT is included.
- The COU Task Force to Review COU Space Standards revised some space factors and input measures for the 1986-87 report. A number of minor changes were made to most categories, but the space factors for Academic and Administrative Office changed most dramatically as seen in the following table:

Category	COU Space Factor: 1977-78 to 1983-84	COU Space Factor: 1986-87 to 2001-02	COU Space Factor: 2004-05
Academic Office (4)	19.516 NASM per FTE Faculty 3.717 NASM per FTE Graduate Student Factors for faculty include a provision for academic support staff and service.	13.0 NASM per FTE Faculty x 1.15 4.0 NASM per FTE Graduate Student 30% of total generated for faculty and grad students.	13.0 NASM per FTE Faculty x 1.15 4.0 NASM per FTE Graduate Student 25% of total generated for faculty and grad students.
Administrative Office (10)	0.84 NASM per student includes a provision for service space.	13.0 NASM per FTE Non-Academic Office Staff 30% of total generated for non-academic staff.	13.0 NASM per FTE Non-Academic Office Staff 50% of total generated for non-academic staff.

For revisions made to all categories, please see Building Blocks Volume 7: Final Report of the Task Force to Review COU Space Standards.

- In 2007, the Committee and OCUL reviewed and changed the space factors for library stack space:

	COU Space Factor: Prior to 2007-08	COU Space Factor: 2007-08
Library Facilities & Campus Study Space – Stack Space (5)	Compact Storage: 0.004 Next 300,000: 0.007 Next 300,000: 0.006 Remainder: 0.005	Mobile Compact Shelving: 0.004 Super High Density: 0.0035 Traditional Static Shelving: 0.005

- Beginning with the 2007-08 report, departmental research support staff offices/workspaces were moved from Category 3 to Category 4.

The reader should be aware that comparisons should not be made in “generated space” over time.

- Beginning with the 1992-93 report, COU has included federated and affiliated colleges in the triennial survey, in response to the Ontario Ministry’s funding requirements. Data on space and activities at all of these institutions are now fully integrated into the reports of their constituent universities.
- Beginning with the 1992-93 report, Nipissing University appears as a separate institution – in previous years Nipissing was reported as an affiliated college of Laurentian University.
- In conducting the 1995-96 survey, special efforts were made to ensure that the data were consistent with other sources of information, such as student enrolment data reported to the Ontario Ministry, and that significant variances from the previous report were justified. Work will continue to improve the completeness and consistency of reporting for the triennial surveys. The Committee will continue to review the formula as changes in university program delivery and administrative requirements dictate.
- Prior to 2001-02, caution should be exercised when analyzing Class Lab and Lab-Research data. The figures may not necessarily agree between Table 2 and the institutional/summary tables. Table 2 includes all space, but the institutional/summary tables only include the space in those disciplines that can be categorized in Groups A to E (for Lab-Research) and Groups W to Z (Class Lab). Since 2001-02, this has been corrected.
- Beginning with the 2004-05 report, the percentage of space allocated for administrative and academic support space has changed. Please note when making historical comparisons.
- Beginning with the 2004-05 report, study space is now reported in Category 5. Previously it was reported in Category 12.
- Beginning with the 2004-05 report, parking structures are now reported in Category 16. Previously it was reported in Category 19.
- Beginning with the 2004-05 report, there were a number of changes to the Library/Learning Commons space.
- Beginning with the 2007-08 report, there were a number of changes made to Category 5 (Library Facilities and Campus Study Space). With the assistance of OCUL, changes were made to equivalent volumes and the space factors for stack space.
See pages 13 and 111-114 for further details.
- Beginning with the 2007-08 report, office-type space used for research, departmental research support staff office/workspaces were moved to Category 4 from Category 3.
See pages 13 and 106-107 for further details.

NOTE: Because of the above changes and improvements, caution should be made in making comparisons with previous reports.

HIGHLIGHTS (Tables)

Overall, Ontario universities' occupied over 7 million NASM in 2007-08. Total space has increased by almost 90% since 1977-78. Due to the infusion of capital to accommodate the double cohort, space increased by 27% since 2001-02.

- Formula space (space funded by the government) accounts for almost 45% (3.1 million NASM) of the total space.
 - Teaching/Research/Academic support space accounts for 78% of the formula space and Student/Central services space accounts for the remaining 22% of the formula space.
 - Laboratory (undergraduate and graduate & faculty) space accounts for 33% of the total teaching/research/academic space.
 - Student and Central services space has not kept pace with the increase in other categories. In 1977-78 it accounted for 18.5%; by 2007-08 it accounted for 14% of total formula space.
- Non-formula space (space not funded by the government) accounts for 22% (1.5 million NASM) of the total space.
 - The major increase in Non-Formula space areas from 2004-05 to 2007-08 are *Other University Facilities*, which include spaces which are available for immediate occupancy but which have not yet been assigned to individuals or groups. At the time of the survey, space was renovated but not yet been assigned to individuals or groups.
 - Residential space has increased by almost 30% since 2001-02 mainly to accommodate the double cohort.
- Non-assignable space (space that is necessary for the support of buildings, for example, central utility plant, mechanical/electrical spaces, parking structures (see Category 16; Non Assignable Space, page 124 for more details)) accounts for 34% (2.4 million NASM) of the total space.
See Tables A and B for further details.

The ratio between actual inventory and generated space (I/G) continues to decline. In 1980-81 the ratio was 96.4%; in 2007-08 it is 72.2%. The most significant decline was seen between 2001-02 and 2004-05 (the double cohort years) when the ratio declined from 78.2% in 2001-02 to 73% in 2004-05.

Teaching/Research/Academic support space is operating with significantly less space than they should have, according to COU space standards. For example, class labs are operating at 65%, classrooms at 76%, and research labs at 75% of the space they should have, according to COU space standards.

Student and Central Services space are operating at 56.7% of the space they should have according to COU space standards.

See Table H for further details

The amount of space per FTE student has also been declining, which implies that the increase in facilities has not kept up with the increase in enrolment.

According to the COU formula, there should be 11.9 NASM/FTE student. In 2007-08, there was 8.6

NASM/FTE student, by comparison that figure was 10.6 in 1998-99.

- For Teaching/Research/Academic space, there should be 8.8 NASM/FTE student, but in 2007-08 there was 6.7 NASM/FTE student.
- According to the COU formula, there should be 1.23 NASM/FTE student in classrooms. In 2007-08 that figure was 0.94.
- According to the COU formula, there should be 4 NASM/FTE graduate student. This figure includes office space. Graduate office space per FTE graduate student remained relatively constant, declining from 2.6 NASM/FTE graduate student in 1986-87 to 2.12 in 2007-08.
- The average COU standard for Student and Central Services is 2 NASM/FTE student. The actual figure has declined from 1.62 in 1986-87 to 1.09 NASM/FTE student in 2007-08.

See Tables E and I for further details.

Table A

ACTUAL SPACE: Total Actual Space Inventory by COU Space Categories, 1977-78 to 2007-08

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08	% Change 2004-05 to 2007-08
FORMULA AREAS (NASM)													
(A) Teaching/Research/Academic Support													
1.	Classroom Facilities	209,776	210,269	215,897	206,972	218,568	247,913	256,078	260,194	265,015	324,465	342,013	5.4
2.	Lab Undergrad	323,156	331,267	332,034	311,046	310,303	326,451	333,493	325,353	323,384	340,900	350,201	2.7
3.	Lab Grad & Faculty	230,534	232,485	250,410	300,052	318,474	339,867	345,662	349,394	367,422	430,612	461,727	7.2
4.	Acad. Office & Related Facilities	304,711	311,910	335,637	355,143	382,202	457,342	463,055	490,985	519,890	585,085	676,235	15.6
5.	Campus Study Space & Library	243,173	256,235	264,178	264,431	280,579	318,214	326,963	325,471	343,363	368,804	374,720	1.6
10.	Admin. Office & Related Facilities	135,173	138,895	149,336	164,200	180,054	192,525	211,166	200,089	196,723	219,055	230,935	5.4
(B) Other Space													
6.	Recreation/Athletic Space	127,976	142,962	155,306	153,520	158,880	168,970	180,809	177,215	186,153	202,931	231,927	14.3
11-15	Student and Central Services*	356,191	353,432	356,343	356,319	360,060	406,136	419,910	425,966	411,604	444,609	452,035	1.7
Subtotal - Formula Areas		1,930,691	1,977,456	2,059,141	2,111,683	2,209,120	2,457,418	2,537,136	2,554,667	2,613,554	2,916,461	3,119,793	7.0
16.	Non-Assignable (\$M)	1,200,599	1,233,516	1,190,652	1,280,366	1,370,036	1,544,729	1,655,401	1,700,105	1,714,576	2,099,122	2,372,324	13.0
NON-FORMULA AREAS (NASM)													
17.	Residential Space	520,716	536,874	575,808	584,118	630,660	808,758	843,940	867,611	964,840	1,154,665	1,243,783	7.7
18.	Animal Space	12,484	10,304	11,118	7,440	7,554	7,815	9,333	9,931	10,324	9,366	12,395	32.3
19.	Other	37,634	40,453	41,701	61,229	57,968	70,222	73,245	82,246	157,215	101,526	196,593	93.6
20.	Health Sci. Clinical Facilities	27,299	51,465	53,233	92,177	79,927	70,696	72,824	78,403	80,440	79,549	77,863	(2.1)
Subtotal - Non-Formula Areas		598,132	639,095	681,860	744,964	776,109	957,491	999,342	1,038,191	1,212,818	1,345,105	1,530,635	13.8
Total		3,729,423	3,850,067	3,931,653	4,137,013	4,355,265	4,959,638	5,191,879	5,292,963	5,540,949	6,360,688	7,022,751	10.4

* Includes Food Service, Bookstore & Merch. Facilities, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, Assembly/Exhibition Facilities and Plant Maintenance.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4, 5, 10, 12, 16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table B

ACTUAL SPACE: Percentage Distribution of Total Actual Space Inventory by All COU Space Categories, 1977-78 to 2007-08

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
FORMULA AREAS (NASM)												
(A) Teaching/Research/Academic Support												
1.	Classroom Facilities	5.6%	5.5%	5.5%	5.0%	5.0%	5.0%	4.9%	4.9%	4.8%	5.1%	4.9%
2.	Lab Undergrad	8.7%	8.6%	8.4%	7.5%	7.1%	6.6%	6.4%	6.1%	5.8%	5.4%	5.0%
3.	Lab Grad & Faculty	6.2%	6.0%	6.4%	7.3%	7.3%	6.9%	6.7%	6.6%	6.6%	6.8%	6.6%
4.	Acad. Office & Related	8.2%	8.1%	8.5%	8.6%	8.8%	9.2%	8.9%	9.3%	9.4%	9.2%	9.6%
5.	Campus Study Space & Library Facilities	6.5%	6.7%	6.7%	6.4%	6.4%	6.4%	6.3%	6.1%	6.2%	5.8%	5.3%
10.	Admin. Office & Related	3.6%	3.6%	3.8%	4.0%	4.1%	3.9%	4.1%	3.8%	3.6%	3.4%	3.3%
(B) Other Space												
6.	Recreation/Athletic Space	3.4%	3.7%	4.0%	3.7%	3.6%	3.4%	3.5%	3.3%	3.4%	3.2%	3.3%
7-9, 11-15	Student and Central Services*	9.6%	9.2%	9.1%	8.6%	8.3%	8.2%	8.1%	8.0%	7.4%	7.0%	6.4%
Subtotal - Formula Areas		51.8%	51.4%	52.4%	51.0%	50.7%	49.5%	48.9%	48.3%	47.2%	45.9%	44.4%
16. Non-Assignable (SM)		32.2%	32.0%	30.3%	30.9%	31.5%	31.1%	31.9%	32.1%	30.9%	33.0%	33.8%
NON-FORMULA AREAS (NASM)												
17.	Residential Space	14.0%	13.9%	14.6%	14.1%	14.5%	16.3%	16.3%	16.4%	17.4%	18.2%	17.7%
18.	Animal Space	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.2%
19.	Other	1.0%	1.1%	1.1%	1.5%	1.3%	1.4%	1.4%	1.6%	2.8%	1.6%	2.8%
20.	Health Sci. Clinical Facilities	0.7%	1.3%	1.4%	2.2%	1.8%	1.4%	1.4%	1.5%	1.5%	1.3%	1.1%
Subtotal - Non-Formula Areas		16.0%	16.6%	17.3%	18.0%	17.8%	19.3%	19.2%	19.6%	21.9%	21.1%	21.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Includes Food Service, Bookstore & Merch. Facilities, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, Assembly/Exhibition Facilities and Plant Maintenance.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4, 5, 10, 12, 16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table C

ACTUAL SPACE: Percentage Distribution of Total Actual Space Inventory by Only the COU Formula Space Categories, 1977-78 to 2007-08

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
FORMULA AREAS (NASM)												
(A) Teaching/Research/Academic Support												
1.	Classroom Facilities	10.9%	10.6%	10.5%	9.8%	9.9%	10.1%	10.1%	10.2%	10.1%	11.1%	11.0%
2.	Lab Undergrad	16.7%	16.8%	16.1%	14.7%	14.0%	13.3%	13.1%	12.7%	12.4%	11.7%	11.2%
3.	Lab Grad & Faculty	11.9%	11.8%	12.2%	14.2%	14.4%	13.8%	13.6%	13.7%	14.1%	14.8%	14.8%
4.	Acad. Office & Related	15.8%	15.8%	16.3%	16.8%	17.3%	18.6%	18.3%	19.2%	19.9%	20.1%	21.7%
5.	Campus Study Space & Library Facilities	12.6%	13.0%	12.8%	12.5%	12.7%	12.9%	12.9%	12.7%	13.1%	12.6%	12.0%
10.	Admin. Office & Related	7.0%	7.0%	7.3%	7.8%	8.2%	7.8%	8.3%	7.8%	7.5%	7.5%	7.4%
Total - Teaching/Research/Academic Support		74.9%	74.9%	75.2%	75.9%	76.5%	76.6%	76.3%	76.4%	77.1%	77.8%	78.1%
(B) Other Space												
6.	Recreation/Athletic Space	6.6%	7.2%	7.5%	7.3%	7.2%	6.9%	7.1%	6.9%	7.1%	7.0%	7.4%
7-9, 11-15	Student and Central Services*	18.4%	17.9%	17.3%	16.9%	16.3%	16.5%	16.6%	16.7%	15.7%	15.2%	14.5%
Total - Other Space		25.1%	25.1%	24.8%	24.1%	23.5%	23.4%	23.7%	23.6%	22.9%	22.2%	21.9%

* Includes Food Service, Bookstore & Merch. Facilities, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, Assembly/Exhibition Facilities and Plant Maintenance.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,12,16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table D

GENERATED SPACE: Percentage Distribution of Generated Space (NASM) by COU Formula Space Classification, 1977-78 to 2007-08

Cat #	Space Classification	1977-78	1980	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
FORMULA AREAS (NASM)													
(A) Teaching/Research/Academic Support													
1.	Classroom Facilities	10.2%	10.2%	10.1%	10.3%	9.7%	9.9%	10.1%	9.9%	9.8%	9.9%	10.4%	10.4%
2.	Class Lab	15.4%	15.4%	16.1%	15.1%	13.6%	12.4%	12.2%	12.3%	12.5%	12.2%	12.5%	12.5%
3.	Lab - Research Facilities	12.7%	12.7%	12.2%	12.5%	13.7%	13.5%	13.3%	13.8%	13.8%	13.6%	13.9%	14.3%
4.	Academic Office and Related Campus Study Space & Library Facilities	14.6%	14.6%	14.1%	13.5%	14.3%	17.8%	17.5%	17.1%	17.1%	18.1%	17.4%	18.8%
5.	Administrative Office	7.1%	7.1%	7.0%	7.2%	9.2%	6.2%	5.6%	5.6%	5.0%	4.8%	5.3%	5.4%
Total - Teaching/Research/Academic Support		73.5%	73.8%	73.8%	73.2%	74.2%	74.1%	73.1%	73.5%	74.0%	74.5%	73.4%	73.7%
(B) Other Space													
6.	Recreation/Athletics	8.0%	8.0%	8.0%	8.2%	7.8%	7.8%	8.3%	8.1%	7.9%	7.7%	8.0%	7.9%
7-9, 11-15	Student and Central Services*	18.5%	18.5%	18.2%	18.7%	17.9%	18.2%	18.6%	18.4%	18.1%	17.8%	18.5%	18.5%
Total - Other Space		26.5%	26.2%	26.2%	26.8%	25.8%	25.9%	26.9%	26.5%	26.0%	25.5%	26.6%	26.3%

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, Assembly/Exhibition Facilities and Plant Maintenance.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,12,16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table E

ACTUAL SPACE: Total Actual Space Inventory (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2007-08

Cat. #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
FORMULA AREAS (NASM)												
(A) Teaching/Research/Academic Support												
1	Classroom Facilities	209,776	210,269	212,434	206,972	218,568	247,913	256,078	260,194	265,015	324,465	342,013
2	Class Lab	323,156	331,267	332,034	311,046	308,474	321,919	326,708	323,541	323,384	340,900	350,201
3	Lab - Research Facilities	230,534	232,485	250,106	300,052	312,657	335,255	340,867	345,767	367,422	430,612	461,727
4	Academic Office and Related	304,711	311,910	326,471	298,472	382,202	457,342	463,055	490,985	519,890	585,085	676,235
5	Campus Study Space & Library Facilities	243,173	256,235	259,548	264,431	280,579	318,214	326,963	325,471	343,363	368,804	374,720
10	Administrative Office	135,173	138,895	146,886	220,871	180,054	192,525	211,166	200,089	196,723	219,055	230,935
(B) Other Space												
6	Recreation/Athletics	127,976	142,962	155,306	153,520	158,880	168,970	180,809	177,215	186,153	202,931	231,927
7-9, 11	Student and Central Services*	356,191	353,432	356,343	356,319	360,060	406,136	419,910	425,966	411,604	444,609	452,035
Total - Formula Areas		1,930,691	1,977,456	2,039,128	2,111,683	2,201,474	2,448,274	2,525,556	2,549,228	2,613,554	2,916,461	3,119,793
FTE Students		170,587	170,835	192,624	192,838	215,184	248,792	241,098	240,986	268,281	338,448	363,872
Total Formula Areas (NASM) / FTE Students		11.3	11.6	10.6	11.0	10.2	9.8	10.5	10.6	9.7	8.6	8.6
Support Areas (NASM) / FTE Students		8.5	8.7	7.9	8.3	7.8	7.5	8.0	8.1	7.5	6.7	6.7

* Includes Food Service, Bookstore & Merch. Facilities; Plant Maintenance; Audio-Visual Television Facilities; Central Services; Health Service Facilities; Student Activity Space; Assembly/Exhibition Facilities and Plant Maintenance.

In 1986-87, Academic Office was the sum of categories 4.1, 4.2, 4.3 and 4.5. Administrative Office was the sum of categories 4.4, 10.1 and 10.2. Prior to 2001-02, actual space figures do not include space where the discipline has not been categorized into Group A to E (for Labs; Research) and Group W to Z (for Class Lab). Therefore these numbers do not agree with Table A.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4, 5, 10, 12, 16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table F

GENERATED SPACE: Total Generated Space (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2007-08

Cat #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
FORMULA AREAS (NASM)												
(A) Teaching/Research/Academic Support												
1	Classroom Facilities	206,023	206,323	232,724	231,405	258,220	298,551	289,317	289,183	329,986	416,291	447,563
2	Class Lab	310,674	330,651	339,885	323,758	324,505	358,283	357,967	370,708	408,197	501,137	540,961
3	Lab - Research Facilities	256,306	251,128	281,617	327,236	352,848	391,027	403,446	409,887	454,829	557,159	618,405
4	Academic Office and Related	293,813	290,158	304,436	342,078	466,412	514,831	499,819	507,443	603,847	696,704	812,071
5	Campus Study Space & Library Facilities	273,115	293,555	328,463	327,804	373,000	423,698	432,638	466,966	534,670	549,079	530,434
10	Administrative Office	142,632	142,839	161,116	220,927	162,467	165,790	162,436	148,131	158,817	212,387	234,636
(B) Other Space												
6	Recreation/Athletics	162,086	164,129	184,107	187,554	203,665	242,913	236,988	234,887	256,453	321,603	340,485
7-9, 11-15	Student and Central Services*	372,427	372,968	420,693	428,490	475,218	548,808	535,938	535,864	593,958	740,820	797,501
Total - Formula Areas		2,017,076	2,051,750	2,253,041	2,389,252	2,616,335	2,943,901	2,918,549	2,963,069	3,340,758	3,995,180	4,322,055
FTE Students		170,587	170,835	192,624	192,838	215,184	248,792	241,098	240,986	268,281	338,448	363,872
Total Formula Areas (NASM) / FTE Students		11.8	12.0	11.7	12.4	12.2	11.8	12.1	12.3	12.5	11.8	11.9
Teaching/Research/Academic Support Areas (NASM) / FTE		8.7	8.9	8.6	9.2	9.0	8.7	8.9	9.1	9.3	8.7	8.8

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space and Assembly/Exhibition Facilities.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4, 5, 10, 12, 16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table G

ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification,
1998-99, 2001-02, 2004-05, and 2007-08

Cat. #	Space Classification	1998-99		2001-02		2004-05		2007-08	
		Generated Space (G)	Actual Inventory (I) % I/G	Generated Space (G)	Actual Inventory (I) % I/G	Generated Space (G)	Actual Inventory (I) % I/G	Generated Space (G)	Actual Inventory (I) % I/G
FORMULA AREAS (NASM)									
(A) Teaching/Research/Academic Support									
1	Classroom Facilities	289,183	260,194 90.0%	329,986	265,015 80.3%	416,291	324,465 77.9%	447,563	342,013 76.4%
2	Class Lab	370,708	323,541 87.3%	408,197	323,384 79.2%	501,137	340,900 68.0%	540,961	350,201 64.7%
3	Lab - Research Facilities	409,887	345,767 84.4%	454,829	367,422 80.8%	557,159	430,612 77.3%	618,405	461,727 74.7%
4	Academic Office and Related Campus Study Space & Library	507,443	490,985 96.8%	603,847	519,890 86.1%	696,704	585,085 84.0%	812,071	676,235 83.3%
5	Facilities	466,966	325,471 69.7%	534,670	343,363 64.2%	549,079	368,804 67.2%	530,434	374,720 70.6%
10	Administrative Office and Related	148,131	200,089 135.1%	158,817	196,723 123.9%	212,387	219,055 103.1%	234,636	230,935 98.4%
Total - Teaching/Research/Academic Support		2,192,318	1,946,047 88.8%	2,490,347	2,015,797 80.9%	2,932,756	2,268,921 77.4%	3,184,069	2,435,831 76.5%
(B) Other Space									
6	Recreation/Athletics	234,887	177,215 75.4%	256,453	186,153 72.6%	321,603	202,931 63.1%	340,485	231,927 68.1%
7-9, 11-15	Student and Central Services*	535,864	425,966 79.5%	593,958	411,604 69.3%	740,820	444,609 60.0%	797,501	452,035 56.7%
Total - Other Space		770,751	603,181 78.3%	850,411	597,757 70.3%	1,062,423	647,540 60.9%	1,137,986	683,962 60.1%
Total - Formula Areas		2,963,069	2,549,228 86.0%	3,340,758	2,613,554 78.2%	3,995,180	2,916,461 73.0%	4,322,055	3,119,793 72.2%

The above shows a breakdown between academic and administrative office space and support space. There is a deficiency in academic space - both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes: conference rooms, reference libraries, file and computer rooms, vaults, photocopy rooms, waiting and reception areas, interview rooms, storage areas, lunch rooms and departmental lounges.

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4, 5, 10, 12, 16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table H

Ratio of ACTUAL Inventory to GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 to 2007-08

Cat. #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
FORMULA AREAS (NASM)												
(A) Teaching/Research/Academic Support												
1	Classroom Facilities	101.8%	101.9%	91.3%	89.4%	84.6%	83.0%	88.5%	90.0%	80.3%	77.9%	76.4%
2	Class Lab	104.0%	100.2%	97.7%	96.1%	95.1%	89.9%	91.3%	87.3%	79.2%	68.0%	64.7%
3	Lab - Research Facilities	89.9%	92.6%	88.8%	91.7%	88.6%	85.7%	84.5%	84.4%	80.8%	77.3%	74.7%
4	Academic Office and Related	103.7%	107.5%	107.2%	87.3%	81.9%	88.8%	92.6%	96.8%	86.1%	84.0%	83.3%
5.	Campus Study Space & Library Facilities	89.0%	87.3%	79.0%	80.7%	75.2%	75.1%	75.6%	69.7%	64.2%	67.2%	70.6%
10	Administrative Office	94.8%	97.2%	91.2%	100.0%	110.8%	116.1%	130.0%	135.1%	123.9%	103.1%	98.4%
<i>4 and 10</i>	<i>Total Office Space</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>94.1%</i>	<i>89.2%</i>	<i>95.5%</i>	<i>101.8%</i>	<i>105.4%</i>	<i>93.8%</i>	<i>88.6%</i>	<i>86.7%</i>
Total - Teaching/Research/Academic Support												
		97.6%	97.8%	92.7%	90.3%	86.8%	87.0%	89.7%	88.8%	80.9%	77.4%	76.5%
(B) Other Space												
6	Recreation/Athletics	79.0%	87.1%	84.4%	81.9%	78.0%	69.6%	76.3%	75.4%	72.6%	63.1%	68.1%
7-9, 11-15	Student and Central Services*	95.6%	94.8%	84.7%	83.2%	75.8%	74.0%	78.4%	79.5%	69.3%	60.0%	56.7%
Total - Other Space												
		90.6%	92.4%	84.6%	82.8%	76.4%	72.6%	77.7%	78.3%	70.3%	60.9%	60.1%
Total - Formula Areas												
		95.7%	96.4%	90.5%	88.4%	84.1%	83.2%	86.5%	86.0%	78.2%	73.0%	72.2%

The above shows a breakdown between academic and administrative office space and support space. There is a deficiency in academic space - both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes: conference rooms, reference libraries, file and computer rooms, vaults, photocopy rooms, waiting and reception areas, interview rooms, storage areas, lunch rooms and departmental lounges.

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

NOTE: Between 2001 and 2004 there were changes in classification for Space Categories 4, 5, 10, 12, 16 and 19. Between 2004 and 2007 there were changes in the classification for Space Categories 3 and 4. For more details see pages 17 to 19.

Table I
 Historical Summary of Statistics
 1986-87 to 2007-08

	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	2007-08
% Undergraduate FTE Enrolment per Total FTE Enrolment	89.80	89.75	89.12	88.73	88.46	88.58	89.05	87.48
% Graduate FTE Enrolment per Total FTE Enrolment	10.20	10.25	10.88	11.27	11.54	11.42	10.95	12.52
WSCH ¹ per Undergraduate FTE Enrolment	3.38	3.23	4.18	2.98	3.10	3.09	2.95	3.11
Classroom NASM ² per FTE Student	1.07	1.02	1.00	1.06	1.08	0.99	0.96	0.94
Graduate Office NASM per FTE Graduate Student	2.60	2.39	2.41	2.48	2.38	2.39	2.22	2.12
Administrative Office NASM per FTE Non-Academic Office Staff	n/a	18.73	19.62	21.97	22.83	20.93	20.11	19.19
Campus Study Space and Library Facilities ³ NASM per FTE Student	1.37	1.30	1.28	1.36	1.35	1.28	1.09	1.03
Athletics/Recreation NASM per FTE Student	0.80	0.74	0.68	0.75	0.74	0.69	0.60	0.64
Student & Central Services NASM per FTE Student	1.62	1.46	1.43	1.53	1.55	1.34	1.16	1.09
Total NASM per FTE Student (categories 1-15)	10.95	10.23	9.84	10.48	10.58	9.74	8.62	8.57

¹ WSCH = Weekly Student Contact Hours

² NASM = Net Assignable Square Metres

³ Prior to 2001-02 the figures exclude student computer space

HIGHLIGHTS (FIGURES)

Since 1977-78, the total % I/G (ratio of actual to generated space) is less than 100%, indicating a shortfall of adequate space at Ontario universities. Between 1998-99 and 2004-05 the ratio declined dramatically; one can assume that the additional facilities built to accommodate the enrolment growth due to the double cohort was not sufficient. Some facilities were not completed by the 2004-05 survey, but the results from the 2007-08 survey shows that the ratio has not increased; in fact it has declined slightly from 2004-05 levels.

The space shortfall is continuing to escalate; in 1977-78 the shortfall was 86,400 NASM, by 2007-08 it was 1,200,000 NASM. The shortfall has increased 500,000 NASM since 2001-02.

- In 2007-08, the shortfall for classrooms and research labs is approximately 75%, for class labs it is approximately 65%. However, the largest gap between actual and generated space is in the Student and Central Services category (56.7%).
- Since 1977-78, the shortfall for class labs has declined due to (1) insufficient new labs built to accommodate the enrolment increase, (2) a change in reporting class labs / library, and (3) conversion of class labs to research labs.
- The decline in the % I/G for administrative office space is due to a change in the percentage of space allocated for administrative and academic support space beginning in 2004-05.

See Figures 1, 4, 5 and 7 for further details.

Since 1998-99, there has been a change in the relative proportions of space due to the reallocation of space and building of new facilities:

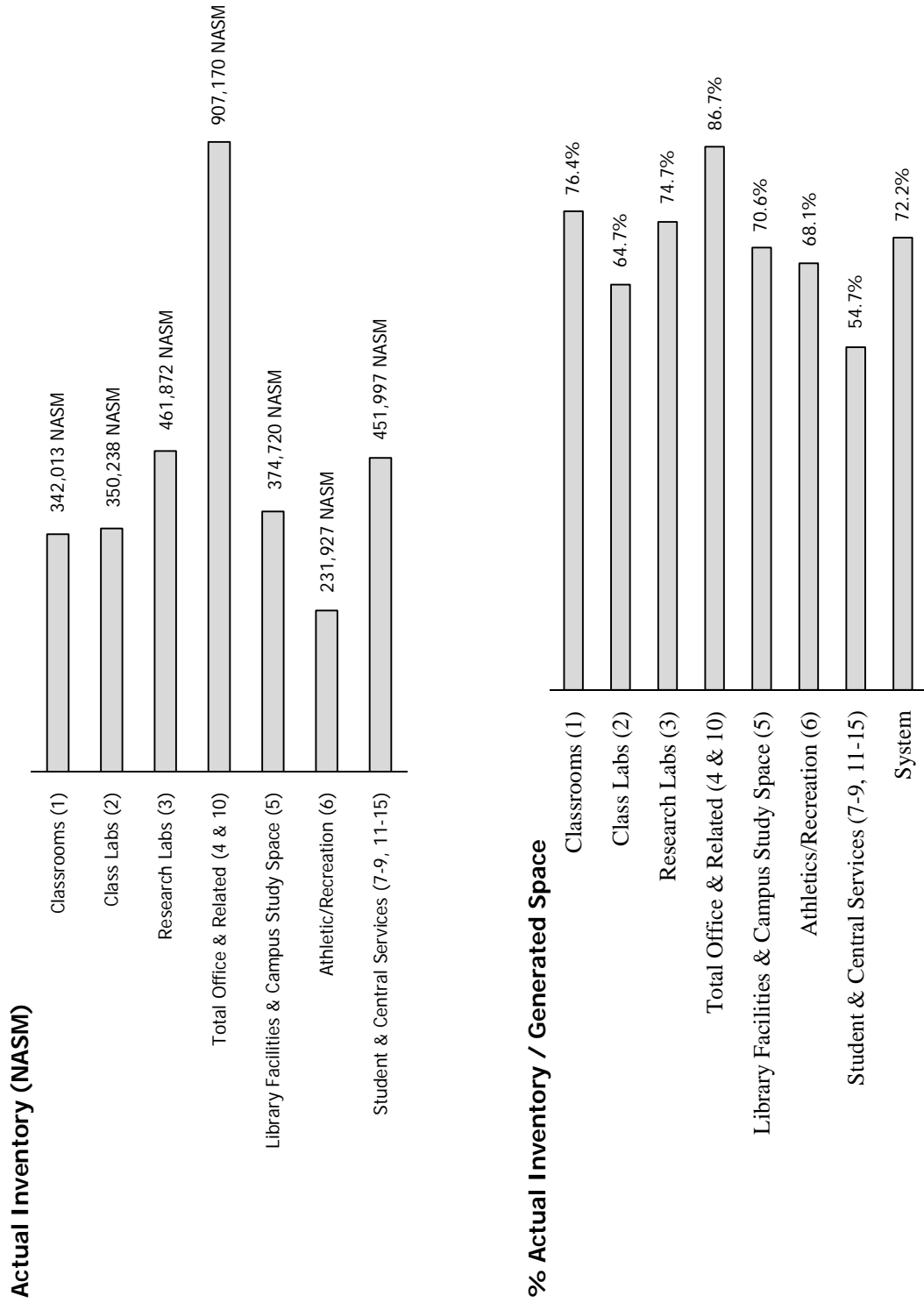
- In 1998-99, Student and Central Services accounted for 16.7% of total space; by 2007 it declined to 14.5%.
- The percentage of space devoted to Academic Office space increased from 1998-99 to 2007-08, due to the increased faculty complement to accommodate the increased enrolment.
- The percentage of space devoted to teaching facilities has remained constant at 23%.

See Figure 3 for further details.

The average age of buildings for all Ontario universities system has increased from 14.6 years in 1977-78 to 33.2 years in 2007-08. However, between 2001-02 and 2007-08 there has been virtually no change in building age, due to an infusion of capital money from SuperBuild.

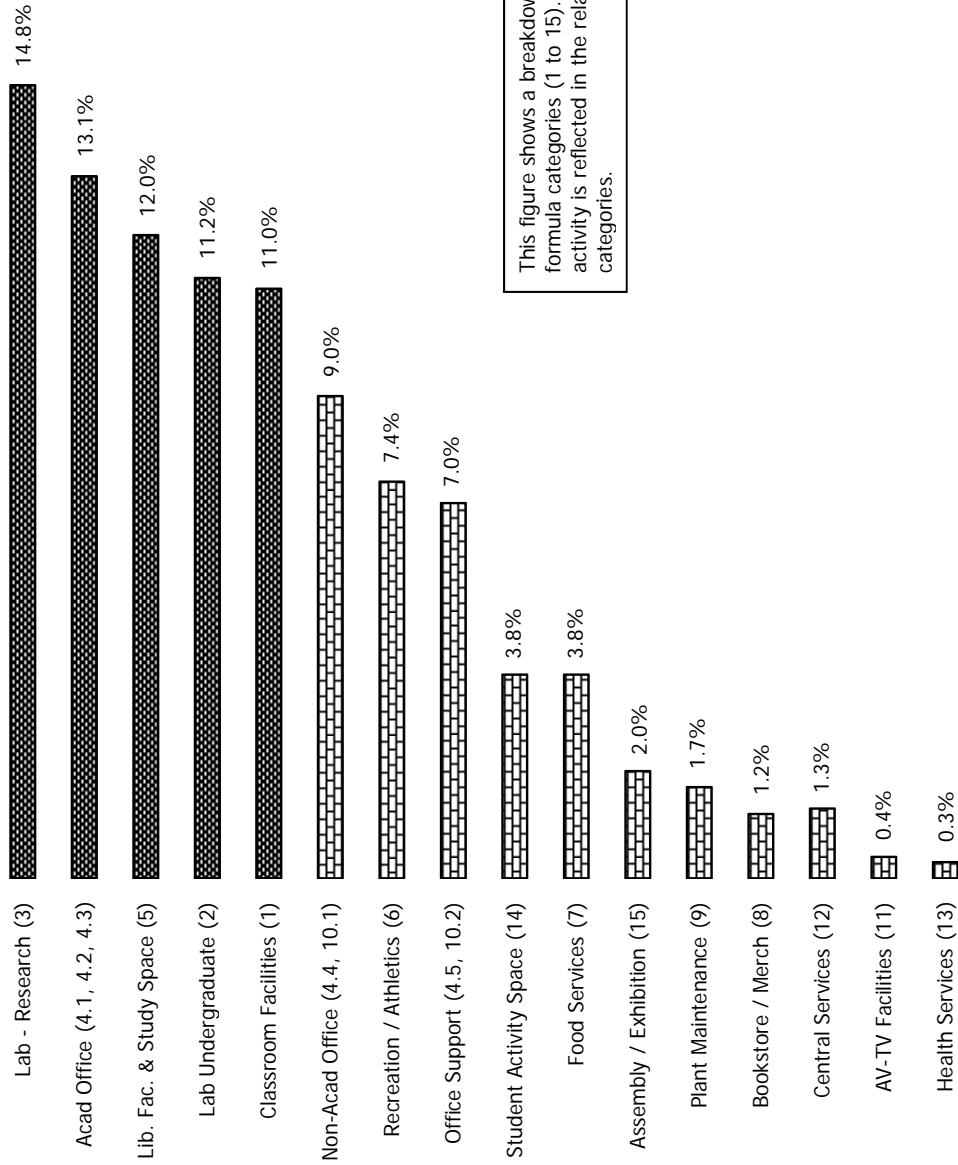
See Figure 5 for further details.

Figure 1
Actual Inventory (NASM) and % Actual Inventory / Generated Space
by Functional Area, 2007-08



Refer to Table 5 for more details.

Figure 2
Functional Breakdown of Formula Space* Usage, 2007-08



This figure shows a breakdown of inventory in the COU formula categories (1 to 15). The diversity of university activity is reflected in the relative portions of the space categories.

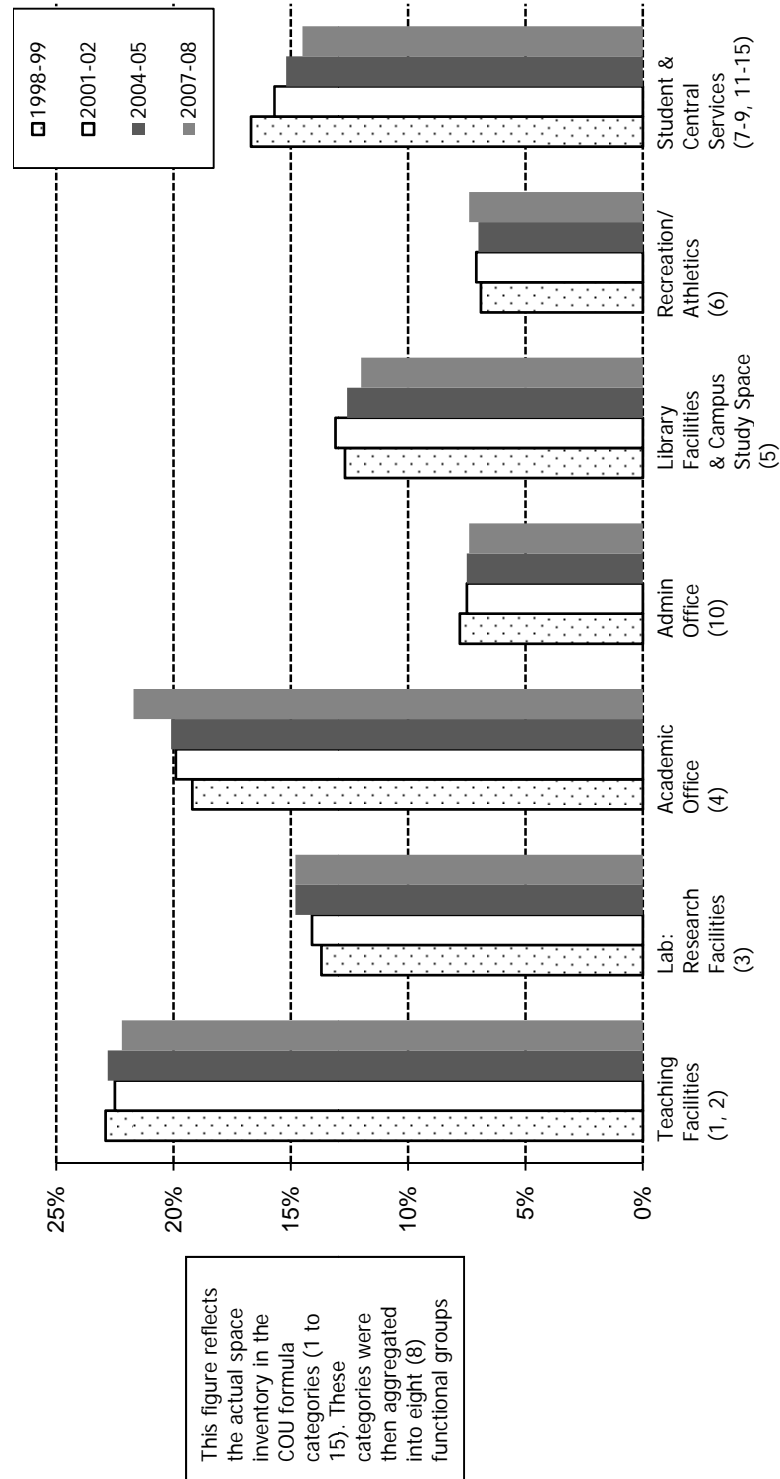
* Formula space is usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary university.

The first five categories refer to primary academic facilities.

The figures in brackets refer to the space category. Academic Office includes faculty offices, other academic appointments offices and graduate student offices. Non-Academic Office includes academic departmental support staff offices and administrative office areas. Office support includes academic and administrative office support areas.

Total Formula Space = 3,119,793 NASM.
Refer to Table 2 for more details.

Figure 3A
 Percentage Distribution of ACTUAL Space Inventory (NASM) Usage
 for COU Formula Areas, 1998-99 to 2007-08



This figure reflects the actual space inventory in the COU formula categories (1 to 15). These categories were then aggregated into eight (8) functional groups

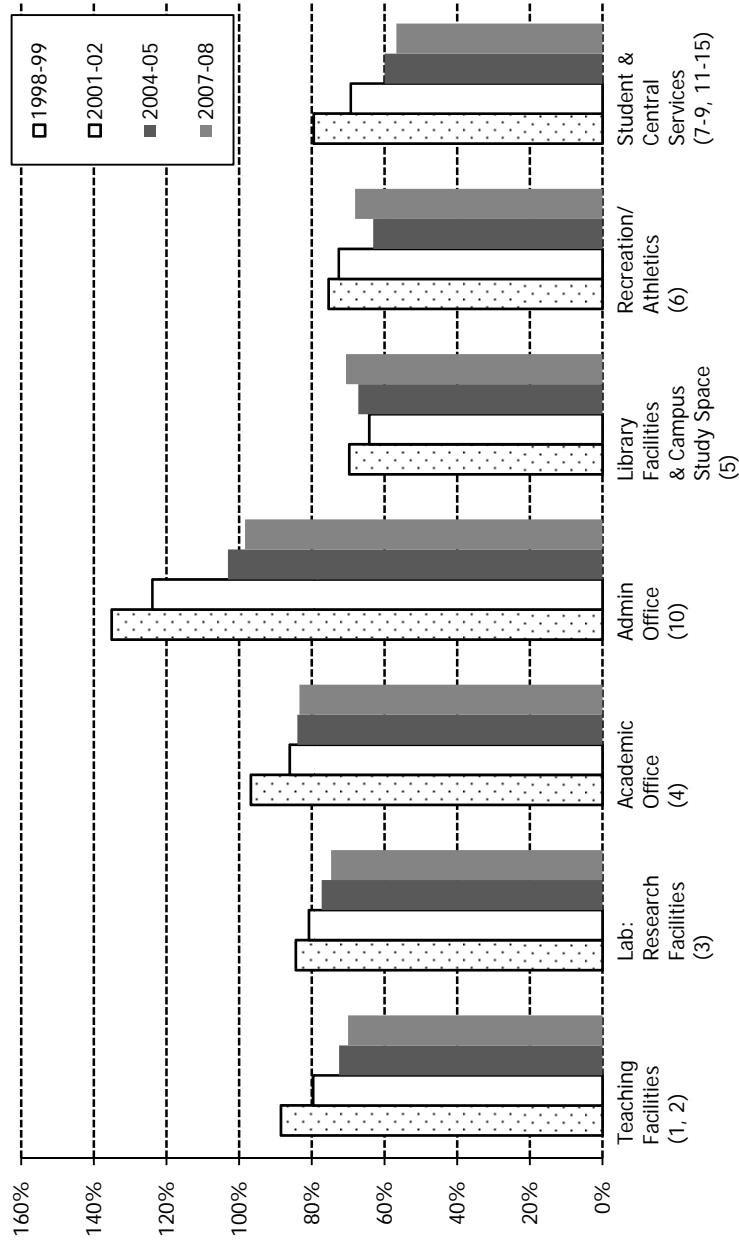
* Formula space is usable or assignable space for which space standards could normally be developed.

Teaching Facilities: Classroom and Lab Undergraduate
 Student & Central Services: Food Service, Bookstore, Health Service Facilities, Common Use/Student Activity, AV/TV, Assembly/Exhibition Facilities,
 Plant Maintenance, Central Services

In 2007-08, research offices were moved from Category 3 (Lab: Research Facilities) to Category 4 (Academic Office)

Refer to Table C for more details.

Figure 3B
 Actual Inventory / Generated Space (%I/G) for COU Formula Areas,
 1998-99 to 2007-08



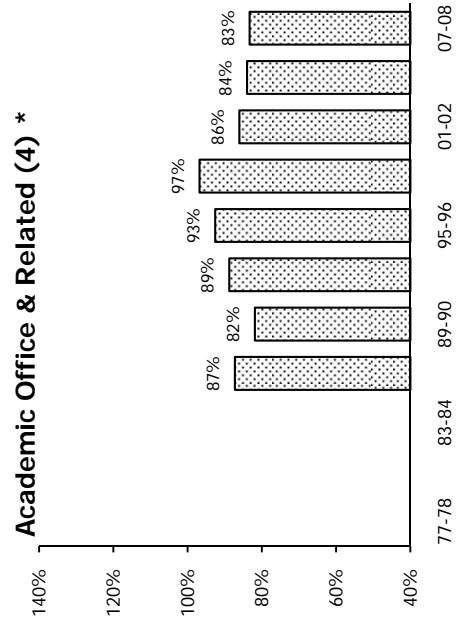
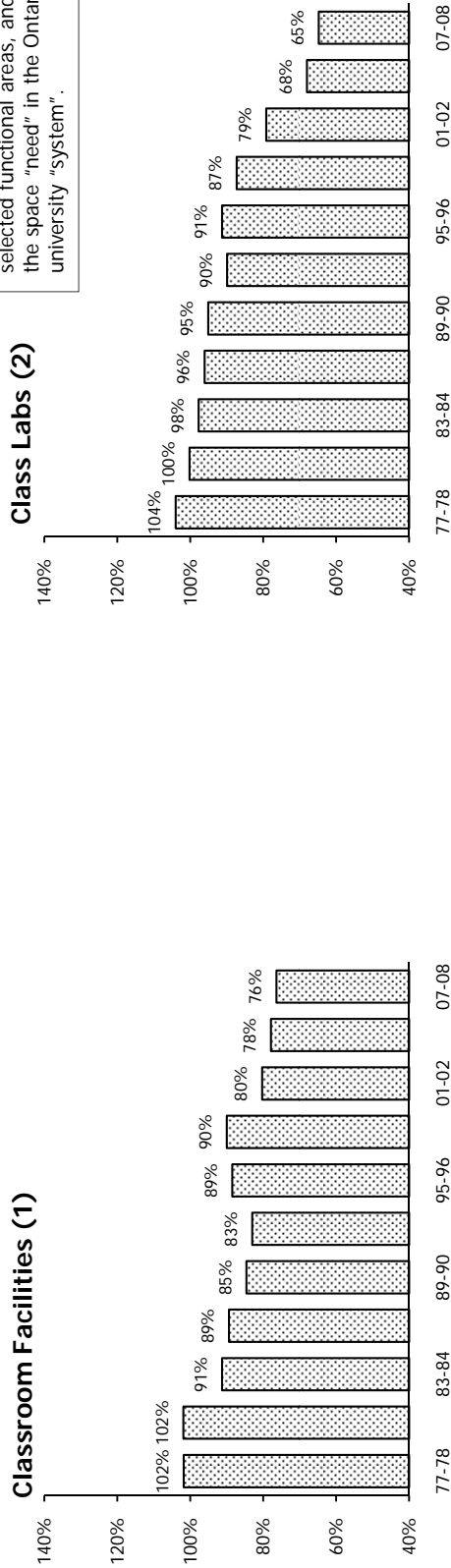
* Formula space is usable or assignable space for which space standards could normally be developed.

Teaching Facilities: Classroom and Lab Undergraduate
 Student & Central Services: Food Service, Bookstore, Health Service Facilities, Common Use/Student Activity, AV/TV, Assembly/Exhibition Facilities,
 Plant Maintenance, Central Services

Refer to Table G for more details.

Figure 4
 % Actual Inventory / Generated Space by Selected Functional Area
 1977-78 to 2007-08

This figure compares the ratio of generated space to actual inventory in selected functional areas, and highlights the space "need" in the Ontario university "system".



* Commencing in 1986-87, the input measure and space factor changed, so comparisons prior to 1986-87 are not possible.

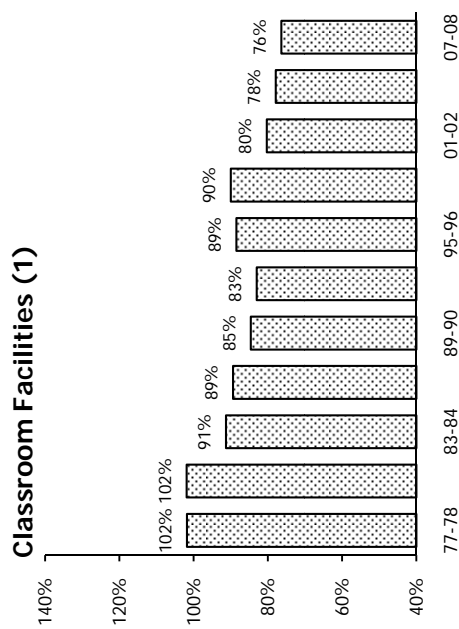
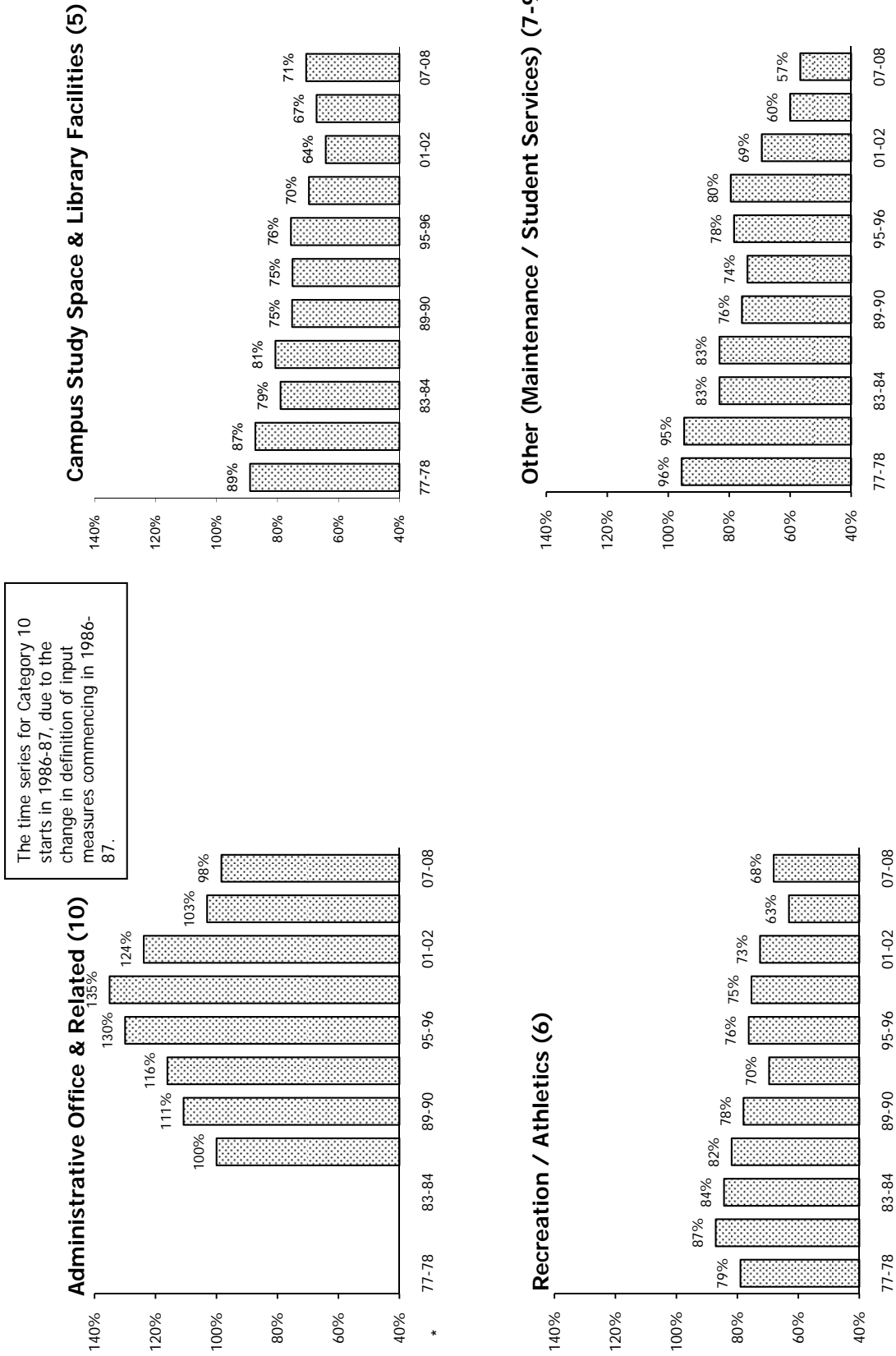
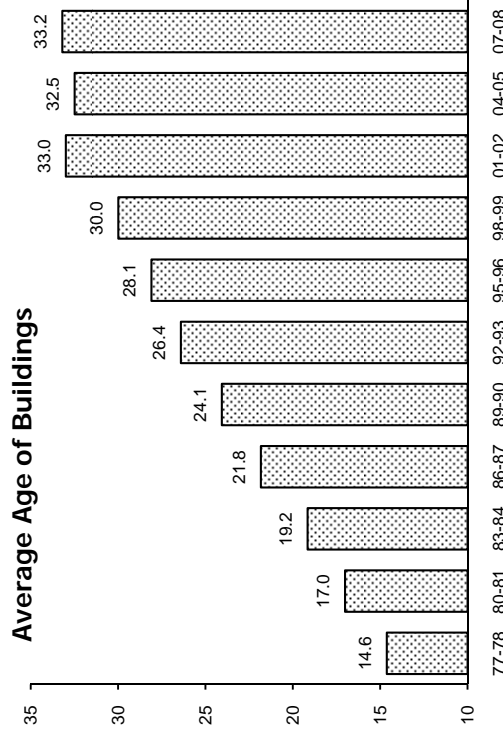
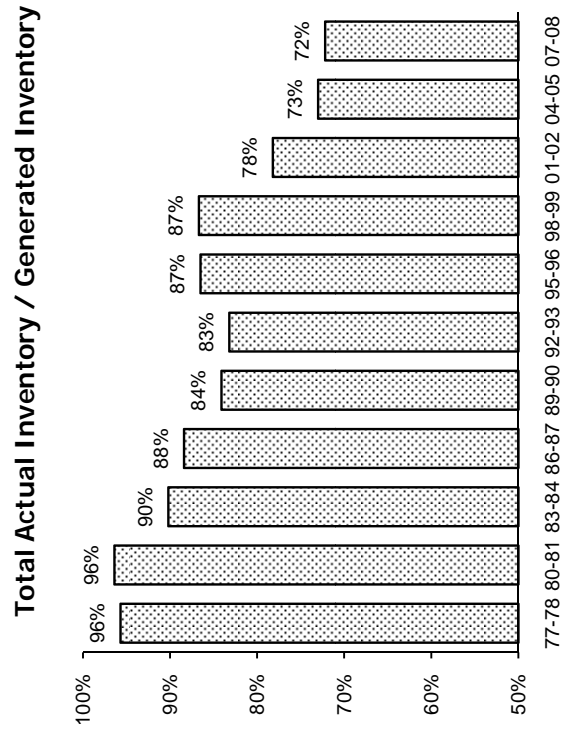


Figure 4 (cont'd)
 % Actual Inventory / Generated Space by Selected Functional Area
 1977-78 to 2007-08



Refer to Table G for more details.

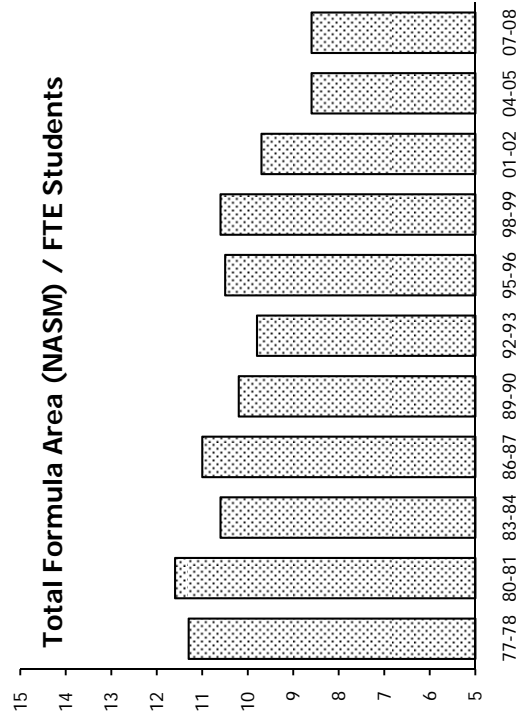
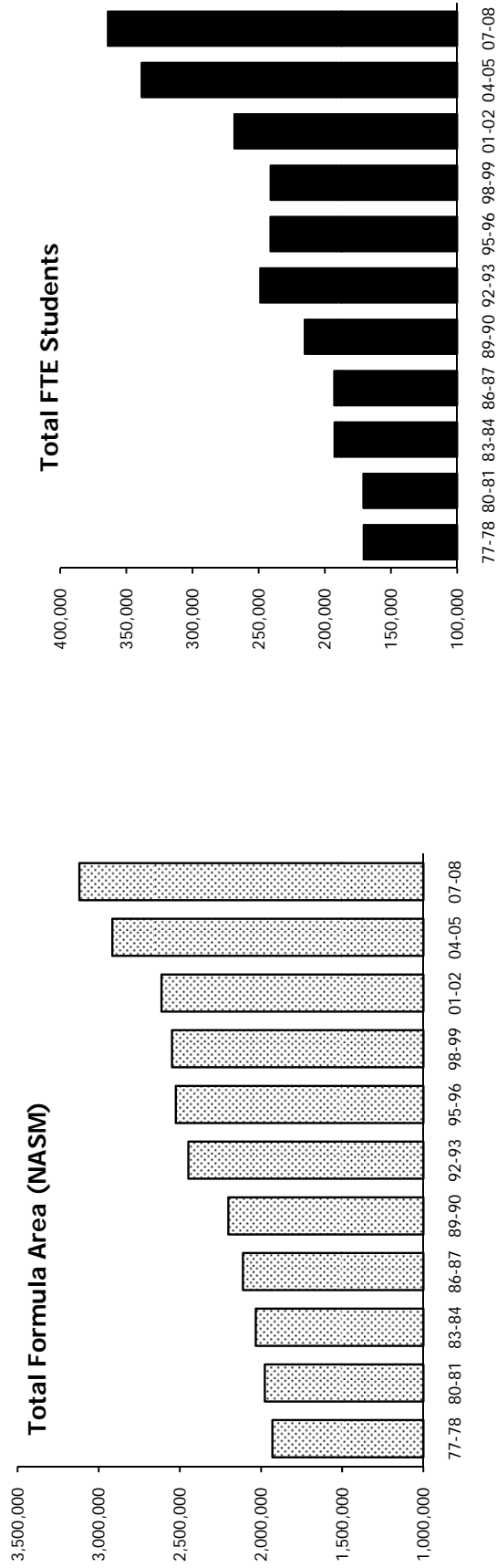
Figure 5
 Total Actual Inventory / Generated Inventory and Average Age of Buildings
 1977-78 to 2007-08



Year	Actual Inventory	Generated Inventory	Shortfall
1977-78	1,930,691	2,017,076	86,385
1980-81	1,977,456	2,051,750	74,294
1983-84	2,032,624	2,253,041	220,417
1986-87	2,111,683	2,389,252	277,569
1989-90	2,201,474	2,616,335	414,861
1992-93	2,448,275	2,943,901	495,626
1995-96	2,525,555	2,918,549	392,994
1998-99	2,549,230	2,963,070	413,840
2001-02	2,613,557	3,340,758	727,201
2004-05	2,916,460	3,995,180	1,078,720
2007-08	3,119,793	4,320,040	1,200,247

Refer to Tables G and 3 for more details.

Figure 6
Total Formula Area (NASM) / FTE Students
1977-78 to 2007-08

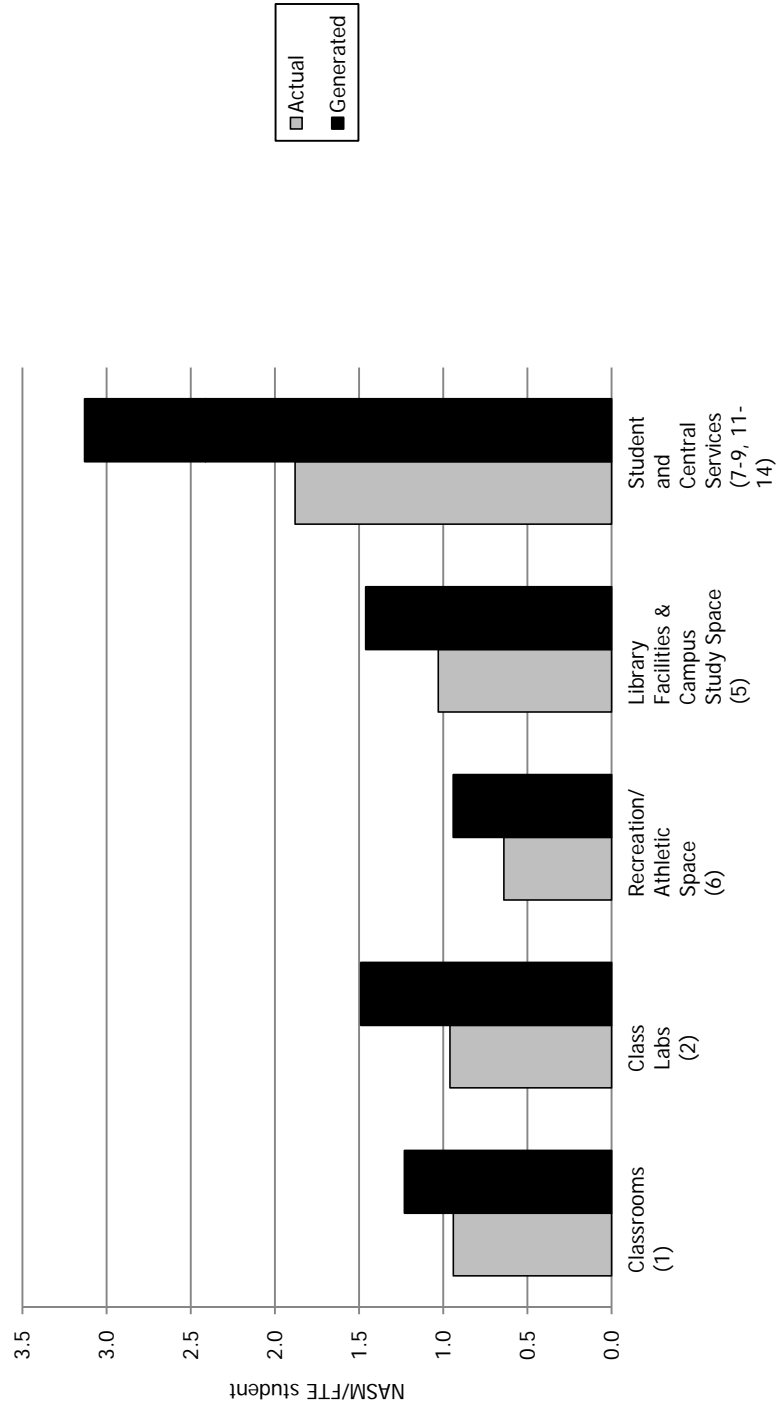


This figure shows the ratio between total formula areas and FTE students

Refer to Table E for more details.

Figure 7

Allocation of NASM per FTE Student by Space Category –
Generated and Actual Space 2007-08



Section 3

INSTITUTIONAL TABLES

(as a result of the 2007-08 survey)

In interpreting the data from smaller and specialized institutions, it should be noted that the Building Blocks formula was developed for institutions having a full range of university programs and functions. The application of all 15 categories to a very small or special purpose institution may not be appropriate, so results must be interpreted carefully.

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

Notes on Institutional Tables

Figures in the "2004-05 % I/G" column are not necessarily comparable to "% I/G" (2007-08 % I/G) figures due to changes in definitions in Category 3 (Research Labs), Category 4 (Academic Offices) and Category 5 (Library Facilities and Campus Study Space).

Refer to page 13 (Issues Reviewed by the Committee 2005 to 2007) for more details.

Table 1

Inventory of University Space, November 1, 2007

Institution	Categories 1-15 (NASM)	Category 16 (SM)	Categories 17-20 (NASM)	Scheduled for Demolition	Rentals	Gross Square Metres	Gross Sq. Metres / Square Metres NASM (1-15, 17-20)
Brock	80,783.48	60,583.46	48,501.71	0.00	11,596.03	216,993.50	1.68
Carleton	153,794.79	122,744.53	50,532.49	0.00	0.00	381,705.50	1.87
Guelph	208,502.67	146,149.92	132,797.85	0.00	0.00	563,769.22	1.65
Lakehead	68,185.01	45,474.38	35,781.94	0.00	1,762.66	175,434.40	1.69
Laurentian	63,829.45	34,288.73	43,884.02	0.00	3,120.85	156,085.10	1.45
Laurentian (Algo)	10,440.20	3,022.80	4,781.10	2,010.00	0.00	18,851.30	1.24
Laurentian (Hear)	4,629.61	1,693.76	1,495.75	0.00	1,210.39	0.00	0.00
McMaster	218,023.51	152,087.41	119,107.39	0.00	5,882.75	560,972.96	1.66
Nipissing	20,465.94	11,452.21	33,933.48	0.00	0.00	65,851.63	1.21
OCAD	19,060.74	9,227.43	4,074.17	0.00	505.63	36,260.58	1.57
UOIT	31,328.05	6,183.76	18,297.50	0.00	2,021.85	59,157.86	1.19
Ottawa	211,941.85	207,579.61	79,528.14	0.00	4,254.65	565,041.92	1.94
Queen's	224,480.06	161,236.56	96,659.62	10,818.71	1,827.09	577,854.77	1.80
Ryerson	144,535.30	42,059.90	22,768.60	0.00	1,690.70	298,556.00	1.78
Toronto (St. Grge)	528,287.04	429,423.90	189,485.43	0.00	2,781.08	1,345,137.00	1.87
Toronto (Miss)	52,852.27	59,879.48	37,309.57	63.61	0.00	170,454.00	1.89
Toronto (Scar)	42,906.25	32,615.22	16,522.51	0.00	0.00	107,331.00	1.81
Trent	48,899.00	32,812.00	20,778.00	0.00	1,495.00	112,751.00	1.62
Waterloo	224,155.70	155,805.85	142,604.46	0.00	1,215.62	664,925.16	1.81
Western	309,192.36	202,073.90	183,740.40	0.00	0.00	769,513.00	1.56
WLU	81,446.16	57,194.98	62,222.13	0.00	3,809.00	238,492.27	1.66
Windsor	115,788.58	65,698.92	27,243.69	0.00	1,488.14	252,735.63	1.77
York (Keele)	240,573.50	319,917.80	149,996.60	0.00	4,832.80	725,082.40	1.86
York (Glen)	15,278.30	12,879.70	8,479.40	0.00	0.00	42,074.60	1.77
TOTAL	3,119,379.82	2,372,086.21	1,530,525.95	12,892.32	49,494.24	8,105,030.80	1.75

The inventory NASM figures for categories 1-15, 16 and 17-20 may not necessarily agree at some institutions with the inventory figures reported on Table 2.

Table 2
Distribution of Actual Inventory by Major Space Category and Institution, 2007-08

	Classroom Facilities (1)	Lab Undergrad (2)	Lab Grad & Faculty (3)	Acad Office & Related (4)	Lib Facilities & Campus Study Space (5)	Recreation/ Athletic Space (6)	Food Service (7)	Bookstore & Merch Facilities (8)	Plant Mainten- ance (9)	Admin Office & Related (10)	AV / TV Facilities (11)	Central Services (12)
Brock	9,750	7,530	8,150	14,524	6,650	11,122	4,481	1,351	2,005	6,870	326	1,417
Carleton	15,792	17,150	18,233	29,648	18,019	21,562	6,678	1,484	1,685	12,402	1,491	2,311
Guelph	15,200	25,639	52,314	40,579	14,230	18,739	8,287	1,645	5,030	17,084	364	2,618
Lakehead	7,336	12,278	5,953	8,734	7,578	9,134	3,396	597	1,011	4,668	455	2,101
Laurentian	7,017	6,506	5,315	12,443	9,054	6,293	3,281	683	2,034	4,133	599	1,265
Laurentian (Algo)	1,055	748	0	698	1,240	3,415	350	269	278	1,146	25	344
Laurentian (Hear)	809	655	0	649	484	553	266	23	191	218	61	84
McMaster	20,897	19,181	45,052	47,179	25,469	16,795	7,063	2,309	4,460	13,968	520	2,726
Nipissing	3,914	3,561	850	2,764	2,122	2,549	1,102	0	0	1,886	230	505
OCAD	1,334	9,572	223	1,621	966	0	67	647	170	1,880	64	331
UOIT	5,484	5,038	1,835	3,638	1,718	7,769	1,009	70	399	3,214	34	588
Ottawa	25,016	18,479	31,080	50,864	26,947	15,327	4,970	1,873	2,948	17,156	464	2,484
Queen's	17,444	23,086	38,239	58,280	30,525	10,845	9,294	2,770	2,262	14,149	293	1,287
Ryerson	19,447	33,849	11,748	25,074	13,094	6,388	4,082	1,642	2,068	13,755	809	1,014
Toronto (St.Grge)	51,961	44,663	96,592	137,258	88,515	24,234	14,087	3,523	8,859	21,516	720	3,503
Toronto (Miss)	6,384	5,807	7,031	7,946	6,075	6,870	3,560	465	678	3,909	82	928
Toronto (Scar)	5,113	4,364	4,685	5,824	5,421	4,415	2,406	626	1,737	3,712	200	1,288
Trent	6,942	4,094	6,583	8,614	7,011	3,130	3,196	455	905	5,063	127	336
Waterloo	21,430	25,552	39,559	49,209	19,000	12,934	9,791	3,260	6,424	18,494	595	5,654
Western	38,664	32,407	49,999	71,655	35,122	17,312	12,411	3,982	3,880	25,007	650	3,857
WLU	12,184	5,724	4,475	16,137	10,727	7,517	3,040	1,138	1,107	9,170	511	1,119
Windsoor	11,825	15,709	14,162	19,428	16,881	10,240	5,031	2,142	1,558	8,922	1,658	1,118
York (Keele)	34,586	27,822	19,462	60,206	26,028	11,906	9,820	6,330	3,706	21,565	1,099	2,121
York (Glen)	2,428	787	187	3,265	1,842	2,878	902	243	288	1,048	13	182
TOTAL	342,013	350,201	461,727	676,235	374,720	231,927	118,569	37,526	53,684	230,935	11,390	39,181

Table 2 (cont'd)

Distribution of Actual Inventory by Major Space Category and Institution, 2007-08

	Health Service Facilities (13)	Student Activity Space (14)	Assembly, Exhibition Facilities (15)	Subtotal Formula Areas (1 to 15)	Residential Space (17)	Animal Space (18)	Other (19)	Health Sci Clinical Facilities (20)	Subtotal Non-Formula (17 to 20)	Non-Assignable (16)	Total (1 to 20)
Brock	387	2,206	4,013	80,783	44,502	79	3,475	447	48,502	60,583	189,869
Carleton	755	4,011	2,574	153,795	47,504	387	2,641	0	50,532	122,744	327,072
Guelph	725	3,514	2,535	208,503	110,151	2,671	12,945	7,031	132,798	146,150	487,450
Lakehead	180	2,561	2,205	68,185	28,872	0	6,910	0	35,782	45,474	149,441
Laurentian	270	3,161	1,777	63,829	35,774	267	7,843	0	43,884	34,289	142,002
Laurentian (Algo)	0	564	309	10,440	3,627	0	1,154	0	4,781	3,023	18,244
Laurentian (Hear)	0	433	232	4,657	341	0	1,155	0	1,496	1,694	7,847
McMaster	740	8,122	3,544	218,023	59,195	1,575	2,908	55,429	119,107	152,087	489,218
Nipissing	0	983	0	20,466	33,933	0	0	0	33,933	11,452	65,852
OCAD	153	905	1,128	19,061	0	0	4,074	0	4,074	9,227	32,362
UOIT	217	700	0	31,713	18,298	0	111	0	18,408	6,184	56,305
Ottawa	1,192	9,983	3,157	211,942	59,990	1,689	17,850	0	79,528	207,580	499,050
Queen's	1,103	8,920	5,982	224,480	88,970	1,606	5,206	877	96,660	161,237	482,376
Ryerson	105	8,270	3,189	144,535	16,704	0	6,065	0	22,769	42,060	209,364
Toronto (St.Grge)	1,288	19,634	11,932	528,287	126,628	0	52,835	10,022	189,485	429,424	1,147,196
Toronto (Miss)	145	1,727	1,244	52,852	32,762	0	4,548	0	37,310	59,879	150,041
Toronto (Scar)	196	2,180	740	42,906	15,860	0	663	0	16,523	32,615	92,044
Trent	126	2,318	0	48,900	18,415	354	2,009	0	20,778	32,812	102,490
Waterloo	971	8,000	3,281	224,156	138,145	0	3,181	1,278	142,604	156,044	522,804
Western	1,165	8,066	5,017	309,192	172,217	3,767	4,977	2,778	183,739	202,074	695,005
WLU	275	6,054	2,267	81,446	60,569	0	1,653	0	62,222	57,195	200,863
Windsor	327	5,525	1,263	115,789	26,759	0	484	0	27,243	65,699	208,730
York (Keele)	9	9,863	6,051	240,573	97,163	0	52,833	0	149,996	319,918	710,487
York (Glen)	0	722	495	15,278	7,406	0	1,073	0	8,479	12,880	36,637
TOTAL	10,328	118,421	62,935	3,119,793	1,243,783	12,395	196,593	77,863	1,530,635	2,372,324	7,022,751

Table 2A

Percentage Distribution of Actual Inventory by Major Formula Space Category and Institution, 2007-08

	Library															
	Classroom Facilities (1)	Lab Undergrad (2)	Lab Grad & Faculty (3)	Acad Office & Related (4)	Facilities & Campus Study (5)	Recreat/Athletic Space (6)	Food Service (7)	Bookstore & Merch Facilities (8)	Plant Maintenance (9)	Admin Office & Related (10)	AV / TV Facilities (11)	Central Services (12)	Health Service Facilities (13)	Student Activity Space (14)	Assembly & Exhibitn Facilities (15)	Formula Areas (1 to 15)
Brock	12.1%	9.3%	10.1%	18.0%	8.2%	13.8%	5.5%	1.7%	2.5%	8.5%	0.4%	1.8%	0.5%	2.7%	5.0%	100%
Carleton	10.3%	11.2%	11.9%	19.3%	11.7%	14.0%	4.3%	1.0%	1.1%	8.1%	1.0%	1.5%	0.5%	2.6%	1.7%	100%
Guelph	7.3%	12.3%	25.1%	19.5%	6.8%	9.0%	4.0%	0.8%	2.4%	8.2%	0.2%	1.3%	0.3%	1.7%	1.2%	100%
Lakehead	10.8%	18.0%	8.7%	12.8%	11.1%	13.4%	5.0%	0.9%	1.5%	6.8%	0.7%	3.1%	0.3%	3.8%	3.2%	100%
Laurentian	11.0%	10.2%	8.3%	19.5%	14.2%	9.9%	5.1%	1.1%	3.2%	6.5%	0.9%	2.0%	0.4%	5.0%	2.8%	100%
Laurentian (Algo)	10.1%	7.2%	-	6.7%	11.9%	32.7%	3.4%	2.6%	2.7%	11.0%	0.2%	3.3%	-	5.4%	3.0%	100%
Laurentian (Hear)	17.4%	14.1%	-	13.9%	10.4%	11.9%	5.7%	0.5%	4.1%	4.7%	1.3%	1.8%	-	9.3%	5.0%	100%
McMaster	9.6%	8.8%	20.7%	21.6%	11.7%	7.7%	3.2%	1.1%	2.0%	6.4%	0.2%	1.3%	0.3%	3.7%	1.6%	100%
Nipissing	19.1%	17.4%	4.2%	13.5%	10.4%	12.5%	5.4%	-	-	9.2%	1.1%	2.5%	-	4.8%	-	100%
OCAD	7.0%	50.2%	1.2%	8.5%	5.1%	-	0.4%	3.4%	0.9%	9.9%	0.3%	1.7%	0.8%	4.7%	5.9%	100%
UOIT	17.3%	15.9%	5.8%	11.5%	5.4%	24.5%	3.2%	0.2%	1.3%	10.1%	0.1%	1.9%	0.7%	2.2%	-	100%
Ottawa	11.8%	8.7%	14.7%	24.0%	12.7%	7.2%	2.3%	0.9%	1.4%	8.1%	0.2%	1.2%	0.6%	4.7%	1.5%	100%
Queen's	7.8%	10.3%	17.0%	26.0%	13.6%	4.8%	4.1%	1.2%	1.0%	6.3%	0.1%	0.6%	0.5%	4.0%	2.7%	100%
Ryerson	13.5%	23.4%	8.1%	17.3%	9.1%	4.4%	2.8%	1.1%	1.4%	9.5%	0.6%	0.7%	0.1%	5.7%	2.2%	100%
Toronto (St.Grge)	9.8%	8.5%	18.3%	26.0%	16.8%	4.6%	2.7%	0.7%	1.7%	4.1%	0.1%	0.7%	0.2%	3.7%	2.3%	100%
Toronto (Miss)	12.1%	11.0%	13.3%	15.0%	11.5%	13.0%	6.7%	0.9%	1.3%	7.4%	0.2%	1.8%	0.3%	3.3%	2.4%	100%
Toronto (Scar)	11.9%	10.2%	10.9%	13.6%	12.6%	10.3%	5.6%	1.5%	4.0%	8.7%	0.5%	3.0%	0.5%	5.1%	1.7%	100%
Trent	14.2%	8.4%	13.5%	17.6%	14.3%	6.4%	6.5%	0.9%	1.9%	10.4%	0.3%	0.7%	0.3%	4.7%	-	100%
Waterloo	9.6%	11.4%	17.6%	22.0%	8.5%	5.8%	4.4%	1.5%	2.9%	8.3%	0.3%	2.5%	0.4%	3.6%	1.5%	100%
Western	12.5%	10.5%	16.2%	23.2%	11.4%	5.6%	4.0%	1.3%	1.3%	8.1%	0.2%	1.2%	0.4%	2.6%	1.6%	100%
WLU	15.0%	7.0%	5.5%	19.8%	13.2%	9.2%	3.7%	1.4%	1.4%	11.3%	0.6%	1.4%	0.3%	7.4%	2.8%	100%
Windsor	10.2%	13.6%	12.2%	16.8%	14.6%	8.8%	4.3%	1.8%	1.3%	7.7%	1.4%	1.0%	0.3%	4.8%	1.1%	100%
York (Keele)	14.4%	11.6%	8.1%	25.0%	10.8%	4.9%	4.1%	2.6%	1.5%	9.0%	0.5%	0.9%	-	4.1%	2.5%	100%
York (Glen)	15.9%	5.2%	1.2%	21.4%	12.1%	18.8%	5.9%	1.6%	1.9%	6.9%	0.1%	1.2%	-	4.7%	3.2%	100%
SYSTEM	11.0%	11.2%	14.8%	21.7%	12.0%	7.4%	3.8%	1.2%	1.7%	7.4%	0.4%	1.3%	0.3%	3.8%	2.0%	100%

Table 2B

Percentage Distribution of Actual Inventory by Major Space Category and Institution, 2007-08

	Formula (1 to 15)	Non-Formula				Non-Formula (17 to 20)	Non-Assignable (16)	Total (1 to 20)
		Residential Space (17)	Animal Space (18)	Other (19)	Hlth Sci Clim Facil. (20)			
Brock	42.5%	23.4%	-	1.8%	0.2%	25.5%	31.9%	100%
Carleton	47.0%	14.5%	0.1%	0.8%	-	15.4%	37.5%	100%
Guelph	42.8%	22.6%	0.5%	2.7%	1.4%	27.2%	30.0%	100%
Lakehead	45.6%	19.3%	-	4.6%	-	23.9%	30.4%	100%
Laurentian	44.9%	25.2%	0.2%	5.5%	-	30.9%	24.1%	100%
Laurentian (Algo)	57.2%	19.9%	-	6.3%	-	26.2%	16.6%	100%
Laurentian (Hear)	59.3%	4.3%	-	14.7%	-	19.1%	21.6%	100%
McMaster	44.6%	12.1%	0.3%	0.6%	11.3%	24.3%	31.1%	100%
Nipissing	31.1%	51.5%	-	-	-	51.5%	17.4%	100%
OCAD	58.9%	-	-	12.6%	-	12.6%	28.5%	100%
UOIT	56.3%	32.5%	-	0.2%	-	32.7%	11.0%	100%
Ottawa	42.5%	12.0%	0.3%	3.6%	-	15.9%	41.6%	100%
Queen's	46.5%	18.4%	0.3%	1.1%	0.2%	20.0%	33.4%	100%
Ryerson	69.0%	8.0%	-	2.9%	-	10.9%	20.1%	100%
Toronto (St.Grge)	46.1%	11.0%	-	4.6%	0.9%	16.5%	37.4%	100%
Toronto (Miss)	35.2%	21.8%	-	3.0%	-	24.9%	39.9%	100%
Toronto (Scar)	46.6%	17.2%	-	0.7%	-	18.0%	35.4%	100%
Trent	47.7%	18.0%	0.3%	2.0%	-	20.3%	32.0%	100%
Waterloo	42.9%	26.4%	-	0.6%	0.2%	27.3%	29.8%	100%
Western	44.5%	24.8%	0.5%	0.7%	0.4%	26.4%	29.1%	100%
WLU	40.5%	30.2%	-	0.8%	-	31.0%	28.5%	100%
Windsor	55.5%	12.8%	-	0.2%	-	13.1%	31.5%	100%
York (Keele)	33.9%	13.7%	-	7.4%	-	21.1%	45.0%	100%
York (Glen)	41.7%	20.2%	-	2.9%	-	23.1%	35.2%	100%
SYSTEM	44.4%	17.7%	0.2%	2.8%	1.1%	21.8%	33.8%	100%

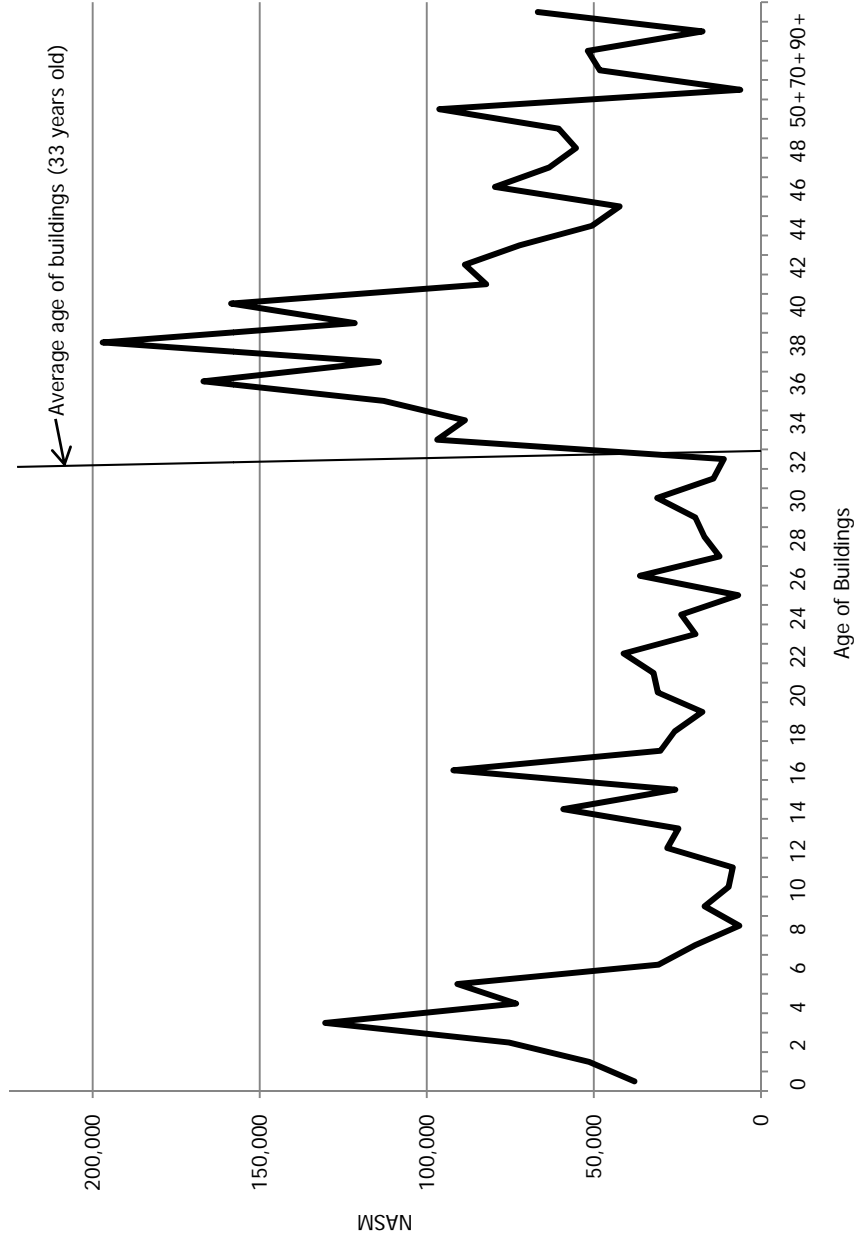
Table 3
Age Profile of Ontario University Space
(as of November 1, 2007) *

Institution	0-9 Years (NASM)	10-19 Years (NASM)	20-29 Years (NASM)	30-39 Years (NASM)	40-49 Years (NASM)	50+ Years (NASM)	Total (NASM)	Weighted Average Age
Brock	16,821	8,292	6,128	42,084	5,979	1,480	80,783	30.3
Carleton	35,700	24,349	9,043	33,928	50,775	0	153,795	27.0
Guelph	31,078	22,000	1,754	70,538	35,750	46,684	207,804	41.5
Lakehead	10,468	6,635	0	7,992	32,656	9,184	66,935	34.3
Laurentian	494	9,311	350	17,123	33,338	93	60,709	36.9
Laurentian (Algo)	2,315	3,747	1,955	514	0	1,909	10,440	26.1
Laurentian (Hear)	0	0	0	0	3,419	0	3,419	49.0
McMaster	40,008	12,918	8,392	60,647	73,589	16,586	212,141	32.6
Nipissing	7,579	4,176	0	8,711	0	0	20,466	19.0
OCAD	10,183	25	3,466	0	2,066	2,979	18,719	22.4
UOIT	24,829	34	1,265	5,199	0	0	31,328	8.8
Ottawa	38,809	14,305	31,960	64,579	24,643	34,314	208,610	35.2
Queen's	39,287	27,096	11,316	84,564	53,311	7,579	223,153	30.3
Ryerson	36,081	9,868	13,582	33,313	29,727	20,393	142,964	33.1
Toronto (St. Grge)	65,175	25,097	56,080	141,989	130,992	106,175	525,507	41.4
Toronto (Miss)	19,801	1,850	0	30,830	0	372	52,852	23.3
Toronto (Scar)	13,371	102	0	29,401	0	0	42,874	25.9
Trent	10,556	6,192	0	22,133	6,738	1,786	47,404	29.9
Waterloo	17,831	1,069	31,304	64,867	106,900	969	222,940	35.4
Western	31,461	69,882	21,606	97,775	61,623	26,846	309,192	30.8
WLU	17,376	19,443	22,912	10,995	9,362	1,359	81,446	22.7
Windsor	6,911	20,085	12,387	37,935	28,968	8,015	114,300	33.7
York (Keele)	56,699	34,353	6,100	89,268	49,352	0	235,771	26.4
York (Glen)	0	268	0	0	15,010	0	15,278	44.4
TOTAL	532,833	321,096	239,600	954,386	754,196	286,722	3,088,832	33.2
% Distribution	17.3%	10.4%	7.8%	30.9%	24.4%	9.3%	100.0%	

* Categories 1-15 only, excluding Rentals.

This table shows that the average age of Ontario university buildings is over 30 years, the age when it is generally recognized that major building components need to be renewed. The guidelines for reporting of building age in the COU space survey specify that major renovations which substantially renew a building should be reflected in the age reported, but there are some concerns that adjustments are not always done consistently.

Figure 8
 Age Profile of Ontario University Space (as of November 1, 2007)



Ontario university buildings are on average 33 years old. Sixty-five percent of the total inventory is over 30 years old.

Table 3A

Percentage Distribution Age Profile of Ontario University Space
(as of November 1, 2007) *

Institution	0-9 Years (NASM)	10-19 Years (NASM)	20-29 Years (NASM)	30-39 Years (NASM)	40-49 Years (NASM)	50+ Years (NASM)
Brock	20.8%	10.3%	7.6%	52.1%	7.4%	1.8%
Carleton	23.2%	15.8%	5.9%	22.1%	33.0%	0.0%
Guelph	15.0%	10.6%	0.8%	33.9%	17.2%	22.5%
Lakehead	15.6%	9.9%	0.0%	11.9%	48.8%	13.7%
Laurentian	0.8%	15.3%	0.6%	28.2%	54.9%	0.2%
Laurentian (Algo)	22.2%	35.9%	18.7%	4.9%	0.0%	18.3%
Laurentian (Hear)	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
McMaster	18.9%	6.1%	4.0%	28.6%	34.7%	7.8%
Nipissing	37.0%	20.4%	0.0%	42.6%	0.0%	0.0%
OCAD	54.4%	0.1%	18.5%	0.0%	11.0%	15.9%
UOIT	79.3%	0.1%	4.0%	16.6%	0.0%	0.0%
Ottawa	18.6%	6.9%	15.3%	31.0%	11.8%	16.4%
Queen's	17.6%	12.1%	5.1%	37.9%	23.9%	3.4%
Ryerson	25.2%	6.9%	9.5%	23.3%	20.8%	14.3%
Toronto (St. Grge)	12.4%	4.8%	10.7%	27.0%	24.9%	20.2%
Toronto (Miss)	37.5%	3.5%	0.0%	58.3%	0.0%	0.7%
Toronto (Scar)	31.2%	0.2%	0.0%	68.6%	0.0%	0.0%
Trent	22.3%	13.1%	0.0%	46.7%	14.2%	3.8%
Waterloo	8.0%	0.5%	14.0%	29.1%	47.9%	0.4%
Western	10.2%	22.6%	7.0%	31.6%	19.9%	8.7%
WLU	21.3%	23.9%	28.1%	13.5%	11.5%	1.7%
Windsor	6.0%	17.6%	10.8%	33.2%	25.3%	7.0%
York (Keele)	24.0%	14.6%	2.6%	37.9%	20.9%	0.0%
York (Glen)	0.0%	1.8%	0.0%	0.0%	98.2%	0.0%
TOTAL	17.3%	10.4%	7.8%	30.9%	24.4%	9.3%

* Categories 1-15 only, excluding Rentals.

This table shows that the average age of Ontario university buildings is over 30 years, the age when it is generally recognized that major building components need to be renewed. The guidelines for reporting of building age in the COU space survey specify that major renovations which substantially renew a building should be reflected in the age reported, but there are some concerns that adjustments are not always done consistently.

Table 4
Percentage Distribution of Buildings by Condition of Building, 2007

	Percentage of Buildings In Excellent Condition ¹	Percentage of Buildings In Fair Condition ¹	Percentage of Buildings In Poor Condition ¹
Brock	42.9%	10.7%	46.4%
Carleton	32.1%	3.6%	64.3%
Guelph	35.2%	13.1%	51.6%
Lakehead	37.0%	18.5%	44.4%
Laurentian	35.7%	28.6%	35.7%
Algoma	23.1%	23.1%	53.8%
McMaster	35.0%	20.0%	45.0%
Nipissing	60.0%	0.0%	40.0%
OCAD	50.0%	0.0%	50.0%
Ottawa	42.3%	20.5%	37.2%
Queen's	21.6%	8.1%	70.3%
Ryerson	41.7%	8.3%	50.0%
Toronto ²	23.3%	14.2%	62.5%
Trent	5.0%	20.0%	75.0%
Waterloo ³	62.7%	5.4%	25.1%
Western	37.1%	15.9%	47.0%
WLU	15.0%	5.0%	80.0%
Windsor	32.1%	14.3%	53.6%
York ⁴	47.5%	24.6%	27.9%
Total	34.3%	14.2%	51.0%

NOTES:

Based on deferred maintenance and adaptation/renewal renovations deficiencies. Excludes residences and infrastructure.

1 Figures were interpolated by applying the percentage of the buildings reported to the total number of buildings at the university.

2 University of Toronto includes Toronto-St. George plus Scarborough campus, Mississauga campus, Victoria College, Trinity and St. Michael's College

3 The University of Waterloo affiliates are excluded.

4 York University includes York-Keele campus and York-Glendon campus

Source: Council of Ontario Universities. Ontario Universities' Facilities Condition Assessment Program, as of March 2007

Table 5
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

SYSTEM SUMMARY

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	2004-05 % I / G	
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS (1)							
	Total FTE Students	363,872.26	1.23	447,562.88	342,013.37	76.4	77.9
CLASS LABS (2)							
	Lab Contact Hours W	106,684.52	0.8	85,347.62	51,033.86		
	Lab Contact Hours X	539,245.82	0.6	323,547.49	225,838.26		
	Lab Contact Hours Y	144,290.50	0.5	72,145.25	35,876.08		
	Lab Contact Hours Z	199,736.50	0.3	59,920.95	35,201.94		
	Unclassified	858.00			2,251.15		
	Total Class Lab	990,815.34		540,961.31	350,201.28	64.7	68.0
RESEARCH LABS (3)							
	Research Disciplines A	7,747.84	45.0	348,652.70	268,219.84		
	Research Disciplines B	4,808.34	30.0	144,250.29	106,108.86		
	Research Disciplines C	3,073.08	20.0	61,461.61	38,055.35		
	Research Disciplines D	4,185.89	10.0	41,858.87	28,341.96		
	Research Disciplines E	22,181.17	1.0	22,181.17	17,190.73		
	Unclassified	707.34			3,810.22		
	Total Research	42,703.65		618,404.65	461,726.97	74.7	77.3
OFFICE - ACADEMIC (4)							
	Total FTE Faculty	18,773.87	13.0	244,060.36	276,043.45	89.5	96.8
	Faculty Supplement	2,816.08	13.0	36,609.05			
	Research Appointments	5,103.75	13.0	66,348.75	34,574.85	52.1	
	Total FTE Grads	45,568.60	4.0	182,274.40	96,776.38	53.1	55.5
	Total FTE Non-Acd Staff	9,258.76	13.0	120,363.88	130,254.52	108.2	83.7
	Office Service	649,656.44	0.25	162,414.11	138,585.44	85.3	88.9
	Total Academic Office			812,070.55	676,234.64	83.3	84.0
OFFICE - ADMINISTRATIVE (10)							
	Total FTE Non-Acd Staff	12,032.62	13.0	156,424.06	150,283.93	96.1	100.0
	Office Service	156,424.06	0.5	78,212.03	80,650.94	103.1	109.5
	Total Admin. Office			234,636.09	230,934.87	98.4	103.1
	Total Office - Academic & Administrative			1,046,706.64	907,169.51	86.7	88.5
LIBRARY FACILITIES & CAMPUS STUDY SPACE (5)							
	Study (Total FTE Students)	363,872.26	0.6	218,323.36	117,488.82	53.8	51.2
	Traditional Static Shelving Space	35,535,343.45	0.005	177,676.72	n/a		
	Mobile Compact Shelving	5,045,704.54	0.004	20,182.82	n/a		
	Super High Density	2,332,579.22	0.0035	8,164.03	n/a		
	Total Stack	42,913,627.21		206,023.56	172,839.61	83.9	80.0
	Library Support	424,346.92	0.25	106,086.73	84,391.37	79.5	75.2
	Total Library Facilities & Campus Study Space			530,433.65	374,719.80	70.6	67.2
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			3,184,069.13	2,435,830.92	76.5	77.4	
OTHER SPACE							
RECREATION / ATHLETICS (6)							
	Under 4,000 FTE Enrol.	n/a		n/a	n/a		
	4,000-8,000 Enrol.	n/a		n/a	n/a		
	Total FTE Students	363,872.26	0.9				
	Total P.E./Athletics			340,485.03	231,927.23	68.1	63.1
MAINTENANCE SHOPS (9)							
	Total NASM Inv. (exc. 16.0)	4,650,427.05	0.0	69,756.41	53,683.74	77.0	83.6
STUDENT AND CENTRAL SERVICES (7, 8, 11-15)							
	Total FTE Students	363,872.26	2.0	727,744.52	398,350.53	54.7	57.8
SUB-TOTAL: OTHER SPACE			1,137,985.96	683,961.50	60.1	60.9	
TOTAL FORMULA AREAS			4,322,055.09	3,119,792.42	72.2	73.0	

Table 6

Teaching/Research/Academic Support Space (1,2,3,4,5,10): Generated Space and Inventory, 2007-08

	Generated Space	Inventory NASM	% I/G	2004-05 I/G
Brock	110,341.2	53,475.4	48.5	55.4
Carleton	146,996.5	111,243.3	75.7	63.9
Guelph	197,337.4	165,045.4	83.6	82.5
Lakehead	62,751.0	46,547.6	74.2	83.8
Laurentian	53,536.3	44,468.2	83.1	76.9
Laurentian (Algo)	6,294.4	4,888.0	77.7	64.5
Laurentian (Hear)	7,860.1	2,814.4	35.8	52.9
McMaster	218,328.6	171,745.6	78.7	79.9
Nipissing	30,698.8	15,095.9	49.2	47.8
OCAD	38,682.6	15,595.6	40.3	43.7
UOIT	33,609.9	20,927.1	62.3	154.8
Ottawa	247,463.9	169,542.4	68.5	76.8
Queen's	205,218.0	181,723.7	88.6	92.2
Ryerson	169,943.8	116,968.2	68.8	69.5
Toronto (St. Grge)	522,232.1	440,505.6	84.4	81.7
Toronto (Miss)	47,890.7	37,152.2	77.6	83.1
Toronto (Scar)	45,420.4	29,118.4	64.1	78.7
Trent	48,619.9	38,307.0	78.8	79.0
Waterloo	227,175.1	173,245.2	76.3	82.4
Western	313,446.1	252,853.5	80.7	74.6
Wilfrid Laurier	71,376.8	58,417.6	81.8	79.2
Windsor	110,248.7	86,926.5	78.8	82.8
York (Keele)	257,062.3	189,668.1	73.8	72.5
York (Glen)	11,534.4	9,556.1	82.8	78.9
Total	3,184,069.1	2,435,830.9	76.5	77.4

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

Table 7

Student Experience / Other Space (6,7,8,9,11,12,13,14,15): Generated Space and Inventory, 2007-08

	Generated Space	Inventory NASM	% I/G	2004-05 I/G
Brock	42,485.9	27,308.1	64.3	66.5
Carleton	60,031.2	42,551.3	70.9	58.3
Guelph	56,796.7	43,457.2	76.5	80.0
Lakehead	22,373.3	21,638.0	96.7	76.3
Laurentian	22,253.9	19,361.2	87.0	79.9
Laurentian (Algo)	4,784.1	5,552.2	116.1	105.9
Laurentian (Hear)	2,391.6	1,843.0	77.1	67.7
McMaster	71,602.1	46,278.3	64.6	72.9
Nipissing	14,916.7	5,369.0	36.0	39.1
OCAD	10,674.1	3,465.2	32.5	29.6
UOIT	15,022.3	10,785.6	71.8	58.8
Ottawa	92,888.8	42,399.5	45.6	47.4
Queen's	58,196.3	42,756.4	73.5	77.4
Ryerson	70,940.9	27,567.5	38.9	39.4
Toronto (St. Grge)	140,380.4	87,781.5	62.5	65.0
Toronto (Miss)	26,362.9	15,700.1	59.6	42.7
Toronto (Scar)	25,630.5	13,787.9	53.8	49.6
Trent	21,945.3	10,593.0	48.3	55.6
Waterloo	72,441.1	50,910.4	70.3	78.5
Western	96,756.6	56,338.8	58.2	59.8
Wilfrid Laurier	39,332.1	23,028.5	58.5	61.2
Windsor	41,030.7	28,862.1	70.3	69.2
York (Keele)	120,495.8	50,904.5	42.2	43.8
York (Glen)	8,252.9	5,722.2	69.3	84.8
Total	1,137,986.0	683,961.5	60.1	60.9

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

Table 8
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

BROCK

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	13,981.60	1.23	17,197.37	9,750.36	56.7	76.4	64.5
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	26,751.75	0.6	16,051.05	4,829.96			
Lab Contact Hours Y	12,702.00	0.5	6,351.00	664.29			
Lab Contact Hours Z	9,810.00	0.3	2,943.00	1,793.00			
Unclassified	0.00			242.54			
Total Class Lab	49,263.75		25,345.05	7,529.79	29.7	64.7	35.1
RESEARCH LABS							
Research Disciplines A	193.21	45.0	8,694.23	5,331.86			
Research Disciplines B	186.42	30.0	5,592.60	1,578.71			
Research Disciplines C	13.81	20.0	276.20	123.56			
Research Disciplines D	109.07	10.0	1,090.65	326.64			
Research Disciplines E	916.98	1.0	916.98	781.22			
Unclassified	0.00			8.45			
Total Research	1,419.48		16,570.65	8,150.44	49.2	74.7	58.5
OFFICE - ACADEMIC							
Total FTE Faculty	929.31	13.0	12,081.03	7,352.06	53.6	89.5	64.3
Faculty Supplement	139.40	13.0	1,812.15				
Research Appointments	97.23	13.0	1,263.99	767.56	60.7		
Total FTE Grads	889.40	4.0	3,557.60	1,612.55	45.3	53.1	24.1
Total FTE Non-Acd Staff	227.67	13.0	2,959.71	2,215.09	74.8	108.2	41.8
Office Service	21,674.48	0.25	5,418.62	2,576.94	47.6	85.3	78.7
Total Academic Office			27,093.11	14,524.20	53.6	83.3	58.1
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	454.65	13.0	5,910.45	4,601.39	77.9	96.1	88.7
Office Service	5,910.45	0.5	2,955.23	2,268.78	76.8	103.1	121.3
Total Admin. Office			8,865.68	6,870.17	77.5	98.4	99.6
Total Office - Academic & Administrative			35,958.78	21,394.37	59.5	86.7	67.9
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	13,981.60	0.6	8,388.96	2,423.08	28.9	53.8	20.3
Traditional Static Shelving Space	691,350.08	0.005	3,456.75				
Mobile Compact Shelving	92,444.59	0.004	369.78				
Super High Density	0.00	0.0035	0.00				
Total Stack	783,794.67		3,826.53	3,165.67	82.7	83.9	78.2
Library Support	12,215.49	0.25	3,053.87	1,061.70	34.8	79.5	69.4
Total Library Facilities & Campus Study Space			15,269.36	6,650.45	43.6	70.6	46.3
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			110,341.21	53,475.41	48.5	76.5	55.4
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	13,981.60	0.9	12,583.44				
Total P.E./Athletics			12,583.44	11,121.88	88.4	68.1	91.3
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	129,285.18	0.015	1,939.28	2,005.22	103.4	77.0	65.1
STUDENT AND CENTRAL SERVICES							
Total FTE Students	13,981.60	2.0	27,963.20	14,180.97	50.7	54.7	55.4
SUB-TOTAL: OTHER SPACE			42,485.92	27,308.07	64.3	60.1	66.5
TOTAL FORMULA AREAS			152,827.13	80,783.48	52.9	72.2	58.8

Table 9
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

CARLETON

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	19,643.54	1.23	24,161.56	15,791.70	65.4	76.4	63.6
CLASS LABS							
Lab Contact Hours W	9,002.00	0.8	7,201.60	5,518.77			
Lab Contact Hours X	20,767.00	0.6	12,460.20	9,725.58			
Lab Contact Hours Y	2,773.00	0.5	1,386.50	607.70			
Lab Contact Hours Z	18,462.00	0.3	5,538.60	1,228.41			
Unclassified	786.00			69.44			
Total Class Lab	51,790.00		26,586.90	17,149.90	64.5	64.7	43.0
RESEARCH LABS							
Research Disciplines A	273.10	45.0	12,289.50	5,793.07			
Research Disciplines B	215.70	30.0	6,471.00	6,464.49			
Research Disciplines C	122.45	20.0	2,449.00	1,644.78			
Research Disciplines D	127.90	10.0	1,279.00	2,406.63			
Research Disciplines E	1,496.10	1.0	1,496.10	1,918.10			
Unclassified	28.90			5.69			
Total Research	2,264.15		23,984.60	18,232.76	76.0	74.7	58.7
OFFICE - ACADEMIC							
Total FTE Faculty	806.00	13.0	10,478.00	13,087.57	115.3	89.5	106.0
Faculty Supplement	120.90	13.0	1,571.70				
Research Appointments	45.00	13.0	585.00	1,475.83			
Total FTE Grads	2,871.30	4.0	11,485.20	4,524.79	39.4	53.1	46.6
Total FTE Non-Acd Staff	234.60	13.0	3,049.80	6,167.51	202.2	108.2	129.5
Office Service	27,169.70	0.25	6,792.43	4,391.88	64.7	85.3	117.1
Total Academic Office			33,962.13	29,647.58	87.3	83.3	92.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	649.00	13.0	8,437.00	6,321.94	74.9	96.1	74.6
Office Service	8,437.00	0.5	4,218.50	6,080.05	144.1	103.1	138.0
Total Admin. Office			12,655.50	12,401.99	98.0	98.4	95.8
Total Office - Academic & Administrative			46,617.63	42,049.57	90.2	86.7	93.3
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	19,643.54	0.6	11,786.13	2,723.15	23.1	53.8	7.6
Traditional Static Shelving Space	1,646,055.24	0.005	8,230.28				
Mobile Compact Shelving	4,683.66	0.004	18.73				
Super High Density	137,583.91	0.0035	481.54				
Total Stack	1,788,322.81		8,730.55	9,565.07	109.6	83.9	45.9
Library Support	20,516.68	0.25	5,129.17	5,731.15	111.7	79.5	190.7
Total Library Facilities & Campus Study Space			25,645.85	18,019.37	70.3	70.6	55.5
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			146,996.54	111,243.30	75.7	76.5	63.9
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	19,643.54	0.9	17,679.19				
Total P.E./Athletics			17,679.19	21,561.95	122.0	68.1	79.7
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	204,327.10	0.015	3,064.91	1,685.14	55.0	77.0	71.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	19,643.54	2.0	39,287.09	19,304.24	49.1	54.7	47.7
SUB-TOTAL: OTHER SPACE			60,031.18	42,551.33	70.9	60.1	58.3
TOTAL FORMULA AREAS			207,027.72	153,794.63	74.3	72.2	62.4

Table 10
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

GUELPH

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	17,819.72	1.23	21,918.26	15,200.34	69.4	76.4	70.0
CLASS LABS							
Lab Contact Hours W	23,082.02	0.8	18,465.62	7,939.84			
Lab Contact Hours X	35,211.00	0.6	21,126.60	13,558.32			
Lab Contact Hours Y	9,510.00	0.5	4,755.00	1,662.11			
Lab Contact Hours Z	8,767.00	0.3	2,630.10	2,478.73			
Unclassified	0.00			0.00			
Total Class Lab	76,570.02		46,977.32	25,639.00	54.6	64.7	51.5
RESEARCH LABS							
Research Disciplines A	943.91	45.0	42,475.95	46,133.78			
Research Disciplines B	81.20	30.0	2,436.00	635.64			
Research Disciplines C	310.85	20.0	6,217.00	4,430.42			
Research Disciplines D	107.95	10.0	1,079.50	206.09			
Research Disciplines E	609.25	1.0	609.25	907.99			
Unclassified	0.00			0.00			
Total Research	2,053.16		52,817.70	52,313.92	99.0	74.7	97.1
OFFICE - ACADEMIC							
Total FTE Faculty	860.76	13.0	11,189.88	14,308.22	114.8	89.5	111.4
Faculty Supplement	129.11	13.0	1,678.48				
Research Appointments	221.00	13.0	2,873.00	3,766.31			
Total FTE Grads	2,163.80	4.0	8,655.20	7,930.60	91.6	53.1	88.2
Total FTE Non-Acd Staff	381.50	13.0	4,959.50	5,884.65	118.7	108.2	131.9
Office Service	29,356.06	0.25	7,339.02	8,688.91	118.4	85.3	91.5
Total Academic Office			36,695.08	40,578.69	110.6	83.3	104.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	765.50	13.0	9,951.50	11,320.83	113.8	96.1	150.5
Office Service	9,951.50	0.5	4,975.75	5,762.78	115.8	103.1	164.9
Total Admin. Office			14,927.25	17,083.61	114.4	98.4	155.3
Total Office - Academic & Administrative			51,622.33	57,662.30	111.7	86.7	117.6
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	17,819.72	0.6	10,691.83	5,534.22	51.8	53.8	45.2
Traditional Static Shelving Space	1,214,445.15	0.005	6,072.23				
Mobile Compact Shelving	479,796.81	0.004	1,919.19				
Super High Density	148,055.16	0.0035	518.19				
Total Stack	1,842,297.13		8,509.61	6,151.13	72.3	83.9	88.8
Library Support	19,201.44	0.25	4,800.36	2,544.51	53.0	79.5	56.2
Total Library Facilities & Campus Study Space			24,001.80	14,229.86	59.3	70.6	61.6
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			197,337.40	165,045.42	83.6	76.5	82.5
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	17,819.72	0.9	16,037.75				
Total P.E./Athletics			16,037.75	18,739.00	116.8	68.1	123.5
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	341,300.52	0.015	5,119.51	5,030.05	98.3	77.0	102.1
STUDENT AND CENTRAL SERVICES							
Total FTE Students	17,819.72	2.0	35,639.44	19,688.18	55.2	54.7	57.3
SUB-TOTAL: OTHER SPACE			56,796.70	43,457.23	76.5	60.1	80.0
TOTAL FORMULA AREAS			254,134.09	208,502.65	82.0	72.2	81.9

Table 11
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

LAKEHEAD

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	6,832.34	1.23	8,403.77	7,336.40	87.3	76.4	93.5
CLASS LABS							
Lab Contact Hours W	3,772.50	0.8	3,018.00	3,108.25			
Lab Contact Hours X	13,023.50	0.6	7,814.10	5,808.54			
Lab Contact Hours Y	4,537.50	0.5	2,268.75	2,584.45			
Lab Contact Hours Z	4,386.00	0.3	1,315.80	777.35			
Unclassified	0.00			0.00			
Total Class Lab	25,719.50		14,416.65	12,278.59	85.2	64.7	122.0
RESEARCH LABS							
Research Disciplines A	74.52	45.0	3,353.40	2,293.10			
Research Disciplines B	132.56	30.0	3,976.80	1,623.60			
Research Disciplines C	36.65	20.0	733.00	439.80			
Research Disciplines D	134.69	10.0	1,346.90	498.10			
Research Disciplines E	340.61	1.0	340.61	0.00			
Unclassified	0.00			1,098.30			
Total Research	719.03		9,750.71	5,952.90	61.1	74.7	72.3
OFFICE - ACADEMIC							
Total FTE Faculty	355.58	13.0	4,622.54	4,949.00	86.4	89.5	96.1
Faculty Supplement	53.34	13.0	693.38				
Research Appointments	70.00	13.0	910.00	428.80			
Total FTE Grads	697.90	4.0	2,791.60	961.90	34.5	53.1	89.7
Total FTE Non-Acd Staff	101.00	13.0	1,313.00	1,434.00	109.2	108.2	93.6
Office Service	10,330.52	0.25	2,582.63	960.00	37.2	85.3	40.1
Total Academic Office			12,913.15	8,733.70	67.6	83.3	83.5
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	383.50	13.0	4,985.50	2,774.40	55.6	96.1	49.3
Office Service	4,985.50	0.5	2,492.75	1,893.30	76.0	103.1	70.0
Total Admin. Office			7,478.25	4,667.70	62.4	98.4	56.2
Total Office - Academic & Administrative			20,391.40	13,401.40	65.7	86.7	71.7
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	6,832.34	0.6	4,099.40	3,190.60	77.8	53.8	74.4
Traditional Static Shelving Space	746,271.91	0.005	3,731.36				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	746,271.91		3,731.36	3,064.60	82.1	83.9	70.2
Library Support	7,830.76	0.25	1,957.69	1,323.10	67.6	79.5	49.7
Total Library Facilities & Campus Study Space			9,788.45	7,578.30	77.4	70.6	68.0
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			62,750.99	46,547.59	74.2	76.5	83.8
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	6,832.34		1,000.00				
Total FTE Students	6,832.34	0.9	6,149.10				
Total P.E./Athletics			7,149.10	9,133.70	127.8	68.1	74.6
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	103,967.10	0.015	1,559.51	1,010.50	64.8	77.0	79.4
STUDENT AND CENTRAL SERVICES							
Total FTE Students	6,832.34	2.0	13,664.67	11,493.80	84.1	54.7	76.9
SUB-TOTAL: OTHER SPACE			22,373.28	21,638.00	96.7	60.1	76.3
TOTAL FORMULA AREAS			85,124.27	68,185.59	80.1	72.2	81.6

Table 12
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

LAURENTIAN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	6,771.79	1.23	8,329.31	7,017.28	84.2	76.4	81.0
CLASS LABS							
Lab Contact Hours W	359.50	0.8	287.60	1,159.03			
Lab Contact Hours X	6,986.50	0.6	4,191.90	3,064.18			
Lab Contact Hours Y	1,166.00	0.5	583.00	1,038.70			
Lab Contact Hours Z	579.00	0.3	173.70	613.06			
Unclassified	0.00			630.59			
Total Class Lab	9,091.00		5,236.20	6,505.56	124.2	64.7	113.1
RESEARCH LABS							
Research Disciplines A	152.23	45.0	6,850.13	4,078.95			
Research Disciplines B	82.11	30.0	2,463.38	579.40			
Research Disciplines C	25.26	20.0	505.21	258.00			
Research Disciplines D	56.99	10.0	569.86	180.79			
Research Disciplines E	527.32	1.0	527.32	218.15			
Unclassified	0.00			0.00			
Total Research	843.91		10,915.90	5,315.29	48.7	74.7	80.3
OFFICE - ACADEMIC							
Total FTE Faculty	620.31	13.0	8,064.05	7,399.24	83.0	89.5	80.7
Faculty Supplement	93.05	13.0	1,209.61				
Research Appointments	70.77	13.0	920.01	1,057.21			
Total FTE Grads	419.50	4.0	1,678.00	414.09	24.7	53.1	38.2
Total FTE Non-Acd Staff	129.58	13.0	1,684.54	1,811.48	107.5	108.2	91.5
Office Service	13,556.21	0.25	3,389.05	1,761.37	52.0	85.3	58.5
Total Academic Office			16,945.26	12,443.39	73.4	83.3	73.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	196.72	13.0	2,557.36	3,214.81	125.7	96.1	117.7
Office Service	2,557.36	0.5	1,278.68	918.30	71.8	103.1	73.2
Total Admin. Office			3,836.04	4,133.11	107.7	98.4	102.9
Total Office - Academic & Administrative			20,781.30	16,576.50	79.8	86.7	81.1
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	6,771.79	0.6	4,063.08	1,037.82	25.5	53.8	68.3
Traditional Static Shelving Space	504,706.49	0.005	2,523.53				
Mobile Compact Shelving	8,060.40	0.004	32.24				
Super High Density	0.00	0.0035	0.00				
Total Stack	512,766.89		2,555.77	4,693.94	183.7	83.9	52.9
Library Support	6,618.85	0.25	1,654.71	3,321.82	200.7	79.5	34.5
Total Library Facilities & Campus Study Space			8,273.56	9,053.58	109.4	70.6	53.8
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			53,536.27	44,468.21	83.1	76.5	76.9
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	6,771.79		1,000.00				
Total FTE Students	6,771.79	0.9	6,094.61				
Total P.E./Athletics			7,094.61	6,292.91	88.7	68.1	92.7
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	107,713.47	0.015	1,615.70	2,033.63	125.9	77.0	124.8
STUDENT AND CENTRAL SERVICES							
Total FTE Students	6,771.79	2.0	13,543.59	11,034.70	81.5	54.7	68.9
SUB-TOTAL: OTHER SPACE			22,253.90	19,361.24	87.0	60.1	79.9
TOTAL FORMULA AREAS			75,790.17	63,829.45	84.2	72.2	77.8

Table 13
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

ALGOMA

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	881.30	1.23	1,084.00	1,055.17	97.3	76.4	90.9
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	1,169.00	0.6	701.40	374.64			
Lab Contact Hours Y	180.00	0.5	90.00	73.00			
Lab Contact Hours Z	180.00	0.3	54.00	300.71			
Unclassified	0.00			0.00			
Total Class Lab	1,529.00		845.40	748.35	88.5	64.7	n/a
RESEARCH LABS							
Research Disciplines A	4.16	45.0	187.29	0.00			
Research Disciplines B	6.17	30.0	184.98	0.00			
Research Disciplines C	0.33	20.0	6.66	0.00			
Research Disciplines D	10.33	10.0	103.33	0.00			
Research Disciplines E	35.45	1.0	35.45	0.00			
Unclassified	2.67			0.00			
Total Research	59.11		517.71	0.00	0.0	74.7	n/a
OFFICE - ACADEMIC							
Total FTE Faculty	59.11	13.0	768.38	528.99	67.1	89.5	44.0
Faculty Supplement	8.87	13.0	115.26				
Research Appointments	0.00	13.0	0.00	63.67			
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	53.1	n/a
Total FTE Non-Acd Staff	2.00	13.0	26.00	0.00	0.0	108.2	156.5
Office Service	909.63	0.25	227.41	105.31	46.3	85.3	23.4
Total Academic Office			1,137.04	697.97	61.4	83.3	42.2
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	57.00	13.0	741.00	774.66	104.5	96.1	74.9
Office Service	741.00	0.5	370.50	371.74	100.3	103.1	25.7
Total Admin. Office			1,111.50	1,146.40	103.1	98.4	58.5
Total Office - Academic & Administrative			2,248.54	1,844.37	82.0	86.7	48.8
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	881.30	0.6	528.78	293.40	55.5	53.8	57.6
Traditional Static Shelving Space	150,050.46	0.005	750.25				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	150,050.46		750.25	799.31	106.5	83.9	125.8
Library Support	1,279.03	0.25	319.76	147.37	46.1	79.5	36.1
Total Library Facilities & Campus Study Space			1,598.79	1,240.08	77.6	70.6	89.2
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			6,294.44	4,887.97	77.7	76.5	64.5
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	881.30		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	881.30	0.9	793.17				
Total P.E./Athletics			2,793.17	3,414.72	122.3	68.1	122.6
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	15,221.22	0.015	228.32	277.79	121.7	77.0	185.2
STUDENT AND CENTRAL SERVICES							
Total FTE Students	881.30	2.0	1,762.60	1,859.64	105.5	54.7	65.8
SUB-TOTAL: OTHER SPACE			4,784.09	5,552.15	116.1	60.1	105.9
TOTAL FORMULA AREAS			11,078.53	10,440.12	94.2	72.2	81.0

Table 14
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

HEARST

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	103.20	1.23	126.94	808.54	637.0	76.4	536.0
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	1,207.50	0.5	603.75	241.00			
Lab Contact Hours Z	397.80	0.3	119.34	414.00			
Unclassified	0.00			0.00			
Total Class Lab	1,605.30		723.09	655.00	90.6	64.7	109.3
RESEARCH LABS							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	5.00	30.0	150.00	0.00			
Research Disciplines C	3.00	20.0	60.00	0.00			
Research Disciplines D	1.00	10.0	10.00	0.00			
Research Disciplines E	16.00	1.0	16.00	0.00			
Unclassified	0.00			0.00			
Total Research	25.00		236.00	0.00	0.0	74.7	n/a
OFFICE - ACADEMIC							
Total FTE Faculty	25.00	13.0	325.00	486.75	130.2	89.5	63.1
Faculty Supplement	3.75	13.0	48.75				
Research Appointments	0.00	13.0	0.00	0.00			
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	53.1	n/a
Total FTE Non-Acd Staff	7.00	13.0	91.00	0.00	0.0	108.2	n/a
Office Service	464.75	0.25	116.19	162.00	139.4	85.3	106.3
Total Academic Office			580.94	648.75	111.7	83.3	64.2
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	9.00	13.0	117.00	130.27	111.3	96.1	111.3
Office Service	117.00	0.5	58.50	87.53	149.6	103.1	149.6
Total Admin. Office			175.50	217.80	124.1	98.4	124.1
Total Office - Academic & Administrative			756.44	866.55	114.6	86.7	75.4
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	103.20	0.6	61.92	88.36	142.7	53.8	215.3
Traditional Static Shelving Space	950,442.13	0.005	4,752.21				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	950,442.13		4,752.21	309.00	6.5	83.9	12.1
Library Support	4,814.13	0.25	1,203.53	86.92	7.2	79.5	9.0
Total Library Facilities & Campus Study Space			6,017.66	484.28	8.0	70.6	16.4
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			7,860.13	2,814.37	35.8	76.5	52.9
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	103.20		2000				
4,000-8,000 Enrol.	0.00						
Total FTE Students	103.20	0.9	92.88				
Total P.E./Athletics			2,092.88	552.72	26.4	68.1	26.2
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	6,153.14	0.015	92.30	191.17	207.1	77.0	216.5
STUDENT AND CENTRAL SERVICES							
Total FTE Students	103.20	2.0	206.40	1,099.13	532.5	54.7	383.0
SUB-TOTAL: OTHER SPACE			2,391.58	1,843.02	77.1	60.1	67.7
TOTAL FORMULA AREAS			10,251.70	4,657.39	45.4	72.2	57.6

Table 15
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

McMASTER

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	22,946.60	1.23	28,224.32	20,897.30	74.0	76.4	84.7
CLASS LABS							
Lab Contact Hours W	6,456.50	0.8	5,165.20	2,406.00			
Lab Contact Hours X	31,242.50	0.6	18,745.50	14,138.31			
Lab Contact Hours Y	3,381.00	0.5	1,690.50	1,588.11			
Lab Contact Hours Z	22,208.50	0.3	6,662.55	1,048.58			
Unclassified	0.00			0.00			
Total Class Lab	63,288.50		32,263.75	19,181.00	59.5	64.7	63.0
RESEARCH LABS							
Research Disciplines A	822.91	45.0	37,030.95	28,345.31			
Research Disciplines B	459.20	30.0	13,776.00	12,740.53			
Research Disciplines C	145.15	20.0	2,903.00	1,849.71			
Research Disciplines D	301.02	10.0	3,010.20	1,831.19			
Research Disciplines E	911.25	1.0	911.25	285.32			
Unclassified	0.00			0.00			
Total Research	2,639.53		57,631.40	45,052.06	78.2	74.7	85.6
OFFICE - ACADEMIC							
Total FTE Faculty	1,104.13	13.0	14,353.69	14,979.47	79.1	89.5	82.3
Faculty Supplement	165.62	13.0	2,153.05				
Research Appointments	532.70	13.0	6,925.10	3,562.92			
Total FTE Grads	2,909.80	4.0	11,639.20	7,234.04	62.2	53.1	58.9
Total FTE Non-Acd Staff	575.70	13.0	7,484.10	12,485.77	166.8	108.2	81.2
Office Service	42,555.14	0.25	10,638.79	8,916.58	83.8	85.3	79.2
Total Academic Office			53,193.93	47,178.78	88.7	83.3	77.3
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	808.04	13.0	10,504.52	10,876.65	103.5	96.1	110.0
Office Service	10,504.52	0.5	5,252.26	3,090.96	58.9	103.1	66.8
Total Admin. Office			15,756.78	13,967.61	88.6	98.4	95.6
Total Office - Academic & Administrative			68,950.71	61,146.39	88.7	86.7	81.2
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	22,946.60	0.6	13,767.96	5,189.26	37.7	53.8	40.8
Traditional Static Shelving Space	1,672,954.91	0.005	8,364.77				
Mobile Compact Shelving	483,476.82	0.004	1,933.91				
Super High Density	268,600.00	0.0035	940.10				
Total Stack	2,425,031.73		11,238.78	14,964.24	133.1	83.9	117.1
Library Support	25,006.74	0.25	6,251.69	5,315.33	85.0	79.5	97.5
Total Library Facilities & Campus Study Space			31,258.43	25,468.83	81.5	70.6	80.9
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			218,328.60	171,745.58	78.7	76.5	79.9
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	22,946.60	0.9	20,651.94				
Total P.E./Athletics			20,651.94	16,795.20	81.3	68.1	50.5
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	337,130.89	0.015	5,056.96	4,460.20	88.2	77.0	101.2
STUDENT AND CENTRAL SERVICES							
Total FTE Students	22,946.60	2.0	45,893.20	25,022.91	54.5	54.7	79.5
SUB-TOTAL: OTHER SPACE			71,602.10	46,278.31	64.6	60.1	72.9
TOTAL FORMULA AREAS			289,930.71	218,023.89	75.2	72.2	78.3

Table 16
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

NIPISSING

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	4,517.50	1.23	5,556.53	3,914.17	70.4	76.4	77.0
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	2,284.00	0.6	1,370.40	900.95			
Lab Contact Hours Y	20,073.00	0.5	10,036.50	2,300.73			
Lab Contact Hours Z	1,126.50	0.3	337.95	358.00			
Unclassified	0.00			0.00			
Total Class Lab	23,483.50		11,744.85	3,559.68	30.3	64.7	28.7
RESEARCH LABS							
Research Disciplines A	13.70	45.0	616.50	551.96			
Research Disciplines B	11.90	30.0	357.00	152.50			
Research Disciplines C	5.60	20.0	112.00	15.39			
Research Disciplines D	18.50	10.0	185.00	43.80			
Research Disciplines E	200.95	1.0	200.95	86.27			
Unclassified	0.00			0.00			
Total Research	250.65		1,471.45	849.92	57.8	74.7	46.1
OFFICE - ACADEMIC							
Total FTE Faculty	193.40	13.0	2,514.20	2,297.22	80.3	89.5	80.3
Faculty Supplement	29.01	13.0	377.13				
Research Appointments	1.00	13.0	13.00	35.00			
Total FTE Grads	113.50	4.0	454.00	32.58	7.2	53.1	n/a
Total FTE Non-Acd Staff	72.12	13.0	937.56	388.20	41.4	108.2	33.5
Office Service	4,295.89	0.25	1,073.97	11.39	1.1	85.3	1.0
Total Academic Office			5,369.86	2,764.39	51.5	83.3	49.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	95.29	13.0	1,238.77	1,585.24	128.0	96.1	127.9
Office Service	1,238.77	0.5	619.39	300.50	48.5	103.1	67.0
Total Admin. Office			1,858.16	1,885.74	101.5	98.4	107.6
Total Office - Academic & Administrative			7,228.02	4,650.13	64.3	86.7	65.5
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	4,517.50	0.6	2,710.50	167.00	6.2	53.8	9.4
Traditional Static Shelving Space	209,578.90	0.005	1,047.89				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	209,578.90		1,047.89	1,485.00	141.7	83.9	102.3
Library Support	3,758.39	0.25	939.60	470.00	50.0	79.5	50.1
Total Library Facilities & Campus Study Space			4,697.99	2,122.00	45.2	70.6	44.1
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			30,698.84	15,095.90	49.2	76.5	47.8
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	4,517.50		1,000.00				
Total FTE Students	4,517.50	0.9	4,065.75				
Total P.E./Athletics			5,065.75	2,549.00	50.3	68.1	46.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	54,399.43	0.015	815.99	0.00	0.0	77.0	n/a
STUDENT AND CENTRAL SERVICES							
Total FTE Students	4,517.50	2.0	9,035.00	2,820.04	31.2	54.7	37.0
SUB-TOTAL: OTHER SPACE			14,916.74	5,369.04	36.0	60.1	39.1
TOTAL FORMULA AREAS			45,615.58	20,464.94	44.9	72.2	45.0

Table 17
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

ONTARIO COLLEGE OF ART & DESIGN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	2,871.40	1.23	3,531.82	1,334.11	37.8	76.4	37.7
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	34,473.00	0.6	20,683.80	9,571.56			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	14,386.00	0.3	4,315.80	0.00			
Unclassified	0.00			0.00			
Total Class Lab	48,859.00		24,999.60	9,571.56	38.3	64.7	46.9
RESEARCH LABS							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	62.60	20.0	1,252.00	112.46			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	95.55	1.0	95.55	110.90			
Unclassified	0.00			0.00			
Total Research	158.15		1,347.55	223.36	16.6	74.7	1.8
OFFICE - ACADEMIC							
Total FTE Faculty	158.15	13.0	2,055.95	1,052.39	45.1	89.5	47.7
Faculty Supplement	23.72	13.0	308.39				
Research Appointments	3.00	13.0	39.00	30.97			
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	53.1	n/a
Total FTE Non-Acd Staff	45.72	13.0	594.36	364.68	61.4	108.2	131.2
Office Service	2,997.70	0.25	749.43	172.50	23.0	85.3	19.4
Total Academic Office			3,747.13	1,620.54	43.2	83.3	45.6
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	106.98	13.0	1,390.74	1,357.67	97.6	96.1	89.9
Office Service	1,390.74	0.5	695.37	522.09	75.1	103.1	64.8
Total Admin. Office			2,086.11	1,879.76	90.1	98.4	81.5
Total Office - Academic & Administrative			5,833.24	3,500.30	60.0	86.7	60.5
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	2,871.40	0.6	1,722.84	287.75	16.7	53.8	10.5
Traditional Static Shelving Space	122,917.03	0.005	614.59				
Mobile Compact Shelving	9,728.44	0.004	38.91				
Super High Density	0.00	0.0035	0.00				
Total Stack	132,645.48		653.50	418.75	64.1	83.9	53.2
Library Support	2,376.34	0.25	594.08	259.74	43.7	79.5	42.8
Total Library Facilities & Campus Study Space			2,970.42	966.24	32.5	70.6	27.2
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			38,682.63	15,595.57	40.3	76.5	43.7
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	2,871.40		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	2,871.40	0.9	2,584.26				
Total P.E./Athletics			4,584.26	0.00	0.0	68.1	n/a
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	23,134.91	0.015	347.02	170.12	49.0	77.0	69.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	2,871.40	2.0	5,742.80	3,295.05	57.4	54.7	51.2
SUB-TOTAL: OTHER SPACE			10,674.08	3,465.17	32.5	60.1	29.6
TOTAL FORMULA AREAS			49,356.72	19,060.74	38.6	72.2	40.2

Table 18
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	4,576.02	1.23	5,628.50	5,484.10	97.4	76.4	122.3
CLASS LABS							
Lab Contact Hours W	4,076.00	0.8	3,260.80	1,834.00			
Lab Contact Hours X	10,167.00	0.6	6,100.20	2,721.15			
Lab Contact Hours Y	494.00	0.5	247.00	0.00			
Lab Contact Hours Z	2,720.00	0.3	816.00	405.00			
Unclassified	0.00			78.00			
Total Class Lab	17,457.00		10,424.00	5,038.15	48.3	64.7	137.9
RESEARCH LABS							
Research Disciplines A	66.80	45.0	3,006.00	995.95			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	63.45	20.0	1,269.00	677.40			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	81.30	1.0	81.30	161.90			
Unclassified	0.00			0.00			
Total Research	211.55		4,356.30	1,835.25	42.1	74.7	n/a
OFFICE - ACADEMIC							
Total FTE Faculty	150.00	13.0	1,950.00	2,507.55	87.1	89.5	545.8
Faculty Supplement	22.50	13.0	292.50				
Research Appointments	53.00	13.0	689.00	47.00			
Total FTE Grads	71.10	4.0	284.40	87.20	30.7	53.1	n/a
Total FTE Non-Acd Staff	51.00	13.0	663.00	475.90	71.8	108.2	110.3
Office Service	3,878.90	0.25	969.73	519.92	53.6	85.3	287.0
Total Academic Office			4,848.63	3,637.57	75.0	83.3	427.2
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	213.00	13.0	2,769.00	2,010.16	72.6	96.1	112.3
Office Service	2,769.00	0.5	1,384.50	1,203.89	87.0	103.1	28.0
Total Admin. Office			4,153.50	3,214.05	77.4	98.4	84.2
Total Office - Academic & Administrative			9,002.13	6,851.62	76.1	86.7	201.8
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	4,576.02	0.6	2,745.61	759.68	27.7	53.8	175.0
Traditional Static Shelving Space	122,712.15	0.005	613.56				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	122,712.15		613.56	571.13	93.1	83.9	127.7
Library Support	3,359.17	0.25	839.79	387.21	46.1	79.5	148.7
Total Library Facilities & Campus Study Space			4,198.97	1,718.02	40.9	70.6	155.6
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			33,609.90	20,927.13	62.3	76.5	154.8
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	4,576.02		1,000.00				
Total FTE Students	4,576.02	0.9	4,118.42				
Total P.E./Athletics			5,118.42	7,768.95	151.8	68.1	36.0
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	50,120.95	0.015	751.81	398.70	53.0	77.0	251.7
STUDENT AND CENTRAL SERVICES							
Total FTE Students	4,576.02	2.0	9,152.04	2,617.95	28.6	54.7	61.9
SUB-TOTAL: OTHER SPACE			15,022.27	10,785.60	71.8	60.1	58.8
TOTAL FORMULA AREAS			48,632.17	31,712.73	65.2	72.2	111.7

Table 19
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

OTTAWA

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	30,523.00	1.23	37,543.29	25,015.94	66.6	76.4	67.8
CLASS LABS							
Lab Contact Hours W	5,089.50	0.8	4,071.60	2,913.13			
Lab Contact Hours X	35,135.72	0.6	21,081.43	12,048.12			
Lab Contact Hours Y	10,703.50	0.5	5,351.75	1,338.36			
Lab Contact Hours Z	12,127.30	0.3	3,638.19	2,028.63			
Unclassified	0.00			150.58			
Total Class Lab	63,056.02		34,142.97	18,478.82	54.1	64.7	72.4
RESEARCH LABS							
Research Disciplines A	678.64	45.0	30,538.80	16,424.91			
Research Disciplines B	219.14	30.0	6,574.20	4,129.89			
Research Disciplines C	420.66	20.0	8,413.20	4,614.28			
Research Disciplines D	193.14	10.0	1,931.40	2,196.13			
Research Disciplines E	2,126.56	1.0	2,126.56	2,233.35			
Unclassified	22.17			1,481.68			
Total Research	3,660.31		49,584.16	31,080.25	62.7	74.7	68.4
OFFICE - ACADEMIC							
Total FTE Faculty	1,549.82	13.0	20,147.66	20,299.05	76.9	89.5	99.8
Faculty Supplement	232.47	13.0	3,022.15				
Research Appointments	398.20	13.0	5,176.60	1,485.40			
Total FTE Grads	4,079.00	4.0	16,316.00	6,518.82	40.0	53.1	37.5
Total FTE Non-Acd Staff	672.00	13.0	8,736.00	13,180.18	150.9	108.2	149.1
Office Service	53,398.41	0.25	13,349.60	9,380.43	70.3	85.3	84.4
Total Academic Office			66,748.01	50,863.88	76.2	83.3	89.2
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	943.00	13.0	12,259.00	12,539.78	102.3	96.1	144.8
Office Service	12,259.00	0.5	6,129.50	4,616.48	75.3	103.1	128.6
Total Admin. Office			18,388.50	17,156.26	93.3	98.4	139.4
Total Office - Academic & Administrative			85,136.51	68,020.14	79.9	86.7	99.0
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	30,523.00	0.6	18,313.80	7,090.98	38.7	53.8	30.1
Traditional Static Shelving Space	2,595,795.08	0.005	12,978.98				
Mobile Compact Shelving	20,398.00	0.004	81.59				
Super High Density	420,344.46	0.0035	1,471.21				
Total Stack	3,036,537.53		14,531.77	15,105.54	103.9	83.9	104.1
Library Support	32,845.57	0.25	8,211.39	4,750.75	57.9	79.5	55.4
Total Library Facilities & Campus Study Space			41,056.97	26,947.27	65.6	70.6	61.4
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			247,463.89	169,542.42	68.5	76.5	76.8
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	30,523.00	0.9	27,470.70				
Total P.E./Athletics			27,470.70	15,327.32	55.8	68.1	58.8
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	291,470.05	0.015	4,372.05	2,948.47	67.4	77.0	71.1
STUDENT AND CENTRAL SERVICES							
Total FTE Students	30,523.00	2.0	61,046.00	24,123.67	39.5	54.7	40.5
SUB-TOTAL: OTHER SPACE			92,888.75	42,399.46	45.6	60.1	47.4
TOTAL FORMULA AREAS			340,352.65	211,941.88	62.3	72.2	68.4

Table 20
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

QUEEN'S

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	18,406.62	1.23	22,640.14	17,444.47	77.1	76.4	81.7
CLASS LABS							
Lab Contact Hours W	3,670.00	0.8	2,936.00	2,800.86			
Lab Contact Hours X	38,946.50	0.6	23,367.90	16,319.13			
Lab Contact Hours Y	10,823.50	0.5	5,411.75	3,476.30			
Lab Contact Hours Z	1,489.40	0.3	446.82	489.76			
Unclassified	0.00			0.00			
Total Class Lab	54,929.40		32,162.47	23,086.05	71.8	64.7	77.9
RESEARCH LABS							
Research Disciplines A	609.01	45.0	27,405.45	20,809.49			
Research Disciplines B	394.29	30.0	11,828.70	11,384.78			
Research Disciplines C	121.09	20.0	2,421.80	3,456.49			
Research Disciplines D	268.03	10.0	2,680.30	2,352.90			
Research Disciplines E	1,225.14	1.0	1,225.14	235.53			
Unclassified	16.87			0.00			
Total Research	2,634.43		45,561.39	38,239.19	83.9	74.7	91.3
OFFICE - ACADEMIC							
Total FTE Faculty	1,011.28	13.0	13,146.64	19,002.37	99.7	89.5	111.5
Faculty Supplement	151.69	13.0	1,972.00				
Research Appointments	453.23	13.0	5,891.99	1,952.72			
Total FTE Grads	3,252.30	4.0	13,009.20	9,240.96	71.0	53.1	76.4
Total FTE Non-Acd Staff	613.02	13.0	7,969.26	13,457.39	168.9	108.2	121.7
Office Service	41,989.09	0.25	10,497.27	14,626.07	139.3	85.3	150.1
Total Academic Office			52,486.36	58,279.51	111.0	83.3	113.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	757.70	13.0	9,850.10	9,339.25	94.8	96.1	99.9
Office Service	9,850.10	0.5	4,925.05	4,810.00	97.7	103.1	108.9
Total Admin. Office			14,775.15	14,149.25	95.8	98.4	102.9
Total Office - Academic & Administrative			67,261.51	72,428.76	107.7	86.7	111.2
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	18,406.62	0.6	11,043.97	10,552.57	95.6	53.8	84.2
Traditional Static Shelving Space	3,671,660.51	0.005	18,358.30				
Mobile Compact Shelving	167,927.00	0.004	671.71				
Super High Density	0.00	0.0035	0.00				
Total Stack	3,839,587.51		19,030.01	14,054.28	73.9	83.9	79.4
Library Support	30,073.98	0.25	7,518.50	5,918.38	78.7	79.5	77.5
Total Library Facilities & Campus Study Space			37,592.48	30,525.23	81.2	70.6	80.6
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			205,217.99	181,723.70	88.6	76.5	92.2
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	18,406.62	0.9	16,565.96				
Total P.E./Athletics			16,565.96	10,845.44	65.5	68.1	86.7
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	321,139.68	0.015	4,817.10	2,261.89	47.0	77.0	43.9
STUDENT AND CENTRAL SERVICES							
Total FTE Students	18,406.62	2.0	36,813.24	29,649.04	80.5	54.7	77.6
SUB-TOTAL: OTHER SPACE			58,196.29	42,756.37	73.5	60.1	77.4
TOTAL FORMULA AREAS			263,414.28	224,480.07	85.2	72.2	88.8

Table 21
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

RYERSON

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	23,597.00	1.23	29,024.31	19,447.10	67.0	76.4	68.0
CLASS LABS							
Lab Contact Hours W	10,680.50	0.8	8,544.40	6,841.70			
Lab Contact Hours X	40,919.50	0.6	24,551.70	19,497.20			
Lab Contact Hours Y	4,720.00	0.5	2,360.00	2,444.50			
Lab Contact Hours Z	40,776.50	0.3	12,232.95	5,066.10			
Unclassified	0.00			0.00			
Total Class Lab	97,096.50		47,689.05	33,849.50	71.0	64.7	81.4
RESEARCH LABS							
Research Disciplines A	99.69	45.0	4,485.86	1,839.30			
Research Disciplines B	249.83	30.0	7,495.03	4,581.80			
Research Disciplines C	179.71	20.0	3,594.25	2,176.60			
Research Disciplines D	99.17	10.0	991.72	611.50			
Research Disciplines E	1,167.43	1.0	1,167.43	2,538.70			
Unclassified	0.00			0.00			
Total Research	1,795.84		17,734.28	11,747.90	66.2	74.7	67.7
OFFICE - ACADEMIC							
Total FTE Faculty	1,104.26	13.0	14,355.38	14,510.80	84.2	89.5	81.1
Faculty Supplement	165.64	13.0	2,153.31				
Research Appointments	84.75	13.0	1,101.75	314.00			
Total FTE Grads	1,373.00	4.0	5,492.00	1,439.20	26.2	53.1	36.0
Total FTE Non-Acd Staff	550.00	13.0	7,150.00	2,469.50	34.5	108.2	38.9
Office Service	30,252.44	0.25	7,563.11	6,340.70	83.8	85.3	65.1
Total Academic Office			37,815.55	25,074.20	66.3	83.3	66.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	794.00	13.0	10,322.00	8,640.90	83.7	96.1	76.9
Office Service	10,322.00	0.5	5,161.00	5,114.30	99.1	103.1	108.8
Total Admin. Office			15,483.00	13,755.20	88.8	98.4	87.5
Total Office - Academic & Administrative			53,298.55	38,829.40	72.9	86.7	74.3
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	23,597.00	0.6	14,158.20	6,784.20	47.9	53.8	28.9
Traditional Static Shelving Space	719,975.58	0.005	3,599.88				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	719,975.58		3,599.88	3,437.70	95.5	83.9	73.7
Library Support	17,758.08	0.25	4,439.52	2,872.40	64.7	79.5	53.4
Total Library Facilities & Campus Study Space			22,197.60	13,094.30	59.0	70.6	42.0
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			169,943.79	116,968.20	68.8	76.5	69.5
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	23,597.00	0.9	21,237.30				
Total P.E./Athletics			21,237.30	6,388.40	30.1	68.1	33.7
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	167,304.20	0.015	2,509.56	2,067.90	82.4	77.0	107.4
STUDENT AND CENTRAL SERVICES							
Total FTE Students	23,597.00	2.0	47,194.00	19,111.20	40.5	54.7	38.6
SUB-TOTAL: OTHER SPACE			70,940.86	27,567.50	38.9	60.1	39.4
TOTAL FORMULA AREAS			240,884.65	144,535.70	60.0	72.2	60.4

Table 22
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

TORONTO (ST. GEORGE)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	44,694.41	1.23	54,974.12	51,960.96	94.5	76.4	89.4
CLASS LABS							
Lab Contact Hours W	19,272.00	0.8	15,417.60	6,617.52			
Lab Contact Hours X	58,194.85	0.6	34,916.91	34,708.80			
Lab Contact Hours Y	7,196.50	0.5	3,598.25	1,632.38			
Lab Contact Hours Z	2,048.00	0.3	614.40	1,703.97			
Unclassified	0.00			0.00			
Total Class Lab	86,711.35		54,547.16	44,662.67	81.9	64.7	90.2
RESEARCH LABS							
Research Disciplines A	1,551.79	45.0	69,830.33	54,654.83			
Research Disciplines B	1,070.98	30.0	32,129.25	26,255.80			
Research Disciplines C	418.54	20.0	8,370.80	8,158.08			
Research Disciplines D	1,086.52	10.0	10,865.17	6,056.75			
Research Disciplines E	4,126.56	1.0	4,126.56	1,466.98			
Unclassified	635.73			0.00			
Total Research	8,890.11		125,322.11	96,592.44	77.1	74.7	69.5
OFFICE - ACADEMIC							
Total FTE Faculty	2,494.09	13.0	32,423.18	48,578.91	106.9	89.5	107.2
Faculty Supplement	374.11	13.0	4,863.48				
Research Appointments	1,281.12	13.0	16,654.56	9,075.97			
Total FTE Grads	11,955.10	4.0	47,820.40	19,512.70	40.8	53.1	41.0
Total FTE Non-Acd Staff	2,443.29	13.0	31,762.77	28,006.63	88.2	108.2	82.4
Office Service	133,524.39	0.25	33,381.10	32,084.24	96.1	85.3	93.4
Total Academic Office			166,905.49	137,258.45	82.2	83.3	80.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,149.22	13.0	14,939.86	14,864.98	99.5	96.1	86.6
Office Service	14,939.86	0.5	7,469.93	6,651.14	89.0	103.1	92.4
Total Admin. Office			22,409.79	21,516.12	96.0	98.4	88.5
Total Office - Academic & Administrative			189,315.28	158,774.57	83.9	86.7	81.6
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	44,694.41	0.6	26,816.64	27,831.64	103.8	53.8	99.4
Traditional Static Shelving Space	8,674,741.71	0.005	43,373.71				
Mobile Compact Shelving	1,727,860.86	0.004	6,911.44				
Super High Density	387,693.24	0.0035	1,356.93				
Total Stack	10,790,295.81		51,642.08	42,635.24	82.6	83.9	83.2
Library Support	78,458.72	0.25	19,614.68	18,048.04	92.0	79.5	92.2
Total Library Facilities & Campus Study Space			98,073.40	88,514.92	90.3	70.6	89.7
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			522,232.06	440,505.56	84.4	76.5	81.7
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	44,694.41	0.9	40,224.97				
Total P.E./Athletics			40,224.97	24,234.32	60.2	68.1	62.9
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	717,772.47	0.015	10,766.59	8,859.34	82.3	77.0	82.6
STUDENT AND CENTRAL SERVICES							
Total FTE Students	44,694.41	2.0	89,388.81	54,687.82	61.2	54.7	64.0
SUB-TOTAL: OTHER SPACE			140,380.36	87,781.48	62.5	60.1	65.0
TOTAL FORMULA AREAS			662,612.43	528,287.04	79.7	72.2	78.2

Table 23
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

TORONTO (MISSISSAUGA)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	8,624.30	1.23	10,607.89	6,384.29	60.2	76.4	74.6
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	12,021.00	0.6	7,212.60	4,823.29			
Lab Contact Hours Y	1,130.00	0.5	565.00	557.64			
Lab Contact Hours Z	2,883.00	0.3	864.90	426.52			
Unclassified	0.00			0.00			
Total Class Lab	16,034.00		8,642.50	5,807.45	67.2	64.7	119.2
RESEARCH LABS							
Research Disciplines A	127.78	45.0	5,750.10	6,040.02			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	39.25	20.0	785.00	891.74			
Research Disciplines D	27.30	10.0	273.00	99.05			
Research Disciplines E	254.89	1.0	254.89	0.00			
Unclassified	0.00			0.00			
Total Research	449.22		7,062.99	7,030.81	99.5	74.7	101.1
OFFICE - ACADEMIC							
Total FTE Faculty	262.27	13.0	3,409.51	4,358.54	104.5	89.5	110.5
Faculty Supplement	39.34	13.0	511.43				
Research Appointments	43.30	13.0	562.90	328.61			
Total FTE Grads	350.60	4.0	1,402.40	1,524.36	108.7	53.1	86.3
Total FTE Non-Acd Staff	85.62	13.0	1,113.06	978.70	87.9	108.2	78.2
Office Service	6,999.30	0.25	1,749.82	755.48	43.2	85.3	49.1
Total Academic Office			8,749.12	7,945.69	90.8	83.3	90.3
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	204.28	13.0	2,655.64	2,456.95	92.5	96.1	95.7
Office Service	2,655.64	0.5	1,327.82	1,451.63	109.3	103.1	82.1
Total Admin. Office			3,983.46	3,908.58	98.1	98.4	91.2
Total Office - Academic & Administrative			12,732.58	11,854.27	93.1	86.7	90.5
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	8,624.30	0.6	5,174.58	3,247.70	62.8	53.8	42.5
Traditional Static Shelving Space	10,638.13	0.005	53.19				
Mobile Compact Shelving	462,011.65	0.004	1,848.05				
Super High Density	0.00	0.0035	0.00				
Total Stack	472,649.79		1,901.24	1,903.54	100.1	83.9	67.7
Library Support	7,075.82	0.25	1,768.95	924.16	52.2	79.5	41.4
Total Library Facilities & Campus Study Space			8,844.77	6,075.40	68.7	70.6	49.6
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			47,890.73	37,152.22	77.6	76.5	83.1
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	8,624.30	0.9	7,761.87				
Total P.E./Athletics			7,761.87	6,870.26	88.5	68.1	37.4
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	90,161.84	0.015	1,352.43	678.40	50.2	77.0	61.7
STUDENT AND CENTRAL SERVICES							
Total FTE Students	8,624.30	2.0	17,248.60	8,151.39	47.3	54.7	47.1
SUB-TOTAL: OTHER SPACE			26,362.90	15,700.05	59.6	60.1	42.7
TOTAL FORMULA AREAS			74,253.63	52,852.27	71.2	72.2	68.5

Table 24
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

TORONTO (SCARBOROUGH)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	8,530.70	1.23	10,492.76	5,112.63	48.7	76.4	60.6
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	13,808.00	0.6	8,284.80	3,853.66			
Lab Contact Hours Y	1,137.00	0.5	568.50	254.76			
Lab Contact Hours Z	126.00	0.3	37.80	255.83			
Unclassified	0.00			0.00			
Total Class Lab	15,071.00		8,891.10	4,364.25	49.1	64.7	74.4
RESEARCH LABS							
Research Disciplines A	105.34	45.0	4,740.30	3,386.51			
Research Disciplines B	35.00	30.0	1,050.00	792.97			
Research Disciplines C	10.65	20.0	213.00	194.06			
Research Disciplines D	31.40	10.0	314.00	0.00			
Research Disciplines E	164.84	1.0	164.84	310.97			
Unclassified	0.00			0.00			
Total Research	347.23		6,482.14	4,684.51	72.3	74.7	104.6
OFFICE - ACADEMIC							
Total FTE Faculty	255.24	13.0	3,318.06	3,760.83	90.7	89.5	101.6
Faculty Supplement	38.29	13.0	497.71				
Research Appointments	37.08	13.0	482.04	138.77			
Total FTE Grads	153.90	4.0	615.60	888.07	144.3	53.1	432.4
Total FTE Non-Acd Staff	67.45	13.0	876.85	586.76	66.9	108.2	66.9
Office Service	5,790.25	0.25	1,447.56	449.75	31.1	85.3	39.3
Total Academic Office			7,237.82	5,824.18	80.5	83.3	96.8
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	204.02	13.0	2,652.26	2,306.46	87.0	96.1	95.1
Office Service	2,652.26	0.5	1,326.13	1,405.66	106.0	103.1	84.7
Total Admin. Office			3,978.39	3,712.12	93.3	98.4	91.6
Total Office - Academic & Administrative			11,216.21	9,536.30	85.0	86.7	95.0
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	8,530.70	0.6	5,118.42	3,121.90	61.0	53.8	62.3
Traditional Static Shelving Space	269,416.73	0.005	1,347.08				
Mobile Compact Shelving	51,263.96	0.004	205.06				
Super High Density	0.00	0.0035	0.00				
Total Stack	320,680.69		1,552.14	1,527.36	98.4	83.9	93.3
Library Support	6,670.56	0.25	1,667.64	771.40	46.3	79.5	71.9
Total Library Facilities & Campus Study Space			8,338.20	5,420.66	65.0	70.6	71.2
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			45,420.40	29,118.35	64.1	76.5	78.7
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	8,530.70	0.9	7,677.63				
Total P.E./Athletics			7,677.63	4,414.81	57.5	68.1	55.2
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	59,428.76	0.015	891.43	1,736.76	194.8	77.0	74.9
STUDENT AND CENTRAL SERVICES							
Total FTE Students	8,530.70	2.0	17,061.40	7,636.33	44.8	54.7	45.2
SUB-TOTAL: OTHER SPACE			25,630.46	13,787.90	53.8	60.1	49.6
TOTAL FORMULA AREAS			71,050.86	42,906.25	60.4	72.2	67.4

Table 25
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

TRENT

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	6,862.10	1.23	8,440.38	6,942.00	82.2	76.4	94.8
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	5,433.50	0.6	3,260.10	2,288.00			
Lab Contact Hours Y	3,188.50	0.5	1,594.25	1,064.00			
Lab Contact Hours Z	1,532.00	0.3	459.60	233.00			
Unclassified	72.00			509.00			
Total Class Lab	10,226.00		5,313.95	4,094.00	77.0	64.7	45.2
RESEARCH LABS							
Research Disciplines A	127.61	45.0	5,742.45	3,699.00			
Research Disciplines B	20.76	30.0	622.80	369.00			
Research Disciplines C	29.35	20.0	587.00	577.00			
Research Disciplines D	19.89	10.0	198.90	473.00			
Research Disciplines E	335.82	1.0	335.82	581.00			
Unclassified	0.00			884.00			
Total Research	533.43		7,486.97	6,583.00	87.9	74.7	86.0
OFFICE - ACADEMIC							
Total FTE Faculty	374.63	13.0	4,870.19	4,758.00	79.6	89.5	105.2
Faculty Supplement	56.19	13.0	730.53				
Research Appointments	44.68	13.0	580.84	164.00			
Total FTE Grads	301.60	4.0	1,206.40	1,154.00	95.7	53.1	68.0
Total FTE Non-Acd Staff	34.70	13.0	451.10	1,441.00	319.4	108.2	98.9
Office Service	7,839.06	0.25	1,959.76	1,097.00	56.0	85.3	48.0
Total Academic Office			9,798.82	8,614.00	87.9	83.3	89.0
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	303.75	13.0	3,948.75	3,767.00	95.4	96.1	116.8
Office Service	3,948.75	0.5	1,974.38	1,296.00	65.6	103.1	75.9
Total Admin. Office			5,923.13	5,063.00	85.5	98.4	103.2
Total Office - Academic & Administrative			15,721.95	13,677.00	87.0	86.7	94.6
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	6,862.10	0.6	4,117.26	583.00	14.2	53.8	19.1
Traditional Static Shelving Space	1,041,604.00	0.005	5,208.02				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	1,041,604.00		5,208.02	5,317.00	102.1	83.9	100.5
Library Support	9,325.28	0.25	2,331.32	1,111.00	47.7	79.5	121.3
Total Library Facilities & Campus Study Space			11,656.60	7,011.00	60.1	70.6	70.3
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			48,619.85	38,307.00	78.8	76.5	79.0
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	6,862.10		1,000.00				
Total FTE Students	6,862.10	0.9	6,175.89				
Total P.E./Athletics			7,175.89	3,130.00	43.6	68.1	57.7
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	69,678.00	0.015	1,045.17	905.00	86.6	77.0	41.5
STUDENT AND CENTRAL SERVICES							
Total FTE Students	6,862.10	2.0	13,724.20	6,558.00	47.8	54.7	55.6
SUB-TOTAL: OTHER SPACE			21,945.26	10,593.00	48.3	60.1	55.6
TOTAL FORMULA AREAS			70,565.11	48,900.00	69.3	72.2	71.7

Table 26
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

WATERLOO

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	23,082.64	1.23	28,391.65	21,430.23	75.5	76.4	79.7
CLASS LABS							
Lab Contact Hours W	12,000.00	0.8	9,600.00	4,951.70			
Lab Contact Hours X	36,266.00	0.6	21,759.60	16,438.50			
Lab Contact Hours Y	5,219.00	0.5	2,609.50	2,356.30			
Lab Contact Hours Z	8,786.50	0.3	2,635.95	1,806.10			
Unclassified	0.00			0.00			
Total Class Lab	62,271.50		36,605.05	25,552.60	69.8	64.7	73.9
RESEARCH LABS							
Research Disciplines A	497.43	45.0	22,384.13	16,970.10			
Research Disciplines B	579.84	30.0	17,395.05	13,895.70			
Research Disciplines C	429.54	20.0	8,590.80	4,661.10			
Research Disciplines D	484.21	10.0	4,842.10	3,225.90			
Research Disciplines E	910.93	1.0	910.93	806.10			
Unclassified	0.00			0.00			
Total Research	2,901.94		54,123.01	39,558.90	73.1	74.7	93.4
OFFICE - ACADEMIC							
Total FTE Faculty	1,198.60	13.0	15,581.80	16,546.20	96.6	89.5	96.0
Faculty Supplement	179.79	13.0	2,337.27				
Research Appointments	309.76	13.0	4,026.88	4,664.13			
Total FTE Grads	3,188.30	4.0	12,753.20	12,212.60	95.8	53.1	122.0
Total FTE Non-Acd Staff	786.85	13.0	10,229.05	7,789.63	76.2	108.2	61.4
Office Service	44,928.20	0.25	11,232.05	7,996.72	71.2	85.3	84.4
Total Academic Office			56,160.25	49,209.28	87.6	83.3	91.3
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,074.50	13.0	13,968.50	10,992.57	78.7	96.1	105.6
Office Service	13,968.50	0.5	6,984.25	7,501.90	107.4	103.1	134.7
Total Admin. Office			20,952.75	18,494.47	88.3	98.4	115.3
Total Office - Academic & Administrative			77,113.00	67,703.75	87.8	86.7	97.4
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	23,082.64	0.6	13,849.58	6,938.64	50.1	53.8	58.3
Traditional Static Shelving Space	1,690,023.12	0.005	8,450.12				
Mobile Compact Shelving	126,992.24	0.004	507.97				
Super High Density	556,079.11	0.0035	1,946.28				
Total Stack	2,373,094.47		10,904.36	8,194.08	75.1	83.9	50.8
Library Support	24,753.95	0.25	6,188.49	3,867.00	62.5	79.5	49.5
Total Library Facilities & Campus Study Space			30,942.43	18,999.72	61.4	70.6	53.3
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			227,175.13	173,245.20	76.3	76.5	82.4
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	23,082.64	0.9	20,774.38				
Total P.E./Athletics			20,774.38	12,933.77	62.3	68.1	69.9
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	366,760.16	0.015	5,501.40	6,424.12	116.8	77.0	119.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	23,082.64	2.0	46,165.28	31,552.54	68.3	54.7	77.1
SUB-TOTAL: OTHER SPACE			72,441.06	50,910.43	70.3	60.1	78.5
TOTAL FORMULA AREAS			299,616.19	224,155.63	74.8	72.2	81.5

Table 27
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

WESTERN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	30,814.70	1.23	37,902.08	38,663.60	102.0	76.4	99.0
CLASS LABS							
Lab Contact Hours W	7,500.00	0.8	6,000.00	1,663.00			
Lab Contact Hours X	56,515.00	0.6	33,909.00	20,908.00			
Lab Contact Hours Y	15,553.00	0.5	7,776.50	6,252.00			
Lab Contact Hours Z	8,015.00	0.3	2,404.50	3,584.10			
Unclassified	0.00			0.00			
Total Class Lab	87,583.00		50,090.00	32,407.10	64.7	64.7	63.0
RESEARCH LABS							
Research Disciplines A	893.73	45.0	40,217.85	30,786.00			
Research Disciplines B	495.49	30.0	14,864.70	13,065.00			
Research Disciplines C	270.81	20.0	5,416.10	1,951.00			
Research Disciplines D	428.78	10.0	4,287.75	3,458.00			
Research Disciplines E	1,912.67	1.0	1,912.67	739.00			
Unclassified	0.00			0.00			
Total Research	4,001.47		66,699.07	49,999.00	75.0	74.7	67.0
OFFICE - ACADEMIC							
Total FTE Faculty	1,688.20	13.0	21,946.60	27,662.60	74.4	89.5	100.8
Faculty Supplement	253.23	13.0	3,291.99				
Research Appointments	1,126.93	13.0	14,650.09	2,027.40			
Total FTE Grads	4,259.30	4.0	17,037.20	12,025.80	70.6	53.1	59.0
Total FTE Non-Acd Staff	944.50	13.0	12,278.50	13,822.20	112.6	108.2	47.8
Office Service	69,204.38	0.25	17,301.10	16,116.50	93.2	85.3	85.9
Total Academic Office			86,505.48	71,654.50	82.8	83.3	76.3
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,204.80	13.0	15,662.40	14,287.10	91.2	96.1	77.0
Office Service	15,662.40	0.5	7,831.20	10,720.10	136.9	103.1	98.6
Total Admin. Office			23,493.60	25,007.20	106.4	98.4	84.2
Total Office - Academic & Administrative			109,999.08	96,661.70	87.9	86.7	78.3
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	30,814.70	0.6	18,488.82	9,594.10	51.9	53.8	57.7
Traditional Static Shelving Space	3,282,596.89	0.005	16,412.98				
Mobile Compact Shelving	663,273.20	0.004	2,653.09				
Super High Density	414,223.35	0.0035	1,449.78				
Total Stack	4,360,093.44		20,515.86	14,937.90	72.8	83.9	81.3
Library Support	39,004.68	0.25	9,751.17	10,590.10	108.6	79.5	71.3
Total Library Facilities & Campus Study Space			48,755.85	35,122.10	72.0	70.6	69.8
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			313,446.07	252,853.50	80.7	76.5	74.6
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	30,814.70	0.9	27,733.23				
Total P.E./Athletics			27,733.23	17,311.50	62.4	68.1	59.0
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	492,931.23	0.015	7,393.97	3,879.83	52.5	77.0	83.9
STUDENT AND CENTRAL SERVICES							
Total FTE Students	30,814.70	2.0	61,629.40	35,147.50	57.0	54.7	57.4
SUB-TOTAL: OTHER SPACE			96,756.60	56,338.83	58.2	60.1	59.8
TOTAL FORMULA AREAS			410,202.67	309,192.33	75.4	72.2	71.1

Table 28
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

WILFRID LAURIER

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	12,819.68	1.23	15,768.21	12,184.18	77.3	76.4	79.6
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	9,870.00	0.6	5,922.00	3,265.27			
Lab Contact Hours Y	4,523.00	0.5	2,261.50	1,861.54			
Lab Contact Hours Z	16,348.50	0.3	4,904.55	597.40			
Unclassified	0.00			0.00			
Total Class Lab	30,741.50		13,088.05	5,724.21	43.7	64.7	63.3
RESEARCH LABS							
Research Disciplines A	42.00	45.0	1,890.00	2,826.03			
Research Disciplines B	66.60	30.0	1,998.00	965.71			
Research Disciplines C	43.15	20.0	863.00	137.82			
Research Disciplines D	36.85	10.0	368.50	421.09			
Research Disciplines E	736.75	1.0	736.75	124.80			
Unclassified	0.00			0.00			
Total Research	925.35		5,856.25	4,475.45	76.4	74.7	96.3
OFFICE - ACADEMIC							
Total FTE Faculty	491.00	13.0	6,383.00	9,096.59	142.9	89.5	110.6
Faculty Supplement	73.65	13.0	957.45				
Research Appointments	0.00	13.0	0.00	1,394.74			
Total FTE Grads	868.70	4.0	3,474.80	366.88	10.6	53.1	14.2
Total FTE Non-Acd Staff	126.74	13.0	1,647.62	1,702.72	103.3	108.2	52.0
Office Service	12,462.87	0.25	3,115.72	3,576.04	114.8	85.3	61.4
Total Academic Office			15,578.59	16,136.97	103.6	83.3	73.0
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	194.27	13.0	2,525.51	5,205.46	206.1	96.1	107.0
Office Service	2,525.51	0.5	1,262.76	3,964.05	313.9	103.1	190.8
Total Admin. Office			3,788.27	9,169.51	242.1	98.4	135.0
Total Office - Academic & Administrative			19,366.85	25,306.48	130.7	86.7	91.2
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	12,819.68	0.6	7,691.81	3,643.66	47.4	53.8	48.8
Traditional Static Shelving Space	1,229,233.19	0.005	6,146.17				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	1,229,233.19		6,146.17	927.11	15.1	83.9	95.9
Library Support	13,837.97	0.25	3,459.49	6,156.54	178.0	79.5	52.0
Total Library Facilities & Campus Study Space			17,297.47	10,727.31	62.0	70.6	65.7
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			71,376.83	58,417.63	81.8	76.5	79.2
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	12,819.68	0.9	11,537.71				
Total P.E./Athletics			11,537.71	7,517.09	65.2	68.1	63.2
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	143,668.29	0.015	2,155.02	1,107.10	51.4	77.0	56.3
STUDENT AND CENTRAL SERVICES							
Total FTE Students	12,819.68	2.0	25,639.36	14,404.34	56.2	54.7	60.8
SUB-TOTAL: OTHER SPACE			39,332.10	23,028.53	58.5	60.1	61.2
TOTAL FORMULA AREAS			110,708.92	81,446.16	73.6	72.2	72.9

Table 29
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

WINDSOR

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	13,408.70	1.23	16,492.70	11,824.50	71.7	76.4	68.7
CLASS LABS							
Lab Contact Hours W	1,724.00	0.8	1,379.20	3,280.06			
Lab Contact Hours X	12,710.00	0.6	7,626.00	9,013.60			
Lab Contact Hours Y	11,414.00	0.5	5,707.00	1,305.10			
Lab Contact Hours Z	5,557.00	0.3	1,667.10	2,110.19			
Unclassified	0.00			0.00			
Total Class Lab	31,405.00		16,379.30	15,708.95	95.9	64.7	103.2
RESEARCH LABS							
Research Disciplines A	155.10	45.0	6,979.50	7,988.57			
Research Disciplines B	246.85	30.0	7,405.50	4,503.74			
Research Disciplines C	95.65	20.0	1,913.00	791.96			
Research Disciplines D	137.20	10.0	1,372.00	573.30			
Research Disciplines E	814.55	1.0	814.55	304.25			
Unclassified	0.00			0.00			
Total Research	1,449.35		18,484.55	14,161.82	76.6	74.7	84.5
OFFICE - ACADEMIC							
Total FTE Faculty	753.25	13.0	9,792.25	10,674.30	83.1	89.5	127.2
Faculty Supplement	112.99	13.0	1,468.84				
Research Appointments	137.00	13.0	1,781.00	159.14			
Total FTE Grads	1,362.10	4.0	5,448.40	2,631.94	48.3	53.1	57.0
Total FTE Non-Acd Staff	225.00	13.0	2,925.00	2,682.53	91.7	108.2	64.9
Office Service	21,415.49	0.25	5,353.87	3,280.01	61.3	85.3	85.9
Total Academic Office			26,769.36	19,427.92	72.6	83.3	92.4
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	475.00	13.0	6,175.00	6,385.96	103.4	96.1	90.8
Office Service	6,175.00	0.5	3,087.50	2,536.26	82.1	103.1	88.8
Total Admin. Office			9,262.50	8,922.22	96.3	98.4	90.1
Total Office - Academic & Administrative			36,031.86	28,350.14	78.7	86.7	91.7
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	13,408.70	0.6	8,045.22	6,616.01	82.2	53.8	69.0
Traditional Static Shelving Space	2,006,607.82	0.005	10,033.04				
Mobile Compact Shelving	52,497.50	0.004	209.99				
Super High Density	0.00	0.0035	0.00				
Total Stack	2,059,105.32		10,243.03	7,437.82	72.6	83.9	70.5
Library Support	18,288.25	0.25	4,572.06	2,827.25	61.8	79.5	59.1
Total Library Facilities & Campus Study Space			22,860.31	16,881.08	73.8	70.6	67.7
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			110,248.72	86,926.49	78.8	76.5	82.8
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	13,408.70	0.9	12,067.83				
Total P.E./Athletics			12,067.83	10,240.39	84.9	68.1	82.6
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	143,031.27	0.015	2,145.47	1,557.81	72.6	77.0	72.5
STUDENT AND CENTRAL SERVICES							
Total FTE Students	13,408.70	2.0	26,817.40	17,063.89	63.6	54.7	62.9
SUB-TOTAL: OTHER SPACE			41,030.70	28,862.09	70.3	60.1	69.2
TOTAL FORMULA AREAS			151,279.42	115,788.58	76.5	72.2	78.9

Table 30
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

YORK (KEELE)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	39,530.10	1.23	48,622.02	34,586.10	71.1	76.4	69.4
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	37,350.50	0.6	22,410.30	17,981.50			
Lab Contact Hours Y	12,658.50	0.5	6,329.25	2,573.10			
Lab Contact Hours Z	15,268.50	0.3	4,580.55	7,064.10			
Unclassified	0.00			203.30			
Total Class Lab	65,277.50		33,320.10	27,822.00	83.5	64.7	63.5
RESEARCH LABS							
Research Disciplines A	315.20	45.0	14,184.00	9,271.10			
Research Disciplines B	240.21	30.0	7,206.30	2,239.10			
Research Disciplines C	225.53	20.0	4,510.60	893.70			
Research Disciplines D	501.76	10.0	5,017.60	3,381.10			
Research Disciplines E	2,996.73	1.0	2,996.73	3,344.20			
Unclassified	1.00			332.10			
Total Research	4,280.43		33,915.23	19,461.30	57.4	74.7	67.6
OFFICE - ACADEMIC							
Total FTE Faculty	2,157.48	13.0	28,047.24	25,749.90	81.9	89.5	78.0
Faculty Supplement	323.62	13.0	4,207.09				
Research Appointments	92.00	13.0	1,196.00	1,634.70			
Total FTE Grads	4,252.70	4.0	17,010.80	6,431.20	37.8	53.1	43.7
Total FTE Non-Acd Staff	831.30	13.0	10,806.90	12,305.10	113.9	108.2	112.6
Office Service	61,268.03	0.25	15,317.01	14,085.00	92.0	85.3	95.5
Total Academic Office			76,585.03	60,205.90	78.6	83.3	79.1
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	961.40	13.0	12,498.20	13,869.00	111.0	96.1	125.8
Office Service	12,498.20	0.5	6,249.10	7,695.70	123.1	103.1	130.9
Total Admin. Office			18,747.30	21,564.70	115.0	98.4	127.5
Total Office - Academic & Administrative			95,332.33	81,770.60	85.8	86.7	88.8
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	39,530.10	0.6	23,718.06	9,317.30	39.3	53.8	35.8
Traditional Static Shelving Space	2,039,780.36	0.005	10,198.90				
Mobile Compact Shelving	695,289.40	0.004	2,781.16				
Super High Density	0.00	0.0035	0.00				
Total Stack	2,735,069.76		12,980.06	11,080.30	85.4	83.9	88.5
Library Support	36,698.12	0.25	9,174.53	5,630.50	61.4	79.5	61.8
Total Library Facilities & Campus Study Space			45,872.65	26,028.10	56.7	70.6	55.0
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			257,062.33	189,668.10	73.8	76.5	72.5
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	39,530.10	0.9	35,577.09				
Total P.E./Athletics			35,577.09	11,905.70	33.5	68.1	36.4
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	390,569.60	0.015	5,858.54	3,706.30	63.3	77.0	78.0
STUDENT AND CENTRAL SERVICES							
Total FTE Students	39,530.10	2.0	79,060.20	35,292.50	44.6	54.7	44.9
SUB-TOTAL: OTHER SPACE			120,495.83	50,904.50	42.2	60.1	43.8
TOTAL FORMULA AREAS			377,558.17	240,572.60	63.7	72.2	63.2

Table 31
Institutional Space Requirements As Measured By COU Space Standards, 2007-08

YORK (GLENDON)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2004-05 % I / G
TEACHING/RESEARCH/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	2,033.30	1.23	2,500.96	2,427.90	97.1	76.4	104.1
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	1,756.00	0.3	526.80	419.40			
Unclassified	0.00			367.70			
Total Class Lab	1,756.00		526.80	787.10	149.4	64.7	116.1
RESEARCH LABS							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	9.10	30.0	273.00	150.50			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	4.20	10.0	42.00	0.00			
Research Disciplines E	177.56	1.0	177.56	36.00			
Unclassified	0.00			0.00			
Total Research	190.86		492.56	186.50	37.9	74.7	35.5
OFFICE - ACADEMIC							
Total FTE Faculty	172.01	13.0	2,236.13	2,096.90	80.7	89.5	79.5
Faculty Supplement	25.80	13.0	335.42				
Research Appointments	2.00	13.0	26.00	0.00			
Total FTE Grads	35.70	4.0	142.80	32.10	22.5	53.1	34.4
Total FTE Non-Acd Staff	50.40	13.0	655.20	604.90	92.3	108.2	107.6
Office Service	3,395.55	0.25	848.89	530.70	62.5	85.3	53.5
Total Academic Office			4,244.44	3,264.60	76.9	83.3	77.1
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	28.00	13.0	364.00	660.50	181.5	96.1	225.6
Office Service	364.00	0.5	182.00	387.80	213.1	103.1	222.6
Total Admin. Office			546.00	1,048.30	192.0	98.4	224.6
Total Office - Academic & Administrative			4,790.44	4,312.90	90.0	86.7	92.3
LIBRARY FACILITIES & CAMPUS STUDY SPACE							
Study (Total FTE Students)	2,033.30	0.6	1,219.98	472.80	38.8	53.8	40.1
Traditional Static Shelving Space	271,785.84	0.005	1,358.93				
Mobile Compact Shelving	0.00	0.004	0.00				
Super High Density	0.00	0.0035	0.00				
Total Stack	271,785.84		1,358.93	1,093.90	80.5	83.9	55.7
Library Support	2,578.91	0.25	644.73	275.00	42.7	79.5	45.0
Total Library Facilities & Campus Study Space			3,223.64	1,841.70	57.1	70.6	48.6
SUB-TOTAL: TEACHING/RESEARCH/ACAD SUPPORT			11,534.39	9,556.10	82.8	76.5	78.9
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	2,033.30		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	2,033.30	0.9	1,829.97				
Total P.E./Athletics			3,829.97	2,878.20	75.1	68.1	78.2
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	23,757.60	0.015	356.36	288.30	80.9	77.0	84.5
STUDENT AND CENTRAL SERVICES							
Total FTE Students	2,033.30	2.0	4,066.60	2,555.70	62.8	54.7	91.5
SUB-TOTAL: OTHER SPACE			8,252.93	5,722.20	69.3	60.1	84.8
TOTAL FORMULA AREAS			19,787.33	15,278.30	77.2	72.2	81.3

Section 4

SUMMARY TABLES

Table 32

Classroom Facilities (1): Generated Space and Inventory, 2007-08

	FTE Students	Generated Space	Inventory NASM	Inventory/ FTE Student	% I/G	2004-05 % I/G
Brock	13,981.6	17,197	9,750	0.70	56.7	64.5
Carleton	19,643.5	24,162	15,792	0.80	65.4	63.6
Guelph	17,819.7	21,918	15,200	0.85	69.4	70.0
Lakehead	6,832.3	8,404	7,336	1.07	87.3	93.5
Laurentian	6,771.8	8,329	7,017	1.04	84.2	81.0
Laurentian (Algo)	881.3	1,084	1,055	1.20	97.3	90.9
Laurentian (Hear)	103.2	127	809	7.83	637.0	536.0
McMaster	22,946.6	28,224	20,897	0.91	74.0	84.7
Nipissing	4,517.5	5,557	3,914	0.87	70.4	77.0
OCAD	2,871.4	3,532	1,334	0.46	37.8	37.7
UOIT	4,576.0	5,629	5,484	1.20	97.4	122.3
Ottawa	30,523.0	37,543	25,016	0.82	66.6	67.8
Queen's	18,406.6	22,640	17,444	0.95	77.1	81.7
Ryerson	23,597.0	29,024	19,447	0.82	67.0	68.0
Toronto (St. Grge)	44,694.4	54,974	51,961	1.16	94.5	89.4
Toronto (Miss)	8,624.3	10,608	6,384	0.74	60.2	74.6
Toronto (Scar)	8,530.7	10,493	5,113	0.60	48.7	60.6
Trent	6,862.1	8,440	6,942	1.01	82.2	94.8
Waterloo	23,082.6	28,392	21,430	0.93	75.5	79.7
Western	30,814.7	37,902	38,664	1.25	102.0	99.0
Wilfrid Laurier	12,819.7	15,768	12,184	0.95	77.3	79.6
Windsor	13,408.7	16,493	11,825	0.88	71.7	68.7
York (Keele)	39,530.1	48,622	34,586	0.87	71.1	69.4
York (Glen)	2,033.3	2,501	2,428	1.19	97.1	104.1
Total	363,872.3	447,563	342,013	0.94	76.4	77.9

Input Measure: Total FTE Students (as defined in Appendix D).

Space Factor: 1.23 NASM

System Average: 0.94
(Actual Classroom inventory divided by Total FTE Students.)

Table 33

Class Lab Space (2): Generated Space and Inventory, 2007-08

	Class Lab Hours	Generated Space	Inventory NASM	% I/G	2004-05 % I/G
Brock	49,263.8	25,345	7,530	29.7	35.1
Carleton	51,790.0	26,587	17,150	64.5	43.0
Guelph	76,570.0	46,977	25,639	54.6	51.5
Lakehead	25,719.5	14,417	12,279	85.2	122.0
Laurentian	9,091.0	5,236	6,506	124.2	113.1
Laurentian (Algo)	1,529.0	845	748	88.5	n/a
Laurentian (Hear)	1,605.3	723	655	90.6	109.3
McMaster	63,288.5	32,264	19,181	59.5	63.0
Nipissing	23,483.5	11,745	3,560	30.3	28.7
OCAD	48,859.0	25,000	9,572	38.3	46.9
UOIT	17,457.0	10,424	5,038	48.3	137.9
Ottawa	63,056.0	34,143	18,479	54.1	72.4
Queen's	54,929.4	32,162	23,086	71.8	77.9
Ryerson	97,096.5	47,689	33,850	71.0	81.4
Toronto (St. Grge)	86,711.4	54,547	44,663	81.9	90.2
Toronto (Miss)	16,034.0	8,643	5,807	67.2	119.2
Toronto (Scar)	15,071.0	8,891	4,364	49.1	74.4
Trent	10,226.0	5,314	4,094	77.0	45.2
Waterloo	62,271.5	36,605	25,553	69.8	73.9
Western	87,583.0	50,090	32,407	64.7	63.0
Wilfrid Laurier	30,741.5	13,088	5,724	43.7	63.3
Windsor	31,405.0	16,379	15,709	95.9	103.2
York (Keele)	65,277.5	33,320	27,822	83.5	63.5
York (Glen)	1,756.0	527	787	149.4	116.1
Total	990,815.3	540,961	350,201	64.7	68.0

Note: The Inventory NASM figures do not necessarily agree with the Lab-Undergraduate figures on Table 2, at some institutions. Only Class Labs that are associated with Groups W to Z are included in this table.

Input Measure: Total Laboratory Weekly Student Contact Hours (as defined in Appendix D) for programs in Groups W, X, Y and Z (as defined in Appendix E).

System Average, Space Factor:	<u>System Average</u>	<u>Space Factor</u>
Group W:	0.48	0.80
Group X:	0.42	0.60
Group Y:	0.25	0.50
Group Z:	0.18	0.30

Actual Class Lab inventory divided by Class Lab Hours (weighted average as defined in Input Measure).

Table 34

Lab - Research Facilities (3): Generated Space and Inventory, 2007-08

	Research Staff	Generated Space	Inventory NASM	Inventory/ Research Staff	% I/G	2004-05 % I/G
Brock	1,419.5	16,571	8,150	5.7	49.2	58.5
Carleton	2,264.2	23,985	18,233	8.1	76.0	58.7
Guelph	2,053.2	52,818	52,314	25.5	99.0	97.1
Lakehead	719.0	9,751	5,953	8.3	61.1	72.3
Laurentian	843.9	10,916	5,315	6.3	48.7	80.3
Laurentian (Algo)	59.1	518	0	0.0	n/a	n/a
Laurentian (Hear)	25.0	236	0	0.0	n/a	n/a
McMaster	2,639.5	57,631	45,052	17.1	78.2	85.6
Nipissing	250.7	1,471	850	3.4	57.8	46.1
OCAD	158.2	1,348	223	1.4	16.6	1.8
UOIT	211.6	4,356	1,835	8.7	42.1	n/a
Ottawa	3,660.3	49,584	31,080	8.5	62.7	68.4
Queen's	2,634.4	45,561	38,239	14.5	83.9	91.3
Ryerson	1,795.8	17,734	11,748	6.5	66.2	67.7
Toronto (St. Grge)	8,890.1	125,322	96,592	10.9	77.1	69.5
Toronto (Miss)	449.2	7,063	7,031	15.7	99.5	101.1
Toronto (Scar)	347.2	6,482	4,685	13.5	72.3	104.6
Trent	533.4	7,487	6,583	12.3	87.9	86.0
Waterloo	2,901.9	54,123	39,559	13.6	73.1	93.4
Western	4,001.5	66,699	49,999	12.5	75.0	67.0
Wilfrid Laurier	925.4	5,856	4,475	4.8	76.4	96.3
Windsor	1,449.4	18,485	14,162	9.8	76.6	84.5
York (Keele)	4,280.4	33,915	19,461	4.5	57.4	67.6
York (Glen)	190.9	493	187	1.0	37.9	35.5
Total	42,703.7	618,405	461,727	10.8	74.7	77.3

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

Input Measure: Research Staff is calculated by summing the total of FTE Faculty plus one-half Graduate Students plus one-half Other Research Appointments in Research Disciplines (as defined in Appendix A, page 106).

System Average, Space Factor	System Average	Space Factor
Group A:	34.8	45
Group B:	22.1	30
Group C:	12.4	20
Group D:	6.8	10
Group E:	0.8	1

Actual Research space divided by Research Staff (weighted average as defined in Input Measure).

Table 35

Academic Departmental Office Space and Related Space (4):
Generated Space and Inventory, 2007-08

	FTE Faculty	Generated Space	Inventory NASM	% I/G	2004-05 % I/G
Brock	929.3	27,093	14,524	53.6	58.1
Carleton	806.0	33,962	29,648	87.3	92.4
Guelph	860.8	36,695	40,579	110.6	104.4
Lakehead	355.6	12,913	8,734	67.6	83.5
Laurentian	620.3	16,945	12,443	73.4	73.8
Laurentian (Algo)	59.1	1,137	698	61.4	42.2
Laurentian (Hear)	25.0	581	649	111.7	64.2
McMaster	1,104.1	53,194	47,179	88.7	77.3
Nipissing	193.4	5,370	2,764	51.5	49.8
OCAD	158.2	3,747	1,621	43.2	45.6
UOIT	150.0	4,849	3,638	75.0	427.2
Ottawa	1,549.8	66,748	50,864	76.2	89.2
Queen's	1,011.3	52,486	58,280	111.0	113.4
Ryerson	1,104.3	37,816	25,074	66.3	66.8
Toronto (St. Grge)	2,494.1	166,905	137,258	82.2	80.4
Toronto (Miss)	262.3	8,749	7,946	90.8	90.3
Toronto (Scar)	255.2	7,238	5,824	80.5	96.8
Trent	374.6	9,799	8,614	87.9	89.0
Waterloo	1,198.6	56,160	49,209	87.6	91.3
Western	1,688.2	86,505	71,655	82.8	76.3
Wilfrid Laurier	491.0	15,579	16,137	103.6	73.0
Windsor	753.3	26,769	19,428	72.6	92.4
York (Keele)	2,157.5	76,585	60,206	78.6	79.1
York (Glen)	172.0	4,244	3,265	76.9	77.1
Total	18,773.9	812,071	676,235	83.3	84.0

Input Measure: Total FTE Faculty (as defined in Appendix D) plus 15%, total Other Research Appointments, total FTE Non-Academic Staff requiring offices, and total FTE Graduate Students

Space Factor: 13 NASM per FTE Faculty, Other Research Appointments and FTE Non-Academic Staff, Faculty Supplement = 15% of FTE Faculty, 4 NASM per FTE Graduate Student, plus 25% allowance for office support space.

Table 35A

Graduate Student Office Space (4.3):
Generated Space and Inventory, 2007-08

	Graduate Students	Generated Space	Inventory NASM	Inventory/ FTE Graduate Student	% I/G	2004-05 % I/G
Brock	889.4	3,558	1,613	1.8	45.3	24.1
Carleton	2,871.3	11,485	4,525	1.6	39.4	46.6
Guelph	2,163.8	8,655	7,931	3.7	91.6	88.2
Lakehead	697.9	2,792	962	1.4	34.5	89.7
Laurentian	419.5	1,678	414	1.0	24.7	38.2
Laurentian (Algo)		not applicable				
Laurentian (Hear)		not applicable				
McMaster	2,909.8	11,639	7,234	2.5	62.2	58.9
Nipissing	113.5	454	33	0.3	7.2	n/a
OCAD		not applicable				
UOIT	71.1	284	87	1.2	30.7	n/a
Ottawa	4,079.0	16,316	6,519	1.6	40.0	37.5
Queen's	3,252.3	13,009	9,241	2.8	71.0	76.4
Ryerson	1,373.0	5,492	1,439	1.0	26.2	36.0
Toronto (St. Grge)	11,955.1	47,820	19,513	1.6	40.8	41.0
Toronto (Miss)	350.6	1,402	1,524	4.3	108.7	86.3
Toronto (Scar)	153.9	616	888	5.8	144.3	432.4
Trent	301.6	1,206	1,154	3.8	95.7	68.0
Waterloo	3,188.3	12,753	12,213	3.8	95.8	122.0
Western	4,259.3	17,037	12,026	2.8	70.6	59.0
Wilfrid Laurier	868.7	3,475	367	0.4	10.6	14.2
Windsor	1,362.1	5,448	2,632	1.9	48.3	57.0
York (Keele)	4,252.7	17,011	6,431	1.5	37.8	43.7
York (Glen)	35.7	143	32	0.9	22.5	34.4
Total	45,568.6	182,274	96,776	2.1	53.1	55.5

Input Measure: Total FTE Graduate Students.

Space Factor: 4 NASM

System Average: 2.13 NASM per Graduate Student.
(Actual Space for Graduate Students (including service space) divided by Total Graduate Students).

Table 36

Administrative Office Space (10): Generated Space and Inventory, 2007-08

	FTE Non-Acad. Office Staff	Space Generated	Inventory NASM	Inventory/ Office Staff	% I/G	2004-05 % I/G
Brock	454.7	8,866	6,870	15.1	77.5	99.6
Carleton	649.0	12,656	12,402	19.1	98.0	95.8
Guelph	765.5	14,927	17,084	22.3	114.4	155.3
Lakehead	383.5	7,478	4,668	12.2	62.4	56.2
Laurentian	196.7	3,836	4,133	21.0	107.7	102.9
Laurentian (Alg)	57.0	1,112	1,146	20.1	103.1	58.5
Laurentian (Hea)	9.0	176	218	24.2	124.1	124.1
McMaster	808.0	15,757	13,968	17.3	88.6	95.6
Nipissing	95.3	1,858	1,886	19.8	101.5	107.6
OCAD	107.0	2,086	1,880	17.6	90.1	81.5
UOIT	213.0	4,154	3,214	15.1	77.4	84.2
Ottawa	943.0	18,389	17,156	18.2	93.3	139.4
Queen's	757.7	14,775	14,149	18.7	95.8	102.9
Ryerson	794.0	15,483	13,755	17.3	88.8	87.5
Toronto (St. Grge)	1,149.2	22,410	21,516	18.7	96.0	88.5
Toronto (Miss)	204.3	3,983	3,909	19.1	98.1	91.2
Toronto (Scar)	204.0	3,978	3,712	18.2	93.3	91.6
Trent	303.8	5,923	5,063	16.7	85.5	103.2
Waterloo	1,074.5	20,953	18,494	17.2	88.3	115.3
Western	1,204.8	23,494	25,007	20.8	106.4	84.2
Wilfrid Laurier	194.3	3,788	9,170	47.2	242.1	135.0
Windsor	475.0	9,263	8,922	18.8	96.3	90.1
York (Keele)	961.4	18,747	21,565	22.4	115.0	127.5
York (Glen)	28.0	546	1,048	37.4	192.0	224.6
Total	12,032.6	234,636	230,935	19.2	98.4	103.1

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

Space Factor: 13 NASM for FTE Non-Academic Office Staff, plus 50% allowance for office support space.
(16.9 NASM including office support space.)

System Average: 19.2 NASM per Non-Academic Office Staff.
(Total Actual Non-Academic Office Staff Space (including service space) divided by Non-Academic Staff).

Table 37

Library Facilities & Campus Study Space (5): Generated Space and Inventory, 2007-08

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Student	% I/G	2004-05 % I/G
Brock	13,981.6	15,269	6,650	0.5	43.6	46.3
Carleton	19,643.5	25,646	18,019	0.9	70.3	55.5
Guelph	17,819.7	24,002	14,230	0.8	59.3	61.6
Lakehead	6,832.3	9,788	7,578	1.1	77.4	68.0
Laurentian	6,771.8	8,274	9,054	1.3	109.4	53.8
Laurentian (Algo)	881.3	1,599	1,240	1.4	77.6	89.2
Laurentian (Hear)	103.2	6,018	484	4.7	8.0	16.4
McMaster	22,946.6	31,258	25,469	1.1	81.5	80.9
Nipissing	4,517.5	4,698	2,122	0.5	45.2	44.1
OCAD	2,871.4	2,970	966	0.3	32.5	27.2
UOIT	4,576.0	4,199	1,718	0.4	40.9	155.6
Ottawa	30,523.0	41,057	26,947	0.9	65.6	61.4
Queen's	18,406.6	37,592	30,525	1.7	81.2	80.6
Ryerson	23,597.0	22,198	13,094	0.6	59.0	42.0
Toronto (St. Grge)	44,694.4	98,073	88,515	2.0	90.3	89.7
Toronto (Miss)	8,624.3	8,845	6,075	0.7	68.7	49.6
Toronto (Scar)	8,530.7	8,338	5,421	0.6	65.0	71.2
Trent	6,862.1	11,657	7,011	1.0	60.1	70.3
Waterloo	23,082.6	30,942	19,000	0.8	61.4	53.3
Western	30,814.7	48,756	35,122	1.1	72.0	69.8
Wilfrid Laurier	12,819.7	17,297	10,727	0.8	62.0	65.7
Windsor	13,408.7	22,860	16,881	1.3	73.8	67.7
York (Keele)	39,530.1	45,873	26,028	0.7	56.7	55.0
York (Glen)	2,033.3	3,224	1,842	0.9	57.1	48.6
Total	363,872.3	530,434	374,720	1.0	70.6	67.2

Input Measure: Total FTE Students and Total Equivalent Volumes.

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

System Average: 1.03 NASM per FTE Student.
(Stack space for total volumes, study space for FTE students, and service space for the number of volumes and students) divided by Total FTE Students.

Table 37A

Campus Study Space (5): Generated Space and Inventory, 2007-08

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	2004-05 % I/G
Brock	13,981.6	8,389	2,423	0.17	28.9	20.3
Carleton	19,643.5	11,786	2,723	0.14	23.1	7.6
Guelph	17,819.7	10,692	5,534	0.31	51.8	45.2
Lakehead	6,832.3	4,099	3,191	0.47	77.8	74.4
Laurentian	6,771.8	4,063	1,038	0.15	25.5	68.3
Laurentian (Algo)	881.3	529	293	0.33	55.5	57.6
Laurentian (Hear)	103.2	62	88	0.86	142.7	215.3
McMaster	22,946.6	13,768	5,189	0.23	37.7	40.8
Nipissing	4,517.5	2,711	167	0.04	6.2	9.4
OCAD	2,871.4	1,723	288	0.10	16.7	10.5
UOIT	4,576.0	2,746	760	0.17	27.7	175.0
Ottawa	30,523.0	18,314	7,091	0.23	38.7	30.1
Queen's	18,406.6	11,044	10,553	0.57	95.6	84.2
Ryerson	23,597.0	14,158	6,784	0.29	47.9	28.9
Toronto (St. Grge)	44,694.4	26,817	27,832	0.62	103.8	99.4
Toronto (Miss)	8,624.3	5,175	3,248	0.38	62.8	42.5
Toronto (Scar)	8,530.7	5,118	3,122	0.37	61.0	62.3
Trent	6,862.1	4,117	583	0.08	14.2	19.1
Waterloo	23,082.6	13,850	6,939	0.30	50.1	58.3
Western	30,814.7	18,489	9,594	0.31	51.9	57.7
Wilfrid Laurier	12,819.7	7,692	3,644	0.28	47.4	48.8
Windsor	13,408.7	8,045	6,616	0.49	82.2	69.0
York (Keele)	39,530.1	23,718	9,317	0.24	39.3	35.8
York (Glen)	2,033.3	1,220	473	0.23	38.8	40.1
Total	363,872.3	218,323	117,489	0.32	53.8	51.2

Input Measure: Total FTE Students.

Space Factor:

0.6 NASM for FTE Students.

System Average:

0.32 NASM per FTE Student.

Study space for FTE students divided by Total FTE students.

Table 37B

Campus Study Space (5): Within the library and outside the library, 2007-08

	Study Space within the Library	Study Space outside the Library	Total Study Space	% of Study Space within the Library	% of Study Space outside the Library
Brock	1,085	1,338	2,423	44.8%	55.2%
Carleton	1,042	1,681	2,723	38.3%	61.7%
Guelph	4,663	871	5,534	84.3%	15.7%
Lakehead	2,417	773	3,191	75.8%	24.2%
Laurentian	716	322	1,038	69.0%	31.0%
Laurentian (Algo)	293	0	293	100.0%	0.0%
Laurentian (Hear)	88	0	88	100.0%	0.0%
McMaster	4,087	1,102	5,189	78.8%	21.2%
Nipissing	145	22	167	86.8%	13.2%
OCAD	234	54	288	81.2%	18.8%
UOIT	624	136	760	82.1%	17.9%
Ottawa	4,307	2,784	7,091	60.7%	39.3%
Queen's	7,237	3,316	10,553	68.6%	31.4%
Ryerson	3,313	3,471	6,784	48.8%	51.2%
Toronto (St. Grge)	21,147	6,685	27,832	76.0%	24.0%
Toronto (Miss)	2,675	573	3,248	82.4%	17.6%
Toronto (Scar)	1,229	1,893	3,122	39.4%	60.6%
Trent	522	61	583	89.5%	10.5%
Waterloo	4,182	2,756	6,939	60.3%	39.7%
Western	9,108	486	9,594	94.9%	5.1%
Wilfrid Laurier	2,226	1,417	3,644	61.1%	38.9%
Windsor	6,018	598	6,616	91.0%	9.0%
York (Keele)	5,653	3,665	9,317	60.7%	39.3%
York (Glen)	408	65	473	86.3%	13.7%
Total	83,421	34,068	117,489	71.0%	29.0%

Table 38

Recreation / Athletics Space (6): Generated Space and Inventory, 2007-08

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	2004-05 % I/G
Brock	13,981.6	12,583	11,122	0.8	88.4	91.3
Carleton	19,643.5	17,679	21,562	1.1	122.0	79.7
Guelph	17,819.7	16,038	18,739	1.1	116.8	123.5
Lakehead	6,832.3	7,149	9,134	1.3	127.8	74.6
Laurentian	6,771.8	7,095	6,293	0.9	88.7	92.7
Laurentian (Algo)	881.3	2,793	3,415	3.9	122.3	122.6
Laurentian (Hear)	103.2	2,093	553	5.4	26.4	26.2
McMaster	22,946.6	20,652	16,795	0.7	81.3	50.5
Nipissing	4,517.5	5,066	2,549	0.6	50.3	46.8
OCAD	2,871.4	4,584		not applicable		
UOIT	4,576.0	5,118	7,769	1.7	151.8	36.0
Ottawa	30,523.0	27,471	15,327	0.5	55.8	58.8
Queen's	18,406.6	16,566	10,845	0.6	65.5	86.7
Ryerson	23,597.0	21,237	6,388	0.3	30.1	33.1
Toronto (St. Grge)	44,694.4	40,225	24,234	0.5	60.2	62.9
Toronto (Miss)	8,624.3	7,762	6,870	0.8	88.5	31.4
Toronto (Scar)	8,530.7	7,678	4,415	0.5	57.5	55.2
Trent	6,862.1	7,176	3,130	0.5	43.6	57.7
Waterloo	23,082.6	20,774	12,934	0.6	62.3	69.9
Western	30,814.7	27,733	17,312	0.6	62.4	59.0
Wilfrid Laurier	12,819.7	11,538	7,517	0.6	65.2	63.2
Windsor	13,408.7	12,068	10,240	0.8	84.9	82.6
York (Keele)	39,530.1	35,577	11,906	0.3	33.5	36.4
York (Glen)	2,033.3	3,830	2,878	1.4	75.1	78.2
Total	363,872.3	340,485	231,927	0.6	68.1	63.1

Input Measure: Total FTE Students (as defined in Appendix D).

Space Factor: 0.9 NASM

System Average: 0.64 NASM per FTE Student.
(Total Actual Physical Education/Athletics space divided by Total FTE students.)

Table 39

Maintenance Space (9): Generated Space and Inventory, 2007-08

	NASM Inventory	Generated Space	Inventory NASM	% I/G	2004-05 % I/G
Brock	129,285.2	1,939	2,005	103.4	65.1
Carleton	204,327.1	3,065	1,685	55.0	71.3
Guelph	341,300.5	5,120	5,030	98.3	102.1
Lakehead	103,967.1	1,560	1,011	64.8	79.4
Laurentian	107,713.5	1,616	2,034	125.9	124.8
Laurentian (Algo)	15,221.2	228	278	121.7	185.2
Laurentian (Hear)	6,153.1	92	191	207.1	216.5
McMaster	337,130.9	5,057	4,460	88.2	101.2
Nipissing	54,399.4	816	not applicable		
OCAD	23,134.9	347	170	49.0	69.3
UOIT	50,120.9	752	399	53.0	251.7
Ottawa	291,470.1	4,372	2,948	67.4	71.1
Queen's	321,139.7	4,817	2,262	47.0	43.9
Ryerson	167,304.2	2,510	2,068	82.4	107.4
Toronto (St. Grge)	717,772.5	10,767	8,859	82.3	82.6
Toronto (Miss)	90,161.8	1,352	678	50.2	61.7
Toronto (Scar)	59,428.8	891	1,737	194.8	74.9
Trent	69,678.0	1,045	905	86.6	41.5
Waterloo	366,760.2	5,501	6,424	116.8	119.3
Western	492,931.2	7,394	3,880	52.5	83.9
Wilfrid Laurier	143,668.3	2,155	1,107	51.4	56.3
Windsor	143,031.3	2,145	1,558	72.6	72.5
York (Keele)	390,569.6	5,859	3,706	63.3	78.0
York (Glen)	23,757.6	356	288	80.9	84.5
Total	4,650,427.1	69,756	53,684	77.0	83.6

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

Space Factor: 0.015 NASM

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

Table 40

Student and Central Services Space (7-8, 11-15): Generated Space and Inventory, 2007-08

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	2004-05 % I/G
Brock	13,981.6	27,963	14,181	1.0	50.7	55.4
Carleton	19,643.5	39,287	19,304	1.0	49.1	47.7
Guelph	17,819.7	35,639	19,688	1.1	55.2	57.3
Lakehead	6,832.3	13,665	11,494	1.7	84.1	76.9
Laurentian	6,771.8	13,544	11,035	1.6	81.5	68.9
Laurentian (Algo)	881.3	1,763	1,860	2.1	105.5	65.8
Laurentian (Hear)	103.2	206	1,099	10.7	532.5	383.0
McMaster	22,946.6	45,893	25,023	1.1	54.5	79.5
Nipissing	4,517.5	9,035	2,820	0.6	31.2	37.0
OCAD	2,871.4	5,743	3,295	1.1	57.4	51.2
UOIT	4,576.0	9,152	2,618	0.6	28.6	61.9
Ottawa	30,523.0	61,046	24,124	0.8	39.5	40.5
Queen's	18,406.6	36,813	29,649	1.6	80.5	77.6
Ryerson	23,597.0	47,194	19,111	0.8	40.5	38.6
Toronto (St. Grge)	44,694.4	89,389	54,688	1.2	61.2	64.0
Toronto (Miss)	8,624.3	17,249	8,151	0.9	47.3	47.1
Toronto (Scar)	8,530.7	17,061	7,636	0.9	44.8	45.2
Trent	6,862.1	13,724	6,558	1.0	47.8	55.6
Waterloo	23,082.6	46,165	31,553	1.4	68.3	77.1
Western	30,814.7	61,629	35,148	1.1	57.0	57.4
Wilfrid Laurier	12,819.7	25,639	14,404	1.1	56.2	60.8
Windsor	13,408.7	26,817	17,064	1.3	63.6	62.9
York (Keele)	39,530.1	79,060	35,293	0.9	44.6	44.9
York (Glen)	2,033.3	4,067	2,556	1.3	62.8	91.5
Total	363,872.3	727,745	398,351	1.1	54.7	57.8

Input Measure: Total FTE Students (as defined in Appendix D).

Space Factor: 2.0 NASM

System Average: 1.09 NASM per FTE Student.

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

Table 41

Total Space (1-15): Generated Space and Inventory, 2007-08

	FTE Students	Generated Space	Generated per FTE	Inventory NASM	Inventory per FTE	% I/G	2004-05 I/G
Brock	13,981.6	152,827.1	10.9	80,783	5.8	52.9	58.8
Carleton	19,643.5	207,027.7	10.5	153,795	7.8	74.3	62.4
Guelph	17,819.7	254,134.1	14.3	208,503	11.7	82.0	81.9
Lakehead	6,832.3	85,124.3	12.5	68,186	10.0	80.1	81.6
Laurentian	6,771.8	75,790.2	11.2	63,829	9.4	84.2	77.8
Laurentian (Algo)	881.3	11,078.5	12.6	10,440	11.8	94.2	81.0
Laurentian (Hear)	103.2	10,251.7	99.3	4,657	45.1	45.4	57.6
McMaster	22,946.6	289,930.7	12.6	218,024	9.5	75.2	78.3
Nipissing	4,517.5	45,615.6	10.1	20,465	4.5	44.9	45.0
OCAD	2,871.4	49,356.7	17.2	19,061	6.6	38.6	40.2
UOIT	4,576.0	48,632.2	10.6	31,713	6.9	65.2	111.7
Ottawa	30,523.0	340,352.6	11.2	211,942	6.9	62.3	68.4
Queen's	18,406.6	263,414.3	14.3	224,480	12.2	85.2	88.8
Ryerson	23,597.0	240,884.7	10.2	144,536	6.1	60.0	60.4
Toronto (St. Grge)	44,694.4	662,612.4	14.8	528,287	11.8	79.7	78.2
Toronto (Miss)	8,624.3	74,253.6	8.6	52,852	6.1	71.2	68.5
Toronto (Scar)	8,530.7	71,050.9	8.3	42,906	5.0	60.4	67.4
Trent	6,862.1	70,565.1	10.3	48,900	7.1	69.3	71.7
Waterloo	23,082.6	299,616.2	13.0	224,156	9.7	74.8	81.5
Western	30,814.7	410,202.7	13.3	309,192	10.0	75.4	71.1
Wilfrid Laurier	12,819.7	110,708.9	8.6	81,446	6.4	73.6	72.9
Windsor	13,408.7	151,279.4	11.3	115,789	8.6	76.5	78.9
York (Keele)	39,530.1	377,558.2	9.6	240,573	6.1	63.7	63.2
York (Glen)	2,033.3	19,787.3	9.7	15,278	7.5	77.2	81.3
Total	363,872.3	4,322,055.1	11.9	3,119,792	8.6	72.2	73.0

A comparison of the Total Generated Space and existing Inventory in categories 1 through 15 per FTE Student.

Section 5

APPENDICES

Appendix A: Space Classification Scheme, Formula and Measures

Appendix B: COU Space Standards

Appendix C: List of Input Measures

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Appendix A: Space Classification Scheme, Formula and Measures

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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 (for example, laboratory benches) and rooms directly serving such facilities.

➤ 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 *Classroom Service Space*

Examination rooms, projection rooms, preparation rooms, closets, storage rooms, and other related areas.

NOTE: 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.”

Formula

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

$$\# \text{ of FTE Students} \times 1.23 \text{ NASM}$$

(The FTE count is consistent with the numbers reported in the USIS-UAR submission as of November 1.)

➤ **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 contact hour (WSCH), and refers to, 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 34 hours per week

Room utilization standard for a room Monday – 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.

S = 0.74 to 0.65 (74% to 65% seats occupied when the room is used)

Station utilization standard when 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 22.1. Therefore, H could be 30 and S could be 74%, or H could be 34 and S could be 65%. The classroom space formula is:

$$\text{NASM} / \text{WSCH} = A / (H \times S)$$

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 34 and 0.65 respectively, then the space factor computed via formula is 1.23 square metres.

$$\text{NASM} / \text{FTE Student} = \frac{1.7}{34 \times .65} \times 16 \text{ hours} = 1.23 \text{ NASM}$$

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.

Beginning with the 2001 report, the assumptions used in the classroom input measure were updated to reflect the way students are taught today. A classroom survey conducted in 1999 indicated that the station size needed to be increased from 1.4 NASM to 1.7 NASM. Also, following an examination of utilization rates, station occupancy was increased from 62% to 65%, and the number of hours per week that a classroom is expected to be used was increased from 30 to 34 hours. These changes support findings reported in the 1988-89 joint COU–Ontario Ministry Working Group on University Space Utilization report entitled *Classroom Space Utilization in Ontario Universities 1988-89*.

Comparison of Unadjusted Standards / Guidelines for Classrooms (1999)

State	Hours/Week	Station Occupancy (%)	Area (NASF)	Area (NASM)
Alaska	30.0	60.0	16.0	1.49
Arizona	35.0	65.0	19.0	1.77
California	42.0	71.4	15.0	1.39
Colorado	30.0	67.0	15.0	1.39
Florida	40.0	60.0	22.0	2.04
Kansas	30.0	60.0	15.0	1.39
Kentucky	38.0	67.0	20.0	1.86
Louisiana	30.0	60.0	18.0	1.67
Maryland	30.0	70.0	17.6	1.64
Nebraska	30.0	65.0	16.0	1.49
New Hampshire	30.0	60.0	16.0	1.49
New York	30.0	60.0	20.0	1.86
North Carolina	35.0	65.0	18.0	1.67
Ohio	31.5	67.0	15.0	1.39
Oklahoma (3 terms)	60.0	80.0	16.0	1.49
Oregon	33.0	60.0	16.0	1.49
Tennessee	30.0	67.0	15.0	1.39
South Carolina	35.0	60.0	21.0	1.95
South Dakota	30.0	60.0	16.0	1.49
Texas	38.0	66.7		
Utah	34.0	66.7	17.0	1.58
Wisconsin	30.0	67.0	16.0	1.49
Wyoming	33.0	60.0	18.0	1.67
Ontario	34.0	65.0	18.3	1.70

Source: *Survey of Space and Utilization Guidelines and Standards in the Fifty States*. MGT Consultants. Exhibit 1.

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.

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:

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

WSLabCH (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.

See Appendix D for a more detailed definition of 'Laboratory Weekly Student Contact Hour'.

➤ **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, dependent upon discipline groups (denoted W, X, Y, Z) are used.

Examples of disciplines: Group W: Agriculture, Engineering, Veterinary Medicine
 Group X: Chemistry, Fine Arts, Geology
 Group Y: Anthropology, Geography, Psychology
 Group Z: Commerce, Mathematics, Sociology

See Appendix E for a more detailed list of disciplines by group.

- 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) (incl. Service Space outside the lab)	Utilization Rate Hours x Seat Util.	Space Factor NASM/ WSLabCH
W	10.80	18 x 0.75 = 13.5	0.8
X	8.10	18 x 0.75 = 13.5	0.6
Y	6.75	18 x 0.75 = 13.5	0.5
Z	4.05	18 x 0.75 = 13.5	0.3

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

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.

Comparison of Unadjusted Teaching Lab Standards / Guidelines (1999)

State	Contact Hours / Week	Station Occupancy (%)
Alaska	20.0	80.0
Arizona	25.0	85.0
California	25.0	80.0
Colorado	20.0	80.0
Florida	20.0	80.0
Kansas	20.0	80.0
Kentucky	23.0	80.0
Louisiana	20.0	80.0
Maryland	21.0	78.7
Nebraska	20.0	65.0
New Hampshire	18.0	70.0
New York	22.0	75.0
North Carolina	20.0	75.0
Ohio	22.5	80.0
Oklahoma	48.0	80.0
Oregon	16.0	75.0
Pennsylvania	26.0 / 24.0	80.0
South Carolina	16.0 / 18.0	75.0
Tennessee	18.0	80.0
South Dakota	20.0	85.0
Texas	25.0	80.0
Utah	22.5	80.0
Washington	20.0	80.0
Wisconsin	24.0	80.0
Wyoming	20.0	75.0
Ontario	18.0	75.0

Source: Survey of Space and Utilization Guidelines and Standards in the Fifty States. MGT Consultants. Exhibit 2.

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, technicians' office/workrooms, workshops, animal areas, and greenhouses.

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:

$$\begin{array}{l} \text{Research space} \\ \text{for specific group} \\ \text{(Group A, B, C, D, E)} \end{array} = \text{Count} \quad \times \quad \begin{array}{l} \text{Space Factor} \\ \text{for group} \\ \text{(45, 30, 20, 10, 1)} \end{array}$$

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, five space standards (denoted A, B, C, D and E) are used.

Examples of disciplines:

Group A	Chemistry, Dentistry, Geology
Group B	Civil Engineering, Forestry, Metallurgy
Group C	Anthropology, Electrical Engineering, Geography (Physical)
Group D	Geography (Human), Kinesiology (Arts), Fine Art
Group E	English, Mathematics, Sociology

See Appendix E for a more detailed list of programs by group.

- Station areas (space factors) associated with the groups A, B, C, D, and E were derived over time from data reported by the universities in the Ontario system together with standards from other jurisdictions.
- 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 the conducting of research 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 postdoctoral 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 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, other 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, special reference libraries, file rooms, vaults, photocopy rooms, waiting and reception areas, interview rooms, storage areas, private toilets, lunchrooms, and private departmental lounges.

NOTE: See Appendix D for details on reporting phantom space in open concept offices.

Formula

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

Faculty

(# FTE Faculty + 15%) x 13 sq m.

Research Appointments

(# PDFs + FTE Research Associates + FTE Research Funded Support Staff) x 13 sq. m.

Non-Academic Departmental Support Staff

FTE Non-Academic Staff, paid from operating funds, requiring offices x 13 sq. m.

Graduate Students

FTE Graduate Students x 4 sq. m.

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:

- In recognition of the disparity between the FTE faculty count of an institution and the requirement to provide some office accommodation to other academics who would not be fully represented by the FTE count (cross-appointments, part-time appointments, professors emeriti, status only appointments, visiting scholars, stipend staff, faculty on sabbaticals who remain on campus, etc.), the FTE faculty input measure is supplemented by 15%.
- Beginning with the 2007 report, the counts for FTE Research Associates, Postdoctoral 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 12 NASM is the accepted planning standard for a typical single office, a space factor of 13 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 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 & campus 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.

For 2007-08, institutions were asked to report separately the FTE non-academic staff split between those paid from the Operating Funds and those paid from Research Funds.

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.

CATEGORY 5: LIBRARY FACILITIES & CAMPUS 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 Appendix D for the definition of circulation space within libraries.

Also included are rooms or groups of rooms used for study whether or not 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 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.

5.5 *Study Space Not Under the Jurisdiction of the University Library System*

Include rooms available for students for study. Also included are reading rooms, study carrels, open computing space, open-stack reading rooms and study areas located in academic departments or other non-library departments.

See Appendix D for details on reporting phantom space in library stack areas.

NOTE: Dedicated classrooms or space located in the library that isn't directly related to library function or media storage areas may be under the jurisdiction of the university library system, but are counted for space purposes in various other categories.

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 (6) or seven (7) shelves, 3 feet wide.

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
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
Audiovisual Holdings	400	# titles	160
Slides	6,450	# slides	160
Printed Music	350	# scores	160

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

The formula for Category 5 calculates space entitlement for three major functional areas; collection space, study space within the library system and outside the library system, and library office & support areas.

Formula: Study Space (Categories 5.4 and 5.5)

The formula for generating study space is:

$$0.6 \text{ NASM / FTE student}$$

➤ **Formula Assumptions**

The formula is based on the following assumptions:

- The formula assumes a study space size of 2 NASM or 2.4 NASM and enough spaces to accommodate 25% to 30% of the population ($2 \times .33 = 0.6 \text{ NASM/FTE student}$ or $2.4 \times .25 = 0.6 \text{ NASM/FTE student}$).
- Formula assumption is based on 2 NASM or 2.4 NASM per station regardless of the type of space. It is assumed that 0.6 NASM per FTE student will allow approximately 1/3 of the student population to be housed at any one time.
- Study space includes space physically located within the library system and space that is located elsewhere on the university campus (excluding residences).
- The assumption of accommodating 25% to 30% 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.

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 metres high, 0.91 metres wide, 0.25 metres 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 metres 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:

$$\text{Area generated for Stack and Study space} \times 25\%$$

➤ 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 OCUL and the COU Committee on Space Standards and Reporting.

It is recognized that some efficiencies can be achieved through the use of compact storage, but 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.

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*

Gymnasia, 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 gymnasia, 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.

Formula

0.9 NASM / FTE student, plus

2,000 NASM for institutions with less than 4,000 FTE students

1,000 NASM for institutions with 4,000 to 8,000 FTE students

➤ 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.
- A sliding scale approach is used to ensure that smaller institutions generate sufficient space to cover a building of 4,000 NASM, the minimum area feasible to accommodate a pool, gymnasium and support space.

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 interuniversity 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 9: PLANT MAINTENANCE

Definition

Space associated with the operation and maintenance of university buildings, grounds, vehicles and other elements of the physical plant.

➤ 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.

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.

See Appendix D for details on reporting phantom space in an open concept office space.

Formula

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

Offices: # FTE Non-Academic Staff requiring offices x 13 sq. m.

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

➤ Formula Assumptions

- The requirement for office support space is directly related to the number of non-academic staff requiring offices.
- That 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.

CATEGORIES 7, 8, 11, 12, 13, 14, 15: STUDENT AND CENTRAL SERVICES

Definition

Food services, bookstore and other merchandising facilities, audiovisual / television facilities, central services, health service facilities, common use and study activity space, and assembly and exhibition facilities have been combined into **Student and Central Services** for the purpose of calculating space entitlement. This allows an institution to trade off a need for facilities in one area with those in a related category.

Formula

$$\text{FTE Student} \times 2.0 \text{ NASM}$$

The following range of values is suggested for each category, which reflects the use of space in the Ontario universities:

Category #	Category Name	NASM / FTE student
7	Food Service	0.50 to 0.70
8	Bookstore and Other Merchandising Facilities	0.10 to 0.20
11	Audiovisual / Television Facilities	0.05 to 0.10
12	Central Services	0.10 to 0.30
13	Health Service Facilities	0.03 to 0.05
14	Student Activity Space	0.50 to 0.70
15	Assembly and Exhibition Facilities	0.15 to 0.40

CATEGORY 7: FOOD SERVICE

Definition

A room or group of rooms that are 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.

➤ 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.

CATEGORY 8: BOOKSTORE AND OTHER MERCHANDISING FACILITIES

Definition

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.

CATEGORY 11: AUDIOVISUAL / TELEVISION FACILITIES

Definition

A room or group of rooms used in the production, distribution and storage of non-print instructional media, and rooms directly serving these facilities, providing campus-wide rather than exclusively departmental services.

➤ Subcategory

11.1 *AV / TV Facilities*

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.

CATEGORY 12: CENTRAL SERVICES

Definition

A room or group of rooms used to provide campus-wide services for both academic and non-academic sections of the university, and rooms directly serving these facilities.

➤ Subcategories

12.1 *Computing Facilities*

Central data processing facilities, 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.

CATEGORY 13: HEALTH SERVICE FACILITIES

Definition

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, their support areas, offices and related areas within health service facilities, and first-aid rooms located elsewhere and used for the general university.

CATEGORY 14: COMMON USE AND STUDENT ACTIVITY SPACE

Definition

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.

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, storage and equipment issue rooms and pubs.

14.3 *Lounge and Service Space*

All general lounge space and kitchenettes, whether for students, faculty, or administrative staff, lounges in residences if available to non-residents, and lounges in faculty clubs, including related service space.

CATEGORY 15: ASSEMBLY AND EXHIBITION FACILITIES

Definition

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.

CATEGORY 16: NON-ASSIGNABLE SPACE

Definition

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.

➤ 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, and incinerator serving one building, and public washrooms.

Circulation spaces required to provide general access within a building (such as corridors, stairwells, elevators) to a single room or work area (including their integral support areas). 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.

16.3 *Inactive Un-assignable*

Spaces that 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 (large areas of the building being out of service for many months).

16.4 *Parking Structures*

CATEGORY 17: RESIDENTIAL SPACE

Definition

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).

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.

CATEGORY 18: ANIMAL SPACE

Definition

Animal facilities 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.

CATEGORY 19: OTHER UNIVERSITY FACILITIES

Definition

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 Not Exclusively or Primarily Serving the University Population*

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.

19.6 *Non-Institutional Agencies Occupying University Space*

19.7 *Instructional Service Activities to the External Community*

CATEGORY 20: HEALTH SCIENCE CLINICAL FACILITIES

Definition

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

To be included:

- Health care areas, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms, and service and supply areas;
- All space in support of clinical instruction, research and service;
- 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.

See Appendix D for details on clinical facilities.

Appendix B: COU Space Standards

COU Space Formula

Category #	Space Category	Group	Space Factor	Input Measure
1	Classroom Facilities		1.23 NASM	FTE Students
2	Laboratory – Instructional	W X Y Z	0.8 NASM 0.6 NASM 0.5 NASM 0.3 NASM	Weekly Student Laboratory Contact Hours
3	Laboratory – Graduate and Faculty	A B C D E	45 NASM 30 NASM 20 NASM 10 NASM 1 NASM	FTE Faculty + 0.5 FTE Other Research Appointments (Postdoctoral Fellows and FTE Research Associates) + 0.5 FTE Graduates
4	Office – Academic		13 NASM (plus an additional allowance of 15% for academics not included in the faculty count)	FTE Faculty
			13 NASM 13 NASM 4 NASM	PDFs + FTE Research Associates + FTE Research Funded Support Staff (requiring office-type work space) FTE Departmental Non-Academic Staff, paid from operating fund (requiring offices) FTE Graduate Students
		Office Service	25% of the total space generated for faculty, non-academic staff and graduate students	
10	Central Administrative Offices		13.0 NASM	FTE Non-Academic Staff (requiring offices)
		Office Service	50% of the total space generated for FTE non-academic administrative staff.	

Category #	Space Category	Group	Space Factor	Input Measure
5	Library Facilities & Campus Study Space	Stack	0.005 NASM	Traditional static shelving
			0.004 NASM	Mobile compact storage
			0.0035 NASM	Offsite/onsite high-density storage
		Study	0.6 NASM	FTE students
		Support	25% of stack and study	
6	Recreation/ Athletic Space		0.9 NASM	FTE student plus 2,000 NASM for institutions with less than 4,000 FFTE students 1,000 NASM for institutions with 4,000 to 8,000 FFTE students
9	Plant Maintenance		0.015 x Total NASM Inventory	

STUDENT AND CENTRAL SERVICES		2 NASM	FTE Student
7	Food Service	0.5 to 0.7 NASM	FTE Student
8	Bookstore and Other Merch. Facilities	0.1 to 0.2 NASM	FTE Student
11	Audiovisual / TV Facilities	0.05 to 0.10 NASM	FTE Student
12	Central Services	0.10 to 0.30 NASM	FTE Student
13	Health Service Facilities	0.03 to 0.05 NASM	FTE Student
14	Common Use and Student Activity Space	0.5 to 0.7 NASM	FTE Student
15	Assembly and Exhibition	0.15 to 0.4 NASM	FTE Student

Appendix C: List of Input Measures

Space Category	Input Measure
1 Classroom Facilities	FTE Students
2 Laboratory - Instructional	Scheduled Laboratory Weekly Student Contact Hours
3 Laboratory - Graduate and Faculty	FTE Faculty Other Research Appointments (Postdoctoral Fellows and FTE Research Associates) FTE Graduate Students
4 Academic Departmental Offices	FTE Faculty FTE Graduate Students FTE Non-Academic Office Staff requiring offices, paid from Operating funds FTE Research Support Staff requiring offices, paid from Research funds Other Research Appointments (Post Doctoral Fellows and FTE Research Associates)
5 Library Facilities & Campus Study Space	Library Collections (Equivalent Volumes) FTE Students
6 Recreation/Athletic Space	FTE Students
7 Food Service	FTE Students
8 Bookstore and Other Merchandising Facilities	FTE Students
9 Plant Maintenance	Total Net Assignable Inventory (Categories 1-15 and 17-20)
10 Administrative Offices	FTE Non-Academic Office Staff
11 Audiovisual Television Facilities	FTE Students
12 Central Services	FTE Students
13 Health Service Facilities	FTE Students
14 Common Use and Student Activity Space	FTE Students
15 Assembly and Exhibition Facilities	FTE Students

Appendix D: Definitions

Building Blocks

Series of seven COU publications that were published between 1972 and 1988. These publications led to the development of the current COU space standards.

See Appendix F for a list of the publications.

Circulation Area

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

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

Clinical Facilities (reported in Category 20)

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

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

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

Double Cohort

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

Faculty (FTE)

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

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

Formula Space

Usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary university. There are 15 categories of formula space: classroom, undergraduate laboratory, research laboratory, academic offices, library, athletic, food services, bookstore, plant maintenance, administrative offices, AV/TV, central services, health services, student activity space and assembly space.

Generated Space

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

Gross Area

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

Input Measure

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

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

Inventory / Generated (I/G)

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

Laboratory Weekly Student Contact Hour

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** 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 not ordinarily available in classrooms.

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 (for example, studio or musical practice where no instruction is given).

Library Collections (Equivalent Volumes)

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

Equivalent Volumes

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

Net Assignable Square Metres (NASM)

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

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

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

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

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

Non-Assignable Space

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

See Appendix A: (Category 16: Non-Assignable Space) for a more detailed definition.

Non-Formula Space

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

Ontario Ministry

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

Other Research Appointments (FTE)

Generators of research who are not regular faculty as defined in FTE faculty, but who have similar research space requirements. This category includes postdoctoral 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 October 1, or another date that accurately reflects demand during the fall session. Since researchers who are at the university for a short time will normally not require separate space, the count should be limited to appointments of at least three months' duration.

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

Phantom Space

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

Examples of phantom space are:

1. Library stack area: The space occupied by book stacks and the aisles serving the stacks. However, if an aisle exists, whose purpose is to provide a path through the room rather than access to the stacks,

then this aisle is to be considered a corridor (Category 16) even though there are no actual walls bounding this corridor.

2. Open concept office: A large open office suite is divided by system furniture into individual work cubicles. To accurately describe the use of the large office suite it is necessary to recognize the office cubicles (Category 10 or 4) and the circulation space which permits movement through the suite but is not part of any specific function in the suite (Category 16).

Rae Review

"The government has identified "Strong People, Strong Economy" as one of the three key priority areas in which it is committed to achieving significant results for Ontario. An excellent postsecondary education system, which provides opportunity for the people of Ontario and has a secure future, is essential for a competitive and prosperous society. In recognition of this, the government announced a review of the design and funding of postsecondary education in the Ontario Budget 2004."

"Premier McGuinty appointed the Honourable Bob Rae as Advisor to the Premier and the Minister of Training, Colleges and Universities. With the support of a seven-member Advisory Panel, Mr. Rae was asked to advise on strategies to improve higher education..."

Space (Actual)

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

Space Factor

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

Space Formula / Standards

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

Students (FTE)

(1) FTE Undergraduate Students

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

(2) FTE Graduate Students

See definition for FTE Undergraduate Students.

Institutions Included

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

The number of FTE students reported will be the sum of

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

SuperBuild

In the 1999 provincial budget, the government announced the creation of SuperBuild, the largest capital investment in Ontario's postsecondary sector in more than 30 years, to help colleges and universities construct new academic buildings and upgrade existing teaching facilities to accommodate the growing number of students.

Appendix E: Program Classification Scheme

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

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
0.00	ARTS & SCIENCE		E
1.00	EDUCATION		
1.18	Elementary/Secondary Teacher Training	Y	E
1.23	Higher Education, Postsecondary Teacher Training	Y	E
1.36	Kindergarten, Pre-School Teacher Training	Y	E
1.38	Non-Teaching Fields	Y	E
1.39	Physical Education	Y	D
1.40	Kinesiology, Human Kinetics and Kinanthropology (Arts)	Y	D
1.40	Kinesiology, Human Kinetics and Kinanthropology (Science)	Y	C
1.41	Recreation	Y	E
1.99	Other, not elsewhere specified	Y	E
2.00	FINE AND APPLIED ARTS		
2.03	Fine Art	X	D
2.03	Visual Arts / Art Conservation		C
2.05	Music	X	E
2.08	Other Performing Arts	X	E
2.14	Applied Arts (e.g., Industrial Design, Design)	X	E
2.99	Other, not elsewhere specified	X	E
3.00	HUMANITIES AND RELATED		
3.03	Classics, Classical and Dead Languages	Z	E
3.05	English Language and/or Literature	Z	E
3.06	French Language and/or Literature	Z	E
3.09	History	Z	E
3.10	Journalism	Z	E
3.11	Languages and/or Literatures, Other	Z	E
3.12	Library Science	Z	E
3.13	Other Records Science	Z	D
3.14	Linguistics	Z	E
3.17	Other Mass Communication Studies	Z	E
3.21	Philosophy	Z	E
3.24	Religious Studies	Z	E
3.25	Theological Studies	Z	E
3.27	Translation and Interpretation	Z	E
3.99	Other, not elsewhere specified	Z	E

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
4.00	SOCIAL SCIENCES AND RELATED		
4.03	Anthropology	Y	C
4.06	Archaeology	Y	D
4.08	Canadian Studies	Z	E
4.09	Area Studies, Other	Z	E
4.12	Commerce, Management, Business Administration	Z	E
4.13	Criminology	Z	E
4.14	Specialized Administration Studies	Z	E
4.15	Demography	Y	D
4.27	Economics	Z	E
4.30	Geography	Y	D
4.30	Physical Geography	Y	C
4.30	Human Geography	Y	D
4.33	Law and Jurisprudence	Z	E
4.40	Environmental Studies – Human	Y	E
4.40	Environmental Science – Physical	Y	D
4.43	Political Science	Z	E
4.46	Psychology	Y	B
4.47	Secretarial Studies	Z	E
4.49	Social Work and Social Welfare	Z	E
4.52	Sociology	Z	E
4.55	Military Studies	Z	E
4.57	Other Social Services	Z	E
4.99	Other, not elsewhere specified	Z	E
5.00	AGRICULTURAL AND BIOLOGICAL SCIENCES		
5.03	Agriculture (Animal, Plant, Soil Science)	W	A
5.06	Biochemistry	X	A
5.09	Biology	X	A
5.12	Biophysics	X	A
5.15	Botany	X	A
5.16	Fisheries and Wildlife Management	X	A
5.18	Household Science and Related (Food Sci. & Nutrition)	Y	C
5.21	Veterinary Medicine	W	A
5.22	Veterinary Sciences	W	A
5.23	Veterinary Medicine Specialties	W	A
5.24	Zoology	X	A
5.99	Other, not elsewhere specified	X	A

*** Changes to category groupings in bold.*

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
6.00	ENGINEERING AND APPLIED SCIENCES		
6.03	Architecture	X	E
6.05	Aeronautical and Aerospace Engineering	W	B
6.06	Chemical Engineering	W	B
6.07	Civil Engineering	W	B
6.08	Design, Systems Engineering	X	D
6.09	Electrical Engineering	X	C
6.10	Industrial Engineering	W	B
6.11	Mining Engineering	W	A
6.12	Mechanical Engineering	W	B
6.13	Metallurgical Engineering	W	B
6.14	Other Engineering	W	C
6.15	Engineering Science	X	B
6.16	Engineering General	W	B
6.20	Forestry	X	B
6.22	Landscape Architecture	X	E
6.99	Other, not elsewhere specified	W	B
7.00	HEALTH PROFESSIONS AND OCCUPATIONS		
7.03	Dentistry (Professional)	X	A
7.04	Dental Specialties	X	A
7.05	Medicine (Professional)	X	A
7.06	Basic Medical Sciences (e.g., Anatomy, Biochemistry, Physiology, Genetics, Biophysics)	X	A
7.08	Medical Specialties	X	A
7.10	Paraclinical Sci. (Microbiology, Immunology, Pathology)*	X	A
7.12	Surgical Specialties	X	A
7.15	Nursing	Z	E
7.18	Optometry	X	A
7.21	Pharmacy	X	B
7.24	Epidemiology and Public Health	X	D
7.27	Rehabilitation Medicine		
	- Audio-Speech Therapy, Commun Disorders	X	B
	- Occ., Rehab, Physical Therapy, App Health Sci.	X	D
7.36	Medical Technology	X	B
7.99	Other, not elsewhere specified	X	A
8.00	MATHEMATICS AND PHYSICAL SCIENCES		
8.06	Computer Science	Z	D
8.12	Mathematics	Z	E
8.15	Chemistry	X	A
8.18	Geology and Related	X	A
8.21	Metallurgy, Materials Science	W	B
8.24	Meteorology	X	A
8.27	Oceanography and Water Studies	X	A
8.30	Physics (e.g., Astronomy, Aerospace Sciences)	X	A
8.99	Other, not elsewhere specified	X	A

* Do not report corresponding inventory. See Category 20.

Revised: 2007

Appendix F: Calendar of Pertinent Information and Publications

- 1964-1969 Ontario universities received capital monies through a project approval procedure.
- Oct. 2, 1967 Joint Capital Studies Committee began work to develop a capital formula to incorporate many of the features sought in the operating grants formula: objectivity and equity, consistent standards, the opportunity for the provincial government to exert a primary control over its total obligation, and an incentive for each institution to allocate and manage its resources.
- Dec. 1967 A contract was awarded to Taylor, Lieberfeld and Heldman to do a physical inventory and utilization study of all Ontario universities.
- 1968-1969 Interim capital formula was derived. Committee on University Affairs stated that the province was entering an era when capital resources would become scarcer.
- Aug. 1970 COU published a draft report with comments and guidelines on space standards that might be incorporated in a space formula.
- July 1971 The Committee on Capital Financing, with the approval of COU, opted to take action in the development of a proposal for a capital formula. Four Task Forces were established.
Task Force – Space and Utilization: This Task Force was asked to prepare a space and utilization guide for the submission to the COU Committee on Capital Financing with a view to the guide being incorporated with appropriate cost data in a capital funds allocation system. Membership consisted of five universities: Brock, Carleton, Guelph, McMaster and Queen's.
- 1972 **Published:** *Building Blocks: Background Studies on the Development of a Capital Formula for Ontario. Volume 1: Report of the Task Force-Space and Utilization.* 1972. (# 72-9)
Published: *Building Blocks: Volume II: Report of the Task Force – Space for Education.* July 1972. (#72-11)
Task Force – Health Sciences (Capital)
Published: *Building Blocks: Volume III: Report of the Task Force – Space for Health Sciences.* Nov 1972. (#72-10)
Task Force – Building Costs: This Task Force was to study and comment on the past costs and quality of university construction and to provide appropriate cost multipliers.
Published: *Building Blocks: Volume IV: Report of the Task Force – Building Costs.* July 1972. (#72-12)
Published: *Building Blocks: Supplement to Volume IV: Elemental Cost Analysis and Performance and Statistical Data – tables.* 1972. (#72-12S)

- Spring 1972 Summary Report, *Ontario Universities Physical Resources Study (TLH)* Report to the Joint Sub-Committee on Capital Studies of the Committee of Presidents of the Universities of Ontario and the Committee on University Affairs.
- 1972 Interim Capital Funding Formula was cancelled.
- Nov. 1972 Committee of Capital Financing established a Standing Sub-Committee to continue the work begun by the task forces, particularly with respect to recommendations in *Building Blocks, Volumes I, II and III*.
- Nov. 1973 Phase II of the building cost study resulted in:
Published: *Building Blocks: Volume V: Report of the Task Force – Building Life Costs*. 1974. (#74-1)
- April 1974 Stemming from recommendations in *Building Blocks, Volume V*, the COU agenda included a Proposal for the Establishment of a Reporting System for Annual Costs of Operating and Maintaining Ontario University Buildings.
- Dec. 1978 Report of the Standing Sub-Committee to the Committee on Capital Financing concerning revisions to Building Blocks:
Published: *Building Blocks: Volume VI: Report of the Subcommittee – Revisions to Building Blocks*. (#78-12)
- This report presents in a single volume the most recent recommendations previously contained in *Volumes I, II and III of Building Blocks*. The first triennial survey is also reported.
- Highlights:
- Ten input measures were reduced to five: FTE undergraduates, FTE graduates, FTE faculty, lab contact hours, and library volumes.
 - All **14 (fourteen)** universities were included in the survey rather than just the original five.
 - Separate sub-categories for Instructional Office were introduced.
 - Variable space factors for Laboratories were adopted to reflect the needs of different disciplines.
- July 1981 **Published:** *Inventory of Physical Facilities of Ontario Universities, 1980-81*. (#81-7)
- July 1984 **Published:** *Inventory of Physical Facilities of Ontario Universities, 1983-84*. (#84-5)

- Dec. 1984 Task Force to Review COU Space Standards was struck.
- 1986-1987 The COU space formula began to be used directly for the allocation of provincial funds. The Ontario Ministry of Training, Colleges and Universities (MTCU) now uses space entitlement as generated by the formula to determine the allocation of repair and renovation funds under the Facilities Renewal Program.
- Nov. 1987 The COU Standing Committee on Space Standards and Reporting was established. Future consideration was to be given to the question of eligibility of federated and affiliated institutions for capital funding.
- Jan. 1988 **Published:** *Building Blocks: Volume VII: The Final Report of the Task Force to Review COU Space Standards. 1986-87 triennial survey published. (#88-1)*
- Highlights:
- o Space factors were converted to metric units.
 - o Five input measures were increased to eight: added FTE non-faculty research appointments; FTE non-academic office staff; and total assignable space.
 - o Instructional labs: some changes were made to the discipline groups.
 - o Research: non-faculty researchers weighted at 50%; discipline group changes.
 - o Office: non-academic office staff included as a new input measure.
 - o Plant Maintenance appears as a separate category.
 - o Changes to formula for Library and Athletics.
- 1988 The Committee on Space Standards and Reporting was created. It replaced the Task Force on COU Space Standards.
- Feb. 1990 A Background Paper Prepared for the Joint Working Group:
University Space Standards in North America.
- Feb. 1990 Report of the Joint Working Group on University Space Utilization:
Classroom Space Utilization in Ontario Universities, 1988-89.
- The review of classroom space and its utilization was carried out to satisfy a concern expressed by the "Ontario Ministry" that classrooms were underutilized and that the COU space guidelines were too generous. Data from a sample of Ontario universities showed that the universities were meeting or exceeding the hours of use per week and percentage of seats occupied in the classroom space factor, and the average area for the different furniture types currently in use was also consistent with the assumption in the formula. The survey also showed that extensive use during the evening was occurring in many institutions.

- Jan. 1991 **Published:** *Inventory of Physical Facilities of Ontario Universities, 1989-90.* (#91-1)
- March 1991 Federated and affiliated colleges to be included in the triennial survey.
- 1992 **Published:** *COU Building Blocks – Users Guide* (first edition).
- Dec. 1993 **Published:** *Inventory of Physical Facilities of Ontario Universities, 1992-93.* (#93-5)
- July 1997 **Published:** *Inventory of Physical Facilities of Ontario Universities, 1995-96.* (#330)
- April 2000 **Published:** *Inventory of Physical Facilities of Ontario Universities, 1998-99.* (#670)
- Jan. 2003 **Published:** *Inventory of Physical Facilities of Ontario Universities, 2001-02.* (#734)
- Dec. 2005 **Published:** *Inventory of Physical Facilities of Ontario Universities, 2004-05.* (#779)