

# **B. C. UNIVERSITIES SPACE MANUAL**

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# B.C. Universities Space Manual

## 1. INTRODUCTION

The purpose of this manual is to bring together the results of two separate studies into one document that provides common definitions of space measurement, input measures and new standards.

The first study was prepared in 1997 by a sub-committee of the University Presidents' Council (TUPC). It examined the Council of Ontario Universities definitions and classifications of university space. The committee recommended their adoption and adaptation for use in the B.C. universities.

The second study was in response to a government directive to develop new more efficient space standards for the universities. New space standards were developed for BC universities\* as an outcome of a year-long review of space standards. The BC Universities Space Standards Report, prepared in 2001, summarizes this review.

This manual has three major components:

- common definitions of space measurement
- common definitions of space categories, and
- common definitions of input measures

As a consequence of the combination of these common elements, a new data reporting system was developed. This new system provides more information than the earlier TUPC reports. The information will be included in the council website at [www.tupc.bc.ca](http://www.tupc.bc.ca).

I would like to thank also those who participated in the studies. I believe the manual will provide clarity in reporting on university space and its utilization.

Dean Goard  
Secretary to Council  
July 2001

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\* The standards, which are developed for traditional universities, exclude RRU and TechBC.

## 2. PURPOSE OF SPACE MANUAL

The B.C. Universities Space Manual is based on the Council of Ontario Universities publication, *COU Building Blocks - Users' Guide* and the U.S. Department of Education publication, *Post-Secondary Education Facilities Inventory and Classification Manual*, as well as the *COU Building Blocks, Volume 1*, and the *AIA Architectural Area and Volume of Buildings*. The information from these documents have been updated and modifications have subsequently been made. The manual also uses the report, *The B.C. University Space Standards*, written by Richard Collier in June 2000 to develop new B.C. Space Standards.

The manual provides common definitions of buildings, measurement standards and room use codes so that the reported space data are consistent and comparable across universities. Common input measures are also provided by space type to provide consistent utilization information.

In the manual physical “facilities” is used as a more generic term to include other types of structures, real property and fixed assets, although “buildings” and “rooms” will typically be the two primary components of a facilities inventory.

Each building and room within a building needs a unique identifier (name, code or number). Each building and room has several “fields” of data for each type or element of information. For example, a given room has a room number, room use category, assignment to function or department, area, etc.

The data on the space inventory at each university, and the activity data (input measures) which are used to determine space requirements as generated by the B.C. University Space Standards are used in a number of ways:

By the Ministry of Advance Education:

1. To support new buildings needs,
2. For the allocation of capital funding for repair and renovation,
3. To evaluate building efficiency during design stage,
4. For cross-university comparison.

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By the Universities:

1. For effective management and use of existing facilities,
2. To support maintenance and operating cost recovery process,
3. To support the space allocation process,
4. For planning for future new buildings,
5. For retirement of obsolete facilities.

The inventory (and input measures) will be updated annually at each university and reported on the TUPC Website.

### **3. SPACE MEASUREMENT**

#### **3.1 BUILDING**

##### ***3.1.1 Definition of “Building”:***

A “building” is defined as a roofed structure for permanent or temporary shelter of persons, animals, plants, materials, or equipment.

The building inventory may encompass many different types of structures, including marine and space structures (whether staffed or not); research vessels; aquarium structures; and trailers that are not on wheels and are used for offices, residences, or storage.

##### ***3.1.2 Buildings to be Included:***

The inventory is to include buildings that are under the jurisdiction or control of the university’s governing board, regardless of their location. Where the university occupies space in buildings not owned by the university or that is shared with other tenants, include in the inventory only that portion of the building leased or controlled by the university and its pro-rata share of Gross, Net Assignable Area and Non-assignable Area (see definitions below).

Universities will normally exclude various minor structures from their inventory based on various criteria. As guidelines, structures should be included in the inventory if all of the following criteria are met:

1. They are attached to a foundation;
2. They are roofed;
3. They are serviced by a utility, exclusive of lighting; and
4. They are a source of significant maintenance and repair activities.

Following these guidelines, an example of a minor structure to be included in a building inventory is a traffic control or information booth, roofed, attached to a concrete pad, with lights and at least one other utility service, and on a regular maintenance schedule.

An example of a separate structure not meeting the above criteria is a bus shelter, which is roofed and attached to the concrete sidewalk, but which has only lights as a utility service.

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Universities should include parking structures and field buildings even though they may not meet all of the above criteria in their inventories because of requirements to manage and maintain such facilities. The inclusion of such facilities permits the space to be assignable to specific functions, disciplines, and organizational units.

### ***3.1.3 Buildings to be Excluded.***

The following types of buildings should not be in the inventory:

1. Investment properties that are buildings used only for revenue generation and not for university purposes.
2. Hospitals not owned by the university, except for any space in the hospital leased or controlled by the university.
3. Public schools not owned by the university, but used for practice teaching.
4. Contract research centres.

### ***3.1.4 Facilities not included in reported inventory, but which may be inventoried by a university:***

For management purposes, universities are encouraged to inventory all physical plant assets. Examples of such assets not encompassed in the definition of a “building” include: uncovered swimming pools, athletic tracks, bleachers and additional playing fields that otherwise do not qualify as gross area.

Universities are also encouraged to itemize the infrastructure components. Examples include utility distribution systems (heating, cooling, power, water, and waste disposal) and support facilities, which provide access or safety related services (roads, campus lighting, etc.).

Additionally, universities may wish to maintain inventory data on land holdings, capital equipment and movable equipment.

**3.2 AREAS: GROSS, NET ASSIGNABLE, NON-ASSIGNABLE, STRUCTURAL**

This section of the manual defines areas and the basis for measurements and the relationships between the several area types. Figure 1 below illustrates the relationships.

**Figure 1**

**GROSS, NET ASSIGNABLE, NON-ASSIGNABLE, STRUCTURAL AREAS**

<b>GROSS AREA (GSM)</b>		
NET ASSIGNABLE AREA (NASM) (COU 1-15, 17-22)	NONASSIGNABLE (COU 16) 16.1 Central utility plant 16.2 Other non-assignable areas Janitorial Mechanical Public washroom Circulation 16.3 Inactive un-assignable	STRUCTURAL AREA

NOTE : NET TO GROSS RATIO = GSM/NASM = 1.x

**3.2.1 Gross Area**

Definition:

The GROSS AREA of a building is the sum of the areas of the floors of the building, including basements, mezzanine and intermediate-floored tiers and penthouses of headroom height, measured from the exterior faces of exterior walls or from the centreline of walls separating buildings.

Basis for measurement:

Gross area is computed by measuring from the outside face of exterior walls, including cornices, pilasters, buttresses, etc., which extend beyond the wall face. This value is either physically measured or scaled from as-built drawings.

Measured in terms of gross square metres (GSM):

Gross Area = Net Assignable Area + Non-Assignable Area + Structural Area

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The footprint of stairways where the stair exceeds 50% of the area of the opening is to be counted as the total opening on each floor. Where the stair is less than 50%, then the stair area only is to be counted. (The bottom level is counted as 100% regardless.)

The area of an individual elevator shaft is counted as gross area on each floor unless the area of the shaft exceeds  $10\text{m}^2$ , then the area is measured on the ground floor only.

Vertical ducts will be included in gross area on each floor unless the area of an individual duct exceeds  $10\text{m}^2$ . Large vertical shafts, ducts or voids exceeding  $10\text{m}^2$ , intended primarily for utility services or movement of air should only be included on the bottom level, similar to an atrium.

Large horizontal ducts for air movement only, exceeding  $10\text{m}^2$  in cross-section, or fewer than 2m in height, should not be included.

### Limitations:

Exclude open areas such as parking lots, playing fields, courts, and light wells, or portions of upper floors eliminated by rooms or lobbies that rise above single-floor ceiling height.

Covered walkways, open roofed-over areas that are paved, unenclosed porches and similar spaces are not included.

### 3.2.2 *Net Assignable Area*

#### Definition:

The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant or specific use.

#### Basis for measurement:

Net Assignable Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Net assignable area is measured at floor plane, to the surface of walls.

See: **Figure 1** and **Appendix A** for areas to be included.

*Assignable Area = Sum of Assignable Space of the Categories 1-15, & 17-20*

The Net Assignable Area of a room, measured in assignable square metres, is the total floor area of the room available to the assigned occupant or use. If the space is prorated, assignable area should be proportionately allocated.

The Net Assignable Area of a building is the sum of the spaces allocated to assigned occupants or uses.

#### Description:

Included are space subdivisions of the major room use categories for assignable space — that are used to accomplish the university's mission.

#### Limitations:

Areas defined as building service, circulation, mechanical, and structural should not be included.

Freestanding columns exceeding 5% of the area of the room in which they are located should be included as structural area (i.e. excluded from net assignable).

### 3.2.3 *Non-Assignable Area*

#### Definition:

The sum of all areas on all floors of a building not available for assignment to an occupant or for specific use, but necessary for the general operation of a building.

#### Basis for measurement:

Non-assignable Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas.

See: **Figure 1** and **Appendix A** for areas to be included.

*Non-assignable Area = Central utility plant + Other non-assignable areas (janitorial, mechanical, public washroom, circulation) + Inactive unassignable*

#### Description:

Included should be:

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

#### Limitations:

Areas defined as assignable are not to be included.

Room types excluded from Category 16 should not be included.

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### 3.2.3.1 Janitorial Area

#### Definition:

The sum of all areas on all floors of a building used for custodial supplies, sink rooms, and janitorial closets.

“Janitorial Area” is the sum of all areas on all floors of a building used for building protection, care, maintenance, and operation.

#### Basis for measurement:

Janitorial area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than 2m clear ceiling height.

See: **Figure 1** and **Appendix A** for areas to be included.

#### Description:

Included should be janitor closets or similarly small cleanup spaces, maintenance material storage areas, and trash rooms exclusively devoted to the storage of nonhazardous waste created by the building occupants as a whole.

#### Limitations:

Areas defined as central physical plant shop areas, or special purpose storage or maintenance rooms, such as linen closets and housekeeping rooms in residence halls, are not to be included.

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### 3.2.3.2 Mechanical Area

#### Definition:

The sum of all areas on all floors of a building designed to house mechanical equipment, utility services, and shaft areas.

#### Basis for measurement:

Mechanical area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than 2m clear ceiling height.

See: **Figure 1** and **Appendix A** for areas to be included.

#### Description:

Included are mechanical areas such as central utility plants, boiler rooms, mechanical and electrical equipment rooms, fuel rooms, meter and communications closets, and each floor's footprint of air ducts, pipe shafts, mechanical service shafts, service chutes and stacks.

### 3.2.3.3 Public Washrooms

#### Definition:

The sum of all areas on all floors of a building used for public washrooms, toilets or rest rooms.

#### Basis for measurement:

Public washrooms are computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than 2m clear ceiling height.

See: **Figure 1** and **Appendix A** for areas for areas to be included.

#### Limitations:

Areas designated as private washrooms are not included.

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### 3.2.3.4 Circulation Area

#### Definition:

The sum of all areas on all floors of a building required for physical access to some subdivision of space, whether physically bounded by partitions or not.

#### Basis for measurement:

Circulation area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas.

When such spaces are not enclosed by walls or partitions, measurements should be taken from imaginary lines which conform as nearly as possible to the established circulation pattern of the building.

See: **Figure 1** and **Appendix A** for areas for areas to be included.

#### Description:

Included, but not limited to, are public corridors, fire escape routes, lobbies, atriums, tunnels, and bridges. Elevators are counted once on the lowest level only. Stairways less than 50% of the opening through which they pass are measured as the area of the stair only.

For large unobstructed areas, building and fire codes require that floor plans of office landscaped areas indicate fire corridors, which must be left unobstructed. In addition, in some work areas subject to congestion, for example, large machine shops or warehousing areas, corridor demarcations may be painted on the floor to indicate fire escape routes or areas that must be left unobstructed for safety reasons. These areas should be included in Circulation.

Routes necessary for general access to blocks of space which would be inventoried within a single subcategory, or corridor spaces which separate areas falling into separate subcategories, should be included in Circulation.

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Single rooms or work areas, plus integral support areas which serve a single purpose, for example: a gymnasium; a block of book stacks; spectator seating areas; or accounts payable offices plus file areas; should not include any spaces within them as Circulation Area. It is general access to the area which is the determinant, not routine movements within those spaces. An interpretive judgment will often need to be made on this space type.

An exception to this rule is where a separate room requires a route through the single use room for exiting purposes. For example, a change room off a gymnasium, with its only exit or a required 2nd exit through the gym, will need a defined circulation route through the gym. See **Circulation Area: Phantom Space**.

### Limitations:

When determining corridor areas, only spaces required for public access should be included. Restricted access private circulation aisles used only for circulation within an organizational unit's suite of rooms, auditoria, or other working areas should not be included.

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

### 3.2.3.5 Circulation Area: Phantom Space:

#### Definition:

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. 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 are considered one use (i.e. COU category 5). However, if an aisle exists, whose purpose is to provide a path through the room rather than access to the stacks, then this aisle is to be considered a corridor (COU category 16) even though there are no actual walls bounding this corridor. The corridor is considered a necessity for the functioning of the building and is not particularly a function of library space. A test of this reasoning is that actual walls could be built to partition the corridor space from the stack area, and the library could still function with access to the stack area by doors off of the corridor.

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### 2. Open concept office:

A large (i.e., 200 square metres or more) open office suite is divided by system furniture into individual work cubicles. To accurately describe the use of the large office suite it is necessary to recognize the office cubicles (COU category 10.1, or 4.1, etc.) and the circulation space which permits movement through the suite but is not part of any specific function in the suite (COU category 16.2).

### **3.3 STRUCTURAL AREA / CONSTRUCTION AREA**

STRUCTURAL AREA is not used for Space Inventory reporting by B.C. Universities. The following definition is provided for information only.

Definition:

The sum of all areas on all floors of a building that cannot be occupied or put to use because of structural building features.

Basis for measurement

Precise computation by direct measurement is not possible under these definitions. It is determined by calculating the difference between the measured Gross Area and the measured Net Usable Area.

Measured in terms of area,

$$\text{Structural Area} = \text{Gross Area} - \text{Net Assignable} - \text{Non Assignable Area}$$

Description:

Examples of building features normally classified as structural areas include exterior walls, fire walls, interior walls, permanent partitions, unusable areas in attics and basements, or comparable portions of a building with ceiling height restrictions.

**3.4 NET AREA / NET USABLE AREA**

Neither NET AREA nor NET USABLE AREA is used for Space Inventory reporting by B.C. Universities. The following definition is provided for information only:

Definition:

The sum of all areas on all floors of a building either assigned to, or available for assignment to, an occupant or specific use, or necessary for the general operation of a building.

Basis for measurement:

Net usable area is computed by summing the assignable area and the non-assignable area. Measured in terms of net usable metres.

$$\text{Net Usable Area} = \text{Assignable Area} + \text{Non-assignable Area}$$

Description:

Included are space subdivisions of the assignable areas (COU 1-15 & 17-22) and non-assignable areas (COU 16).

Limitations:

Areas defined as structural are not included.

**3.5 NET ASSIGNABLE TO GROSS and NET TO GROSS**

The terms or ratios “Net Assignable to Gross” and “Net to Gross” are not used by either the *COU Building Blocks - Users’ Guide* or the *Post Secondary Education Facilities Inventory and Classification Manual*. When these ratios are used in discussions of space at B.C. Universities, the terms “Net Assignable” and “Gross” should be used as defined in this manual.

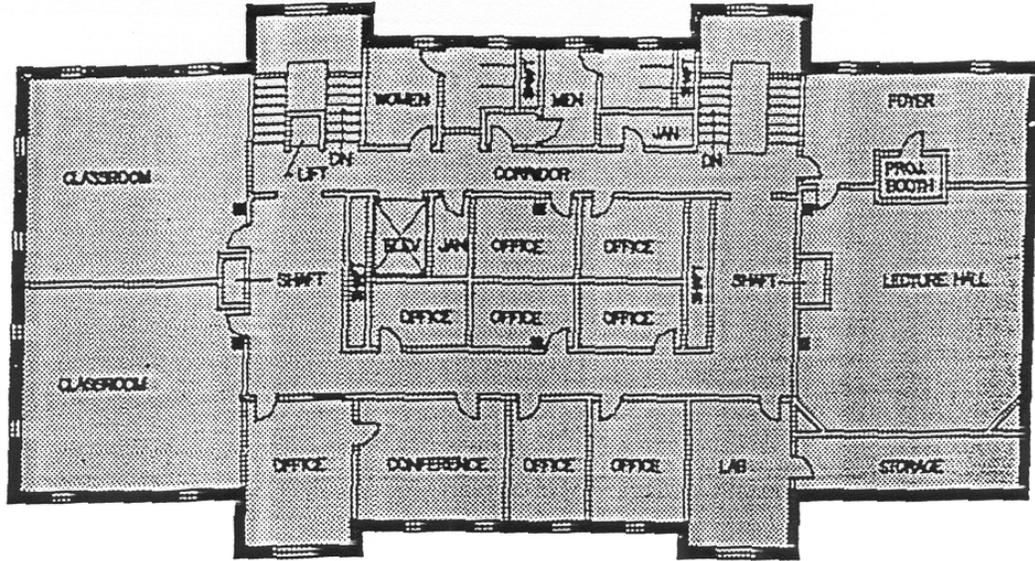
“Net Area” or “Net Usable Area” is not used for Space Inventory reporting by B.C. Universities. When the term is used, however, it should be used as defined in this manual.

When discussing the efficiency of campus buildings, therefore, the measure used at B.C. Universities is the Gross Area in a building divided by the Net Assignable Area.

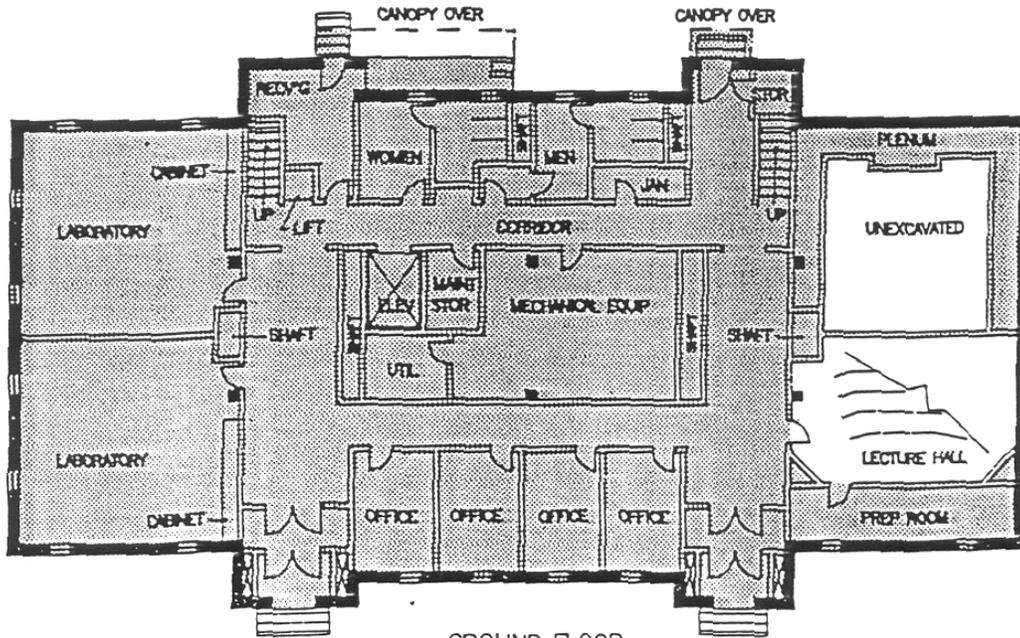
It should be noted that for comparison purposes, this is not the measure used by the commercial building industry, which customarily measures building efficiency as the Net Area in a building divided by the Gross Area. It should be stressed, therefore, that “Net Assignable to Gross” is NOT the same as “Net to Gross”.

FIGURE 2

GROSS AREA



FIRST FLOOR



GROUND FLOOR

COURTESY OF UBC/UMS

FIGURE 3

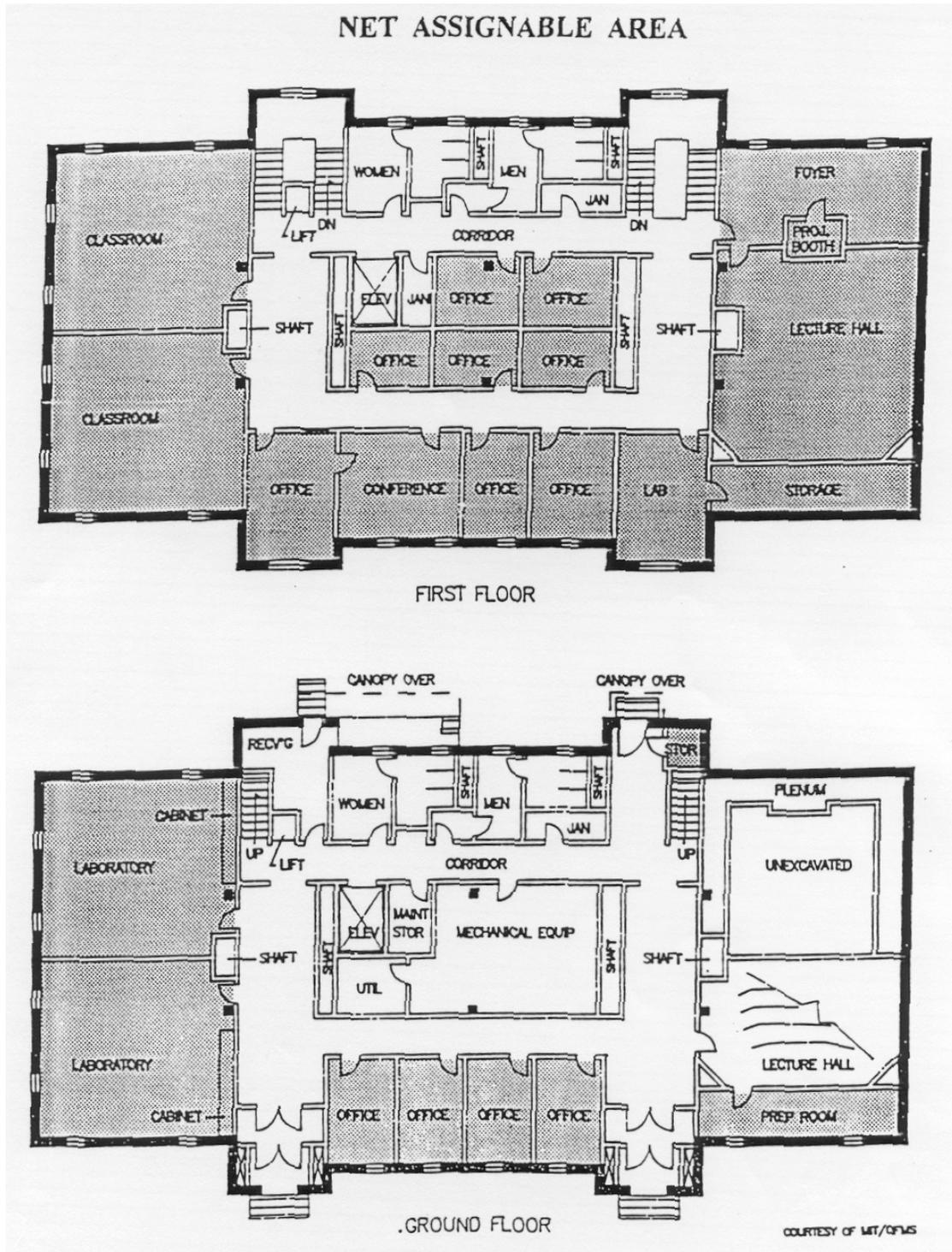


FIGURE 4

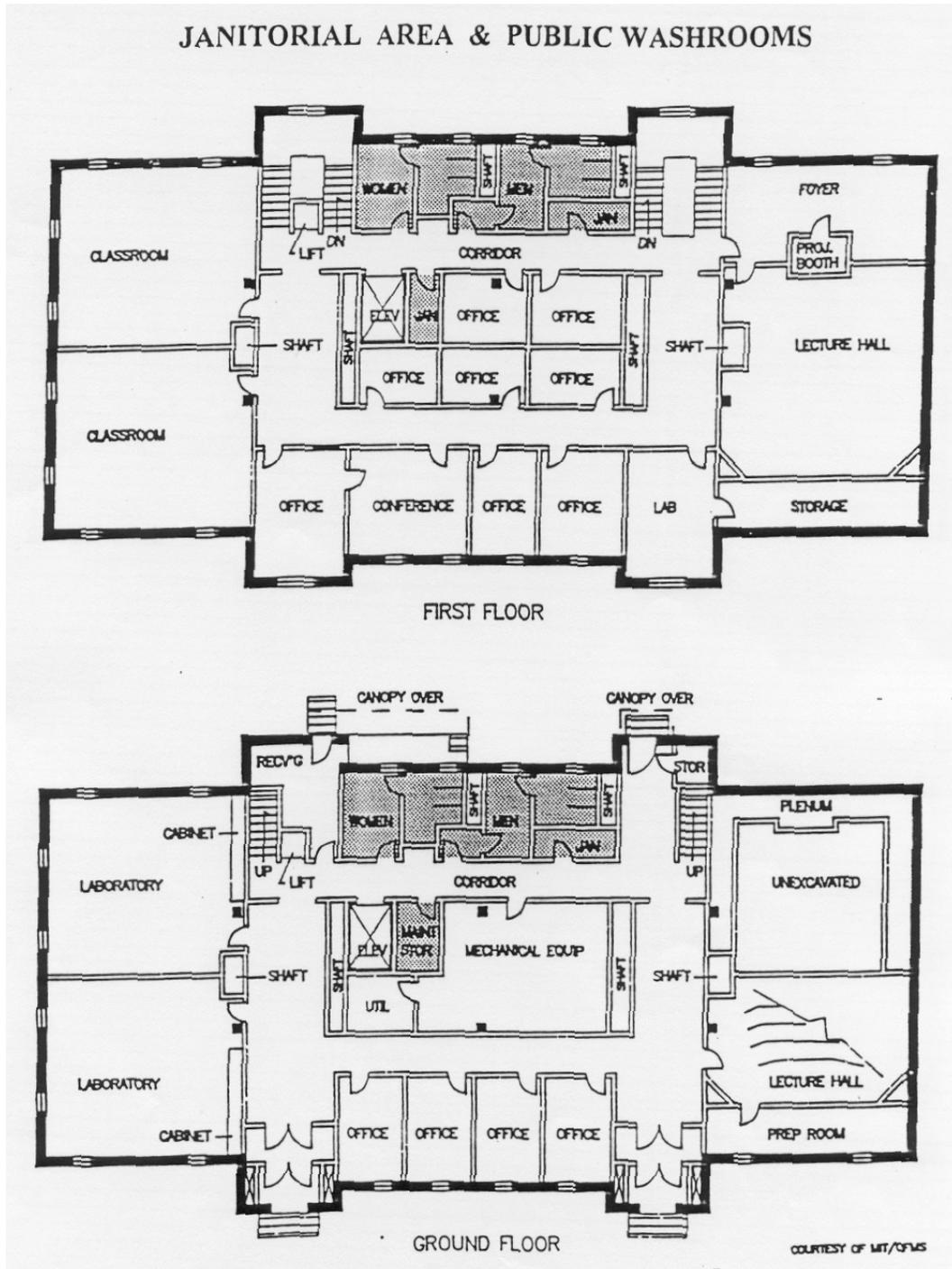


FIGURE 5

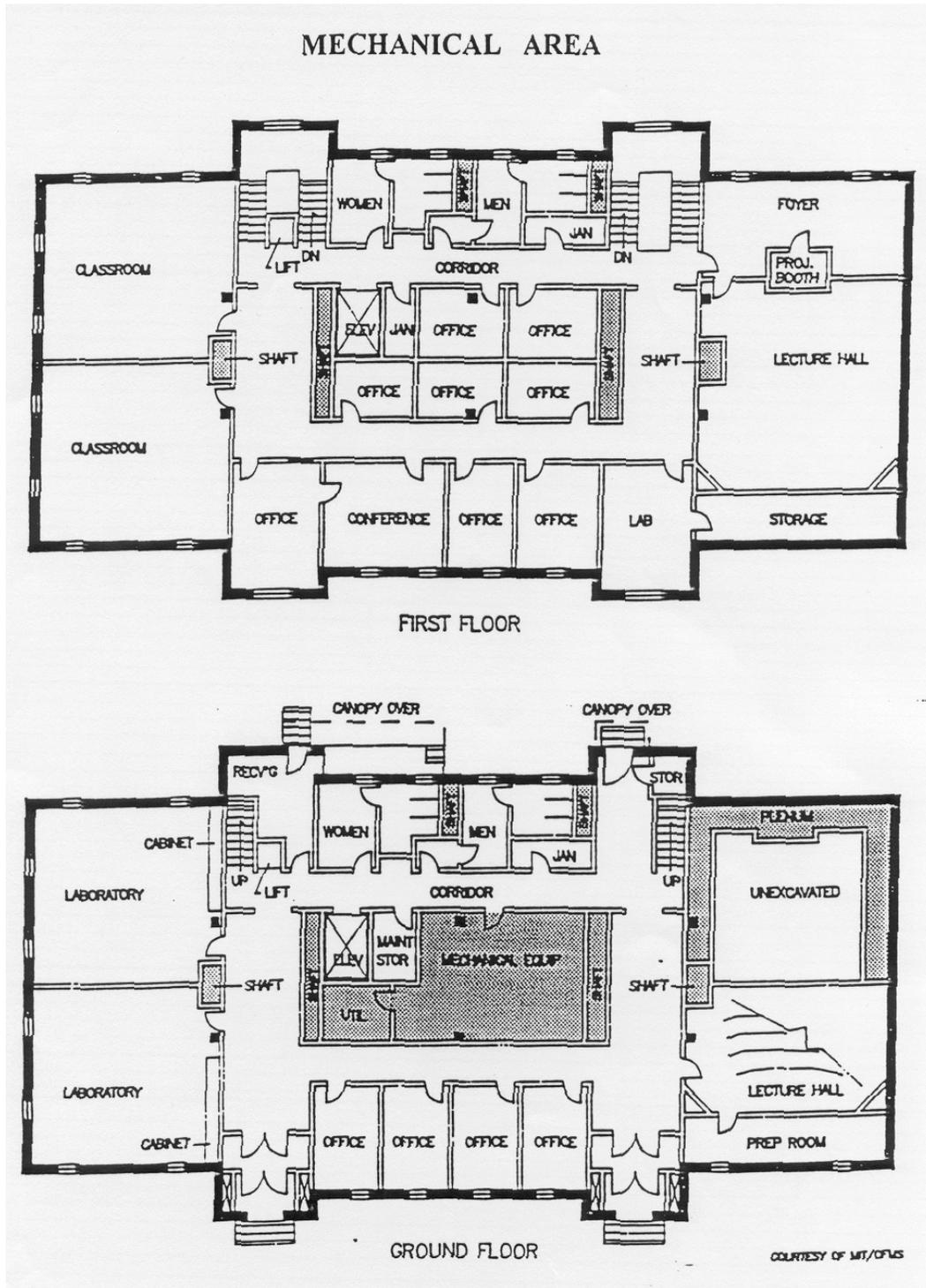


FIGURE 6

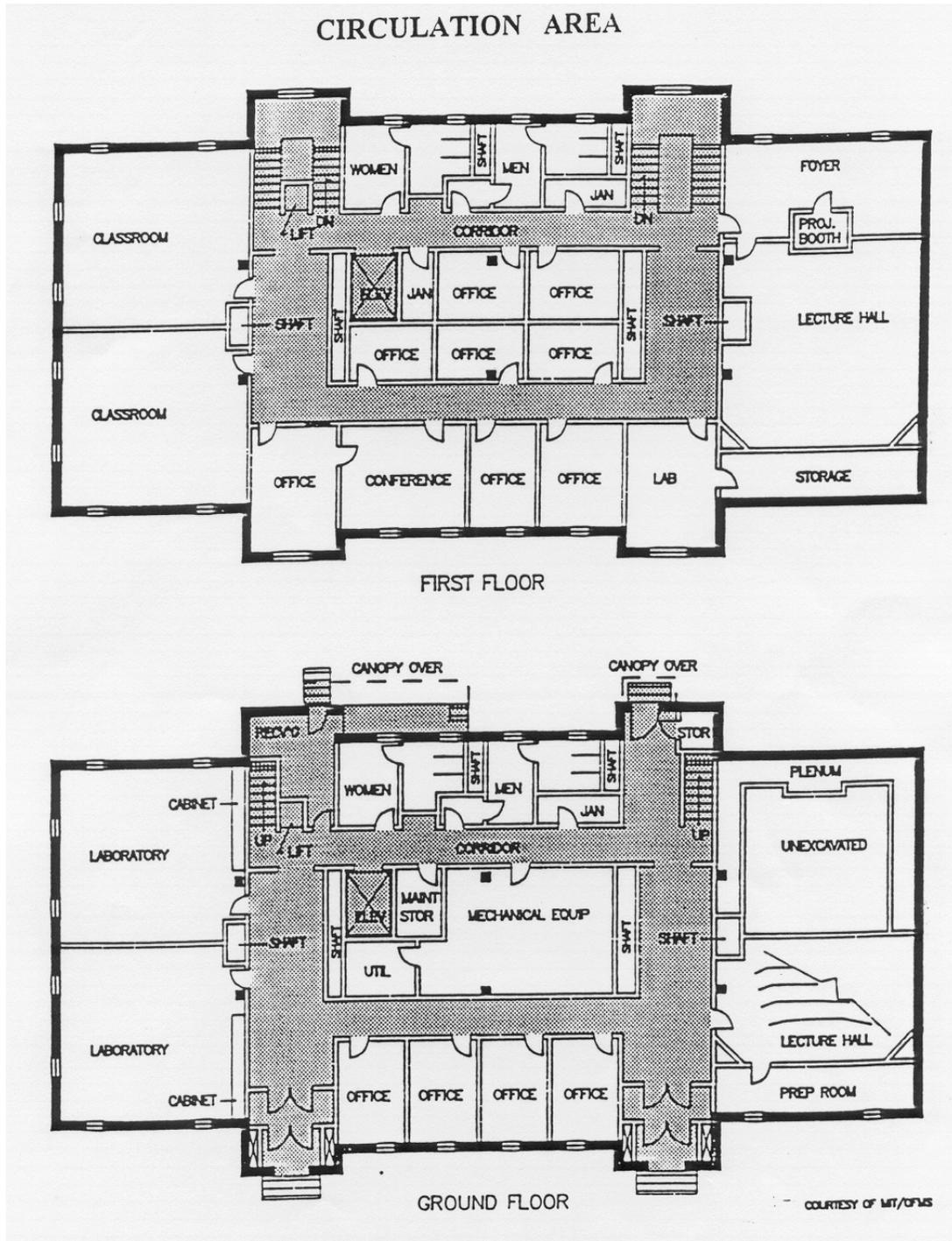
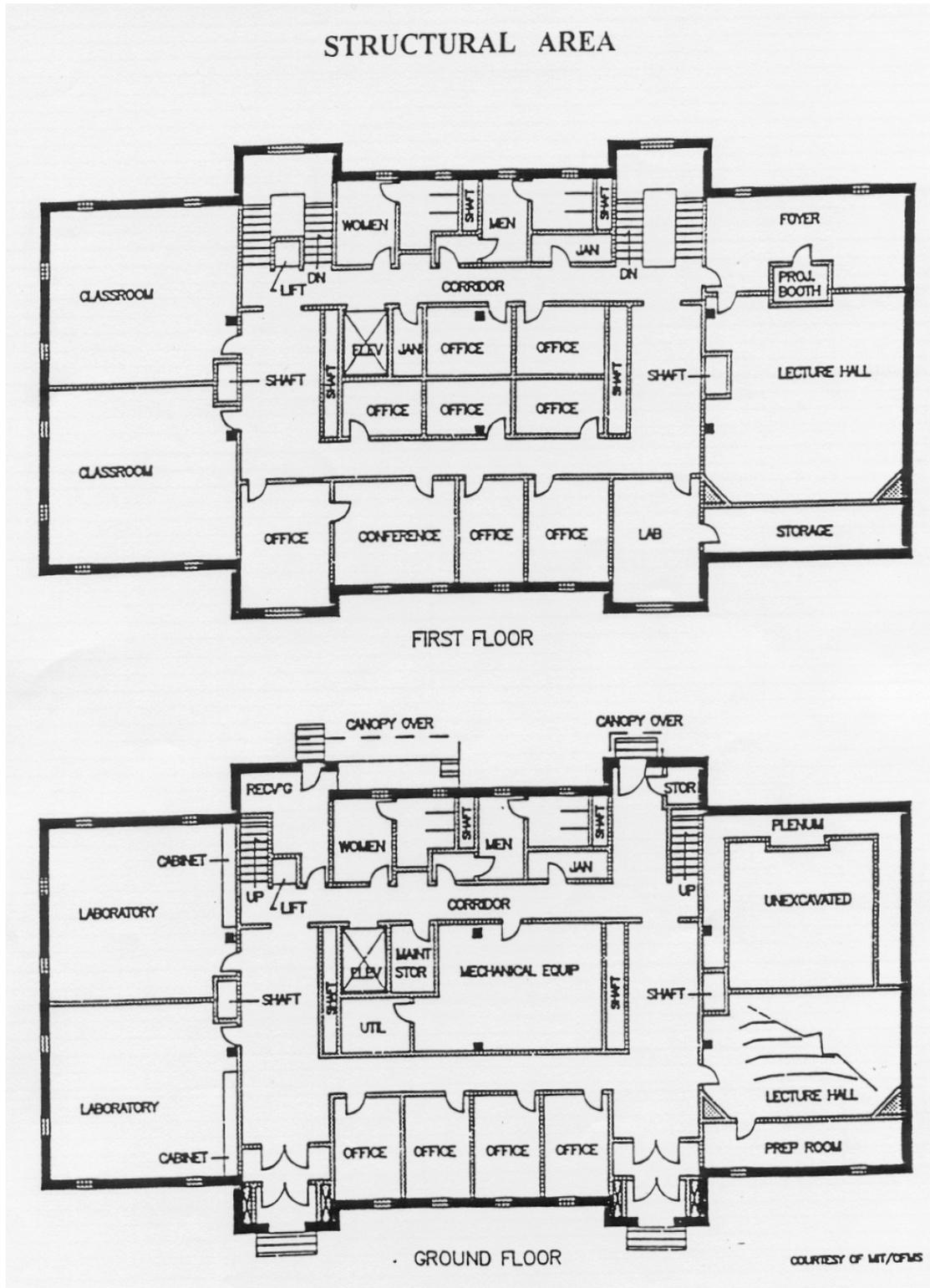


FIGURE 7



## **4. INPUT MEASURES**

Definitions of input measures are provided as follows:

Laboratory Weekly Student Contact Hours

FTE Faculty

Other Research Appointments

FTE Students

FTE Non-Academic Office Staff

The definition of the library materials input measure, expressed as equivalent volumes, is provided in the standards document under Category 5: Library Facilities and Study Space.

### **4.1 LABORATORY WEEKLY STUDENT CONTACT HOURS**

The definition is 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.

Laboratory weekly student contact hours of laboratory instruction pertains to those contact hours of courses or portions of courses in which the instructional activity is facilitated by demonstration or experimentation requiring additional equipment not ordinarily available in classrooms.

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

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

### **4.2 FTE FACULTY**

The university's faculty count includes 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.

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The university may designate each faculty member as full-time or part-time, but such designation should be made with consideration of the expected contribution of the member's time required to fulfil assigned responsibilities.

The full-time equivalent of part-time faculty is derived by dividing the total salary paid to part-time faculty by the average salary of all university full-time faculty.

The term academic appointment will normally be limited to those persons who are in or above the category "Rank below Assistant Professor" (this rank includes lecturers and instructors, and teachers with comparable faculty status) as stated in Statistics Canada reporting. Not included are teachers below the rank of lecturer or equivalent, and ungraded staff.

Included are visiting appointments and faculty on sabbatical or study leave of at least three months' duration.

Excluded are post-doctoral fellows, clinical staff with full- or (the part-time portion of) part-time hospital appointments and faculty on unpaid leaves of absence, deans, vice-presidents and presidents.

### **4.3 OTHER RESEARCH APPOINTMENTS**

Other research appointments are generators of research who are not regular faculty as defined in FTE Faculty, but who have similar research space requirements. This category includes post-doctoral fellows at any salary, and other equivalent-to-faculty research appointments, only if the annualized salary paid via the university (irrespective of the funding source) is normally equal to or higher than an academic appointment. The count date should be November 1<sup>st</sup>. 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.

Excluded are individuals already under others categories, such as faculty, graduate students and administrative staff.

### **4.4 FTE STUDENTS**

The definition of FTE Students is the one used in the BC Universities Database.

### **4.5 FFTE (FALL FTE) UNDERGRADUATE STUDENTS**

The definition of FFTE Undergraduate Students is the one used in the BC Universities Database.

### **4.6 FTE GRADUATE STUDENTS**

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The definition of FTE Graduate Students is the one used in the BC Universities Database.

Note: the number of FTE students reported is the sum of:

1. FFTE undergraduate students x 2,
2. FTE graduate students.

### **4.7 FTE PROFESSIONAL UNDERGRADUATE STUDENTS**

Enrolments for professional programs (used as an input measure for the generation of library study space) are the count of students in post-baccalaureate programs leading to a professional degree. Eligible programs are: Dentistry, Education, Law, Medicine, and Pharmacy.

### **4.8 FTE NON-ACADEMIC OFFICE STAFF**

The full-time equivalent of all filled established positions for secretarial, clerical, professional and management staff with appointments of at least three months' duration as of October 1<sup>st</sup>. Included are non-academic office staff in teaching and research units, library, central computing and data processing, physical planning and plant operations, student services, academic services and administration, not included in other categories. Staff of ancillary operations are excluded. Technicians are also excluded because their office space is generated in the laboratory categories

This definition is based on the instructions for the annual reporting of data on non-academic employees, except that staff paid via the university from all funding sources, rather than operating funds only will be included. Positions that are full-time for 8 months are counted as 0.67. Similarly, half-time positions for 12 months are counted as 0.50.

Staff with offices inventoried in Categories 4 (Academic Departmental Office) or 10 (Administrative Office) are included but reported separately. Staff with offices inventoried in Categories 5 (Library and Study facilities), 8 (Bookstore and other Merchandising facilities), 13 (Health Service) and 17 (Residential Space) are excluded. Academic administrators or professionals already counted as FTE faculty or as other research appointments are also excluded.

## 5. SPACE CATEGORIES AND STANDARDS

### 5.1 CATEGORY TYPES

The categorizing of space has been adopted almost completely from the *COU BUILDING BLOCKS - - USERS GUIDE*, “Space Inventory by Space Category”, with only minor modifications as noted.

All assignable space is classified into one of the 22 major use categories listed below. Each of these broad categories encompasses several sub-categories of more specialized uses. Categorizing of rooms is normally done at the level of subcategories and, as necessary, aggregated to the more general categories.

#### **5.1.1 Categories:**

The COU classification scheme includes 20 categories, and the BC standards include 2 additional categories, for a total 22 categories of space, which are accompanied by definitions aimed at the main intent of the classification. The first 15 of these categories identify the usable or assignable spaces in an university for which space standards could normally be developed, while categories 16 through 20 classify non-formula spaces or highly specialized facilities generally of a unique nature. Two categories added are for Non-University Buildings and Space Pending. The definitions of the space types are mutually exclusive.

#### **5.1.2 Subcategories:**

Each of these 22 initial categories is further classified into one or more subcategories. These subcategories are identified by their names and by examples of specific room types that would likely be included. The examples of room types are neither exhaustive nor mutually exclusive, but are instead intended to characterize the nature of the subcategory. It should be emphasized that all rooms classified into a subcategory must meet the definition of the main category itself.

#### **5.1.3 Exclusions:**

A specific set of *Room Types Excluded* has been specified for most categories of space to assist in the immediate identification of classification problems. For detailed commentary on individual rooms it is recommended that the glossary be consulted.

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### 5.1.4 *Glossary:*

The glossary is intended to be a flexible document which records detailed decisions and trade-offs that have been made in space classification problems. In some cases use of the glossary is probably the only means by which a room could be classified (e.g. see *Computing Facilities*). The glossary therefore, forms an integral part of the classification scheme.

### 5.1.5 *Scope of Inventory:*

The inventory of space that is to be reported is to include all spaces used by the university defined in the classification scheme regardless of whether the space is owned, leased or rented by the university.

Space **used by university agencies** off campus, or in buildings leased to others, is included in the inventory as 21.2: “University agencies occupying non-university space”.

Buildings or sites **leased from the university** for use by agencies other than the university are not included in the inventory by type of category (e.g. laboratory space), but as category 21.1: “Non-university controlled space”.

By this definition, the space reported may include facilities not owned by the university on one hand, or may exclude owned facilities on the other. Owned facilities, which are excluded for example, could be income properties which only incidentally serve the university population. In the broadest terms, the space to be reported should be that necessary and useful to the university in supporting the university and its faculty, staff and students in their mission of instruction, research and public service.

### 5.1.6 *Inactive Assignable (Category 19.5):*

Broadly speaking, the intent of the classification scheme is to classify inactive spaces as either assignable or unassignable. *Inactive Assignable (Category 19.5)* spaces are those which are deemed to be available for immediate occupancy but which had not been assigned to individuals or groups at the time of the survey. These spaces then, are unassigned (to individuals or groups) but are assignable (available for immediate use). Also included in this group would be larger areas constructed, finished and held for future use, or areas removed from active use because of declining needs or lack of operating funds - for example, an entire floor of a building which has been locked and kept under minimum heating. Such spaces, even though they may require some start-up time, should be reported in this subcategory. Further reporting in this subcategory could be spaces of small or moderate size which were unavailable for use for periods of time of up to one-half of an academic term, due to regular maintenance, refurbishing or minor renovations and for which

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the inclusion of the space either here (or for that matter in Categories 1 to 15), would not normally present a distortion of the needs of the university.

### **5.1.7 *Inactive Unassignable (Category 16.3):***

The classification ***Inactive Un-assignable*** (Category 16.3) is reserved for those spaces which would require long lead times and extensive work to make them available for occupancy. Such spaces would include those left unfinished at the time of construction or those undergoing renovations or major repairs requiring large areas of a building to be out of service for many months.

In the case of very extensive renovations, it may in fact be more convenient to consider the building as “under construction” and simply not report the space at all, to list it as Category 22: Space Pending.

### **5.1.8 *Pro-Rationing:***

One of the primary purposes of the classification scheme was to distinguish between spaces that were put to differing uses by means of adequate definitions or, where these judgements were difficult to make, to develop entire new categories to describe those which fell somewhere in between. Pro-rationing should not, in general, be required to distinguish between differing uses or even to describe multiple use facilities. Whole classifications should almost always be attempted on the basis of the closest definition. However there are circumstances where pro-rationing is necessary. For example, laboratory support space used for both teaching and research will be prorated in categories 2 and 3. Large rooms in which there are phantom corridors will have to be prorated between assignable and non-assignable space. An university may also choose to pro-rate space because of internal reporting requirements.

**5.2 SPACE CATEGORIES AND STANDARDS**

***CATEGORY 1 : CLASSROOM FACILITIES***

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

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.

<b>Room types excluded</b>	<b>Category</b>
All instructional laboratory or studio space	2
Assembly facilities (Theatres, Concert Halls, etc.)	15
Conference rooms	4.5 and 10.2

**Classroom Facilities Space Standards Calculation**

$$\text{Classroom Facilities Space} = \text{FTE* Students} \times 1.023 \text{ NASM}$$

\* Full-time Equivalent – see Section 4 for definition

***CATEGORY 2 : LABORATORY - UNDERGRADUATE***

A room used for instruction of undergraduate students which 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, instructional shops, typing laboratories, drafting rooms, art, dance and music studios, music practice rooms, language laboratories, computer terminal rooms 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, drafting rooms, 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.

<b>Room types excluded</b>	<b>Category</b>
Research laboratory space for graduate students and faculty	3
Non-university clinic facilities for health science programs in hospitals or other health care areas	20
Clinic facilities for university health services	13
Athletic facilities	
Service areas for these excluded room types	
Animal areas classified elsewhere	3 and 18
Greenhouses classified elsewhere	3, 9 and 15

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Computer terminal rooms for student use, not in support of scheduled instruction 12.3

Academic office 4

### **Undergraduate Laboratory Space Standards Calculation**

$$\text{Undergraduate Lab Space} = \text{WSLabCH}^* \times \text{Space Factor}^{**}$$

\*Weekly Student Laboratory Contact Hour – see Section 4 for definition

\*\*Space Factor varies by Program Group – see Appendix B for factor

***CATEGORY 3 : RESEARCH LABORATORY SPACE (Graduate & Faculty)***

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 Laboratory space***

Faculty, graduate, and general research facilities.

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

Rooms directly serving one or more research facilities, which directly provide the necessary support to the research functions such as balance rooms, coatrooms, storage areas, dark rooms, technicians' office/workrooms, workshops, animal areas, and greenhouses.

<b>Room types excluded</b>	<b>Category</b>
Undergraduate laboratories and their support space	2
Animal areas classified elsewhere	2, 18
Greenhouses not in support of research	2, 9, 15
Academic office	4
Non-Academic office	10

**Research Laboratory Space Standards Calculation**

$$\text{Research Lab Space} = \text{FTE}^* \times \text{Space Factor}^{**}$$

\* Is the number of Faculty, Graduate Students, or Non-Faculty Researchers.

\*\* Varies by program group and type of researcher – see Appendices B and C

***CATEGORY 4 : ACADEMIC DEPARTMENTAL OFFICES AND RELATED SPACE***

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.

Subcategories

***4.1 Faculty Offices***

Single or multiple-occupancy offices for teaching and research faculty with rank up to and including department chairs.

***4.2 Other academic appointments offices***

Office space used by post-doctoral fellows, visiting professors, adjuncts and other research staff not holding a regular faculty appointment. (*See Section 6.3*).

***4.3 Graduate student offices***

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

***4.4 Departmental support staff offices***

Office space used by demonstrators, technicians, other professional staff, administrative, clerical and secretarial support staff to academic departments.

***4.5 Office support space***

Rooms directly serving office space in this category such as conference rooms, computer rooms not for student use, special reference libraries, file rooms, vaults, duplicating rooms, waiting and reception areas, interview rooms, storage areas, private toilets, lunch rooms, and private departmental lounges.

<b>Room types excluded</b>	<b>Category</b>
Student offices associated with extra-curricular student organizations	14
Graduate laboratory work stations	3
Technicians' offices/workrooms classified elsewhere	2,3,5,11,12

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Office for deans and directors of major academic divisions and their support personnel	10
Offices for general university administration	10
Central duplicating and printing areas	12
Lounges intended for general use	14
All space under the administration of the university library system.	

### Academic Departmental Offices And Related Space Standards Calculation

Faculty Area = FTE Faculty\* x 17.3 NASM

Faculty Supplement Area = FTE Faculty\* x 2.6 NASM

Graduate Student Area = FTE Grad Students\* x 5.3 NASM

Non-Academic Staff Area = FTE Non-Acad. Staff \* x 17.3 NASM  
(Requiring Offices)

\*See Section 4 for definitions

#### Comments

Laboratory technicians, library staff and staff of ancillary units are excluded from the FTE count as their workspace is inventoried in other categories.

Space generated under the formula is to accommodate photocopiers, file storage, conference rooms, departmental lounges, resource rooms etc.

Library office space is included in Category 6 and not in academic departmental space.

### ***CATEGORY 5 : LIBRARY FACILITIES AND STUDY SPACE***

A room or group of rooms used for the acquisition, processing, storage, circulation, study, or use of books, periodicals, manuscripts and other media of published information generally under the administration of the university library system and accessible to the university population at large and rooms directly serving these facilities. (See to Section 3.2.3. for notes on the definition of circulation space within libraries).

#### Subcategories

##### ***5.1 Library Collection Space***

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

##### ***5.2 Study Space***

Library reading rooms, study carrels, open-stack reading rooms and study areas available to the general university population. Study area rooms located in facilities administered by the university library system or in residences or academic departments.

##### ***5.3 Library Support Areas***

Office and related areas for library administration, catalogue area, circulation desk, processing areas, bookbinding and repair areas, acquisition and cataloguing work areas, and library staff lounges.

<b>Room types excluded</b>	<b>Category</b>
Media storage for language laboratories	2
Media storage for audio-visual facilities	11
Media storage for recreational purposes	14
Study areas assigned to individuals for their exclusive use in areas not administered by the university library system	4.3
Special reference libraries & departmental reading rooms not under the control of university library administration	4,11,12 and 19
Faculty and instructional areas associated with academic programs in library science and teacher education	2 and 3

**Library Facilities and Study Space Standards Calculation**

**Library Collection Standards equals the sum of:**

For 10% of the total collection	Equivalent volumes* x 0.004 NASM**
For the next 300,000 volumes	Equivalent volumes x 0.008 NASM**
For the next 300,000 volumes	Equivalent volumes x 0.006 NASM**
For the remainder of the collection	Equivalent volumes x 0.005 NASM**

**Study and Support Space Standards equals the sum of:**

FTE undergraduate student (excluding professional*** FTE) x 0.5 NASM
FTE professional undergraduate student x 1.0 NASM
FTE graduate student x 0.7 NASM

\* See Table 2

\*\* These standards are rounded in the report but are not in the reporting model.

\*\*\* See Section 4 for definition

**Table 2**

**Library Material Equivalencies**

Material	Items	Units	Equivalency
Monograph Volumes (excluding Reference)	125	volumes	125
Reference	45	volumes	125
Documents & Technical Reports	650	reports	125
Archival Materials	6.4	linear metres	125
Serial Volumes – Bound and Unbound	50	paper copy	125
Maps	400	sheets	125
Microfilm	250	reels	125
Microfiche	10,500	items	125
CD-ROM	575	titles	125
Floppy Disks	1,925	units	125
Magnetic Tape	125	units	125
Learning Kits	45	items	125
Audio-Visual Holdings	125	titles	125
Slides	5,040	slides	125
Printed Music	275	scores	125

**CATEGORY 6: ATHLETIC / RECREATION SPACE**

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.

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

**Athletic / Recreation Space Standards Calculation**

Athletic / Recreation Standards = FTE students x 0.710 NASM

Comments

The standards incorporate a sliding scale to ensure that smaller universities, of less than 8,000 FTEs, have a building of at least 4,000 NASM, which is the minimum area feasible to accommodate a pool, gymnasium and support space.

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

Student and Central Services combines food services, bookstore and other merchandising facilities, audio-visual/television facilities, central services, health service facilities, common use and study activity space, and assembly and exhibition space. This combination allows for institutional planning flexibility, according to particular campus requirements.

**Student and Central Services Space Standards Calculation**

$$\text{Student and Central Services} = \text{Student FTEs} \times 1.6 \text{ NASM}$$

The nine Student and Central Services category definitions are listed below.

***CATEGORY 7 : FOOD SERVICE***

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

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.

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

***CATEGORY 8: BOOKSTORE AND OTHER MERCHANDISING FACILITIES***

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

Subcategories

***8.1 Bookstore/Merchandising***

Includes, 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.

<b>Room types excluded</b>	<b>Category</b>
General-use food service facilities	7
Departmental and campus mail rooms	4, 10 and 12
Stores that service a particular department or program	4

***CATEGORY 9 : PLANT MAINTENANCE***

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

Subcategories

***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.

<b>Room types excluded</b>	<b>Category</b>
Office and office related	10
Central utility plant and related	16
Vocational, technical and academic support shops	2 and 3
Security and security related	10
Central stores	12
AV/TV repair shops	11
Computer repair shops	12
Other non-assignable space	16
Greenhouses for teaching and research	2.3

**Plant Maintenance Space Standards Calculation**

Plant Maintenance Space = 1.4% x Inventory Net Assignable Area\*

\*Inventory Net Assignable Area is the sum of Categories 1-15 and 17-20.

***CATEGORY 10 : ADMINISTRATIVE OFFICE AND RELATED SPACE***

A room usually assigned to one or more individuals on a permanent basis containing office-type equipment and used by administrative and support staff, or a room directly serving these facilities.

Subcategories

***10.1 Office areas***

Single or multiple-occupancy rooms for executives, administrative staff, deans and directors of major academic divisions, associate or vice-deans and their immediate support personnel.

***10.2 Office support space***

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

<b>Room types excluded</b>	<b>Category</b>
Office and office-related areas classified elsewhere	4, 5, 8, 13, 14, 17 and 19
Central mail, duplicating and printing areas	12
Lounges intended for general use	14

**Administrative Office And Related Space Standards Calculation**

$$\text{Area} = \text{Number of FTE Non-Academic Staff*} \times 20.0 \text{ NASM}$$

\* See Section 4

***CATEGORY 11 : AUDIO-VISUAL/TELEVISION FACILITIES***

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.

Subcategories

***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.

<b>Room types excluded</b>	<b>Category</b>
Rooms used primarily in support of an academic program	2 and 3
Offices and office-related space serving this category	10
Printing of instructional media	12

***CATEGORY 12 : CENTRAL SERVICES***

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, key-punch areas, 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.

***12.3 Student computer rooms***

Computer or terminal rooms available for use by students for non-scheduled instruction or study.

<b>Room types excluded</b>	<b>Category</b>
Date processing facilities and related areas intended for the sole use of the academic and non-academic staff of a single unit	4.5 and 10.2
Computer rooms for scheduled instruction	2.1
Computer rooms for research	3
Laundry and drying rooms classified elsewhere	6, 8, 17 and 19
Offices and office-related space serving this facilities	10
AV/TV repair	11

***CATEGORY 13 : HEALTH SERVICE FACILITIES***

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

Subcategories

***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.

<b>Room types excluded</b>	<b>Category</b>
Laboratory clinics for teaching or research	2 and 3
Athletic / Recreation first-aid and physiotherapy rooms	6
Clinic facilities for health science programs in hospitals or other health care areas	2, 3 and 20

***CATEGORY 14 : COMMON USE & STUDENT ACTIVITY SPACE***

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

Subcategories

***14.1 Student offices and support space***

Offices and support space for student government, publications, and clubs.

***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.

***14.4 General university study space***

<b>Room types excluded</b>	<b>Category</b>
Athletic facilities, wherever situated, such as gymnasias, pools and basketball, handball, and squash courts	6
Lounges space classified elsewhere	4, 5, 10, 16 and 17
Offices for administrative staff concerned with student affairs and services	10

***CATEGORY 15 : ASSEMBLY AND EXHIBITION FACILITIES***

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

Subcategories

***15.1 Assembly facilities***

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

***15.2 Exhibition facilities***

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

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

***CATEGORY 16 : NON-ASSIGNABLE***

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

16.2.1 Janitorial staff (janitors' closets),

16.2.2 Mechanical and electrical spaces, and incinerator serving one building,

16.2.3 Public washrooms,

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

***16.3 Inactive unassignable***

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

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### **Room types excluded**

### **Category**

Circulation aisles within single rooms or work area (including their integral support areas) e.g. a block of bookstacks, auditoria, accounts payable office with their file areas or spectator seating areas are considered part of the appropriate space category.

Custodial lunch, locker, shower and change rooms 9.1

Offices for custodial supervisors and plant engineers 10

***CATEGORY 17 : RESIDENTIAL SPACE***

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

Subcategories

***17.1 Residence living space***

Single or multiple-occupancy bedrooms, apartments or other residential units (corridor).

***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, and administrative offices in direct support of residential facilities.

<b>Room types excluded</b>	<b>Category</b>
General use lounges	14
General use recreation areas	14
General use study and library areas	5
Food services and merchandising (coded elsewhere)	7 and 8

***CATEGORY 18 : ANIMAL SPACE***

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.

**Room types excluded**

**Category**

Short-term holding and care of animals either before or following surgical or other investigative treatment, located on campus and closely related to academic departments.

- in support of teaching 2
- in support of research 3

Specialized facilities within central animal areas which are in direct support of research by one or several academic departments such as operating suites 3

***CATEGORY 19 : OTHER UNIVERSITY FACILITIES***

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

Subcategories

***19.1 Day care facilities***

***19.2 Rifle ranges and other space in support of military training***

***19.3 Merchandising facilities 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***

Space which are deemed to be available for immediate occupancy but which have not yet been assigned to individuals or groups

***19.6 Non-university agencies occupying university space***

***19.7 Instructional service activities to the external community.***

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### ***CATEGORY 20 : HEALTH SCIENCE CLINICAL FACILITIES***

Space owned or operated by the university that is used in direct support of instruction, research and service for clinical health science disciplines.

#### Subcategories

##### ***20.1 Health science clinical facilities***

Health care areas, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms and service and supply areas;

##### ***20.2 Clinical instructional and research space***

All space in support of clinical instruction, research and service;

##### ***20.3 Space funded by Ministry of Health (i.e. not reported by university)***

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.

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

***CATEGORY 21 : NON-UNIVERSITY BUILDINGS***

Subcategories

***21.1 Non-university controlled space***

Space owned or leased and operated by agencies other than the university on university campus.

***CATEGORY 22: SPACE PENDING***

Space under construction, or not yet occupied.

Space for which information is lacking.

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Richard Collier, 2001

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### 7. GLOSSARY

Type of Space	Definition	Category
Animal Space	1. Rearing, conditioning,, and holding facilities before animals are ready or required for teaching and research purposes, located either on or off campus	18,20
	2. Facilities for long-term holding and care of animals following surgical or other investigative treatment, located either on or off campus	18,20
	3. Short-term holding and care of animals either before or following surgical or other investigative treatment, located on campus and closely related to academic departments. <ul style="list-style-type: none"> <li>- in support of teaching</li> <li>- in support of research</li> </ul>	2 3
	4. Animal operating suites either for the use of one or several academic departments, located either on or off campus	3
Clinical Facilities	1. Formerly known as Z-formula space. All space owned or operated by the university that is used in direct support of instruction, research and service in the <u>clinical</u> disciplines of Medicine and Veterinary Medicine	20
Coatrooms	see Lockers	
Computing Facilities	1. Centrally located and providing campus-wide services to both academic and non-academic sections of the university	12
	2. Located in space of an academic division for its convenience, in support of instruction, or research, or both, but available also for general use by all sections of the university	12
	3. Located in space of an academic division and fully used by that division for combinations of instruction, research, and administration	12
	4. Located in space of an academic division for a specific use by that division as for example: <ul style="list-style-type: none"> <li>- for scheduled instruction in the use of computer equipment</li> <li>- for service to research by departments of the division</li> </ul>	2 3

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Type of Space	Definition	Category
Demonstration Schools	1. Facilities generally integrated with university facilities, in which children receive regular school instruction and are available for practice teaching and observation	19
Examination Rooms	1. Space used exclusively or primarily for examination purposes throughout the academic year	1
	2. Space used only occasionally for examination purposes as for end-of-term examinations, the primary use of which is for other purposes, classified in the category of its primary use as for example:	
	- an arena or gymnasium used for final examinations	6
	- a meeting or assembly hall used for final examinations	15
Greenhouses	1. Primarily in support of undergraduate instruction	2
	2. Primarily in support of graduate instruction and research.	3
	3. Primarily in support of university grounds keeping	9
	4. Primarily for exhibition and display purposes	15
	5. For farm use	18
Inactive Space	1. Space available for occupancy but not assigned at the time of the survey	19.5
	2. Space not available for occupancy which was left unfinished at the time of construction	16.3
	3. Single rooms or small groups of rooms not available for occupancy due to repairs, renovations, or remodeling to be reported in the category of its intended <u>future</u> use	19.5
	4. Non-university agencies occupying university space	19.6
	5. Buildings under construction are not to be reported	4
Kitchenette	1. For an academic department	4
	2. For an administrative department	10
	3. For general lounge service	14

## B.C. Universities Space Manual

<b>Type of Space</b>	<b>Definition</b>	<b>Category</b>
Class Laboratories	1. Primarily used for scheduled instruction, classified as Scheduled Class Laboratory Space	2
	2. Used in an unknown fashion or intended for scheduled use but just not used at the time of reporting, classified as Scheduled Class Laboratory Space	2
	3. Primarily used for informal or irregularly scheduled instruction, and for practice, classified as Unscheduled Class Laboratory Space	2
Language Laboratories	See Class Laboratories	
Lockers	1. In support of a particular room, classified in the category of the space it supports, as for example: — for a classroom	1
	— for a teaching laboratory	2
	— for a cafeteria	7
	2. For the general use of the students in a building	14
	3. Lockers in corridors	16
Lounges	1. For the private use of an academic department	4
	2. For the private use of library staff	5
	3. For the private use of a department in central administration	10
	4. For the general use of students of staff or both regardless of where located	14
	5. For general use in residences	14
	6. For the private use of occupants of residences	17

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Type of Space	Definition	Category
Lunch, Locker, and Change Rooms	1. In support of a particular kind of space to be and classified in the category of the space it supports, for example:	
	- for physical education	6
	- for a bowling alley	14
	- for a research lab	3
	2. Provided for the exclusive use of people as necessary in the performance of their jobs, to be classified as the characteristic kind of space for that department, for example:	
	- for food service staff	7
	- for security patrolmen	10
	- for maintenance personnel	9
Mail Rooms	1. A central facility for sorting and distributing mail for the campus	12
	2. Canada Post Office	8
	3. A room for sorting and distributing mail for:	
	- academic departments	4
	- central library	5
	- service departments and central administration	10
Media Storage (Recorded Music)	See Music Scores Storage and Tape Storage	
Merchandising	1. Products or services provided by the university of a commercial enterprise renting space from the university	
	- exclusively or primarily for the university population as for example a textbook store	8
	- exclusively or primarily to the non-university community as for example a bank, public office, or commercial building	19
Music Practice Rooms	See Class Laboratories	2
	See Residence	17
Music Scores Storage	1. For music studios or practice rooms as part of instruction in music	2
	2. For instruction or research, and located in libraries	5
	3. For music listening and recreation, and available to the university population at large, not in the central library	14
	4. For the exclusive use of occupants of residences	17

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Type of Space	Definition	Category
Offices	1. For faculty, post-doctoral fellows and other equivalent-to-faculty research appointments, and graduate students	4
	2. For the most senior academic administrator in a major division of the university, usually called a dean or director, and their immediate support personnel	10
	3. For academic heads of single academic departments or small groups of closely related programs, usually called a chairman or department head but sometimes called a dean or director, especially of a school	4
	4. For shared support personnel between the above two categories	10
	5. For departmental support staff	4
	6. For library staff	5
	7. For central administrative staff	10
	8. For managers and administrative staff of merchandising operations providing services exclusively or primarily for the university population.	8
	9. For recreation/athletic staff	10
	10. For food service staff	7
	11. For maintenance staff	10
	12. For custodial supervisors	10
	13. For AV-TV staff	10
	14. For central services staff	10
	15. For medical doctors, nurses, and administrative staff engaged in providing health care to students	13
	16. For student clubs or student government	14
	17. For technicians - see Technicians' Space	18
	18. For research associates - see Research Assistants' Space	
Research Assistants' Space	1. Space primarily used as work rooms rather than offices, classified as research support space	3
	2. Space containing only office-type equipment, assigned to individuals, classified as departmental office space	4

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Type of Space	Definition	Category
Special Reference Libraries	1. Reference libraries and reading rooms, not under the Administration of the central library system, usually containing specialized or selected materials or special study facilities classified as part of the space they occupy as for example:	
	- in an academic department	4
	- in computer facilities	12
	- in residences	17
Special Subject Rooms	1. For scheduled instruction in non-laboratory oriented subjects for which the space per station is larger than for a normal classroom to accommodate special arrangement of stations or equipment as for example in faculties of Education and Law	2
Stores and Storage	1. Central receiving and storing of equipment, materials, and supplies for university-wide use	12
	2. Storage areas within individual departments, classified in the category of the space they support as for example:	
	-classroom storage	1
	-department office supplies storage	4
	-building and grounds maintenance storage	9
- residence storage	17	
Study Space	1. Library study space for general or assigned use, under the administration of the university library system	5
	2. Departmental study space for general or assigned use, under the administration of the central library system	5
	3. Departmental study space for general or individual use, but restricted to individuals associated with the department (graduate student offices)	4
	4. Other departmental study space for undergraduate students in support of laboratory instruction (unscheduled class lab)	2
	5. Study space in residences for the exclusive use of the residents and not part of departmental or university library space	17
	6. General University study space	14

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Type of Space	Definition	Category
Tape Storage	1. In direct support of teaching	2
	2. In libraries	5
	3. In support of AV-TV	11
	4. Computer tape storage	12
Technicians' Space	1. Space which may contain a desk but is primarily used as a work room rather than an office, classified in the category of space it supports, as for example:	
	- for teaching laboratories technicians	2
	- for research technicians	3
	- for AV-TV technicians	11
	- for technicians in central services	12
	2. Space containing only office-type equipment, classified in the category of the office space of the department in which the technician works, as for example:	
- in teaching laboratories	4	
- in research laboratories	4	
- in AV-TV	10	
- in central services	10	
Unassigned or Unfinished Space	See Inactive Space	
Unscheduled Class Labs	See Class Laboratories	

**APPENDIX A**

**GROSS AREA INCLUSION BY SPACE TYPE**

Typical Floor	100%
Two-Story Room/Auditorium	100%
Mezzanine over 2m	100%
Penthouse over 2m	100%
Penthouse under 2m	0
Enclosed Entrance/Porch	100%
Unenclosed Porch	0
Balcony	0
Garage/Underground Parkade	0
Open Area Under Building	0
Roofed-Over Areas that are Paved	0
Carport/Canopied Area	0
Covered Paved Walkway	0
Basements/Tunnels/Pipe space over 2m with Slab	100%
Basements/Tunnels/Crawlspace/Pipe Space under 2m with Slab	0
Unfinished Basements/Duct or Pipe Trenches without Slab	0
Pilasters (Exterior)	100%
Chimneys	100%
Roof Overhangs	0
Exterior Terraces or Steps	0

Note: Full Height/Headroom Height = 2m (6'6")

**APPENDIX B**

**UNDERGRADUATE LABORATORY SPACE STANDARDS**

Group W: Agriculture, Engineering, and Veterinary Medicine	0.7 NASM
Group X: Chemistry, Fine Arts, Geology	0.6 NASM
Group Y: Anthropology, Geography, Psychology	0.4 NASM
Group Z: Commerce, Mathematics, Sociology	0.3 NASM

**APPENDIX C**

**RESEARCH LABORATORY SPACE STANDARDS**

- Group A: Chemistry, Dentistry, Geology
- Group B: Civil Engineering, Forestry, Metallurgy
- Group C: Anthropology, Electrical Engineering, Geography (Physical)
- Group D: Geography (Human), Kinesiology, Library Science
- Group E: English, Mathematics, Sociology

<b>Laboratory Use Type And Input Measure</b>	<b>Group</b>	<b>Space Factor (in NASM)</b>
<i>Research Lab – Faculty</i>		
FTE Faculty	A	34.5
	B	23.0
	C	15.3
	D	7.7
	E	0.8
<i>Research Lab – Graduate Student</i>		
FTE Graduate Student	A	17.3
	B	11.5
	C	7.7
	D	3.8
	E	0.4
<i>Research Lab – Non-Faculty</i>		
FTE Non-Faculty Researcher	A	17.3
	B	11.5
	C	7.7
	D	3.8
	E	0.4

**APPENDIX D**

**Program Classification for Labs and Research Space**

The following classification scheme developed by COU (1995) is used to classify program groups for purposes of determining space factors.

<b>Code</b>	<b>Program/Discipline</b>	<b>Category 2 Group W - Z</b>	<b>Category 3 Group A - E</b>
<b>1.00</b>	<b>EDUCATION</b>		
1.18	Elementary/Secondary Teacher Training	Y	E
1.23	Higher Education, Post-Secondary Teacher Training	Y	E
1.36	Kindergarten, Pre-School Teacher Training	Y	E
1.38	Non-Teaching Fields (School Librarianship, Education Administration, Guidance)	Y	E
1.39	Physical Education	Y	D
1.40	Kinesiology, Human Kinetics and Kinanthropology	Y	C
1.41	Recreation	Y	D
1.99	Other, not specified elsewhere	Y	E
<b>2.00</b>	<b>FINE &amp; APPLIED ARTS</b>		
2.03	Fine Art	X	D
	Visual Arts		C
	Fine Arts, Art Conservation		D
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 specified elsewhere	X	E
<b>3.00</b>	<b>HUMANITIES &amp; RELATED</b>		
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	Other Languages and/or Literatures (Comparative Literature, Medieval, Asian and Slavic Languages)	Z	E
3.12	Library Science	Z	D
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 specified elsewhere	Z	E

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Code	Program/Discipline	Category 2 Group W -Z	Category 3 Group A-E
<b>4.00</b>	<b>SOCIAL SCIENCES &amp; RELATED</b>		
4.03	Anthropology	Y	C
4.06	Archaeology	Y	D
4.08	Canadian Studies	Z	E
4.09	Other Area Studies (Medieval, Asian and Slavic Studies)	Z	E
4.12	Commerce, Management, Business Administration	Z	E
4.13	Criminology	Z	E
4.14	Specialized Administration Studies (Public, Health, Hotel and Food Administration))	Z	E
4.15	Demography	Y	D
4.27	Economics	Z	E
4.30	Geography – Physical	Y	C
4.30	Geography - Human	Y	D
4.33	Law and Jurisprudence	Z	E
4.40	Human/Environmental Studies (Rural, Urban Planning and Resource Management)	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 Studies	Z	E
4.99	Other, not specified elsewhere	Z	E
<b>5.00</b>	<b>AGRICULTURAL &amp; BIOLOGICAL SCIENCES</b>		
5.03	Agriculture (Animal, Plant, Soil Science)	W	A
5.06	Biochemistry	X	A
5.09	Biology (Genetics, Microbiology)	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 Science and Nutrition)	Y	D
5.21	Veterinary Medicine	W	A
5.22	Veterinary Sciences	W	A
5.23	Veterinary Medicine Specialties	W	A
5.24	Zoology	X	A
5.25	Toxicology	X	A
5.99	Other, not specified elsewhere	X	A

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Code	Program/Discipline	Category 2 Group W – Z	Category 3 Group A - E
<b>6.00</b>	<b>ENGINEERING &amp; APPLIED SCIENCES</b>		
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	B
6.09	Electrical Engineering	X	B
6.10	Industrial Engineering	W	B
6.11	Mining Engineering	W	B
6.12	Mechanical Engineering	W	B
6.13	Metallurgical Engineering	W	B
6.14	Other Engineering	W	B
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 specified elsewhere	W	B
<b>7.00</b>	<b>HEALTH PROFESSIONS &amp; OCCUPATIONS</b>		
7.03	Dentistry (Professional)	X	A
7.04	Dental Specialties	X	A
7.05	Medicine (Professional)	X	A
7.06	Basic Medical Sciences (Anatomy, Biochemistry, Physiology, Genetics, Biophysics, etc.)	X	A
7.08	Medical Specialties	X	A
7.10	Paraclinical Sciences (Microbiology, Immunology, Pathology) Report as Category 20		
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	B
7.27	Rehabilitation Medicine (Aural & Oral Rehabilitation, Occupational & Physical Therapy)	X	C
7.36	Medical Technology	X	B
7.99	Other, not specified elsewhere	X	A

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<b>Code</b>	<b>Program/Discipline</b>	<b>Category 2 Group W – Z</b>	<b>Category 3 Group A - E</b>
<b>8.00</b>	<b>MATHEMATICS &amp; PHYSICAL SCIENCES</b>		
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 (Climatology)	X	A
8.27	Oceanography and Water Studies	X	A
8.30	Physics (Astronomy, Aerospace Sciences)	X	A
8.99	Other, not specified elsewhere	X	A