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Space Guidelines Checklist

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Dalhousie FAMIS Project Number: _____

 Consultant Name Consultant Signature Date YYYY MM DD

 Project Manager Name Project Manager Signature Date YYYY MM DD

Note: If the Guidelines or part of cannot be attained or fulfilled (i.e. NC or NA) during the design process, the Consultant should provide reason(s) why such Guidelines are not met. Any modification or alterations to the design guidelines will need to be agreed/accepted by Facilities Management prior to inclusion in the design.

A. INTRODUCTION

An institution such as Dalhousie has a large number of individuals involved in diverse and often complex teaching and research activities. To avoid inequities and to sort out competing demands for the same space among users, there must be space use policies or guidelines and space standards and procedures for allocating and reallocating space. An increase in undergraduate and graduate enrollment accompanied by a general increase in research activities has made policies, standards and procedures necessary.

General agreement has been expressed for a University-wide set of policies and procedures governing space use, providing a basis for dealing with specific space allocation problems.

B. SPACE USE POLICIES

The following policies and guidelines should govern all space in the University:

- SPACE OWNERSHIP

Although space is allocated to the faculties, departments and specific users, all space is owned by the Corporation of the University. With this ownership, the University has the responsibility to keep this space in good order in terms of maintenance, services, cleaning, etc., and to provide the appropriate amount and type of space to approved University activities.

- SPACE ALLOCATION

Space is allocated to specific users for certain periods of time. For example, classrooms are allocated for hour-long slots whereas, at the other extreme, offices and research space are allocated for longer periods of time. This longest period should not exceed five years, and space use should be reviewed periodically, and space assignment reconfirmed accordingly.

For all users and all categories of space, space standards will be used to assess space needs. These space standards may be adjusted in accordance with the total amount of space available. In this way, an overall space shortage or surplus can be handled fairly. In many cases existing uses and space assignments may not meet the standards and subsequently will not face an unfair imposition of these standards. However, any reallocation, renovation, or provision of new building space shall conform to the university space standards as closely as possible.

- EFFECTIVE USE OF SPACE

Space provided to every use shall be suitable in terms of size, quality, and location, and uses of a similar nature or uses that are functionally related may require proximity. University departments should not be fragmented and whenever practical, should have had their office, lounge, laboratory, and support activities located contiguously. Adequate furnishings and furniture must also be provided by the University.

Each space allocated to a department or a user shall be used efficiently in terms of utilization of space over time. A space that is used infrequently may require introduction of a similar and compatible approved University use to increase its utilization to a level which is consistent with standards of utilization across the University.

If a specific space is underutilized, there will be an opportunity for peer review in consultation with the Office of Space Planning and Scheduling. Final arbitration will rest at the vice-president level in inter-faculty disputes.

- SHARING OF SPACE AND FUNCTIONS

To avoid duplication of space, equipment, and staff services, and to avoid unnecessary costs, as much space as possible should be shared by the departments. This applies especially to machine shops, electronics shops, animal rooms, audio-visual areas, storage areas, etc. If there is more than one user, procedures should be developed for priorities of services if this is necessary.

- ACCESS TO SPACE

Three categories of access are required. These are: general access, limited access, and restricted areas. General access space, including classrooms, lounges and other general University facilities are shared by all departments, students, and staff. Limited access space, which includes undergraduate laboratories, meeting rooms, study spaces, etc., can be made available to users on a limited basis. Restricted access space, which comprises research laboratories, offices, and specialized support areas is only available to certain individuals or to particular groups. When allocations are made, space can be designated "limited" or "restricted" access.

C. SPACE STANDARDS

Quantitative space standards are required as guidelines for allocations so that available space can be matched to need. These standards are designed so that each function will have the appropriate assignment of space. Secondly, space standards are necessary to ensure that the University's space resource is shared equitably among all users.

For some functions, there is an absolute relationship between space and use; a consistent standard can be set. For example, an optimum study carrel size can be determined and applied across the University. However, some activities, such as research, are unique and more difficult to apply. In such cases, the functions may be broken up into smaller components, and standards will be applied to those sub-activities that are smaller.

In Appendix A, suggested space allowances for academic functions and administrative support are listed as far as they are determined within the proposed "Policies, Standards, and Procedures for Space Use at Dalhousie University".

Estimates of academic space requirements are made through use of a Space Planning Formula, which basically calculates the

Allowance of space per user x number of users = formula space need for each type of user

The sum of space needs for all types of space uses plus space allowances for special needs constitute the total formula space need for academic unit. Such estimates are only guidelines and are used for space planning purposes; they present the starting point for the allocation of physical space at the University.

- TEACHING LABORATORIES

For the most part, the laboratory requirements for each program area are assessed separately and are provided on an as-needed basis. There are a number of criteria which determine whether a particular laboratory is needed or not, and if it is, the number of rooms and sizes required. The following points are normally considered:

- a) necessity of a facility to ensure the academic integrity of a program,
- b) type and level of activity,
- c) amount of scheduled use,
- d) amount of unscheduled use (e.g., practice time, project work),
- e) numbers and variety of users,
- f) optimum section sizes.

It is recognized that laboratories cannot be scheduled at a utilization rate as high as classrooms, but it is beneficial from a standpoint of economics of operation to schedule as many activities into a laboratory as is feasible.

A science laboratory may be used as an example for the determination of laboratory needs. For example, the Department of Biology offers a number of undergraduate programs which requires students to take courses in a variety of subject areas. The study of animal physiology is a subject area, which is important to all zoologists and most biologists. The following table lists the courses, which can be taught in a physiology laboratory:

Physiology Laboratory

Term: 1

Program	Year	Course or Activity	Hours/Week	Enroll	Section Size	# of Section	Section Hours
B. Sc.	3	BIOL 3050A Developmental Biology	3	65	24	3	9
B. Sc.	3	BIOL 3070R Principles of Animal Physiology	3	26	20	2	6
B. Sc.	3	BIOL 3071R Physiology of Marine Animals	3	19	20	1	3

Total Section Hours

18

The above table is based upon actual information provided by the Department of Biology. Although course 3050A is not strictly a physiology course, it does have requirements very similar to those of physiology courses. Because this course will not place any special demands on this laboratory, it can be accommodated in this space. With these three courses, a bench-equipped laboratory with 24 student stations, perimeter work areas, demonstration area, and preparation and storage room should be provided. An allocation of 4.0 square metres (43.06 square feet) per student will provide sufficient total area for the benches, work and demonstration areas. Another 2.0 square metres (21.53 square feet) will be required for the storage and preparation of materials and equipment.

While 18 hours of scheduled use is not high utilization, it is acceptable. Furthermore, this utilization provides unused time for student practice and additional teaching sessions, should these develop. If there is a substantial increase in the number of courses and/or enrollments, more physiology laboratories may be required.

The area allocations or space standards for student stations and support spaces are best estimates based upon the type and level of activity: for example, fourth-year honors students will require significantly more space (per student) than will first year students. Because there are such of large number of laboratory types and special conditions, a listing of unit area standards is not included in this document.

- **GRADUATE STUDY SPACE**

It was recommended that each full-time graduate student be provided with a study space or workstation. Fourth year honors students should have access to a workstation or study space if their studies require this. These needs must be included in a department's space needs. A number of additional study spaces should be provided to accommodate part-time students and fluctuations in full-time enrollments. Study spaces for about ten percent of the total full-time graduate population should be provided in the libraries. An area allowance ranging from 2.5 to 5.0 square metres (27 to 54 square feet) per station is recommended. The specific allocations will depend upon the types and levels of activities of particular graduate students. For example, humanities students spend a significant amount of time in the library and will require an area at or close to the lower limit.

Graduate study spaces can be distributed throughout the campus as shared private offices, as a component of workstations in research laboratories, lockable carrels in study rooms or lockable carrels in libraries. It is recommended that graduate students not be given more than one study space; that is, if a student is assigned a study space within his department then he should not have one in the library. Undergraduate study space should be accommodated in specified areas of the libraries.

- **STUDENT LOUNGES**

Space standards for student lounges can be determined through the use of the following equation:

$$\text{Lounge Area} = \text{SRT} \times 0.03 \text{ m}^2$$

Where SRT is equal to the total number of undergraduate students registered in credit courses for any given academic year.

SRT's can be for either a single department or any number of aggregations (e.g., an entire faculty or a number of users of same buildings).

Lounges can be distributed throughout all buildings in a variety of sizes, and can be combined with study spaces and faculty lounges. For example, the Department of economics presently has about 780 students in their courses, which translates into a

lounge area of 23.4 square meters (250 square feet). This area could be set up as a single lounge for students if the department is in its own building, combined with faculty lounge to create a large facility, or, if the department is in a large building with other departments, a department can combine its allocation with the other users to form a single large lounge.

In departments with primarily graduate student enrollment, a separate assessment of lounge space needs will be made by the Office of Space Planning and Scheduling. This assessment will depend on the number of full-time and part-time students and whether other lounge space is already available.

- **ACADEMIC OFFICE SPACE**

This category includes space for full-time and part-time faculty, post-doctoral fellows, research assistants, senior research assistants, visiting scholars and scientists, technicians, and professors emeritus who require offices and related service functions such as consulting services, etc. This category does not include departmental administration offices and faculty clerical staff; teaching and department administration staff has been separated.

Each full-time teaching staff member should have an enclosed private office. Only one office per faculty member is normally required, however those with cross-appointments of at least 50% need an office in the department. Also, in special cases it may be necessary to assign a project office; for example, if several faculties are working on a combined project which consumes a considerable amount of space and involved material which cannot be disturbed, a special project office may be assigned.

For staff that is not full-time, it is difficult to set a standard for office assignment. Staff may have a minimal teaching load and may be heavily involved in other academic or related activities. Each situation requires separate analysis. The amount of time that the individual spends in an office should be the basis for allocations of space. For non full-time staff, a private office should not be assigned if the approved University appointment is less than 50%. For an appointment of between 15% - 49%, a shared office can be provided. For less than 15% a work place can be accommodated on a first-come-first-served basis.

The area allocations for space can be as follows:

Position	Area m ²	Area ft ²
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Full-time teaching staff	11.0	120
Special needs (computer or drafting board in office)	14.0	150
Shared office (5.5 m ² each)	5.5	60
P.D.F., research and support staff who require an office	8.0	86
Research staff, technicians, etc. who require a work station and not an enclosed office	5.0	55

Where post-doctoral fellows have laboratory space, an office is not required.

- FACULTY ADMINISTRATION OFFICES

This category is concerned with academic administration functions rather than University Administration services. This category includes offices for deans and support staff, chairmen or directors, administrative assistants, secretarial and clerical help, and any other organizations, which are part of or are related to a faculty or department.

For deans, there is a large variation in the numbers of staff, ranging from 2 to 29 positions, and existing allocations vary considerably. The suggested standards for deans' offices are as follows. Additional space has to be provided for waiting areas, files and supplies, copy rooms, etc.

Position	Area m ²	Area ft ²
Dean's office	28.0	300
Dean's work room	8.0	86
Associate dean	12.0	130
Assistant dean	11.0	120
Executive officer	12.0	130
Administrative assistant	9.4	100
Secretary to the dean	9.4	100
Secretaries, clerks, typists	5.0	55
Waiting, files and supplies, printers, etc.	As needed	As needed
Council or meeting rooms	As needed	As needed

The standards suggested for departmental office areas are shown below. As before, additional allowances must be made for waiting space, file and supply areas, and copy rooms. Position titles vary considerably from department to department, and general descriptions have been used on the accompanying table.

Position	Area m²	Area ft²
Chairman or director	18.0	194
Administrative assistants, executive secretaries, managers, advisors, etc.	9.4 to 12.0	100 to 130
Secretaries, clerks, typists per station (in an open office area)	5.0	54

A general office including all ancillary space should not be smaller than 10.0 square metres (107.65 square feet).

- MEETING ROOMS

A multi-purpose room should be assigned to each academic department. This room can be used by the department for meetings, small classes, and seminars. The area allocations should depend upon the size of the department; that is, the number of full-time faculty. For large departments, it may not be necessary to have meeting rooms sized to accommodate all faculty. For these meetings, other areas such as council rooms, seminar rooms, or conference rooms can be used. The following areas are recommended:

Number of Faculty	Area m²	Area ft²
10 or less	14.0	150
11 to 25	28.0	300
26 or more	35.0	375

It should be noted that for small departments, it might be beneficial to combine their meeting room with those of other departments to create rooms of greater flexibility.

- FACULTY AND STAFF LOUNGES

The faculty and staff of a department should have access to a lounge. An area allocation of 1.0 square metre (10.77 square feet) per faculty staff member (full-time) is recommended. If a department has less than 11 full-time personnel, then the area allocation should be combined with another department until the total area is at least 11.0 square metres (118.42 square feet). The seating capacity can be determined in the same manner as student lounges. As with student lounges, faculty and staff lounges can be combined with other lounges.

D. PROCEDURES FOR SPACE MANAGEMENT

New and changing space needs arise constantly in a complex institution such as Dalhousie. These may be a result of increases in faculty, research grants obtained by the academic staff, the establishment of additional programs or institutes, increases in student population, growth of collections, reorganization, or other elements in the University.

Space supply increases less readily. Even when space becomes available because faculty has decreased, or there are fewer students, this does not automatically free up space for other uses. For effective space management, procedures must be instituted to recognize space shortages or surplus, coordinate the required changes, and in cases of dispute, a method of resolving conflicts, decision-making, appeal and arbitration must be established. Such a process is currently being developed. More specific guidelines will follow.

E. FACILITIES PLAN

An overall facilities plan should be adopted for a five-year period to guide the use of costly facilities and ensure that existing space is used effectively. The plan should be in response to problems and priorities of the University and should be updated annually to ensure that the plan reflects current and emerging needs. The plan will serve as a guide to allocations, renovations, and additions.

- BUDGETARY PROVISIONS

A facilities plan is an important aspect of short-term and long-term space planning and can only be implemented if appropriate budgetary provisions are made for renovations, alterations, and, if necessary, construction of new buildings. This is an ongoing priority for the university's long-term budgetary plans.

F. ANALYSIS OF SPACE USE

From time to time, space use should be appraised to identify or confirm shortages or qualitative deficiencies, recognize surplus, and assist in the evolution and refinement of the facilities plan. The University Administration has the responsibility to keep the plan updated and assist users to resolve their space problems within the limits of the University's resources.

- COMPETING DEMANDS FOR THE SAME SPACE

In many instances, users from different departments compete for the same space. Each user may consider the other's demands less important than his own. These competing demands must be resolved by determination of need. If a department has excess space, in relation to the standards, the surplus or a portion of the department's

allocation can be reassigned. As much as possible, space reallocated should be at the department's "boundary area", rather than in the location of its "restricted access" space. This may require rearrangement of rooms within the departmental area. If use of policies and standards does not resolve the problem, then the problem must be resolved as follows:

- a) within an academic department by the department chairman,
- b) between departments by the Vice-president (Finance and Administration),
- c) between deans by the Vice-president (Academic and Research),
- d) similarly, in non-academic departments by independent higher authority.

- RESEARCH SPACE

This space presents particular difficulties as it is varied in scale, does not coincide with start/finish times of other activities, and is usually unique. University space standards are difficult, if not impossible, to develop for research space. As a turnover of space is usually required to accommodate new research programs, the following guidelines can be used to assess space needs and priorities:

Research supported by University approved grants or University approved contracts take precedence over research not so supported. Space cannot be held or reserved for possible long-term research needs.

If space is to be reallocated, it shall be done taking into account the following factors:

- a) scientific or scholarly merit,
- b) amount of activity, number of individuals involved actively in the research in that space, and demonstrated space need,
- c) track record on research grants: growing, steady, or declining,
- d) recognition of emerging scholarship,
- e) the cost of refurbishing and re-equipping the space to accommodate the changes or new use.

A combination of these factors will determine the priority of need.

Within a discipline or department, assessment of need according to the above criteria should be determined by peers. If this is not possible, the assessments should be made by the Vice-president, Research, the appropriate Senate committee, or the Chairman of the Research Committee. More specific guidelines on research space will be developed.

**APPENDIX A
SPACE ALLOCATION STANDARDS**

CLASSROOMS

AREA ALLOCATIONS PER STATION
FOR VARIOUS CLASSROOM TYPES AND CAPACITIES

Seating Capacity	Fixed Chairs or Tablet Arms (Area m ²)	(ft ²)	Loose Tablet Arms (Area m ²)	(ft ²)	Fixed Desks or Tables (Area m ²)	(ft ²)	Loose Desks or Tables (Area m ²)	(ft ²)
1 - 5	-	-	-	-	-	-	2.6	28.0
6 - 10	-	-	-	-	-	-	2.5	26.92
11 - 15	-	-	-	-	-	-	2.4	25.84
16 - 20	-	-	1.6	17.22	1.7	18.3	2.4	25.84
21 - 25	-	-	1.6	17.22	1.7	18.3	2.3	24.76
26 - 30	-	-	1.6	17.22	1.7	18.3	2.2	23.68
31 - 35	-	-	1.5	16.15	1.7	18.3	2.1	22.61
36 - 40	-	-	1.5	16.15	1.6	17.22	2.0	21.53
41 - 50	-	-	1.5	16.15	1.6	17.22	1.9	20.45
51 - 60	1.4	15.1	1.4	15.1	1.6	17.22	1.9	20.45
61 - 70	1.4	15.1	1.4	15.1	1.6	17.22	1.8	19.38
71 - 80	1.3	14.0	1.4	15.1	1.5	16.15	-	-
81 - 90	1.3	14.0	1.3	14.0	1.5	16.15	-	-
91 - 100	1.2	12.92	1.3	14.0	1.5	16.15	-	-
101 +	1.2	12.92	1.3	14.0	1.5	16.15	-	-

INSTRUCTIONAL LABORATORIES

Requirements for each program area are to be assessed separately; however, certain generally applicable standards are listed below:

Area allowance suggested for instructional laboratory space:

- 1) 3 - 3.5 square meters (32 - 38 square feet) per student station for laboratories 30 stations and more
- 2) 4 - 5 square meters (43 - 54 square feet) per student station for laboratories 10 - 20 stations
- 3) 5 -12 square meters (54 - 129 square feet) per student station for laboratories 10 - 15 stations or less

These area allowances are designed to satisfy the needs of an individual student station, perimeter benches, a demonstration bench for the instructor, and circulation space. Storage space, instructional resource and demonstration preparation spaces have to be calculated. In addition, instructor's working stations also have to be considered.

COMPUTER TERMINAL ROOMS

Area space allowance for computer terminal rooms is calculated at about 2.55 square metres (27.45 square feet) for normal sized terminals, and 2.25 square metres (24.22 square feet) for microcomputers.

This allocation allowance takes working tables, instructor's desk, and circulation space into consideration.

FACULTY ADMINISTRATION OFFICES

<u>Dean's Office</u>	<u>Area m²</u>	<u>Area ft²</u>
Dean's Office	28.0	300
Dean's Workroom	8.0	86
Associate Dean (Full-time)	12.0	130
Assistant Dean	11.0	118
Executive Officer	12.0	130
Administrative Assistant	9.4	100
Secretary to the Dean	9.4	100
Secretaries, clerks, typists	5.0 (each)	54

Additional space has to be provided for waiting areas, files and supplies, copy rooms, etc.

<u>Departmental Offices</u>	<u>Area m²</u>	<u>Area ft²</u>
Chairman or Director	18.0	194
Administrative Assistants,		

Executive Secretaries, Managers, Advisors, etc.	9.4 - 12.0	100 - 130
Secretaries, clerk, typist (per station)	5.0	54

A general office including all ancillary space should not be smaller than 10 square metres.

<u>Meeting Rooms</u>	<u>Area m²</u>	<u>Area ft²</u>
For departments of:		
10 or less faculty	14.0	150
11 to 25 faculty	28.0	300
26 or more faculty	35.0	375

Faculty and Staff Lounges

Per full-time faculty/staff member - 1.0 square meter (10.765 square feet) area allowance; lounges should be at least 11 square metres (118.42 square feet).

For less than 11 full-time faculty/staff member departments, lounges should be combined with other departments.