



13 February 2019

To: Vancouver Senate

From: Senate Academic Building Needs Committee

Re: Report of the Senate Academic Building Needs Committee

The Senate Academic Building Needs Committee recommends the following:

Motion: *That the report of the Senate Academic Building Needs Committee titled "Suitability and Usage of Learning Spaces" be received.*

Respectfully submitted,

Dr. Michael Isaacson, Chair

Senate Academic Building Needs Committee

The University of British Columbia
Senate Academic Building Needs Committee

Suitability and Usage of Learning Spaces



[from: learningspaces.ubc.ca]

February 2019

SUMMARY

This report outlines a study undertaken by the Senate Academic Building Needs Committee on the suitability and usage of learning spaces at UBC. The report provides relevant background information; summarizes feedback obtained through a consultation with the academic community; describes an analysis of classroom usage; considers a range of issues that have been identified; and provides a set of findings and suggestions.

The Committee has found that Facilities Planning and Scheduling Services provide an outstanding level of service in relation to their respective portfolios; that the quality of learning spaces overall is excellent; and that the process for annual improvements to learning spaces is transparent and fair.

One key issue relates to the lack of sufficient large classrooms with respect to higher priority access for some faculties. A second key issue relates to assuring a scheduling system that is effective, efficient and fair, recognizing that some units undergo undue hardship due to the lack of higher priority access to large classrooms, and that a large number of manual interventions are required to accommodate all users, and yet recognizing also that some units desire that local scheduling control is preserved. Scheduling Services is to be commended for embarking on a project intended to improve scheduling taking account of these considerations and new classrooms that are being planned. In the interim, potential short-term improvements to the current scheduling approach intended to address the most severe hardships are proposed. The report also includes a number of other suggestions, directed primarily to Facilities Planning and Scheduling Services.

TABLE OF CONTENTS

	Page
SUMMARY	i
1. INTRODUCTION	1
1.1 Introduction.....	1
1.2 Study Topics	1
1.3 Study Approach	2
2. BACKGROUND INFORMATION	3
2.1 Categories of Space.....	3
2.2 Space Assignments, Reassignments and Agreements	4
2.3 Scheduling General Teaching Spaces.....	5
3. CONSULTATIONS	7
4. ANALYSIS OF CLASSROOM USAGE.....	8
4.1 Restricted Classrooms.....	9
4.2 General Classrooms	11
4.3 Tiered Access.....	14
5. CONSIDERATION OF ISSUES.....	17
5.1 Establishing Learning Spaces	17
5.2 Quality of Learning Spaces and Facilities	18
5.3 Assignment, Reassignment & Specified Usage of Learning Spaces.....	20
5.4 Restricted Classrooms.....	20
5.5 Classroom Scheduling	21
5.6 Thursday Break	24
5.7 Research Seminars.....	26
6. SUMMARY FINDINGS	26
APPENDIX I. MATERIALS CONSIDERED BY THE COMMITTEE	28
APPENDIX II. CONSULTATION – INVITATION FOR FEEDBACK.....	29

1. INTRODUCTION

1.1 Introduction

During 2017/18, the Senate Academic Building Needs Committee (SABNC) heard that the suitability and usage of learning space remains a significant issue for some segments of the academic community at UBC, and therefore it decided to undertake a study of this topic as part of its work-plan for 2017/18 and 2018/19.

The mandate of the study is to review various aspects of the suitability and usage of learning spaces at UBC, and thereby develop a report to Senate that includes findings and suggestions relating to the quality and adequacy of learning spaces and to the effective, efficient and fair use of these spaces.

It should be noted at the outset that the Scheduling Services unit within Enrolment Services¹ is undertaking a larger scale, longer-term project focused on classroom scheduling of general teaching space. The current study has a broader mandate and has taken the form of a general review, so that the Scheduling Services project and the current study are considered complementary.

The study has been conducted by the committee-as-a-whole. The Committee has the following membership: Simran Brar (Student Senator, 2017/18), Austin Chen (Student Senator, 2018/19), Danika Coulbourn (Student Senator, 2017/18), Adlai Fisher (Commerce & Business Administration), Katie Gourlay (Student Senator, 2018/19), Séan Haffey (Convocation Senator), Michael Isaacson (Applied Science, Committee Chair), André Ivanov (Joint Faculties), Philip Loewen (Science), Sarah Ngo (Convocation Senator), Nick Pang (Student Senator, 2018/19), Pam Ratner (Vice-Provost & Associate Vice-President, Enrolment and Academic Facilities), Kate Ross (Associate Vice-President, Enrolment Services and Registrar – non-voting), Thomas Schneider (Graduate & Postdoctoral Studies), Mike Stewart (Convocation Senator), and Lisa Wang (Student Senator, 2017/18).

The Committee is grateful for the extensive support, advice and contributions provided by Facilities Planning within Infrastructure Development and Scheduling Services within Enrolment Services. We are especially grateful to Jodi Scott (Facilities Planning), Leanne Feichtinger (Facilities Planning), Annie Yim (Enrolment Services) and Oana Toma (Scheduling Services) for their very helpful support, advice and contributions.

1.2 Study Topics

A wide range of considerations relate to the suitability of the University's learning space inventory and to the effective, efficient and fair use of learning spaces at UBC. Specific aspects that the Committee has considered include the following:

- The process, priorities and designations of establishing learning spaces through new capital

¹ In this report, Scheduling Services is referred to with respect to the day-to-day activities of this unit, whereas Enrolment Services is referred to with respect to the higher-level authority relating to Scheduling Services activities.

projects, as well as the associated process and priorities with respect to classroom improvement projects.

- The suitability of classroom configurations and facilities, including AV standards and classrooms with specialized technologies.
- The assignment and reassignment of learning spaces as Restricted Teaching Space and General Teaching Space, with the latter including the designation of Tier 1 and Tier 2 access spaces with respect to specific course codes. (The terminology used is described below.)
- Course scheduling and bookings that are undertaken in an efficient, effective and fair manner, recognizing a multitude of priorities, criteria and constraints.

The Committee decided not to give consideration to other aspects of teaching space usage, including usage during the summer terms, examination scheduling, non-standard and ad hoc room bookings, and the use of non-classroom spaces (e.g. laboratories).

1.3 Study Approach

The Committee undertook its work on the basis of the following steps:

- The Committee was provided with, and undertook a review of relevant policies, guidelines, reports and studies – as listed in Appendix I.
- The Committee heard three presentations relevant to its work:
 - *UBC Vancouver Booking Guidelines for General Teaching Space* (Oana Toma, Manager, Scheduling Services; Annie Yim, Associate Registrar, Student Records & Systems Management), January 23, 2018
 - *Learning Spaces Overview* (Jodi Scott, Senior Learning Space Planner, Facilities Planning), April 24, 2018
 - *Academic Course Scheduling Guidelines* (Oana Toma, Manager, Scheduling Services; Annie Yim, Associate Registrar, Student Records & Systems Management), September 18, 2018
- The Committee sought data and undertook an analysis relating to classroom usage.
- The Committee obtained input and feedback from representatives of the academic community, both in writing and through an open forum.
- Based on the above steps, the committee developed a draft report, and sought additional feedback from Facilities Planning and Scheduling Services.
- The Committee thereby developed its final report for submission to the Senate.

2. BACKGROUND INFORMATION

At the outset, it is appropriate to identify the various categories of spaces, and the current approaches to assigning spaces and to scheduling spaces.

2.1 Categories of Space

Through UBC Policy 107, *Booking and Rental of UBC Space*, the University defines types of bookable spaces to include those listed below.

Teaching Space

- *Restricted Teaching Space*: "... to be used for that faculty's or department's teaching needs, with ancillary use in periods of low academic utilization for UBC-hosted academic functions (conferences, symposia, etc.) only."
- *General Teaching Space*: "... to be used for the teaching needs of faculties or departments, in addition to the faculty or department in whose facility the space is located."

Non-Teaching Space

The policy also defines non-teaching spaces to include "*Designated Facility and Designated Administrator*" spaces ("... there must be a faculty, department or unit responsible for administering bookings ..."), and "*Research, Administrative and Ancillary Space*" ("... may be used for the academic, research, ... needs of UBC and/or the faculty or department in whose facility the space is located ...").

Tiered Access

General Teaching Spaces are further categorized with respect to specific course codes as follows:

- *Tier 1 access* space refers to general teaching spaces that designated course codes have priority to book during a prescribed time interval.
- *Tier 2 access* space refers to general teaching space that may be booked for any course code, once the assigned period for Tier 1 bookings has passed.

Teaching Space Types

Teaching Spaces are further categorized in UBC's space inventory, conforming to the British Columbia University Space Manual, as classrooms and teaching labs:

- *Classroom Space* includes lecture theatres, classrooms, seminar rooms, and associated support spaces.
- *Teaching Lab Space* includes wet and dry labs, studios, and computer rooms used for teaching purposes, and associated support spaces.

All Teaching Lab Spaces correspond to *Restricted Spaces*, whereas *Classroom Spaces* correspond to either *General Teaching Spaces* or *Restricted Spaces*. This report gives consideration to *Restricted Classroom Teaching Spaces and General Teaching Spaces*, including

Tier 1 and Tier 2 access designations. It does not give consideration to Teaching Lab Spaces (restricted) or to non-teaching spaces as identified above.

2.2 Space Assignments, Reassignments and Agreements

The following summarizes responsibilities for policies, procedures and their implementation with respect to the assignment and reassignment of learning spaces. These are set out in three documents:

- UBC Policy 107, Booking and Rental of UBC Space, see:
<https://universitycounsel.ubc.ca/files/2015/02/policy107.pdf>

This is a Board of Governors Policy, last updated in February 2015.

- UBC Vancouver, Booking Guidelines for General Teaching Space, see:
<https://facultystaff.students.ubc.ca/sites/facultystaff.students.ubc.ca/files/Booking%20Guidelines%20for%20General%20Teaching%20Space%20w%20Rental%20Rates.pdf>

This statement has been developed by Enrolment Services, under the authority provided to it through UBC Policy 107. An initial version was developed in July 2017 and a finalized version took effect in January 2019.

- Academic Course Scheduling Guidelines, see:
<https://facultystaff.students.ubc.ca/enrolment-services/student-records-systems-management/scheduling-services/course-scheduling/guidelines>

These provide guidelines with respect to the detailed scheduling arrangements for General Teaching Spaces. The Academic Course Scheduling Guidelines have been in place for many years and are updated from time to time by Scheduling Services.

Initial Space Assignments

At the time of the development of a new building, the initial assignment of teaching spaces emerges through the development of the building's functional program (designations and sizes of all spaces in the building). The default is that all classrooms are designated as General Teaching Spaces; except that, as may be identified through the functional program or on the basis of a rationale provided by the primary occupant(s), some classrooms may be assigned as Restricted Teaching Spaces (e.g. 100% funding provided by CFI). Furthermore, all General Teaching Spaces are assigned as Tier 1 access to the primary occupant(s) only, and to other related programs, as identified by Facilities Planning or the Provost's office. Once a building project has been confirmed and construction is underway, Facilities Planning enters the space assignments, including tier access designations, into the database of the classroom booking software system (Scientia's *Enterprise Timetabler*, referred to here as "*Scientia*").

All capital projects have steering committees chaired by the Managing Director of Infrastructure Development, with representation from the Provost's Office, Treasury, Campus and Community Planning, Building Operations, Facilities Planning and all proposed occupants. Any changes to the default space designations indicated above are made through committee discussion and consensus.

Subsequent Space Reassignments

Reassignments to the space inventory, between Restricted Spaces and General Teaching Spaces or between teaching and non-teaching spaces, are made upon request through the Director of Facilities Planning, with guidance from the Office of the Provost following consultation with affected parties. Changes to tiered access to General Teaching Spaces are made through Scheduling Services. (The latter changes are not captured in the inventory database but are in *Scientia*.) The following indicates the roles and responsibilities of the relevant authorities with respect to such matters:

Board of Governors. The Board is responsible for the development of, and amendments to, Policy 107, *Booking and Rental of UBC Space*.

Office of the Provost: The Provost's Office provides stewardship for all instructional space and is responsible for ensuring University space supports the academic mission of the University. In this context, the Provost's designate may, from time to time, require the reassignment of the designation of Restricted Spaces, General Teaching Spaces and Non-Teaching Spaces, along with any associated conditions, which if done would involve a consultation with the primary users, Facilities Planning and Enrolment Services.

Enrolment Services: Under the authority provided through Policy 107, Enrolment Services establishes and administers rules, booking priorities and procedures for General Teaching Spaces. These rules must "ensure priority for unbooked space for Core Academic / Educational Activities," as defined in the Policy. In this context, Enrolment Services may, from time to time, modify arrangements relating to the tiered scheduling approach, require reassignments between Tier 1 and Tier 2 access of General Teaching Spaces for particular course codes, and may authorize or seek a modification to "room agreements", whereby a General Teaching Space is designated for some specified use for specified times, or holders of Restricted Space agree to having the space used for general teaching at agreed upon times of the day or week.

Facilities Planning: Facilities Planning maintains and updates the space inventory, including the designations of specific spaces under different space categories, and takes responsibility for the short-term assignment of Tier 1 access for some spaces (e.g. West Mall Swing Space), typically associated with the removal of some teaching space inventory through major renovations or demolitions.

2.3 Scheduling General Teaching Spaces

The process for scheduling General Teaching Spaces is complex, and is outlined in the *Academic Course Scheduling Guidelines*. Additional details and requirements of the course scheduling process, including timelines, are provided at:

<https://facultystaff.students.ubc.ca/enrolment-services/student-records-systems-management/scheduling-services/course-scheduling>

[An associated set of guidelines, *UBC Vancouver Guidelines for General Teaching Space*, provides that courses for academic credit are given the highest priority for bookings into General Teaching Spaces, but otherwise focuses on booking priorities other than for credit courses. Aspects of the latter guidelines are considered in Section 5.7.]

The procedures for academic course scheduling may be summarized as follows (the dates shown refer to 2017/18):

Oct 16 – 20, Rollover of Prior Year Course Schedule. The bookings for the preceding year are rolled-over to the upcoming year, with only Tier 1 bookings retained. This forms a new database that is used as a starting point for the following year's bookings.

Nov 28 – Feb 2, Tier 1 Access Open. *Scientia* is open for Tier 1 bookings. During this period, Department and School representatives with Tier 1 access may add, edit and delete Tier 1 bookings based on their intended schedule of classes. In so doing, they are requested to adhere to certain guidelines including:

- Standard times – sections are scheduled in accordance with the established scheduling pattern
- Seat fill occupancy rate – at least 70% of classroom capacity must be occupied for any one booking

Approximately 75% of the overall bookings take place through Tier 1 bookings.

Feb 2, Classrooms with Specialized Technologies. Scheduling Services has announced the availability of select Classrooms with Specialized Technologies, with a February 2 application deadline for access to such classrooms. Such requests are considered by Scheduling Services on a case-by-case basis. These bookings are made immediately after the Tier 1 booking period, and therefore are tantamount to a lower priority than Tier 1 but a higher priority than Tier 2 bookings, and serve to ensure that instructors who intend to use the specialized technology have access to these classrooms so as to support collaborative and active learning approaches.

Feb 5 – Mar 9, Optimization Period. Over this period, classroom bookings are not available, while Scheduling Services undertakes an optimization or quality control, with checks on occupancy rates, corrections of errors and the accommodation of new courses.

Mar 14, Tier 2 Access Opens. From March 14 onwards, the scheduling software system is opened to Tier 2 bookings. Department representatives with unmet needs then review available spaces and make bookings directly as necessary. In the event that Department or School representatives are unable to confirm required bookings, there is a procedure in place for approaching Scheduling Services with requests for manual interventions. Scheduling Services seeks to accommodate such needs by negotiating individual rooms, with approaches such as

- room swapping
- room bumping
- modifying course times

April 13. Publication. The forthcoming Winter schedule of bookings is published online (even though some bookings may remain unresolved until the opening of student registrations in June – and in a few cases after student registrations have occurred).

End of July, Other (Ad Hoc) Bookings. Once course registration is underway, typically after the third week of July for Term 1 bookings (and after the third week of September for Term 2 bookings), requests for non-credit-course bookings, referred to as ad hoc bookings, are accepted

over a one-week period. Ad hoc booking requests are handled in accordance with the priority rankings provided in the *UBC Vancouver Booking Guidelines for General Teaching Space*. Beyond that week, additional ad hoc bookings, may be made throughout the year on a first-come first-served basis.

3. CONSULTATIONS

The Committee consulted the academic community by inviting written submissions and by inviting participation in a Learning Spaces Forum on October 9, 2018. Appendix I provides the announcement that solicited feedback from the community. Some 100 individuals provided feedback through written submissions and through participation in the forum. A large number of issues were identified and suggestions made. The key inputs provided to the committee are listed below.

Establishing Learning Spaces

- *Large Classrooms.* Probably the most widespread feedback was the dire need for an increased number of large classrooms. ("Large classrooms" are not specifically defined in this report, but corresponding campus-wide needs would presumably be analysed by Facilities Planning in the development of new capital projects.)
- *Capital Planning.* Beyond the needs of the proponent of a capital project, campus-wide classroom needs should be given a higher priority in the capital planning process.

Quality of Learning Spaces and Facilities

The suggestions given below are provided in the context of excellent standards overall of UBC classrooms and facilities. Furthermore, feedback that has been obtained does not convey a sense of relative priorities, or an indication of how widespread are the various needs that have been identified. In this context, the following suggestions were made.

- *AV and Technology.* There is a high level of satisfaction with AV and technology standards. Even so, many suggestions for further improvements were made (additional power outlets, ceiling microphones, increased ability to record and post lectures; additional document cameras, ...)
- *Seating / Flexibility.* There were many requests for an increased number of flexible learning spaces, with movable chairs / tables, long-bench seating, ...
- *Instructor Support.* There were suggestions for larger workspaces / tables, podia, an increased number of whiteboards; more uniformity of board type across classrooms, ...
- *Communication.* There was discussion about the communication of classroom features and classroom usage. In fact, comprehensive information on classroom features is available at: <https://learningspaces.ubc.ca>. And the availability of classrooms may be reviewed at: https://sws.students.ubc.ca/van_2018/default.aspx

- *Other.* There is a need for improved heating controls for classrooms, since overheating is common for some times of the year. There needs to be improved accessibility for some classrooms (e.g. to accommodate participants with wheelchairs).

Assignment / Reassignment of Learning Spaces

- Comments were made to the effect that Research seminars are a core academic activity and therefore should have equal priority as credit courses with respect to classroom bookings.

Course Scheduling

- *Scheduling Control.* There were multiple submissions from one of the larger departments, including report of a Department motion, regarding the need to retain control of bookings at the department level. This sentiment was also conveyed by Sauder School of Business representatives, based in part on the statement that student funds and faculty-level investments have been made with respect to Tier 1 access classrooms.
- *Tier 1 Access.* The lack of Tier 1 access to large classrooms is a major obstacle for some faculties. At the same time, some faculties whose needs are met through Tier 1 access would not want this access undermined. Other issues identified include the early dates by which Tier 1 booking commitments are needed versus the late dates by which Tier 2 bookings may be made; the misuse of Tier 1 access through double bookings, unpublished bookings and low-enrolment (under-utilization) bookings; the conflicting requirements of multiple Tier 1 users for certain spaces, and the shortage of available rooms for Tier 2 bookings, especially for courses with rigid constraints (e.g. courses that are core requirements for multiple programs or that need to fit into standard timetables).
- *Scheduling Pattern¹.* The current scheduling pattern leads to the loss of holiday Mondays for some courses. The 1-1/2 hour time slots are invaluable and should not be dispensed with. It will be challenging to promote blended learning that needs to rely on non-weekly or more sporadic room bookings.
- *Other issues.* Enrolment-related incentive schemes within some faculties may detract from classroom scheduling at less popular times. The Senate requirement that the 12:30 – 2:00 pm time on Thursdays should not be used for regularly scheduled classes is not adhered to.

4. ANALYSIS OF CLASSROOM USAGE

The Committee sought data on the nature and extent of the usage of classroom teaching spaces. In doing so, it relied on data available through past presentations and studies, and as well it has undertaken an analysis of General Teaching Space bookings in the 2017/18 Winter terms. [The Committee is grateful to Facilities Planning and Scheduling Services for their support in acquiring this data and the associated analysis.]

¹ "Scheduling pattern" refers to the pattern of standard class times each week (at UBC, this includes 1-1/2 hour blocks on Tuesdays and Thursdays, and 1 hour blocks on Mondays, Wednesdays and Fridays.)

In the following, all results that are reported refer to the normal teaching day (8 am – 5 pm, Monday – Friday) and refer to the two Winter terms only (i.e. excluding summer terms, examination periods, and pre-term start dates and post-term end dates). There are other assumptions and caveats in undertaking such an analysis. For example, the Faculty of Graduate & Postdoctoral Studies and some schools have not been included in the analysis. The specific assumptions and caveats are not reported herein, but are available upon request.

The analysis is presented below with respect to the following items in turn:

- Restricted classrooms – number and utilization
- General classrooms – number, utilization and seat occupancy
- Tier 1 access to general classrooms

4.1 Restricted Classrooms

[The following information is extracted from the August 2014 Restricted Space Audit and the April 2018 Learning Spaces presentation to the Committee.]

Restricted teaching spaces are categorized as Classroom Space (including lecture theatres, classrooms, seminar rooms, and associated support spaces) and Teaching Laboratory Space (including wet and dry labs, and studios). Currently, there are some 160 restricted classrooms and 417 restricted teaching labs (the latter are not considered in this report).

Fig. 1 shows the number of restricted classrooms broken down by faculty.

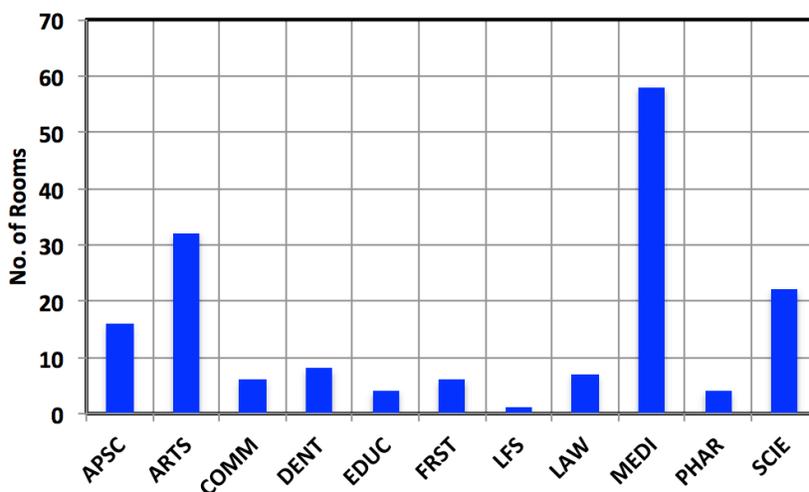


Fig. 1. Number of restricted classrooms for different faculties.

Fig. 2 shows the number of restricted classrooms broken down by classroom capacity. As indicated, the majority of these classrooms correspond to capacities of 20 or less, whereas there are only 5 restricted classrooms with capacities greater than 100 (held by the Sauder School of Business and the Faculty of Medicine).

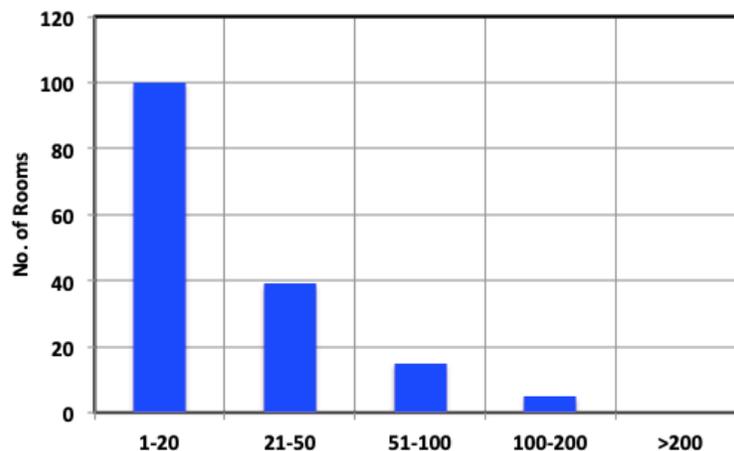


Fig. 2. Number of Restricted Classrooms broken down by classroom size.

Fig. 3 shows the percentage usage of restricted classrooms, distinguishing between total usage (self-reported, blue columns) and usage attributed to teaching via the *Scientia* scheduling system (red columns).

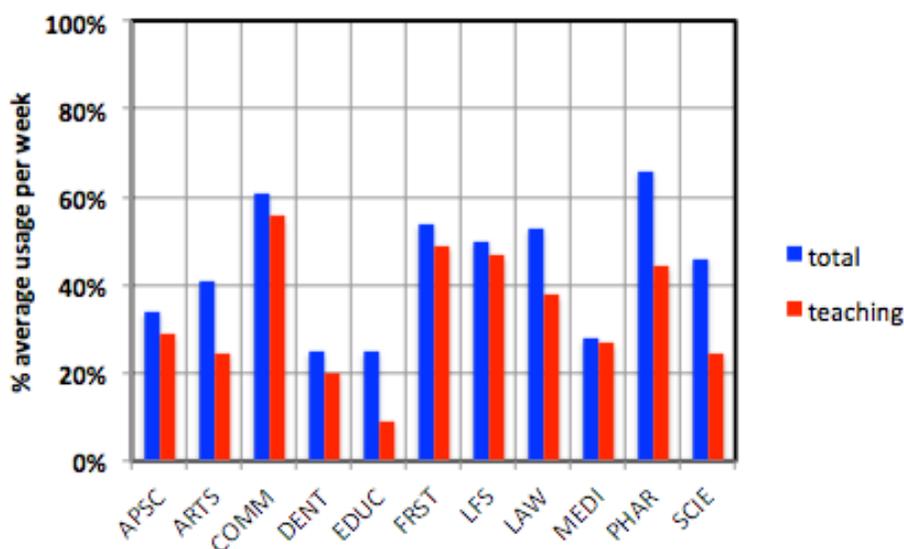


Fig. 3. Percentage usage per week of restricted classrooms for different faculties.

It is emphasized that restricted classrooms are often not scheduled through the *Scientia* scheduling system, and they are often used for ad hoc teaching and non-teaching bookings, for ancillary activities, and other non-reported usage (e.g. research seminars, department meetings, PhD exams, ...). In particular, the *Restricted Teaching Space Audit* states: "... Many rooms are primarily used as departmental meeting rooms or for other non-teaching activities."

The audit indicates that teaching is scheduled in restricted classrooms for about 13 hours per week, in comparison to about 24 hours per week for General Use Classrooms. Also (not shown here), the number of teaching hours appears to be higher in larger restricted rooms, at about 20 hours per week for rooms with capacities of over 60.

4.2 General Classrooms

Currently, there are about 345 General Use classrooms on the campus. The breakdown of these by capacity is shown in Fig. 4.

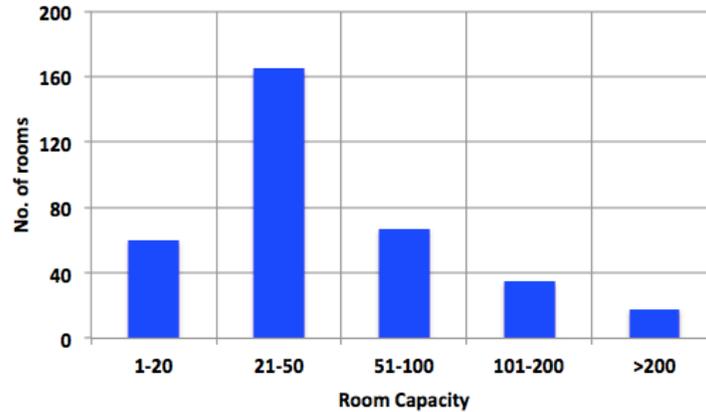


Fig. 4. Number of General Space Classrooms broken down by classroom size.

It is of interest to compare the above distribution of classroom sizes with the corresponding distribution of the number of equivalent 3-credit sections taught in rooms of different sizes. Thus, Fig. 5 compares the percentage distribution of the number of available rooms with different capacities with the distribution of the number of sections taught in these rooms. (For example, the figure shows that 25% of all sections are scheduled in rooms with capacity 51 -100, whereas 19% of all rooms on campus correspond to this capacity range.)

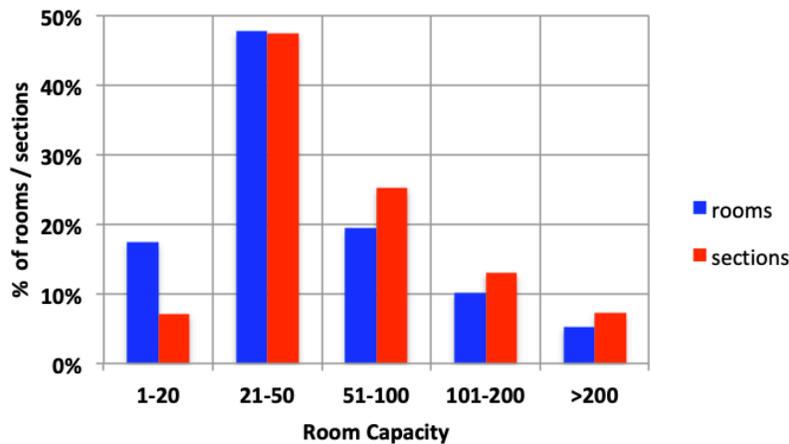


Fig. 5. Percentage distributions of available classrooms and of section usage for various classroom sizes.

Overall, the figure shows that a lower percentage of sections are taught in smaller rooms (1 – 20) relative to the percentage of rooms with this capacity range, whereas a relatively large percentage of sections are taught in room with capacities greater than 50. This is consistent with the greater demand for larger classrooms, identified elsewhere in this report.

Utilization Rates

Utilization rate is the percentage of time that a room is booked during the normal teaching day (regardless of the extent of seat occupancy), and is one indicator of the effectiveness of space usage. Based on an analysis of room bookings for 2017/18 (Winter Terms 1 and 2), utilization rates have been obtained and are reported below.

Overall, the utilization rate of General Teaching Spaces is found to be about 56%. However, the utilization rate is expected to vary primarily with room capacity and time of the week. In order to explore these, utilization rates for General Space classrooms broken down by classroom sizes and by times of the week are given in Figs. 6 and 7 below.

Fig. 6 shows utilization rates for different classroom capacities. As expected, utilization rates increase notably with room capacity, reflecting the greater demand for larger classrooms.

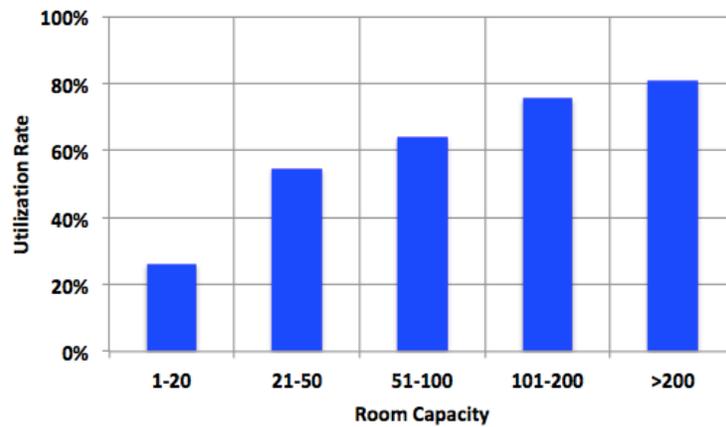


Fig. 6. Utilization Rates for General Space Classrooms for different room capacities.

Fig. 7 shows the utilization rates for different times of the standard day, for three categories of classroom size.

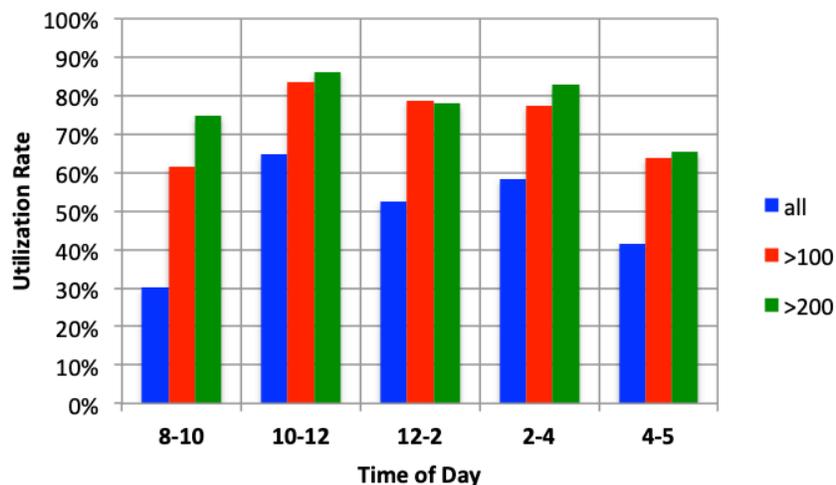


Fig. 7. Utilization Rates for General Space Classrooms for different times of the day.

Again as expected, utilization rates are lowest at the start of the day, and second lowest at the end of the day; and once more show an increase with classroom size.

Corresponding results have been obtained for the different days of the week and are shown in Fig. 8.

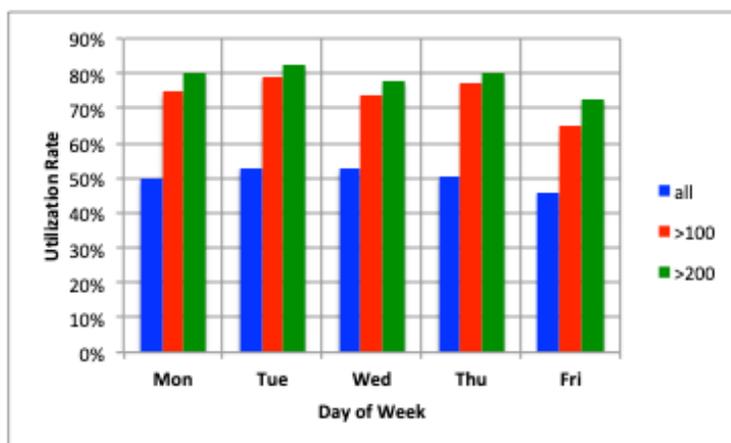


Fig. 8. Utilization Rates for General Space Classrooms for different days of the week.

This does not show a strong dependence on the day of the week, but does indicate that the least usage occurs on Fridays and the greatest usage occurs on Tuesdays, Wednesdays and Thursdays.

The Academic Course Guidelines state: "*Non-Restricted classroom space should be utilized at a minimum of 85% of the total standard teaching hours throughout the normal UBC teaching day (from 8:00 am to 5:00 pm).*" This ideal is not adhered to, and is probably an unrealistic target for Scheduling Services to adopt. [It is noted that, while this represents a target with respect to Scheduling Services activities, it is not a "guideline" in the sense of guiding particular actions by the users.]

Seat Occupancy Rate

Distinct from utilization rate, which refers to the percentage of normal teaching time during which classrooms are used, is the seat occupancy rate, which refers to the percentage of a classroom that is occupied. Seat occupancy rates have been determined for different room sizes and are shown in Fig. 9.

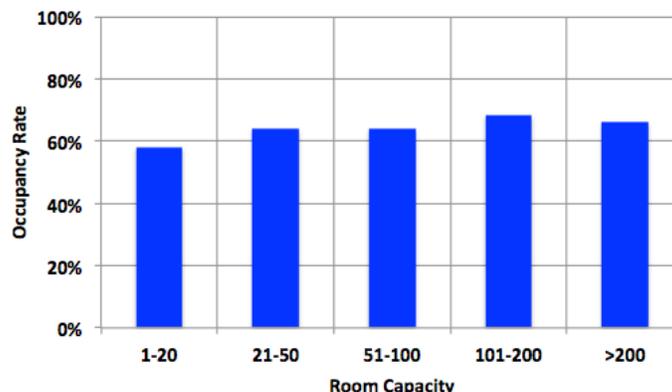


Fig. 9. Occupancy Rates for General Space Classrooms for different room capacities.

The occupancy rate is seen to be reasonably uniform across rooms with different capacities. It is noted that the occupancy rate is based on actual enrolments, which typically differ from enrolment limits that are set at the time a booking is made. Also, the occupancy rate cannot be unduly high because of the discrete capacities and limited choice of available classrooms for accommodating a class of a given size. For example, in order to accommodate a class with an enrolment of 20, the only available option reflecting various constraints may be a classroom of capacity, say, 40, leading to an occupancy rate of only 50% in this instance.

The Academic Course Scheduling Guidelines state: "*Departments must make every effort to achieve a 70% seat fill occupancy rate for use of classroom space. ...*" While this ideal is not adhered to overall, this appears to represent a suitable target with respect to Scheduling Services' obligations to make adjustments to accommodate alternate users.

4.3 Tiered Access

A key aspect of the current scheduling approach is the reliance on tiered access, whereby designated programs (course codes) have priority for booking specified general teaching space classrooms during a prescribed timeline – prior to all other users being able to book these rooms.

In order to examine the key features of the tiered booking approach, an analysis has been undertaken of the extent to which various faculties are accommodated through Tier 1 access. The analysis is expressed in terms of the number of equivalent 3-credit sections that are or are not accommodated via Tier 1 access for each faculty. The analysis is somewhat complicated, recognizing that some 270 course codes are designated as having Tier 1 access to different selections of the over 300 available General Teaching Space classrooms. And there are other assumptions and caveats in undertaking such an analysis (for example an analysis with respect to schools is not shown) – these are not reported herein, but can be provided upon request.

First, Fig. 10 shows the number of equivalent 3-credit sections delivered by each of the faculties (excluding Graduate and Postdoctoral Studies), broken down by those sections that are accommodated via Tier 1 access (blue, "Tier 1") and the number that are not so accommodated (red, "shortfall"). The analysis has been undertaken with three categories of classroom capacity: Figs. 8(a), 8(b) and 8(c) show respectively results for all classrooms ("all"), those with capacities greater than 100 (">100"), and those with capacities greater than 200 (">200").

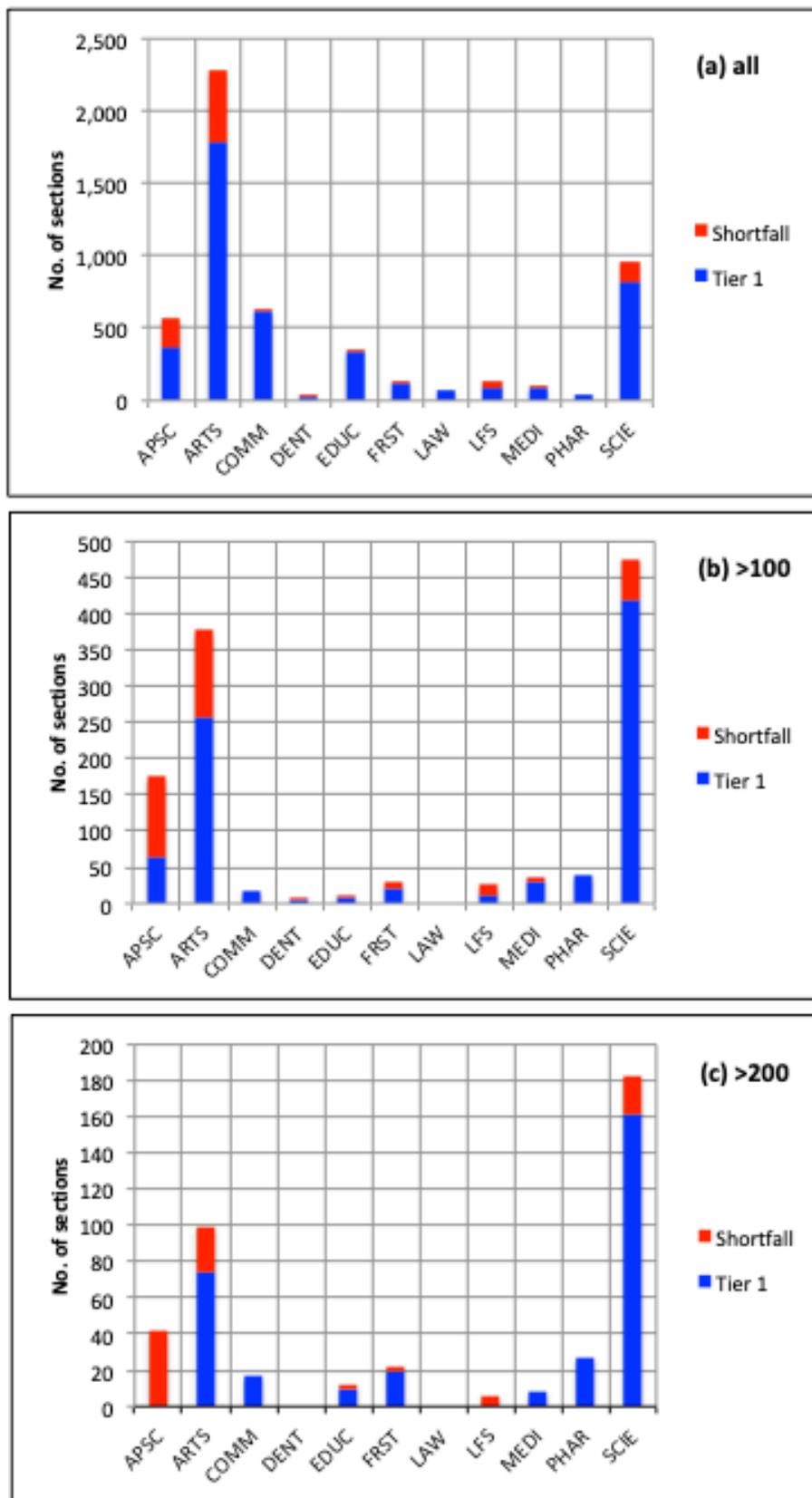


Fig. 10. No. of sections taught via Tier I access and in total, broken down by faculty and classroom capacity.

The figure shows that, as expected, Arts and Science teach by far the largest number of sections, followed by Applied Science and the Sauder School of Business. Arts, Science and Applied Science are, to the greatest extent, unable to meet their teaching needs through Tier 1 access – especially with respect to large classrooms. The Sauder School of Business, Law and Pharmacy have their needs met or largely met via Tier 1 access; and the remaining faculties exhibit more modest shortfalls with respect to Tier 1 access.

To complement Fig. 10, Fig. 11 highlights the corresponding shortfalls expressed as a percentage of the total number of sections taught. That is, for each faculty, the proportions of equivalent 3-credit sections that could not be accommodated through Tier 1 bookings are shown for the three ranges of classroom capacity.

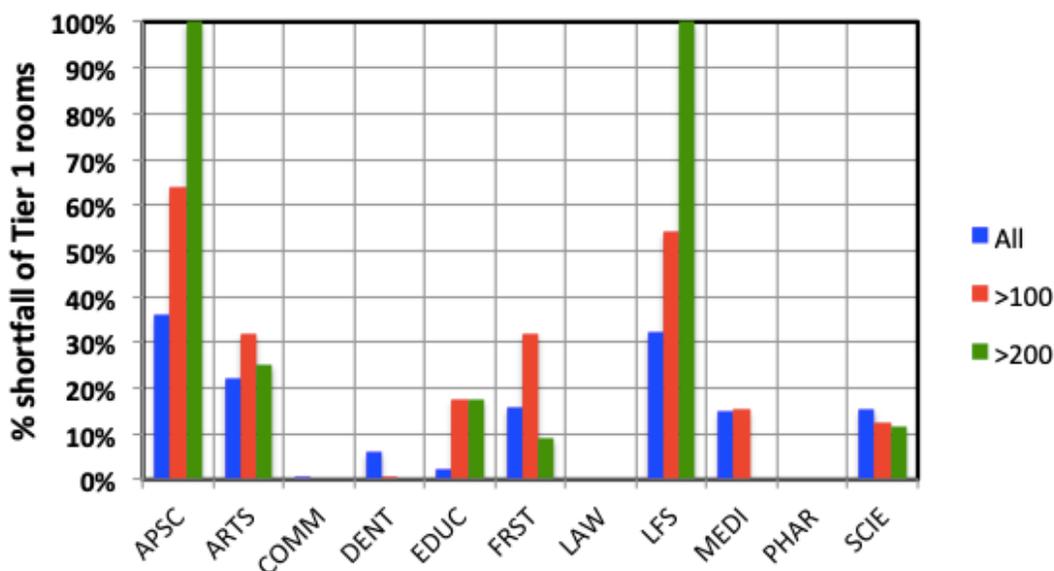


Fig. 11. Percentage shortfall of sections broken down by faculty and classroom capacity.

The figure highlights again how the Sauder School of Business, Law and Pharmacy are largely able to accommodate all their scheduling needs via Tier 1 access. On the other hand, the greatest percentage shortfalls occur with Applied Science and Land and Food Systems. In particular, Applied Science has the greatest percentage shortfall for all classroom sizes, including in particular all 40 of its sections requiring rooms with a capacity above 200 but with no corresponding Tier 1 access at all. This is exacerbated by the rigid constraints on many of these courses (core requirements for multiple programs and the use of standard timetables).

Finally, a distinct analysis (not reported here) has been undertaken to examine the extent to which individual classrooms are utilized through Tier 1 bookings. That is, for each classroom the overall utilization rate has been broken down with respect to Tier 1 and Tier 2 bookings. In this context, classrooms are categorized with respect to capacity and are identified with those faculties having sole Tier 1 access (not all classrooms have Tier 1 access identified with a single faculty). Although there are notable variations as expected, for larger classrooms (above 100) Tier 1 utilization rates are typically 50% - 70% (c.f. 78% - 80% overall), although for some of these classrooms they are as low as 30% - 40%.

5. CONSIDERATION OF ISSUES

5.1 Establishing Learning Spaces

Large Classrooms

Without a doubt, the development of large classrooms is the highest priority with respect to new learning spaces. Hypothetically, if one were to assume a utilization rate of 80%, the shortfalls in Tier 1 access indicated in Figs. 10 and 11 correspond to 11 new classrooms with a capacity between 100 and 200, and 8 new classrooms with a capacity greater than 200. However, changes to scheduling practice that lead to increased utilization rates, as well as the continued significant reliance on Tier 2 access, implies that the number of new classrooms that are needed would be notably lower than this, perhaps half as many.

Although new large classrooms would ideally be assigned Tier 1 access to those faculties with the greatest shortfalls, there is not necessarily an alignment between the highest priority capital projects and those faculties experiencing the greatest shortfalls in large Tier 1 classrooms.

The greatest benefit would arise from a classroom block (similar to the West Mall Swing Space) that would provide Tier 1 access to those units with the greatest Tier 1 shortfalls, until such time as Tier 1 access may be achieved in other ways.

Capital Planning Process

The capital planning process at UBC is comprehensive, rigorous, transparent and highly effective. The current process with respect to making initial space assignments was summarized in Section 2.2. There are two enhancements to this process that may be given consideration. First, the development of the functional program addresses primarily the needs of the proponent(s), and it is suggested that the most critical campus-wide classroom shortfalls may be given greater emphasis. For example, a classroom may need to be larger than one that meets the proponent's needs, or again units other than the proponent(s) may be granted Tier 1 access. Second, there have been a few instances where space agreements relating to new space have not been unambiguous, and this has on occasion led to ongoing tensions with certain units. The Steering Committee may consider affirming unambiguously to all stakeholders all space assignments, including tiered access assignments, as well as associated room agreements if any. (See also “Room Agreements” in Section 5.3, below.)

Classroom Renovation Process

Facilities Planning has established a clear and transparent process for soliciting annual upgrade requests and implementing resulting projects. Over \$6M was spent on such upgrades in 2017/18. Each May-June, requests for project proposals are distributed to the faculties through the Associate Deans who are members of the Learning Spaces Advisory Committee (LSAC). In addition, the information is sent to all Timetabling Representatives and the Building Operations facility managers. Current practice is to alternate between some 40 small projects one year and 4 – 5 large projects the following year, so as to control the workload of a small learning space planning team and to ensure that few classrooms are “out of service” at any given time. The Associate Deans prioritize requests within each faculty; Facilities Planning develops a

preliminary priority list overall based on their input and analysis of resources; and then seeks LSAC endorsement for the approved list of projects. The list of approved projects are announced on the website www.learningspaces.ubc.ca. This process is effective and transparent. The Committee's sole suggestion is that, since Timetabling Representatives are often not well positioned to propose requests, whereas Department Heads and School Directors (or equivalent) are not always made aware through the Associate Deans of these opportunities, the call for project proposals is issued directly to Department Heads and School Directors (or equivalent) in place of Timetabling Representatives.

5.2 Quality of Learning Spaces and Facilities

The Committee has found that the quality of UBC classrooms and associated facilities to be excellent overall, and the following commentary is made in this context. As indicated in Section 3, the feedback that was obtained does not convey a sense of relative priorities, or of how widespread are the various identified needs. In this context, the following comments and suggestions are made.

Facilities, Technology and AV

The consultation process has identified a range of suggestions relating to classroom facilities and technology, as relating, for example, to accessibility, chair/table configurations, power outlets, whiteboards, ceiling microphones, etc. Some of these are associated with classrooms with specialized technologies as indicated below. UBC's *Learning Space Design Guidelines* (see: <https://learningspaces.ubc.ca/learning-space-design-guidelines>) are comprehensive and cover all aspects of learning spaces, including the various items that have been identified. Ultimately, Facilities Planning is aware of the various needs that have been identified, and is taking them into account in its program of annual upgrades. Particular mention is made of the high level of satisfaction with AV standards (there are a set of different standards that apply to different rooms), with the extent of these upgrades that are made each year, and with the level of associated technical support provided to instructors.

Classrooms with Specialized Technologies

A selected number of classrooms have been designated as those containing specialized technologies. For the 2018W session, 26 such rooms are listed on the following website: <https://learningspaces.ubc.ca/specialized>. Of these, 8 have a capacity of between 100 and 200, and 3 have a capacity of over 200; 20 rooms allow for media capture and 6 rooms allow for active learning. Here, "Media Capture" refers to the ability to record and stream content from the classroom, and "Active Learning" describes rooms that include furniture designed for group work with enhanced technology support. The consultation process indicated a significant number of requests that relate to Active Learning Classrooms.

While an increased number of such rooms is welcome, a key issue is that, as fixtures and furnishings of classrooms are modernized (from tablets to long tables to active learning formats), classroom capacity may decrease by up to 30%. Therefore, the expertise of Facilities Planning is needed to assure a suitable balance between the desire to maximize available classroom capacity campus-wide versus the desire for an increased number of such rooms.

Communications

There have been calls for improved communication with respect to the classroom inventory and associated facilities and the availability of classrooms at any given time. In fact, comprehensive information on classroom features is available at <https://learningspaces.ubc.ca>. This is a superb, informative, user-friendly resource for the campus community. The availability of classrooms at different times may be reviewed at https://sws.students.ubc.ca/van_2018/default.aspx (this is part of the *Scientia* system). However, the latter resource is not well known, and it is proposed that a prominent link to it, along with guidelines to its use, be provided on the Learning Spaces website.

Classroom Heating / Cooling

The Committee's consultation process has revealed that overheating in classrooms at some times of the year represents an ongoing challenge for instructors and students. As background, the Associate Vice-President Facilities has responsibilities for the development of new buildings, building operations, and energy and water services on the Vancouver campus; within this integrated portfolio, Building Operations has responsibilities for the comprehensive operation, maintenance, and renovation services for buildings, in addition to land and streets. In all cases, the development and operation of buildings conform to relevant codes and standards, including UBC's own technical guidelines with respect to the design, construction, renovation and operation of university-owned buildings – and by extension with respect to the installation and operation of heating / cooling systems. In general UBC follows industry standards to maintain rooms between 20° and 27°, with a target of 21° when heating and 26° when cooling.

In this context, there is a range of differences with respect to classroom heating, ventilating and cooling systems in different buildings. As examples, some classrooms but not others include opening windows and/or individual room controls; and a few classrooms are air conditioned whereas most rely on passive cooling. [Passive cooling occurs through the air circulation system, whereby cooler outdoor air enters a building's supply fan, while warmer air is exhausted from a building's exhaust fan; however, when the weather gets warm, this system may lead to some overheating.] Ultimately, the systems and procedures in place represent a trade-off between a more stringent adherence to sustainability principles, minimizing capital expenditures and operating costs, and accepting some short-duration discomfort.

Building Operations is well aware of the general issue and provides useful information through its website "*Too Hot? / Too Cold?*"; and it offers an outstanding level of support in response to related trouble calls. (These may be made through the Service Centre (604.822.2173) or servicecentre.buildingops@ubc.ca.) Nevertheless, given that classroom overheating appears to be a perennial issue, the University, through the Associate Vice-President Facilities, may wish to consider approaches to addressing it, at least to some degree. This would entail a professional study to examine the extent of the issue and its resolution with respect to different buildings, a consideration of relative priorities, and then a consideration of allocating some capital funding to addressing the issue for certain buildings.

5.3 Assignment, Reassignment & Specified Usage of Learning Spaces

Roles and responsibilities relating to the assignment, reassignment and specified usage of learning spaces have been indicated in Section 2.2. However, the Committee has heard of at least two instances where notable tensions have arisen on account of ambiguities or misunderstandings regarding the initial assignment or reassignment or specified usage of certain classrooms, sometimes based on unclear authority. In one case, the statement was made: "... *unilaterally seizing space to fill needs for teaching without considering the other needs on that space.*" In light of this, it is proposed that all space assignments and space usage arrangements be unambiguous at all times. This relates to initial space assignments arising from capital projects (see suggested enhancement in Section 5.1); to subsequent space reassignments (see the process identified in Section 2.2); and to room agreements as elaborated upon below.

Room Agreements. One aspect of the above relates to the reliance on "room agreements," whereby a designated usage of certain general teaching space rooms at specified times takes precedence over bookings made in accordance with the *Booking Guidelines for General Teaching Spaces*. Currently there are about 8 such agreements. In some cases, the rationale is entirely understandable (e.g. the use of IBLC 182 for regular Senate meetings; and an agreement associated with a reassignment from a Restricted Classroom to a General Classroom). Even so, some of these were initiated prior to the establishment of the above guidelines and/or have conditions and authorizations that are unclear and have led to potential ambiguities and misunderstandings. Under Policy 107, Enrolment Services has the authority to establish rules and set out booking priorities for General Teaching Spaces, and therefore to establish or seek modifications to these room agreements. Therefore Enrolment Services is appropriately seeking to confirm, clarify and authorize all remaining agreements in such a way as to ensure that all parties' needs are appropriately being met. This does not preclude the possibility of Enrolment Services giving consideration to the establishment of new room agreements, should circumstances warrant this, again taking account of the needs of all parties. In general, given the University's ever-changing environment, all such agreements should not last in perpetuity, but need to be reviewed periodically, e.g. every three years.

5.4 Restricted Classrooms

As noted in Section 4.1, reported usage of restricted classrooms is generally low, they generally support a variety of activities, including non-teaching use, and they are often booked through local scheduling systems and not through *Scientia*. This implies that restricted classroom usage is not always aligned with the stated purpose of these rooms ("*to be used for that faculty's or department's teaching needs, with ancillary use in periods of low academic utilization ...*"). Their use for activities other than credit course delivery and their low reported usage have prompted two suggestions.

One suggestion is that any restricted classrooms that are not used primarily for teaching are reclassified to reflect their primary use, most often a meeting room. This would give a more accurate reflection of the current space inventory, while the space can continue to support both teaching and non-teaching activities, leading to more effective usage. At the same time, a key benefit of these classrooms is the ability to make ad hoc, short-notice bookings with respect to both teaching and non-teaching; and the use of restricted classrooms for some non-teaching is

preferred to the use of meeting rooms for credit-course teaching. Overall, it is suggested that such reclassifications are only considered after Facilities Planning confirms the primary use of the room with users, possibly at the time that space audits are carried out every few years.

A second suggestion is that all bookings for any teaching spaces, including restricted classrooms be made via *Scientia*, so that there is a complete dataset with respect to teaching activities, and greater accountability and transparency with respect to room usage. In fact, the Enrolment Services Scheduling Guidelines require that all academic courses, including those delivered in Restricted Classrooms, "must be scheduled in *Scientia*." However, many units view *Scientia* as being less user-friendly and convenient than local booking schemes for such rooms, and they prefer local booking schemes in the context of informal bookings for a range of purposes. That is, while all regularly scheduled credit courses indeed need to be scheduled in *Scientia*, it is recognized that units will want to continue to use local booking schemes in the context of informal and ad hoc bookings for a range of purposes.

5.5 Classroom Scheduling

Introduction

A general outline of academic course scheduling procedures has been provided in Section 2.3. The scheduling system for general teaching space is highly complex and is intended to incorporate multiple priorities, criteria, constraints and procedures. As indications of these: there are different access assignments for some 270 course codes; some classrooms are designated as providing Tier 1 access for up to a dozen course codes, sometimes across multiple faculties; bookings rely on the engagement of over 150 timetabling representatives spread across campus; negotiations between multiple programs having Tier 1 access to a particular classroom are needed; there is some misuse through double bookings, unpublished bookings and low-enrolment bookings; there are varying levels of flexibility, ranging from stand-alone low-enrolment elective courses through to large multiple-program core courses and standard timetable requirements; there are often less than optimum room utilization rates and seat occupancy rates; travel times between consecutive classes may be excessive; some courses require non-standard class times and/or non-standard start/end dates and/or the use of specific facilities (e.g. blackboards); there are uncertainties in enrolment projections; and the system requires extensive manual interventions, both with respect to monitoring and adjusting Tier 1 bookings as well as providing support for Tier 2 bookings. The manual interventions currently require a full-time dedicated staff position and the part-time engagement of a senior staff position. A significant portion of staff time is spent "troubleshooting" and supporting Timetabling Representatives with finding spaces, while the Manager of Scheduling Services becomes involved with any escalated "interventions" that are needed.

The Predominant Issue

The tiered access approach represents a key tension of the scheduling system. On the one hand, there is a strong desire amongst some academic units to retain the current timetabling approach so as to retain scheduling control at the unit level – generally on the grounds that it is the individual units that know best how to meet the needs of their faculty and students. This desire appears to arise from the apprehension that units will be compelled to deliver courses that

involve increased walking distances, unpopular times of the day or week, and less than ideal classrooms. In some cases, this stance is supported by the sentiment that individual faculties have invested funds, sometimes through student fees, into the physical infrastructure, and therefore have a priority entitlement to the use of that infrastructure.

On the other hand, there are many academic units whose needs are unmet by the current tiered access approach, leading to dissatisfaction over the inability to book suitable classrooms, extraordinary stress placed on some Timetabling Representatives, and undue hardship placed on some units with respect to classroom bookings. Sometimes bookings are concluded very late in the cycle (e.g., in June, after the course schedule has been published), or they involve increased walking distances for students and faculty, unpopular times of the day or week, and less than ideal classrooms. As well, the current approach appears not to sufficiently exploit the available technology through the *Scientia* system in assuring efficient scheduling, in minimizing the burden on Scheduling Services with respect to manual interventions, and in enabling the development of comprehensive planned and actual teaching data.

2016 Scheduling Review

Reflecting the latter position from a different perspective, the February 2016 AACRAO report has presented a detailed review of the course scheduling system. The report referred to a wide range of considerations, and found that the course scheduling system at UBC is in need of major improvements. The review included statements such as: "*The course scheduling process at UBC Vancouver is decentralized, labor-intensive, manual, and prone to error. Some consolidation and coordination of this process is necessary*"; "*Existing technology that would streamline the course scheduling process is not being utilized on the UBC Vancouver campus*"; and "*The two-tiered scheduling protocol is inefficient and unnecessary.*"

Enrolment Services Scheduling Project

Clearly, the status quo is unsatisfactory, and modifications to the scheduling system need to be contemplated, ideally in such a way as to preserve the desire of some units for local scheduling control; but at the same time one that addresses the large number of hardship situations, improves utilization rates and seat occupancy rates, relies on technology to a greater extent, and reduces the number of manual interventions. The Scheduling Services unit within Enrolment Services is indeed attempting such an approach through a Scheduling Project as summarized below.

The April 2018 Board of Governors meeting agenda refers to the 2018-19 budget report to the Board of Governors that included the following statement: "*Investment in a classroom scheduling project has been committed, which will improve the student experience as more course selection and fewer schedule conflicts can enable better access to required and preferred decision-making by the academic community.*"

The Enrolment Services Scheduling Project is now underway. The project will leverage previous work and consultations that have taken place, including the recommendations put forward in the 2016 AACRAO report. In alignment with the report recommendations, the project has the objective of evolving the scheduling model so as to rationalize and apply

modified criteria and priorities with respect to course scheduling, relying to a greater extent on technology, so as to reduce the extensive reliance on manual interventions, alleviating current hardships and shortfalls as currently occurs, and increasing overall room utilization rates and seat occupancy rates. The project is being undertaken on the assumptions that *Scientia*, will continue to be the scheduling software that is used, that the current scheduling pattern will remain in place, and that individual units will continue to specify scheduling requirements, including course dates and times. At the same time, *Scientia* will need to interface with UBC's new Integrated Renewal Program that relates to Finance, Human Resources and Student administrative processes and system environments. Furthermore, *Scientia* is itself evolving with new functionalities that will need to be understood and leveraged.

The project will be undertaken through a phased approach. An initial step (currently underway) involves a detailed analysis of usage over the past 5 years. Under the guidance of a steering committee and with extensive consultation of the user community, the academic course scheduling practices and guidelines will be evolved. Based on the changes made, simulations will be performed in order to demonstrate and examine potential impacts; and then redefine the scheduling model. The project has a target completion date of March 2020, in time for implementation for the 2020/21 Winter session.

It is anticipated that the model will be supported by users who are satisfied with the current system, while addressing significantly current challenges including the few abuses of self-bookings, very late bookings for some courses, low utilization rates and/or seat occupancy rates, and excessive manual interventions. In addition, although new classrooms are being planned, given the requirements for design and construction, they will not be available before 2021/22.

The Committee commends Scheduling Services for undertaking this project and is optimistic regarding its outcome.

Short-Term Scheduling Improvements

Given that any changes contemplated by the Enrolment Services Scheduling Project will require an extended period to examine, develop and implement, it is recommended that Scheduling Services consider potential short-term improvements to scheduling procedures in order to seek to relieve the most significant "pain-points" and reduce the extent of manual interventions.

In order to do so, an initial step will be to establish a set of criteria of those Tier 2 bookings that represent the most severe hardships that could be addressed without manual interventions. These may include giving consideration to those programs (not faculties) that have the most severe shortfalls with respect to large classroom access; those courses that are unduly constrained (e.g. core courses taken by more than one program and with standard timetable constraints); and those courses with standard facility requirements.

Given this, approaches that may be contemplated include the following:

- *Rigour*. It is proposed that Scheduling Services be more rigorous with respect to removing Tier 1 bookings that have been inadvertently misused through double bookings, unpublished bookings and low-enrolment bookings, since this otherwise exacerbates the challenges facing potential Tier 2 users. This greater rigour should free up classrooms so as to be more readily available to Tier 2 users.

- *Low Tier 1 Usage Classrooms.* It is proposed that Scheduling Services expand Tier 1 access to certain Tier 2 users for large classrooms for which current Tier 1 usage is unduly low, probably those with Tier 1 utilization rates of 40% or less. This would enable earlier access and more assured access that meets the needs of certain Tier 2 users that currently face undue hardships.
- *Tier 1.5 Access.* Currently, users who seek classrooms with specialized technologies but are unable to do so through Tier 1 access have priority over other Tier 2 users, denoted here as "Tier 1.5 access." It is proposed that Scheduling Services expand this level of "advance" access to the most critical Tier 2 users (to all large classrooms) based on the criteria that have been developed above (e.g., for those cases with no flexibility that currently represent the most severe hardships).

Blended Learning

The consultation process indicated a substantial interest in increased levels of blended learning. This combines educational materials in the form of online digital media with traditional classroom methods, and reduces notably the extent of classroom scheduling that is required, for example by relying on 1 hour per week of classroom instruction rather than 3 hours per week. Blended learning currently occurs, but its scheduling now represents an ineffective use of available time slots (since the standard three hours a week are not used in a coordinated way). The Committee proposes that Scheduling Services incentivize Timetabling Representatives to schedule two or three courses so as to fill the standard times of a single course, which should lead to some efficiency in classroom usage.

Scheduling Pattern

It has been pointed out that a 3-credit course scheduled on Monday / Wednesday / Friday for 50 minutes, versus one scheduled for 80 minutes on Tuesdays and Thursdays have equivalent contact hours only if both 80-minute classes include a 5-minute break. However, the former may encounter the loss of holiday Mondays. Some universities allow for extra days at the end of term to make up for holiday Mondays. The Academic Policy Committee is aware of this issue and may or may not wish to give it particular consideration.

5.6 Thursday Break

The chair of the Senate Academic Policy Committee has highlighted the Senate requirement that the 12:30 – 2:00 pm time on Thursdays should not be used for regularly scheduled classes. [This was approved by Senate in 1997 with respect to 12:30 – 2:30 pm, and then modified in 2001 to 12:30 – 2:00 pm.] The break is intended to provide time for student activities and for academic units to hold meetings, seminars, etc. This Senate requirement has not been enforced and is not recognized in the *Academic Course Scheduling Guidelines*.

The SABNC has examined this matter and has found that there are significant challenges with a universal adherence to this requirement across the campus. First, UBC's approach to scheduling is highly decentralized, whereby each unit selects its own times for course scheduling, and decides when and to what extent to provide time for a break from course activities. As a consequence, there are now close to 500 sections (over the two Winter session terms) that have scheduled times that encroach on the above Thursday break, and units have made alternative

allowances for providing time for non-course student activities and unit meeting times. That is, given the diversity of teaching needs and practices across the campus and the decentralized approach to scheduling, it would be consistent to adopt a decentralized approach to scheduling a break for non-course activities as well. Indeed, the Committee has not found compelling evidence as to why such a requirement needs a single common time across the campus.

Second, given the enormous constraints on essential scheduling within the normal week, especially during prime time, imposing the Thursday break universally would cause undue hardship for many units with respect to regularly scheduled classes. That is, to re-schedule some 500 sections into alternate times would represent a major challenge. This would be especially so with respect to those faculties / units with limited Tier 1 access to large classrooms that are in high demand throughout the week, and with respect to units that have notable scheduling constraints, such as the need to schedule courses that are core to multiple programs or that fit within standard timetables. As one example, the BASc program entails over 100 interconnected standard timetables (relating to the four years of the program and to 11 program specializations). As another example, the PharmD program requires the 18-credit PHRM 100 that entails blocks of time of over 20 hours a week.

From a different perspective, any requirement whereby some 350 classrooms across campus, including over 50 high-demand large classrooms, would largely be unused for a particular block of time during the week would introduce a significant inefficiency in the use of UBC's learning infrastructure – at a time when enrolments and program diversity have placed great demand on our current learning space inventory.

Even so, the requirement of a common break from courses of related programs is indeed desirable and does suggest some intervention from the Academic Policy Committee. Therefore, that Committee may wish to explore an alternative approach to assuring that sufficient time is set aside for student non-course activities during the normal teaching week, recognizing that this would ideally be undertaken in a decentralized manner so as to be consistent with scheduling, program constraints and program cultures. For example, the Committee may give consideration to setting out its expectations regarding the need for 1-1/2 hours per week (within the normal teaching day of 8 am to 5 pm) to be set aside for non-course student activities and unit meeting times, and to request Deans to report to the committee regarding their units' practices regarding the provision of such a time each week – with the prospect that related programs, but not the entire campus, may adopt common break times.

Overall, the SABNC suggests that the Academic Policy Committee recommend to Senate that the current requirement be rescinded; and that, in its place, the Academic Policy Committee may explore an alternative approach to assuring that sufficient time is set aside for student non-course activities during the normal teaching week, one that is consistent with the diversity of program delivery and constraints, that is consistent with the decentralized nature of scheduling across the campus, and that seeks a common break from courses of related programs.

5.7 Research Seminars

One issue identified through the consultation process relates to the view that research seminars represent an equal academic priority as credit courses and so should be granted equal scheduling priority as credit courses. (With respect to research seminars, a second issue that was identified relates to the nature and authority of room agreements – this is considered in Section 5.3.)

The issue arises because the *Booking Guidelines for General Teaching Space* do not give equal priority to all component "Core Academic / Educational Activities." Rather, within this category, some component activities are given a higher priority over other component activities. In particular: sub-priority (a) refers to Senate-approved credit course offerings, whereas sub-priority (d) refers to "regularly scheduled and/or recurring research activities including research colloquia ...". Recall that, under Policy 107, Enrolment Services has the authority to establish rules and setting out booking priorities for General Teaching Spaces. Therefore it has the authority to assign different sub-priorities to different components of "Core Academic / Educational Activities." Indeed, it has an obligation to do so in order to avoid exercising academic judgment with respect to competing requests for a given space at a given time.

If considered desirable, it would be possible for research seminars to achieve sub-priority (a) access by seeking to become Senate-approved (there are over 200 seminars that are Senate-approved, including a number that are research seminars, and some may have a zero credit value). However, even if this option was pursued, any booking would still be subject to normal scheduling constraints, for example with respect to competing with other units with Tier 1 access, and as well to the need to verify sufficiently high seat occupancy rates. In essence, there can only be one user in a certain room at a certain time.

Finally, it should be pointed out that, despite the specific wording of Policy 107, the establishment of sub-priorities of "Core Academic / Educational Activities" may be viewed as an academic matter, and therefore should ultimately fall under the authority of the Provost or the Senate, rather than Enrolment Services. While the Senate Academic Building Needs Committee was indeed consulted on setting these sub-priorities, it should in principle be possible to appeal to the Provost with respect to any variations to these in specific cases.

6. SUMMARY FINDINGS

1. **New Learning Spaces.** New large classrooms represent the highest infrastructure priority relating to learning spaces. The greatest benefit would arise from a classroom block (similar to West Mall Swing Space) that would provide Tier 1 access to those units with the greatest Tier 1 shortfalls, until such time that such Tier 1 access is achieved in other ways.
2. **Capital Planning and Upgrade Processes.** The capital planning process at UBC is comprehensive, rigorous, transparent and highly effective. It is leading to the continual development of capital projects that are providing major benefits to UBC's learning environment. Minor enhancements to the process may take account to a greater extent campus-wide teaching needs beyond those of the proponents (e.g. with respect to Tier 1 assignments), and may affirm unambiguously all space assignments. The process for

setting priorities and making annual classroom upgrades is fair, transparent and efficient. These upgrades are providing major benefits to UBC's learning environment.

3. **Quality of Spaces and Facilities.** The quality of UBC classrooms and associated facilities and the associated level of A/V support provided are excellent. Through its reliance on UBC's *Learning Space Design Guidelines*, Facilities Planning is well positioned to assuring the most beneficial upgrades to classrooms, and the appropriate development of classrooms with specialized technologies.
4. **Assignment / Reassignment of Learning Spaces.** There is a need to articulate more carefully the approaches to making initial space assignments through the capital planning process, and space reassignments made through the Office of the Provost. Room agreements relate to the designated use of certain rooms at certain times, as taking precedence over bookings made in accordance with the *Booking Guidelines for General Teaching Space*. Enrolment Services is appropriately seeking to confirm, clarify and authorize all room agreements that are currently in place.
5. **Enrolment Services Scheduling Project.** There are significant challenges with the current approach to scheduling, reflecting complex priorities, criteria, constraints and procedures. A primary issue relates to the desire of some units to retain scheduling control at the unit level, whereas other units encounter undue hardship with respect to scheduling, compounded by a large number of manual interventions being required. Scheduling Services is commended for undertaking a Scheduling Project that is seeking to address these and other issues through a careful and consultative approach.
6. **Short-Term Scheduling Improvements.** Given that changes contemplated by the Enrolment Services Scheduling Project will require an extended period to examine, develop and implement, several suggestions are directed to Scheduling Services with respect to short-term improvements to scheduling procedures in order to reduce the most severe hardships currently encountered and reduce the extent of manual interventions being required.
7. **Thursday Break.** Given the diversity of teaching needs and practices across the campus and the extensive scheduling constraints in place, the Senate Academic Policy Committee may wish to recommend to Senate that the Thursday Break scheduling requirement be rescinded.

Beyond the key findings given above, this report also contains a series of specific suggestions for improvement, directed primarily to Scheduling Services and Facilities Planning.

Follow-up. The Provost is invited to coordinate any follow-up that is developed by the various units, and to provide an update and overall response to this report to the Senate Academic Building Needs Committee by September 2019.

APPENDIX I. MATERIALS CONSIDERED BY THE COMMITTEE

Policies and Guidelines

- UBC Policy 107, Booking and Rental of UBC Space, see:
<https://universitycounsel.ubc.ca/files/2015/02/policy107.pdf>
- UBC Vancouver, Booking Guidelines for General Teaching Space, see:
<https://facultystaff.students.ubc.ca/sites/facultystaff.students.ubc.ca/files/Booking%20Guidelines%20for%20General%20Teaching%20Space%20w%20Rental%20Rates.pdf>
- Academic Course Scheduling Guidelines, see:
<https://facultystaff.students.ubc.ca/enrolment-services/student-records-systems-management/scheduling-services/course-scheduling/guidelines>

Previous Studies

- UBC Restricted Teaching Space Audit, Facilities Planning, UBC, August 2014
- Scheduling Pattern Review, AACRAO Consulting Report for the University of British Columbia, February 2016
- El Masri, O. and Bigazzi, A., Travel Between Classes at the University of British Columbia, Vancouver: A Study of Walking Distances on a Large Campus. Department of Civil Engineering, UBC. December 2017. [Paper prepared for Campus & Community Planning, UBC.]

Presentations to the Committee

- *Learning Spaces Overview* (Jodi Scott, Senior Planner, Facilities Planning), April 24, 2018
- *Scheduling Services Guidelines* (Oana Toma, Manager, Scheduling Services; Annie Yim, Associate Registrar, Student Records & Systems Management), January 23, 2018
- *Academic Course Scheduling* (Oana Toma, Manager, Scheduling Services; Annie Yim, Associate Registrar, Student Records & Systems Management), September 23, 2018

APPENDIX II. CONSULTATION – INVITATION FOR FEEDBACK

The following is the announcement that was issued soliciting feedback from the academic community.

September 4, 2018

To: Deans, Directors and Heads, Student Senate Caucus

cc: Enrolment Services, Facilities Planning, Centre for Teaching, Learning & Technology, Office of the VP Academic, Office of the VP Students, Selected Senate Committee Chairs

From: The Senate Secretariat on behalf of the Academic Building Needs Committee

Re: **Learning Space Study**

The Senate Academic Building Needs Committee is conducting a study of the suitability and usage of learning spaces on the Vancouver campus. The Committee is seeking feedback from the academic community on this matter, specifically from academic units, faculty and students. As may be relevant, we ask that you forward this memorandum to staff within academic units who have relevant responsibilities (e.g. timetabling representatives) and to any faculty and students that you feel should be aware of it.

The Committee is seeking feedback in two ways:

1. Written comments should be submitted via email to Lauren Small at lauren.small@ubc.ca. The Committee will be accepting written feedback and comments until October 12, 2018.
2. Interested persons are invited to a forum to discuss the issues and to provide feedback in person. The forum has been set for Tuesday, October 9 from 2:00 – 3:30 pm at a location to be announced. Individuals interested in attending are requested to e-mail lauren.small@ubc.ca by October 2 to confirm attendance.

The Committee is particularly interested in the following issues:

- The process, priorities and designations of establishing learning spaces through new capital projects and major renovation projects; as well as the associated process and priorities with respect to classroom improvement projects.
- The suitability of classroom configurations and facilities, including AV standards, and classrooms with specialized technologies.

- The assignment and reassignment of learning spaces as *Restricted Teaching Space*¹ and *General Teaching Space*, the latter including the designation of *Tier 1* and *Tier 2 access* spaces with respect to specified programs.
- Course scheduling and bookings that are undertaken in an efficient, effective and fair manner, recognizing the multitude of priorities, criteria and constraints (e.g. tiered access, scheduling pattern, occupancy rates, utilization rates, walking distances, non-standard schedules, ...)

Please note that the Committee has decided not to give consideration to other aspects of teaching spaces, including re-assignments between teaching and non-teaching spaces (e.g. research spaces), laboratories and other non-classroom restricted spaces, summer term usage, examination scheduling, non-academic use of learning spaces and ad hoc room bookings.

Further information on some of the above topics is available as follows:

- For Learning Spaces, see [here](#)
- For Scheduling Services, see [here](#)
- For academic course scheduling guidelines, see [here](#)

Finally, it should be noted that Enrolment Services is initiating a larger scale, longer term project focused on classroom scheduling, and so is participating as an observer of the current consultation process, with access to all submissions that are made. As it may determine, Enrolment Services may undertake a subsequent consultation process relating to its project.

Respectfully submitted,

Michael Isaacson
Chair, Academic Building Needs Committee

¹ In simple terms: *Restricted Teaching Spaces* refer to teaching spaces that are available to meet a particular unit's teaching needs; *General Teaching Spaces* refer to teaching spaces that are available to meet campus-wide teaching needs; *Tier 1 access* refers to a designated program's priority access to specified General Teaching Spaces during a prescribed timeline; *Tier 2 access* refers to any program's access to General Teaching Spaces once the assigned timeline for Tier 1 access has passed.