



SFU

SIMON FRASER UNIVERSITY
INSTITUTIONAL RESEARCH AND PLANNING

**Undergraduate Course Availability:
Defining the Problems and Seeking Solutions
at Simon Fraser University**

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EXECUTIVE SUMMARY

Simon Fraser University's senior administration recognizes that the university has a growing problem with undergraduate course availability.

The Problem

- Course Availability at SFU has been deteriorating.
- Compared to other British Columbia universities, students at SFU experience considerably more problems with course availability and timely degree completion.
- In recent fall semesters 15-20% of students have been unable to enroll in the *number* of courses they've wanted, while approximately 40-50% have been unable to get all of their *specific* desired courses.
- 15-20% of leavers cite course availability as the primary reason for their departure from SFU.
- Satisfaction with course availability decreases as the course year-level increases.
- Subjects identified as experiencing the largest capacity problems are: Business, Communications, Criminology, Economics, English, Kinesiology, and Psychology.
- 54% of registered students in the Fall 2006 Semester were in at least the third year of their program, whereas only 42% of available seats and 41% of registered seats were in upper division courses. This suggests that the university is offering an insufficient number of 300- and 400-level course seats.

Possible Solutions

SFU's course availability problems may be addressed in a number of different ways. This report presents fourteen recommendations to help resolve the issue.

Scheduling Practices Within Departments:

1. Conduct case studies in selected departments to document and analyze the processes by which they offer and schedule courses.
2. Hold focus groups with students, departmental course schedulers, and other faculty and staff to discuss course availability issues and solutions.

Program-Specific Policies:

3. Offer high demand classes more often.
4. Offer more or larger sections of high demand classes.
5. Ensure that particular classes have consistent start and end times so as to minimize conflicts with other classes through the week.
6. In an effort to simplify programs, the university might undertake an analysis of the curriculum requirements of its programs, and the implications of these requirements for credential completion times and course availability.
7. Encourage departments to make use of the Course Section Availability Report, available on the Institutional Research and Planning website.

University-Wide Policies:

8. Enhance the SIMS waitlist system, and implement a mandatory and consistent use of waitlists across the university.
9. Allow students to register for courses several semesters in advance.
10. Expand SFU's distance and on-line course offerings.
11. Make better use of university resources during less popular scheduling times.
12. Ensure that courses commonly taken together do not have overlapping class or exam schedules, thereby minimizing scheduling conflicts and maximizing course availability.
13. Introduce a system that guarantees timely degree completion and availability of courses.
14. Institute a system of rewards to departments for resolving their course availability problems.

Cost of Ignoring the Problem

- Problems with course availability lead to reduced student credit loads and hinder the university's ability to meet its Enrollment Plan.
- Decreases in credit loads affect tuition fee revenue.
- The course availability problem in itself may also make scheduling a more difficult task, because students must make unplanned and unpredictable adjustments to their schedules when they cannot get the courses they want.
- The above problems lead to student dissatisfaction, resulting in an increase in student attrition rates. This ultimately damages SFU's reputation, and hinders the university's ability to attract new students.

INTRODUCTION

Simon Fraser University's senior administration recognizes that the university has a growing problem with undergraduate course availability. In response to these concerns, Bill Krane, Associate Vice-President, Academic, asked the Office of Institutional Research and Planning¹ to prepare this report. The report summarizes the current state of SFU's course availability problem, and offers suggestions for future direction.

SUMMARY OF THE DATA

Student Satisfaction with Course Availability

In the spring of 2007, SFU participated in The Globe and Mail's University Report Card Survey². In this survey of SFU's undergraduate students, 94% of respondents said that the "variety and availability of courses" is important in determining their overall satisfaction with the university. To put this in context, only "overall quality of education" ranked as a more important factor, at 97%. Although course availability is clearly very important to our students, only 57% are satisfied with overall course variety and availability at SFU (15% very satisfied and 42% somewhat satisfied.) In particular, fewer than half of respondents were satisfied with the space available to register in required courses (49% satisfied) and the convenience of class scheduling (47% satisfied.) These relatively low ratings for course availability strongly influenced the fact that only 79% were satisfied overall with the university (24% very satisfied and 55% somewhat satisfied.)

Course Availability is Not Improving

Various sources of data suggest that undergraduate students at SFU have inadequate access to courses, and that the magnitude of the course availability problem has been increasing over time². It is estimated that, due to full classes and conflicting schedules, in recent fall semesters 15-20% of students have been unable to enroll in the *number* of courses they wanted, while approximately 40-50% have been unable to get all of their *specific* desired courses [1]. When we also consider the timing of course offerings, an estimated 65-70% of students are unable to get all of the specific courses they want each semester [2]. Students identify full classes, conflicting course and exam schedules, and semester availability of courses as the primary sources of their course availability problems. Based on the number of additional courses students want, it is estimated that approximately 5,000

¹ "Institutional Research and Planning" was formerly known as "Analytical Studies". The authors would like to acknowledge the intellectual contributions of Liny Chan (Analyst, Institutional Research and Planning) and Walter Wattamaniuk (Retired Director, Analytical Studies) in the production of this report.

² Sources of data used in this report are described in Appendix B.

additional or differently distributed course spaces (or 500 FTE course enrollments) would be needed in the fall semester to meet the excess demand.

Satisfaction with Course Availability Varies by Course Level

The Undergraduate Student Survey indicates that student satisfaction with course availability decreases as the course year-level increases. In fact, in 2006, fewer than 50% of survey respondents were satisfied with the availability of 400-level (fourth-year) classes, as opposed to 73% satisfaction with the availability of 100-level courses [3]. Tables A.1 to A.3 (in Appendix A) display the number and percentage of seats in different course levels that are being occupied by students of different year levels. They indicate, for example, that 3rd- to 5th-year students are taking up 17% of the seats in 1st-year courses, and 35% of the seats in 2nd-year courses. This may reflect the inability of upper-year students to find enough spaces in upper division courses. It is also noteworthy that 54% of registered students in the Fall 2006 Semester were in the third, fourth, or fifth year of their program [4], whereas only 42% of available seats [5] and 41% of registered seats were in upper division courses. This suggests that the university is offering an insufficient number of 300- and 400- level course seats.

Course Availability Affects Degree Completion and Student Retention

At SFU, there is evidence that course availability affects both undergraduate student retention and credential completion times. Of the estimated 56% of students who are taking longer than expected to complete their credential, an estimated 44% cite course availability problems as the primary cause of delayed completion [6]. Further, in a recent retention survey of leavers³, an estimated 15-20% of respondents⁴ provided some course availability issue as the primary reason for their departure from SFU [7]. Approximately 9% of the surveyed students indicated that they were unable to register for *any* of the courses they wanted in the 2005-06 academic year, and among these students, the most frequently cited reason for their decision to leave the university was SFU's failure to meet their expectations.

Comparisons with Other B.C. Universities

Compared to other British Columbia universities, students at SFU experience considerably more problems with course availability and timely degree

³ The survey was administered to students who had registered at SFU in the 2005-06 academic year, had not yet completed their credential, and did not register in the Fall 2006 Semester.

⁴ This figure excludes respondents who were required to withdraw and respondents who are on a brief leave from SFU and plan to return.

completion. The 2006 BC University Baccalaureate Graduate Survey [8] estimates that among students who graduated from SFU in 2004, 48% experienced course availability problems during their degree. This compares to 31% at the University of Victoria (UVic) and 29% at the University of British Columbia (UBC). In the same survey, 44% of SFU graduates reported taking longer than expected to complete their degree (compared to 35% for UVic and 29% for UBC.) Furthermore, among students who transferred to university in 2005 from a B.C. college, students transferring to SFU were less likely to get all of the courses they wanted in their first term than students transferring to other B.C. universities (an estimated 68% got all of the courses they wanted at SFU, compared to 87% for UVic and 86% for UBC [9].)

WHICH STUDENTS ARE MOST AFFECTED?

Students are not all affected equally by course availability issues. Factors such as student year level and student major are often correlated with registration success. The SIMS Course Availability Survey indicates that students with the following majors had registration success rates⁵ of less than 30% in *both* the Fall 2006 and Spring 2007 Semesters: Communications, Interactive Arts and Technology, Linguistics, Political Science, TechOne, Faculty of Arts (no major), and Faculty of Science (no major). Students in the Faculty of Education were not strongly affected by course availability issues: they had very high (~80%) registration success rates. Students with declared majors were generally more successful in enrolling in all of their classes than non-majors. Also, new students tended to be more successful than returning students, although students who had completed more than 105 credits had the greatest rate of success. Students with higher GPA had fewer course availability issues [10].

These results are consistent with SFU's enrollment appointment system. Each semester at SFU, students gain access to enrollment based on a system that gives priority to students who have completed more credit hours and students with higher cumulative GPA. In addition, students in their first semester and scholarship students have access to earlier enrollment. Transfer and second degree students are given approximately the same priority as students who have completed 60 credits.

The Undergraduate Student Survey includes an open-ended question asking students to discuss concerns regarding their academic experience at SFU. In the Fall 2006 survey, 28% of respondents discussed course availability issues. Groups of respondents that were *more* likely to discuss course availability concerns include: students in the Faculty of Arts; students in their third year at SFU (measured by the number of credits completed); and

⁵ The registration success rate is the percentage of students who were able to register for all of the courses they wanted.

students taking courses at the Vancouver campus or through distance education. New students were considerably *less* likely to express concern about course availability.

IDENTIFYING THE PROBLEM AREAS

Problem Courses Identified by Students

Having established that course availability is a significant problem at SFU, it is now desirable to identify the specific programs and courses that are experiencing the greatest problems. The SIMS Course Availability Survey, conducted every semester, indicates that in the past two years, the departments that have consistently turned away many students as a result of *full* courses include: Business, Criminology, Economics, English, Kinesiology, Political Science, and Sociology and Anthropology [11]. As an example of problematic courses, Table 1 lists courses from which at least 10 students reported being turned away in the Fall 2006 Semester's Course Availability Survey. These courses are in Biological Sciences, Business, Chemistry, Communications, Criminology, Economics, Interactive Arts and Technology, Japanese, Kinesiology, Physics, Political Science, Psychology, and Sociology and Anthropology. Since the survey had only an 8% participation rate, it is likely that these courses in fact turned away many more students. Due to the low response rate, it is also possible that many key "turn-away" courses may have been missed. However, this problem may be partially offset by the fact that students who experience problems are more likely to respond to the survey.

Table 1: Classes with ≥ 10 Self-Declared Students Turned Away (8% Response Rate), Fall 2006

Subject	Catalog Number
BISC	101
BUS	207; 251; 254; 303; 312; 315; 320; 322; 360; 374; 381
CHEM	121
CMNS	130; 375
CRIM	101; 103; 104; 135; 312; 314; 330
ECON	103; 105; 342
IAT	244
JAPN	100
KIN	143
PHYS	100
POL	342
PSYC	100; 361; 362
SA	150

Courses are Filling Up Quickly

The SFU Course Section Availability Report [12] tracks enrollment in specific course sections over the entire enrollment period. This allows for the identification of specific courses that are filling quickly. As an illustration, Table 2 lists course sections that were 100% full within the first four days of registration in the Fall 2006 Semester. These courses are in Business, Communications, Contemporary Arts, Criminology, Economics, English, Explorations, French, History, Interactive Arts and Technology, Kinesiology, and Psychology. Unsurprisingly, many of the classes that fill quickly are fourth year courses with only one section.

Table 2: 100% Full Course Sections by Registration Day, Fall 2006

Registration Day	Full Courses			
	Subject	Catalog Number	Section	Other Sections Available?
1	ENGL	199	D100, D200, D300, D400, D500	Yes
	EXPL	120	D100	No
2	ENGL	199	D600, E100, E200	Yes
	IAT	100	D03, D07	Yes
	FPA	150	D100, D200	Yes
	FREN	210	D100	Yes
3	CMNS	478	D200	Yes
	EXPL	110	D100	No
4	BUS	413	D100	Yes
	BUS	421	D100, E100	No
	BUS	426	D100	No
	BUS	478	D400	Yes
	BUS	481	D100	No
	CRIM	412	D100	No
	ECON	451	D100	No
	ECON	482	D100	No
	FPA	150	E200	Yes
	HIST	442	D100	No
	KIN	407	D100	Yes
PSYC	491	D100	Yes	

Ranking of Subjects Close to Capacity

Institutional Research and Planning also conducted an analysis⁶ which identified courses offered in the Fall 2006 and Spring 2007 Semesters that were at least 95% full at the end of the first week of classes. Aggregating these “close to capacity” courses at the subject level based on their maximum class enrollment, we can derive an ordering of the departments

⁶ This analysis was conducted by Walter Wattamaniuk (Retired Director, Institutional Research and Planning.)

that reflects the extent of their potential course capacity problems. Table 3 displays the rankings of the subject areas. The data suggest that Business courses, as well as Criminology, Economics, Psychology, and English courses, were close to capacity by the end of first week of classes.

Table 3: Ranking of Subjects Close to Capacity

Rank	Subject	Rank	Subject
1	BUS	24	PHYS
2	CRIM	25	WS
3	ECON	26	CNS
4	PSYC	27	TECH
5	ENGL	28	JAPN
6	KIN	29	HSCI
7	CMNS	30	SPAN
8	POL	31	EASC
9	HIST	32	GERO
10	SA	33	CHIN
11	GEOG	34	REM
12	IAT	35	EXPL
13	EDUC	36	ASC
14	BISC	37	GERM
15	FPA	38	STAT
16	PHIL	39	SCD
17	HUM	40	MBB
18	BUEC	41	ITAL
19	ARCH	42	CMPT
20	LING	43	GS
21	CHEM	44	ACMA
22	FREN	45	LBST
23	ENSC	46	GDST

Table 4 lists the subjects with adequate capacity, in which no courses were at 95% capacity or higher at the end of the first week of classes.

Table 4: Subjects with Adequate Capacity

COGS	ITEC
DIAL	LANG
EDPR	LAS
EVSC	MACM
FAL	MATH
FAN	MSSC
FEP	NUSC
FNST	PORT
GRK	SCI
INTS	

At first blush these data may seem to suggest that there may be capacity problems in the Faculties of Business, and Arts and Social Sciences. However, there are issues with this approach to ranking departments and Faculties. First, the analysis is based only on how *full* the classes are, and does not factor *scheduling problems* into the rankings. Second, the university in fact does not know how much demand there is for courses that are full. Prior to the introduction of SIMS (the “Student Information Management System”), students engaged in registration “transactions” when they wished to enroll in a class. These transactions were recorded, and could be analyzed to gauge student demand for particular courses. Since the implementation of SIMS in the Fall 2003 Semester, SFU lost the ability to track demand for full classes, and so the actual unmet demand is unknown.

Using maximum class enrollment and the percentage of capacity filled as proxies for unmet demand could lead to some erroneous conclusions. For example, suppose a particular course can only be taken by majors, and the department is aware of the number of majors it has. The department may choose a maximum enrollment that is equal to the number of eligible registrants. In the analysis conducted above, such a class would appear close to 100% full and perhaps in need of extra capacity, but would, in fact, be optimally sized.

It should also be noted that some departments are already taking steps to address their course availability problems. The analysis above is based on a course’s maximum capacity, but some departments allow classes to be filled above capacity. Several courses were filled at 150% capacity at the end of the first week of classes. Some departments may also be adding extra sections when all of the available sections have filled. Such courses may appear to be full, but extra space is often available. Finally, some departments may be increasing the maximum capacity of their course sections when they are close to full. Again, such courses would appear to the student (and in this analysis) to be nearly full, but would generally admit more students if necessary.

Summary of Problem Areas

The above sections have identified problem courses based on three separate criteria. These include:

- student-identified problem courses from the Course Availability Survey [13],
- course sections that have filled early in the enrollment period [14],
- and course sections that were at least 95% full at the end of the first week of classes [15].

Subjects that were identified as problem areas using all three criteria include:

- Business,

- Communications,
- Criminology,
- Economics,
- English,
- Kinesiology,
- and Psychology.

These are also the seven highest ranked subject areas identified in Table 3. Subjects that were identified as problem areas using two of the three criteria include History, Interactive Arts and Technology, Political Science, and Sociology and Anthropology.

LOOKING FOR SOLUTIONS

Simon Fraser University is actively seeking solutions to its course availability problems. SFU's most recent Institutional Accountability Report to the Ministry of Advanced Education states that over the next three years, "SFU will strive to achieve an ultimate goal of more than 90% of students being able to register in the number of courses they would like and 75% of students being able to get the specific courses they want" [16]. With this ambitious goal in mind, this report offers several suggestions for improving course availability at SFU.

Scheduling Practices Within Departments

A next step that SFU might take to address its course availability problem would be to look carefully at the scheduling practices within departments. This might be addressed in the following two ways.

1. First of all, the university could *perform case studies on several departments*. The purpose of such case studies would be to document and analyze in detail the process through which a department offers its courses, including:
 - What factors are considered in the decision to offer a course, in the maximum capacity, in the scheduling of the course and final exam, in who teaches the course, in how often a course is offered, *etc.*?
 - Does the department have formal rules for the types of teaching undertaken by junior versus senior colleagues, faculty in different positions, *etc.*?
 - How are different obligations (teaching graduate versus undergraduate courses, graduate thesis mentoring, undergraduate thesis advising, *etc.*) allocated within the department?
 - How do the availability of faculty and other instructors, teaching assistants, funding, and space affect course offerings and availability [17]?

This would involve working closely with Department Assistants, Program Chairs, and Undergraduate Advisors to study the entire process of offering courses, and to identify bottlenecks and possible solutions. Ideally, case studies would take place in one or two of the departments experiencing the largest capacity problems (such as Business, Communications, Criminology, Economics, English, Kinesiology, or Psychology), and one or two departments experiencing little capacity problem (such as Mathematics).

2. Secondly, it would be helpful to hold *focus groups* with interested parties, to discuss experiences with course availability and suggestions for its improvement. In particular, meetings would take place with groups of students, Department Assistants, and other staff, to discuss issues that

they encounter during scheduling and registration, and possible solutions to these problems.

Program-Specific Policies

The university might also begin shaping general policies to address its course availability problem. Program-specific policies would respond to problems and bottlenecks within particular programs, and should be formed based on consultations with the associated department. Such policies may include:

3. *Offering high demand classes more often.*
4. *Offering more or larger sections* of high demand classes.
5. Ensuring that particular classes have *consistent start and end times* so as to minimize conflicts with other classes through the week.
6. Departments might also consider *simplifying their programs*. There is evidence that, in some cases, programs with the largest course availability problems tend to have an unusually large percentage of a student's degree taken up with required courses. Some programs are also very flexible, which is desirable from the student's perspective, but causes scheduling difficulties: a lack of structure makes it difficult for planners to predict which courses a student will want to take at certain stages of his/her degree. The university might consider undertaking an analysis on the curriculum requirements of its programs, and the implications of these requirements for credential completion times and course availability.
7. During the registration period, departments should be encouraged to use the *Course Section Availability Report* on the Institutional Research and Planning website [18], which allows them to daily monitor the rate at which their courses are filling. This may alert them to the need to increase the maximum class capacity or to add another section to particular courses. Also, for some specialized courses, it should be possible for departments to estimate demand based on the number of majors at a particular year level.

University-Wide Policies

The university should also consider university-wide policies that might begin to solve the problem. Such policies might include:

8. Enhancing the *SIMS waitlist system*, and implementing a mandatory and consistent use of waitlists across the university. If all courses had a

waitlist, policy-makers would have a much more accurate estimate of unmet demand. This data would also allow for the monitoring and tracking of improvements in course availability over time. The existing SIMS waitlist system would need to be adjusted to accommodate this change: students would need permission to be on several waitlists; waitlists would have to accommodate “multiple section” courses (courses with a lecture and another compulsory section, such as a lab or tutorial), and courses that use reserved seating, *etc.* Specific features needed in the waitlist system should be identified by coordinating with Department Assistants, the SIMS support teams, and other involved parties. The university might also consider guaranteeing waitlisted students a spot in the class the next time it is offered. Departments could then increase the maximum capacity of the class in its next offering to accommodate the waitlisted students.

9. Allowing students to ***register for courses several semesters in advance***. In this way, if students are unable to register for a course in the upcoming semester, they may have the comfort of knowing that they are already guaranteed a spot in the class the following semester. Also, departments could respond to early registration numbers by offering more courses or course sections where necessary. It should be noted that SFU’s Institutional Accountability Report to the Ministry of Advanced Education also indicated that SFU hopes to “investigate the introduction of a ‘Pre-registration Process’ to assist in improved enrolment planning” [19].
10. ***Expanding SFU’s distance and on-line course offerings***. These modes of delivery allow students to take necessary courses without using university class space, and may be especially attractive to students who are employed during regular class hours. Data indicate that roughly two-thirds of SFU undergraduate graduands have taken at least one course through the Centre for Online and Distance Education. This suggests that SFU students are not averse to taking some of their courses through these alternate modes of delivery.
11. ***Making better use of university resources during less popular scheduling times***. Classroom space is not being used efficiently in the evenings. For example, in the Fall 2006 Semester, only an average of 19% of the centrally scheduled rooms were in use on Monday evenings [20]. Evening classes might also be more attractive to students who are employed. Schedulers might also make better use of available space on Fridays. Although evenings and Fridays may be less popular class times among students, if the more popular (or required) courses were offered at these times with the more popular instructors, it seems likely that the courses would fill. Anecdotal evidence suggests, however, that this might not be a successful strategy in all subjects. The university could also consider extending the hours in which it offers classes: classes might be offered on Friday evenings, or earlier in the mornings. Some

departments might also increase their course offerings in the Summer Semester, when more space is available.

12. Putting considerable effort into ***ensuring that courses commonly taken together do not have conflicting class or exam schedules***. In some cases, there may be a need to increase inter-departmental communication and cooperation at the time when classes and exams are scheduled. An analysis of program requirements would help to identify courses that students are likely to take concurrently. Once these courses are identified, an analysis of the class and exam schedules before they are released to students would aid in the correction of undesirable overlaps, thus minimizing scheduling conflicts and maximizing course availability.
13. Introducing a ***system that guarantees timely degree completion*** and availability of courses. For example, the California State University has introduced a pledge to students guaranteeing them four-year graduation. Eligible students must declare a major in their first term (and not change their major later on), meet all course requirements and maintain a certain GPA, meet with their advisor each semester and adhere to his/her curricular recommendations, and meet their financial aid obligations. "If a student has documentation to demonstrate that he/she has met fully each requirement stated in the degree pledge and is not able to graduate within the established timeline, the university will authorize the student to register in the remaining courses required for graduation without fees" [21]. Such a policy would put power directly into the hands of the students, and would likely address, either directly or indirectly, both course availability and student satisfaction and retention.
14. Instituting a system of ***rewards to departments for resolving their course availability problems***. Conversely, disincentives might be applied to departments with ongoing and unresolved course availability problems. Rewards might also be provided to instructors who are willing to teach classes at unpopular times.

UNIVERSITY RESOURCES NEEDED TO ADDRESS THE PROBLEM

Analysis and Monitoring

Solving the course availability problem will likely require a commitment of resources from the university. First of all, more resources would be required to investigate the problem in detail, especially in conducting the departmental case studies suggested above. Additional analyses of course and student data will also be needed to track the problem over time, to investigate possible solutions, and to measure the effectiveness of any actions the university takes to address the problem.

Instructional Resources

Secondly, if more courses or course spaces are needed, there may be a need for more instructional funding. This could encompass funding for more tenure track faculty, lecturers, sessional instructors, and/or teaching assistants.

Reallocation of Course Spaces and Teaching Resources

It may in fact be possible to address the unmet demand for course spaces without investing significant resources into new course offerings. There may simply be a mismatch between supply and demand that can be addressed with a shift in current resources. While many students indicate that they are not able to register in their desired courses, a considerable number of courses at SFU are undersubscribed. In the Spring 2007 Semester, almost one quarter (24.5%) of classes were less than 50% full at the end of the first week of classes. Realigning supply and demand may involve a shift in teaching resources to more popular classes. Of course, simply shifting resources from unpopular to more “in demand” classes may not be adequate to solve the problem. In particular, further analysis may reveal that shifting resources to more popular subjects would lead the university away from its plan for growth across the range of its departments and Faculties.

IMPACT ON SFU: THE COST OF IGNORING THE PROBLEM

Enrollment Targets

One important impact of SFU’s course availability problem is that it hinders the university’s ability to meet its Enrollment Plan. It does this in two ways: by negatively impacting student retention, and by causing an overall decrease in student credit loads. In the first case, students who are unable to register for courses that are required in their programs may be more likely to leave the university. It has been demonstrated that dissatisfaction with course availability is a factor in a student’s decision to leave SFU [22]. Alternately, students often respond to lack of course availability by enrolling in fewer courses. Data from SFU over the last 10 years suggests that there is an association (though not necessarily a causal one) between the decline in the percentage of students getting the courses they want, and a corresponding decline in average credit load. These two factors, decreasing retention rates and decreasing credit loads, affect SFU’s ability to meet its enrollment targets.

University Budget

Reduced credit loads also affect tuition fee revenue. As students take fewer courses, the university's revenue from tuition fees decreases. This has an impact on the university's budget. A budget crisis leads to budget cuts, and a decrease in teaching resources. This leads to a reduction in course offerings, which further exacerbates the course availability problem, and a worsening cycle emerges.

Planning and Scheduling Complexities

The course availability problem in itself may also make scheduling a more difficult task. It is possible that students who are having trouble getting the courses they need in one program may switch to another program. This causes them to take longer to complete their credential, and program switches also make planning and scheduling more difficult for the university.

Dissatisfaction and Attrition

The course availability problem also impacts overall student satisfaction. Student dissatisfaction stems from frustration at an inability to register in desired courses, as well as a sense of "wasting" money on courses that are not of interest, and taking longer than expected to complete a credential. Many students must register for a minimum number of credits, regardless of whether they are able to enroll in their desired courses. This may be necessary to maintain their eligibility for student loans or scholarships, or to maintain their International Visa student status. The effects of student dissatisfaction can spread to many areas. As mentioned above, it can impact retention rates and tuition revenue. A less easily measurable effect is its impact on SFU's reputation. The "word of mouth" power of students should not be underestimated, and may lead to fewer or lower quality applicants to SFU in future years. Dissatisfied students will also become disgruntled alumni who are less likely to donate to SFU, or to credit SFU as a formative influence on their careers.

CONCLUSION

Simon Fraser University's current undergraduate course availability problem is one that needs to be addressed as swiftly as possible. If the university hopes to attract and retain the number of students required to meet its Enrollment Plan, it should strive to offer a more student-focused environment. In an age when students have diverse educational options, those who do not find what they need here are likely to go elsewhere. The steps discussed in this paper will help the university to focus its efforts, and to move towards a successful and sustainable solution.

APPENDIX A: SUPPLEMENTARY TABLES**Table A.1: Number of Students Taking Courses by Courses Level and Student Year Level, Fall 2006**

Student Year Level	# Courses Taken by Course Level				Total Courses by Student Year Level
	100	200	300	400	
1	13,883	3,229	503	239	17,854
2	5,441	7,251	1,890	138	14,720
3	2,670	4,255	8,821	1,316	17,062
4	852	1,053	6,782	4,557	13,244
5	328	355	1,443	1,396	3,522
Total Courses by Course Level	23,174	16,143	19,439	7,646	66,402

Table A.2: Distribution of Course Levels of Classes Taken by Students in Different Year Levels, Fall 2006

Student Year Level	% Courses Taken by Course Level				% Courses by Student Year Level
	100	200	300	400	
1	78%	18%	3%	1%	100%
2	37%	49%	13%	1%	100%
3	16%	25%	52%	8%	100%
4	6%	8%	51%	34%	100%
5	9%	10%	41%	40%	100%
% Courses by Course Level	35%	24%	29%	12%	100%

Interpretation: For example, first-year students take 78% of their courses at the 100-level, 18% at the 200-level, 3% at the 300-level, and 1% at the 400-level.

Table A.3: Distribution of Student Year Levels among Registrants for Courses of Specific Levels, Fall 2006

Student Year Level	% Courses Taken by Course Level				% Courses by Student Year Level
	100	200	300	400	
1	60%	20%	3%	3%	27%
2	23%	45%	10%	2%	22%
3	12%	26%	45%	17%	26%
4	4%	7%	35%	60%	20%
5	1%	2%	7%	18%	5%
% Courses by Course Level	100%	100%	100%	100%	100%

Interpretation: For example, 60% of 100-level course seats are occupied by first-year students, 23% by second-year students, 12% by third-year students, 5% by students in their fourth-year of higher.

APPENDIX B: SOURCES OF AVAILABLE DATA

There are a number of sources of available data that allow us to assess the extent of SFU's course availability problem, as well as its impact on student satisfaction and retention. This section describes the available data sources, and discusses their merits and limitations.

The University Report Card is a yearly survey conducted by The Globe and Mail. It measures student satisfaction with many aspects of university experience, including course availability. Aggregate data are available, as are responses to open-ended questions, although there are no open-ended questions directly related to course availability. Student responses can be separated by campus and by broad program area. This year, 2007, was the first year in which SFU promoted this survey to its students, and thus the first year with a large sample of SFU students participating. Results are available at <http://www.theglobeandmail.com/reportcard>.

The SFU Fall Undergraduate Student Survey has been conducted every fall since 1992 (with the exception of the Fall 2002 Semester) by SFU's Office of Institutional Research and Planning. Students are asked questions regarding course availability, and are also asked whether their credential is taking them longer to complete than expected. Aggregate data are available, as are responses to open-ended questions. Responses can be separated by student Faculty, but cannot be separated to the department or program level. Also, responses regarding course availability are not specific to certain courses. Until 2005, this survey was conducted on paper in randomly selected Undergraduate classes. This resulted in a clustered random sample, with a "captive audience" that led to high response rates. In fall 2006, the survey was administered on-line to all undergraduate students. This constituted a census of students, which is preferable to a random sample, but due to the lack of "captive audience", the response rates were much lower. This may have introduced some bias into the results, as students experiencing course availability problems may have been more likely to respond to the survey. The survey reports are available at <http://www.sfu.ca/irp/surveys/ugss/index.html>.

The BC University Baccalaureate Graduate Survey is a yearly telephone survey of all B.C. baccalaureate graduates conducted by The University Presidents' Council of British Columbia. In addition to their outcomes since graduation, students are asked about both course availability and the time to credential completion. Again, both aggregate data and responses to open-ended questions are available. This survey allows us to compare the responses among BC universities. The responses to this survey are, once again, not course specific. The survey reports are available at http://www.tupc.bc.ca/student_outcomes/publications/graduate_outcomes/.

An SFU graduate student (Karen McCredie) recently conducted a Student Retention Survey. The survey was administered to students who registered

at SFU in the 2005-06 academic year, had not yet completed their credential, and did not register in the Fall 2006 Semester. Students were asked about course availability, and about their primary reason for leaving SFU. Comments regarding course availability cannot be connected to specific courses. Both aggregate data and student comments are available. The Report, entitled "Undergraduate Student Retention at Simon Fraser University: A 2005/06 Case Study" will soon be available as a student graduate thesis at the SFU library.

The SFU SIMS Course Availability Survey (previously the Course Full Turnaway Report) is conducted every semester. After students register, they are asked whether they got all of the classes they wanted. Students who respond with "No" are asked to list the courses in which they were unable to enroll. This survey can be used to pinpoint specific courses and programs that are experiencing course availability problems. However, low response rates in recent semesters may result in somewhat biased or misleading results. Student comments are also available. The survey reports are available at <http://www.sfu.ca/irp/courses/CourseFullTurnaway/index.html>.

The SFU Course Section Availability Report is a daily report consisting of enrollment data collected from SIMS. During the registration period, it follows the progress of registration in each class being offered. In particular, it charts the percentage of available seats that are filled over time. The information is specific to the course and section level. However, the tracking of the percentage of seats filled over time is based on the most recent class size limit. As such, the data could be misleading if the class size limit changes over time. The semesterly reports are available at <http://www.sfu.ca/irp/courses/CourseSectionAvailability/index.html>.

Finally, discussions with administrators at other Canadian universities can put our own course availability problems into context, and may also suggest possible solutions.

APPENDIX C: REFERENCES

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