

Master Space Programmes to Inform the Development of Campus Plans at the Newnham, Markham and King Campuses of Seneca College

Final Report



August 19, 2011



Educational Consulting Services Corp.

Section 1 – Introduction

Master Space Programmes (MSPs) to Inform the Development of Campus Master Plans

Educational Consulting Services Corp. (ECS) has been engaged to develop master space programmes (MSPs) for the Newnham, Markham, King, Seneca@York and Jane campuses of Seneca College. MSPs estimate long-range space requirements by function and by space type and are intended to inform the development of campus master plans (CMPs) at the Newnham, Markham and King campuses. This planning and design work is being carried out concurrently by the design firm DIALOG.

Why Develop Master Space Programmes for Seneca@York and Jane Even Though No Campus Master Plans Are Being Prepared for these Locations?

ECS recommended, at the onset of this assignment, that the activities and functions located at the Seneca@York and Jane campuses be captured in the planning models and data sets to be used to develop MSPs at the other campuses. This is to allow the exploration of “what if” questions around the possible re-distribution of programmes and student enrolments across Seneca’s five main campuses. It behooves the College to explore such scenarios in view of the major strategic and capital decisions called for when developing long term physical master plans for its Markham, King and Newnham campuses.

One specific “what if” question, in particular, is covered in this document. It concerns the relocation of all Faculty of Applied Sciences and Technology programmes to the Newnham campus, with the exception of the School of Aviation. Other “what if” scenarios can be explored at the request of the College.

Inputs into the Master Space Programmes

The MSPs developed by ECS considers the following inputs:

- Long-range (to 2021) enrollment targets set by the College, by programme and campuses.
- The recent (April 2011) reorganization of the College’s academic structure into different faculty and school groupings.
- Current building inventory data, broken down by functional space type, buildings and campus locations.
- Findings of a first round of consultation with key College administrators held in February 2011.
- Space allocation benchmarks achieved at each campus. Space allocation standards and utilization targets observed by ECS (as achieved at other institutions) or proposed by the Council on Ontario Universities.
- Pre-existing decisions or intentions by the College to expand / invest in the construction of new facilities at each campus, including a new Student Centre at Newnham, a Public Safety / Police Training facility at King, and significant growth at both Markham and King premised on capital support by Government for the expansion of these campuses.

Purposes of this Report

This report is a compilation of tables that outline the data sets, calculations, assumptions and methodologies used by ECS to develop the MSPs. ECS has prepared this submission to:

- Present key observations by ECS following a round of consultation in February 2011 with College stakeholders that informed the development of the MSPs.
- Present Fall 2010 utilization of instructional spaces, as compiled by ECS when developing a weekly contact hour activity model to forecast needs for instructional spaces.
- Present enrolment projections provided by Seneca, as interpreted and manipulated by ECS to produce the MSPs.
- Present the weekly contact hour model and the utilization and seat area standards used by ECS to estimate instructional space requirements.
- Present the College staffing data and classification used to develop office space requirements, the office allocation template / standards, and the support and internal circulation multipliers proposed by ECS.
- Present other benchmarks, standards and assumptions used by ECS for the estimation of other types of spaces at each campus.
- Presents the multipliers used by ECS to convert net assignable areas to gross building areas (i.e. net-to-gross ratios).

The report also presents in Section 8 ECS’s space requirement estimates, or MSPs, as per the following:

- **Baseline** requirements, whereby the need for additional facilities is estimated to overcome existing space shortages.
- **Scenario A** requirements, whereby the campuses grow as per the current location of existing programmes and the College’s 2020/21 enrolment projections.
- **Scenario B**, whereby the entire Faculty of Applied Sciences and Technology is consolidated onto the Newnham Campus (with the exception of the School of Aviation programmes) and the College’s individual schools grow as per the College’s 2020/21 enrolment projections.

Section 2 — Context - Key Findings that Inform the MSPs

Four High-Level Consultation Findings that Inform Possible Programme Deployment Scenarios the College May Wish to Explore



- Seneca is reorganizing its faculties and school groupings. This is the first of possibly many steps that bring together schools, programmes and resources that should be together both administratively (as announced) and physically (as per the campus planning work currently under way). The College recognizes that this type of consolidation is worthwhile and should be explored, and accepts the fact that certain relocations might be costly.

(This finding is what prompted ECS to explore Scenario B – consolidation of the Faculty of Applied Sciences and Technology at Newnham Campus. Other scenarios can be explored.)

- Seneca has confidence in its potential to attract students and to grow over the next 10 years, and this confidence is irrespective of programme and campus locations. Relative few programmes offered by the College are truly location-sensitive in terms of attracting GTA students. However, some programmes are very dependent on access to specialized instructional facilities at a given campus.
- Seneca has not branded its four principal campuses in terms of programme offerings or differences in campus experience. Programme deployment decisions appear to be primarily opportunistic (space is available) rather than strategic (this is where demand exists, where we can pre-empt competition with other colleges, where we can build a unique brand and identity).
- Seneca is at a turning point in terms of changes in the delivery of key student, college and campus services. Thus, the size and configuration of the campuses should not be driven only by enrolment and programme deployment factors. Additions, or physical changes to existing campuses, have the potential to be a catalyst for organizational change as well as increased student capacity and the consolidation of programmes.

Section 3 — Context - Utilization of Instructional Space

Utilization of the Classroom Inventories at Each Campus

Overview

The table presented on page 3-2 provides a summary of classroom utilization at the Newnham, Seneca@York, King and Markham campuses. The summary describes the extent to which the campus' existing classrooms were used during the Fall 2010 semester. For each campus, the available classrooms have been organized based on the number of students each classroom can accommodate, the smallest spaces containing between 9 and 16 student workstations, and the largest containing upward of 161 stations. The table includes the following data, organized by classroom size, for each of the four campuses:

- **Column A** lists the number of each size of classroom at the campus;
- **Column B** lists the number of seats available for each size of classroom, and overall at each campus;
- **Column C** lists the number of weekly student contact hours (SCH) delivered in the campus' classrooms, where 1 SCH corresponds to one hour of classroom instruction delivered to one student;
- **Column D** lists the average section size of a group receiving instruction in one of the campus' classrooms;
- **Column E** lists the average percentage utilization of the seats in the campus' classrooms;
- **Column F** lists the number of 55-minute instructional slots delivered in the campus' classrooms per week;
- **Column G** lists the average percentage utilization of the available 55-minute instructional slots, where each classroom can deliver up to 60 slots per week;
- **Column H** lists the number of weekly teaching contact hours (TCH) delivered in the campus' classrooms, where 1 TCH corresponds to one hour of instruction delivered to one student section;
- **Column I** lists the average percentage utilization of the available TCH, where each classroom can accommodate up to 50 TCH per week.

Comparing Seneca Utilization Rates to the Rates Observed at Other Institutions

Most Ontario colleges schedule daytime classes within a 50-hour window on Monday to Friday from 8:00 AM to 6:00 PM. This 50-hour window is a common denominator by which institutions compare themselves in terms of room utilization. However, daytime classes at Seneca span 55 hours a week, and each class is 55 minutes long. There are therefore 60 "slots" daytime slots available for scheduling. In view of this ECS has calculated utilization rates in two ways:

- Based on the ratio of "slots" scheduled, over the 60 that are available in daytime each week.
- Based on converting each 55-minute slots into hours (1 slot = 0.92 hours) and assuming that the activity was scheduled within a 50-hour weekly window. This allows for an equitable comparison with other Ontario institutions.

Utilization Targets and Rates

ECS recommends that classrooms be scheduled at a utilization of 80% rate, corresponding to 40 hours per week out of a 50-hour weekly scheduling window referenced above. The 80% ratio balances the need for efficiency with the flexibility required to create quality and flexible timetables. Based on this target, ECS draws the following conclusions from the classroom utilization summary table presented on page 3-2:

- The **Newnham** campus classrooms are achieving utilization rates **significantly above** the recommended rate of utilization, at 87% utilization of the 60 weekly instructional slots available, and **96% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.
- The **Seneca@York** campus classrooms are achieving utilization rates **somewhat below** the recommended rate of utilization, at 63% utilization of the 60 weekly instructional slots available, and **70% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.
- The **King** campus classrooms are achieving utilization rates **somewhat below** the recommended rate of utilization, at 63% utilization of the 60 weekly instructional slots available, and **69% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges .
- The **Markham** campus classrooms are achieving utilization rates **slightly below** the recommended rate of utilization, at 69% 63% utilization of the 60 weekly instructional slots available, and **76% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.

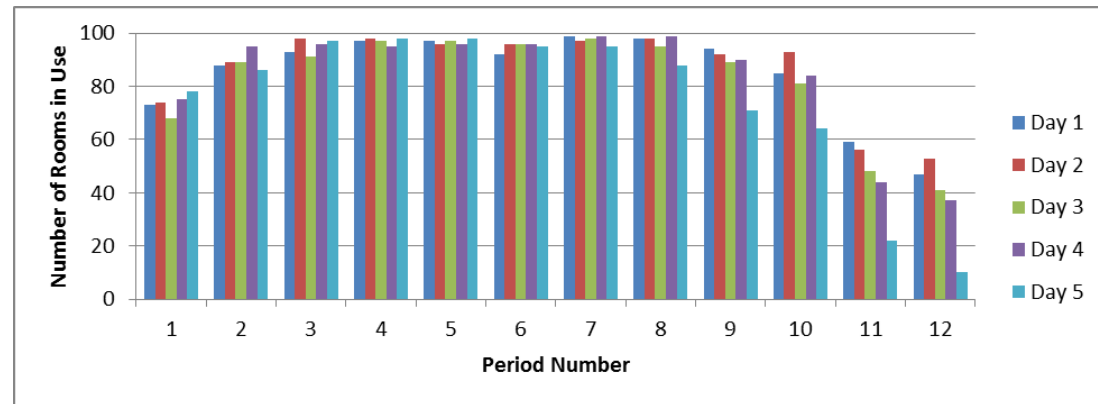
Classroom Utilization Summary – Fall 2010

	A	B	C	D	E	F	G	H	I	
	Number of Rooms	Number of Seats	Number of Weekly Student Contact Hours (SCH)	Average Section Size	Average Seat Utilization	Number of 55-Minute Slots Used	Average Utilization @ 60 55-Minute Slots per Week	Number of Section Hours / Teaching Contact Hours (TCH)	Average Utilization @ 50 Hours per Week	
☒ Newnham	9 to 16 Stations	1	12	180	10	83%	18	30%	17	33%
	25 to 32 Stations	16	474	14,860	21	70%	700	73%	642	80%
	33 to 40 Stations	45	1,743	71,420	29	74%	2,489	92%	2,282	101%
	49 to 60 Stations	29	1,314	46,749	31	71%	1,531	88%	1,403	97%
	61 to 80 Stations	1	65	2,252	40	66%	57	95%	52	105%
	81 to 100 Stations	2	200	4,947	45	44%	111	93%	102	102%
	161 Stations and More	1	250	3,812	71	16%	54	90%	50	99%
Newnham Total		95	4,058	144,220	29	71%	4,960	87%	4,547	96%
☒ Seneca@York	25 to 32 Stations	1	32	647	16	54%	40	67%	37	73%
	33 to 40 Stations	11	428	11,147	25	67%	439	67%	402	73%
	49 to 60 Stations	22	1,029	21,267	26	59%	815	62%	747	68%
	61 to 80 Stations	5	386	7,185	39	54%	182	61%	167	67%
	121 to 140 Stations	1	130	1,665	43	35%	39	65%	36	72%
	141 to 160 Stations	2	320	5,209	62	30%	84	70%	77	77%
Seneca@York Total		42	2,325	47,120	29	58%	1,599	63%	1,466	70%
☒ King	9 to 16 Stations	1	16	252	21	138%	12	20%	11	22%
	17 to 24 Stations	1	24	936	19	18%	50	83%	46	92%
	25 to 32 Stations	2	52	901	18	70%	51	43%	47	47%
	33 to 40 Stations	14	540	15,058	31	86%	488	58%	447	64%
	41 to 48 Stations	5	205	5,924	30	78%	199	66%	182	73%
	49 to 60 Stations	12	545	16,134	31	76%	515	72%	472	79%
	61 to 80 Stations	1	70	1,063	37	56%	29	48%	27	53%
	81 to 100 Stations	1	97	1,973	41	42%	48	80%	44	88%
King Total		37	1,549	42,241	30	76%	1,392	63%	1,276	69%
☒ Markham	17 to 24 Stations	1	18	378	14	0%	27	45%	25	50%
	33 to 40 Stations	15	595	17,866	28	73%	636	71%	583	78%
	121 to 140 Stations	1	129	1,863	49	26%	38	63%	35	70%
Markham Total		17	742	20,107	29	67%	701	69%	643	76%
Grand Total		191	8,674	253,688	29	69%	8,652	75%	7,931	83%

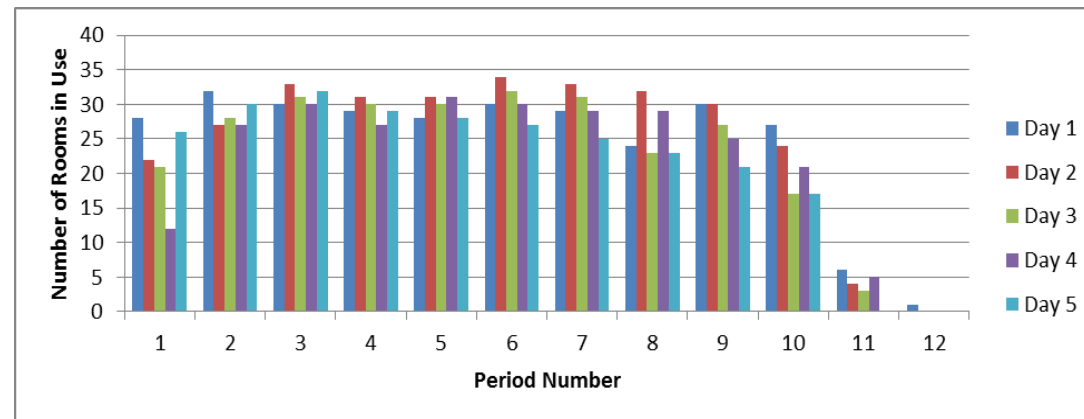
Classroom Time-of-Day Analysis - Fall 2010

The Newnham, Seneca@York, King and Markham campuses of Seneca College deliver classroom instruction using a 12-slot per day window. The four graphs below show the number of classrooms in use during each of the twelve periods at the campuses. The five bars plotted for each period represent the days of the week, so that the graphs visually display the complete distribution of classroom use across the hours of the day and the days of the week.

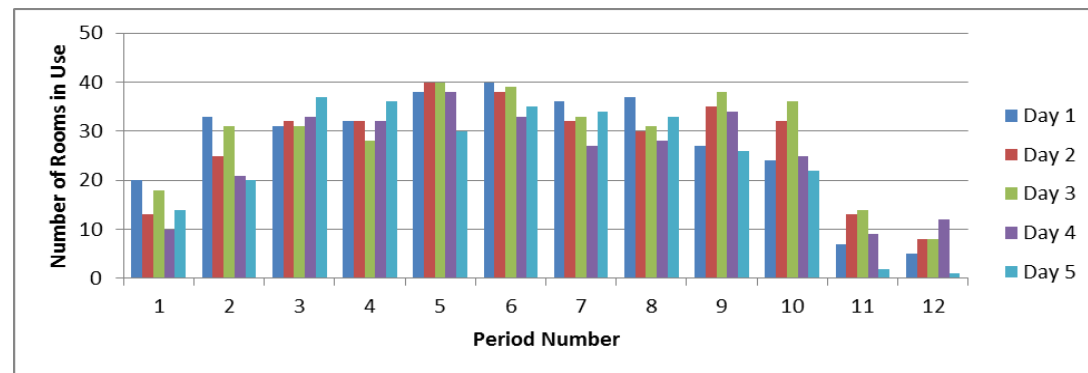
Newnham Campus – Out of 95 Classrooms



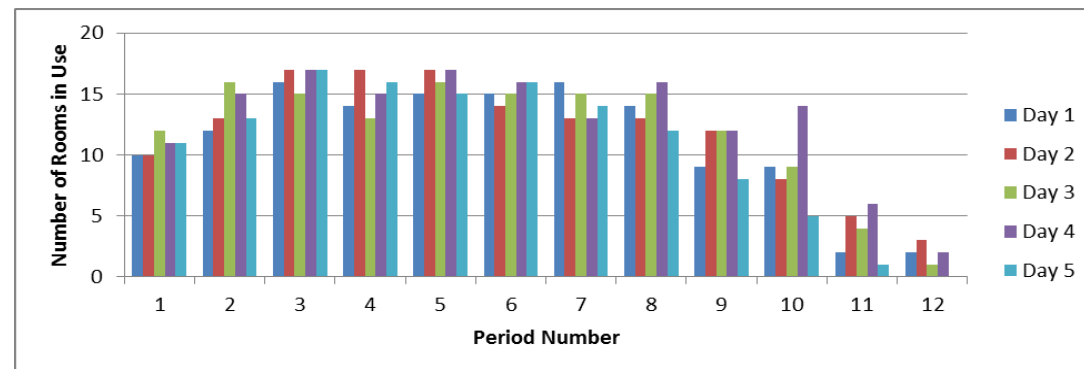
King Campus – Out of 37 Classrooms



Seneca@York Campus – Out of 42 Classrooms



Markham Campus – Out of 17 Rooms



Classroom Seat Utilization Analysis

The tables on pages 3-5 and 3-6 provide an analysis of seat utilization during the Fall 2010 semester at the Newnham, Seneca@York, King and Markham campuses. The coloured upper portions of the tables compare the capacity of the rooms in which classes were scheduled (Y axis of the table) and the size of the student groups enrolled in those classes (X axis of the table). The body of each table totals the number of 55-minute periods per week in which classes of a certain group size were scheduled in rooms of a certain capacity. The background colors indicate the following:

- **WHITE** background denotes instructional periods when the capacity of the room matched the size of the student group.
- **BLUE** background denotes instructional periods when the capacity of the room exceeded the size of the student group.
- **GREEN** background denotes instructional periods when the size of the student group exceeded the capacity of the room. In principle this should not occur, and the calculated percentages are negligible. It is assumed that these are data anomalies whereby the number of students exceeds the capacity of the room by one or two students only, a situation that corrects itself a few weeks into the semester through normal course attrition.

This analysis suggests that classroom scheduling at Seneca College has the potential for improvement, as a high percentage of classroom activity takes place in room that larger than needed (66% of periods at Newnham, 89% at Seneca@York, 66% at King, and 77% at Markham).

The lower portions of tables calculate what an optimal classroom pool should be in terms of both the number of rooms and their capacities.

- **Line A** totals the number of 55-minute periods occurring each week by student group size.
- **Line B** provides the total number of classrooms available to the Scheduling Office by room capacity.
- **Lines C, D, and E** illustrate how the utilization target per room, expressed in hours per week, is calculated. The target is set at 80% of a 60-period week, or 48 periods per room.
- **Line F** calculates how many rooms would optimally be required to absorb the number of hours of activity taking place by student group size.
- **Line G** calculates the difference in the number of existing classrooms and the optimal number of classrooms calculated as per Line F, at each capacity range.

Classroom Seat Utilization Analysis – Fall 2010

Newnham Campus

ECS Room Capacity Range	1 to 8 Students	9 to 16 Students	17 to 24 Students	25 to 32 Students	33 to 40 Students	41 to 48 Students	49 to 60 Students	61 to 80 Students	81 to 100 Students	121 to 140 Students	101 to 120 Students	161 Students and More	Grand Total
9 to 16 Stations		18											18
25 to 32 Stations	2	30	500	145	23					700			2,489
33 to 40 Stations	9	105	298	827	1,143	31	65	11					1,531
49 to 60 Stations	6	57	201	374	637	36	215	5					57
61 to 80 Stations			3	7	19	2	18	8					111
81 to 100 Stations		4	3	18	18	2	39	20	7				54
161 Stations and More			2	8	16		12		2	2	2	10	4,960
Grand Total	17	214	1,007	1,379	1,856	71	349	44	9	2	2	10	

77%	Percentage of periods whereby the capacity of the room exceeded the size of the student group
38%	Percentage of periods whereby the capacity of the room was aligned with the size of the student group
7%	Percentage of periods whereby the capacity of the room was smaller than the size of the student group

Number of Classrooms	0	1	0	16	45	0	29	1	2	0	0	1	95
Number of Daytime Schedulable Periods per Week	60	60	60	60	60	60	60	60	60	60	60	60	
Weekly Utilization Target (%)	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	
Weekly Utilization Target (Periods)	48	48	48	48	48	48	48	48	48	48	48	48	
Optimal Classroom Pool	0.4	4.5	21.0	28.7	38.7	1.5	7.3	0.9	0.2	0.0	0.0	0.2	103.3
Surplus or Shortage of Classrooms	-0.4	-3.5	-21.0	-12.7	6.3	-1.5	21.7	0.1	1.8	-0.0	-0.0	0.8	-8.3

Seneca@York Campus

ECS Room Capacity Range	1 to 8 Students	9 to 16 Students	17 to 24 Students	25 to 32 Students	33 to 40 Students	41 to 48 Students	49 to 60 Students	61 to 80 Students	81 to 100 Students	121 to 140 Students	141 to 160 Students	Grand Total
25 to 32 Stations		21	19									40
33 to 40 Stations	2	42	113	148	123	1	10					439
49 to 60 Stations	2	62	214	262	253	8	14					815
61 to 80 Stations		6	17	36	28	3	64	28				182
121 to 140 Stations	2		4	2	6		19	6				39
141 to 160 Stations			6	2	12		22	26	3		13	84
A Grand Total	6	131	373	450	422	12	129	60	3		13	1,599

89%	Percentage of periods whereby the capacity of the room exceeded the size of the student group
11%	Percentage of periods whereby the capacity of the room was aligned with the size of the student group
0%	Percentage of periods whereby the capacity of the room was smaller than the size of the student group

B	Number of Classrooms	0	0	0	1	11	0	22	5	0	1	2	42
C	Number of Daytime Schedulable Periods per Week	60	60	60	60	60	60	60	60	60	60	60	
D	Weekly Utilization Target (%)	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	
E = C x D	Weekly Utilization Target (Periods)	48	48	48	48	48	48	48	48	48	48	48	
F = A / E	Optimal Classroom Pool	0.1	2.7	7.8	9.4	8.8	0.3	2.7	1.3	0.1	0.0	0.3	33.3
G = B - F	Surplus or Shortage of Classrooms	-0.1	-2.7	-7.8	-8.4	2.2	-0.3	19.3	3.8	-0.1	1.0	1.7	8.7

Classroom Seat Utilization Analysis – Fall 2010 (continued)

King Campus

ECS Room Capacity Range	1 to 8 Students	9 to 16 Students	17 to 24 Students	25 to 32 Students	33 to 40 Students	41 to 48 Students	49 to 60 Students	61 to 80 Students	81 to 100 Students	Grand Total
9 to 16 Stations			12							12
17 to 24 Stations			50							50
25 to 32 Stations	4	16	16	15						51
33 to 40 Stations		9	46	134	256	5	38			488
41 to 48 Stations	3	3	31	45	95	22				199
49 to 60 Stations		3	66	145	207	34	60			515
61 to 80 Stations				5	15		9			29
81 to 100 Stations				9	25	1	5		8	48
A Grand Total	7	31	221	353	598	62	112	8		1,392

66%	Percentage of periods whereby the capacity of the room exceeded the size of the student group
30%	Percentage of periods whereby the capacity of the room was aligned with the size of the student group
4%	Percentage of periods whereby the capacity of the room was smaller than the size of the student group

B	Number of Classrooms	0	1	1	2	14	5	12	1	1	37
C	Number of Daytime Schedulable Periods per Week	60	60	60	60	60	60	60	60	60	
D	Weekly Utilization Target (%)	80%	80%	80%	80%	80%	80%	80%	80%	80%	
E = C x D	Weekly Utilization Target (Periods)	48	48	48	48	48	48	48	48	48	
F = A / E	Optimal Classroom Pool	0.1	0.6	4.6	7.4	12.5	1.3	2.3	0.0	0.2	29.0
G = B - F	Surplus or Shortage of Classrooms	-0.1	0.4	-3.6	-5.4	1.5	3.7	9.7	1.0	0.8	8.0

Markham Campus

ECS Room Capacity Range	1 to 8 Students	9 to 16 Students	17 to 24 Students	25 to 32 Students	33 to 40 Students	41 to 48 Students	49 to 60 Students	61 to 80 Students	121 to 140 Students	Grand Total
17 to 24 Stations			27							27
33 to 40 Stations	7	44	111	184	242	3	39	6		636
121 to 140 Stations		1	5	5	3		12	5	7	38
A Grand Total	7	45	143	189	245	3	51	11	7	701

77%	Percentage of periods whereby the capacity of the room exceeded the size of the student group
38%	Percentage of periods whereby the capacity of the room was aligned with the size of the student group
7%	Percentage of periods whereby the capacity of the room was smaller than the size of the student group

B	Number of Classrooms	0	0	1	0	15	0	0	0	1	17
C	Number of Daytime Schedulable Periods per Week	60	60	60	60	60	60	60	60	60	
D	Weekly Utilization Target (%)	80%	80%	80%	80%	80%	80%	80%	80%	80%	
E = C x D	Weekly Utilization Target (Periods)	48	48	48	48	48	48	48	48	48	
F = A / E	Optimal Classroom Pool	0.1	0.9	3.0	3.9	5.1	0.1	1.1	0.2	0.1	14.6
G = B - F	Surplus or Shortage of Classrooms	-0.1	-0.9	-2.0	-3.9	9.9	-0.1	-1.1	-0.2	0.9	2.4

Laboratory Utilization Analysis

The facing table presents a summary of laboratory utilization at the Newnham, Seneca@York, King, and Markham campuses. The summary describes the extent to which the campus' existing laboratories were used during the Fall 2010 semester. For each campus, the available laboratories have been categorized by the type of spaces and functions the rooms support. The table includes the following data:

- **Column A** indicates the functional category of a room, which considers both the activities taking place and the type of space needed to support these activities. Classifying rooms this way (as opposed to classifying them by the department that controls them) is more useful from a space planning perspective.
- **Column B** indicates the number of rooms considered in the analysis.
- **Column C** lists the number of 55-minute instructional slots scheduled per week;
- **Column D** lists the average percentage utilization of the available 55-minute instructional slots, where each laboratory can accommodate up to 60 slots per week;
- **Column E** lists the number of weekly teaching contact hours (TCH) delivered in the campus' laboratories, where 1 TCH corresponds to one of instruction delivered to one section;
- **Column F** lists the average percentage utilization of the available TCH, where each classroom can accommodate up to 50 TCH per week.

ECS recommends a 60% utilization rate for laboratory spaces. The remaining 40% of the time available time allows for access to technicians and students for preparation or independent work, for maintenance, etc. If a group of rooms under in a given category is nearing the 60% target stated above, the institution should consider adding rooms of this type to its inventory. If, on the other hand, the utilization is well below the 60% the College can consider amalgamating activities into fewer rooms and converting the vacated space to other uses. Based on this, ECS observes the following:

- The laboratories of the four campuses combined are achieving utilization rates almost equivalent to the recommended maximum rate of utilization, at 57% utilization of instructional slots and 63% utilization of TCH. It is relatively rare in Ontario for a college to post such a high overall average. Most institutions post rates ranging between 30% and 45%.
- **Newnham** laboratories are **achieving rates above the recommended rate of utilization**, at 63% utilization of instructional periods and **69% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.
- **King** laboratories are **achieving utilization significantly below the recommended** rate of utilization, at 33% utilization of instructional periods and **36% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.
- **Markham** laboratories are **achieving utilization at the recommended rate of utilization**, at 52% utilization of instructional periods and 58% utilization if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.

- **Seneca@York** laboratories are **achieving utilization at the recommended rate of utilization**, at 55% utilization of instructional periods and **61% utilization** if the College was to schedule its classes within a 50-hour window as is the usual practice in other Ontario colleges.

Campus	Room Category	Number of Rooms	Number of 55-Minute Slots		Section Hours / teaching Contact Hours (TCH)	Average Utilization @ 50 Hours per Week
			Used	60 Slots per Week		
Newnham	General Computer	23	898	65%	823	72%
	Specialized Computer	5	280	93%	257	103%
	Marketing	3	92	51%	84	56%
	Fashion	7	277	66%	254	73%
	Personal Care	2	74	62%	68	68%
	ECE Laboratory	2	89	74%	82	82%
	Building Science / Civil	7	241	57%	221	63%
	Electronics / Comp. Hardware	11	344	52%	315	57%
	Wet Life Sciences	1	36	60%	33	66%
	Wet Physical Sciences	1	19	32%	17	35%
Newnham Total		62	2,350	63%	2,154	69%
King	Animal Science	3	30	17%	28	18%
	ECE Laboratory	1	44	73%	40	81%
	Electronics / Comp. Hardware	1	34	57%	31	62%
	Greenhouse	1	7	12%	6	13%
	Metal Trades	2	18	15%	17	17%
	Patient Care	1	43	72%	39	79%
	Wet Life Sciences	1	23	38%	21	42%
King Total		10	199	33%	182	36%
Markham	General Computer	5	183	61%	168	67%
	Specialized Computer	2	47	39%	43	43%
	Hospitality / Travel	3	101	56%	93	62%
	Media / Performance	2	72	60%	66	66%
	Patient Care	1	6	10%	6	11%
Markham Total		13	409	52%	375	58%
Seneca@York	Animation / Gaming	9	117	22%	107	24%
	General Computer	17	696	68%	638	75%
	Specialized Computer	6	246	68%	225	75%
	Electronics / Comp. Hardware	4	158	66%	145	72%
	Graphic Arts	4	152	63%	139	70%
	Media / Performance	7	171	41%	157	45%
	Wet Life Sciences	6	209	58%	192	64%
	Wet Physical Sciences	4	146	61%	134	67%
Seneca@York Total		57	1,895	55%	1,737	61%
Grand Total		142	4,853	57%	4,449	63%

Section 4 — Enrolment Projections

Baseline Enrolments

The table on page 4-2 summarizes the enrolments at the Newnham, King, Markham, Seneca@York, and Jane campuses of Seneca College in Fall 2010 semester. The table has been compiled based on data from the College's Day 10 Report, but reflects the April 2011 reorganization of academic divisions. The table provides a comprehensive view of how the students enrolled at Seneca College during the Fall 2010 semester were distributed across the College's various campuses (columns) and faculties (rows).

For every school at one the five campuses, the table states both the number of students enrolled at that location and the percentage of total Seneca College enrolment that the program represents. The Grand Total row at the end of the table shows the overall distribution of Seneca College students across the Newnham, King, Markham, Seneca@York, and Jane campuses. Similarly, the two columns to the far right of the table show the overall distribution of Seneca College students across the various schools offered by the College at its five campuses. These enrolment figures have been used to establish baseline space standards and benchmarks.

Scenario A Enrolment Projections

Scenario A represents a potential growth path for Seneca College, modeled after the Senior Vice President Academic 10-year enrolment plan.

It is planned that the College will grow by 37% between 2010 and 2020. Newnham Campus will grow by 8%, Markham Campus by 218%, King Campus by 47% and Seneca@York by 21%.

In the table on page 4-3 all programme relocations embedded in the enrolment plan are accounted for, with the exception of Jane campus, which remains in place. The table on page 4-3 summarizes the projected enrolments for the 2020/21 academic year based on Scenario A. The table indicate the projected distribution of Seneca College students across campuses (columns) and faculties (rows). *The table also provides percentages showing how the Scenario A projected enrolments vary from the baseline enrolments (as shown on the page 4-2 table).* Positive percentages represent growth, while negative percentages indicate downsizing.

The Grand Total row at the bottom of the table shows both the projected 2020/21 enrolments at each of Seneca College's five campuses, as well as projected growth from the baseline scenario. Similarly, the two columns to the right of the table show the projected distribution of Seneca College students across the schools offered by the College, along with percentages indicating projected growth over the baseline scenario.

Scenario B Enrolment Projections

Scenario B enrolment projections are shown on page 4-3. These are also modeled after the Senior Vice President Academic 10-year enrolment plan, with the difference that most Faculty of Applied Sciences and Technology programs are relocated to the Newnham campus. Only the School of Aviation and Flight Technology would remain at the Markham campus.

Scenario B explores the relocation of Applied Sciences and Technology programmes to the Newnham campus based on the need to improve the quality and size of the laboratories and workshop facilities in place at that location under the aegis of a major, sizable capital project that would be transformative in the way Seneca offers these programmes. The relocation of the programmes currently located at the Seneca@York campus is prompted by two factors:

- Consolidate all Applied Sciences and Technology in a single location to foster synergies often associated with a "polytechnic" learning environment.
- Free-up a sizable amount of space at the Seneca@York campus the College can convert to more intensive uses that leverage that campus unique location and accessibility via transit.

The table on page 4-4 summarizes the projected enrolments for the 2020/21 academic year based on Scenario B, and is formatted identically to the Scenario A Enrolment Projections on page 4-3.

Fall 2010 Day 10 Enrolments

		Newnham		King		Markham		Seneca @ York		Jane		Total Day 10 Enrolment Fall 2010	Total %
		Day 10 Enrolment Fall 2010	%	Day 10 Enrolment Fall 2010	%	Day 10 Enrolment Fall 2010	%	Day 10 Enrolment Fall 2010	%	Day 10 Enrolment Fall 2010	%		
Faculty as per 2011 Reorganization													
Faculty of Business	School of Accounting & Financial Services	2,217	11.0%		0.0%	44	0.2%		0.0%		0.0%	2,261	11.2%
	School of Business Management & Centre for Human Resources	1,447	7.2%		0.0%	221	1.1%		0.0%		0.0%	1,668	8.3%
	School of Legal and Public Administration & School of Office Administration	844	4.2%		0.0%		0.0%		0.0%		0.0%	844	4.2%
	School of English & Liberal Studies	308	1.5%		0.0%		0.0%		0.0%		0.0%	308	1.5%
Faculty of Business Total		4,816	23.9%	0.0%	1.3%	0.0%	0.0%	0.0%	5,081	25.3%			
Faculty of Applied Arts and Health Sciences	School of Health Sciences	121	0.6%	1,180	5.9%		0.0%		0.0%		0.0%	1,301	6.5%
	School of Early Childhood Education	1,125	5.6%	374	1.9%		0.0%		0.0%		0.0%	1,499	7.4%
	School of Public Safety & King Campus Programmes		0.0%	829	4.1%		0.0%		0.0%		0.0%	829	4.1%
	School of Community Studies & School of English & Liberal Studies	252	1.3%	619	3.1%		0.0%	389	1.9%		0.0%	1,260	6.3%
	School of Recreation		0.0%	194	1.0%		0.0%		0.0%		0.0%	194	1.0%
Faculty of Applied Arts and Health Sciences Total		1,498	7.4%	3,196	15.9%	0.0%	389	1.9%	0.0%	5,083	25.3%		
Faculty of Applied Sciences and Technology	School of Information & Communication Technology	544	2.7%		0.0%		0.0%	1,550	7.7%		0.0%	2,094	10.4%
	Centre For The Built Environment	670	3.3%		0.0%		0.0%		0.0%		0.0%	670	3.3%
	School of Fire Protection Engineering Technology	427	2.1%	84	0.4%		0.0%		0.0%		0.0%	511	2.5%
	School of Aviation & Flight Technology		0.0%		0.0%	270	1.3%		0.0%		0.0%	270	1.3%
	School of Biological Sciences & Applied Chemistry		0.0%		0.0%		0.0%	839	4.2%		0.0%	839	4.2%
	Centre For Advanced Technologies		0.0%		0.0%		0.0%		0.0%	98	0.5%	98	0.5%
Faculty of Applied Sciences and Technology Total		1,641	8.2%	84	0.4%	270	1.3%	2,389	11.9%	98	0.5%	4,482	22.3%
Faculty of International Studies	School of International Business & School of Tourism	994	4.9%		0.0%	586	2.9%		0.0%		0.0%	1,580	7.9%
	English Language Institute	394	2.0%		0.0%		0.0%		0.0%		0.0%	394	2.0%
	School of English & Liberal Studies		0.0%		0.0%	39	0.2%		0.0%		0.0%	39	0.2%
Faculty of International Studies Total		1,388	6.9%	0.0%	3.1%	0.0%	0.0%	0.0%	2,013	10.0%			
Faculty of Communication, Arts and Design	School of Media & Marketing		0.0%		0.0%	530	2.6%	473	2.4%		0.0%	1,003	5.0%
	School of Fashion	606	3.0%		0.0%		0.0%		0.0%		0.0%	606	3.0%
	School of Creative Arts & Animation		0.0%		0.0%	147	0.7%	991	4.9%		0.0%	1,138	5.7%
	School of English & Liberal Studies		0.0%		0.0%		0.0%	633	3.1%		0.0%	633	3.1%
Faculty of Communication, Arts and Design Total		606	3.0%	0.0%	3.4%	2,097	10.4%	0.0%	3,380	16.8%			
Faculty of Workforce Skills Development	Faculty of Workforce Skills Development	22	0.1%		0.0%		0.0%		0.0%		0.0%	22	0.1%
Faculty of Workforce Skills Development Total		22	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	22	0.1%			
Counselling, Disability & Health Services	Counselling, Disability & Health Services	61	0.3%		0.0%		0.0%		0.0%		0.0%	61	0.3%
Counselling, Disability & Health Services Total		61	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	61	0.3%			
Grand Total		10,032	49.9%	3,280	16.3%	1,837	9.1%	4,875	24.2%	98	0.5%	20,122	100.0%

2020/21 Enrolment Projections - Scenario A

Faculty as per 2011 Reorganization	School	Newnham		King		Markham		Seneca@York		Jane		Total Projection Enrolment 2021 with Relocations	Total % Change from Projection Base
		Projection Enrolment 2021	% Change from Projection Base	Projection Enrolment 2021	% Change from Projection Base	Projection Enrolment 2021	% Change from Projection Base	Projection Enrolment 2021	% Change from Projection Base	Projection Enrolment 2021	% Change from Projection Base		
		with Relocations		with Relocations		with Relocations		with Relocations		with Relocations			
Faculty of Business		2,130	-4%			140	218%					2,270	0%
	School of Accounting & Financial Services												
	School of Business Management & Centre for Human Resources	1,708	18%			703	218%					2,411	45%
	School of Legal and Public Administration & School of Office Administration	996	18%					996	18%				
	School of English & Liberal Studies	361	17%					361	17%				
Faculty of Business Total		5,195	8%	843	218%			6,038	19%				
Faculty of Applied Arts and Health Sciences													
	School of Health Sciences	143	18%	2,477	110%					2,620	101%		
	School of Early Childhood Education	1,706	52%	225	-40%					1,931	29%		
	School of Public Safety & King Campus Programmes			1,044	26%					1,044	26%		
	School of Community Studies & School of English & Liberal Studies	70	-72%	727	17%							1,267	1%
	School of Recreation	245	26%					245	26%				
Faculty of Applied Arts and Health Sciences Total		1,919	28%	4,718	48%			470	21%			7,107	40%
Faculty of Applied Sciences and Technology													
	Centre For The Built Environment	790	18%					790	18%				
	School of Fire Protection Engineering Technology	504	18%	99	18%					603	18%		
	School of Aviation & Flight Technology			859	218%					859	218%		
	School of Biological Sciences & Applied Chemistry			1,010	20%					1,010	20%		
	School of Information & Communication Technology	641	18%					1,876	21%			2,517	20%
	Centre For Advanced Technologies	150	53%	150	53%								
Faculty of Applied Sciences and Technology Total		1,935	18%	99	18%	859	218%	2,886	21%	150	53%	5,929	32%
Faculty of Communication, Arts and Design													
	School of Media & Marketing			1,686	218%	570	21%			2,256	125%		
	School of Fashion	714	18%					714	18%				
	School of Creative Arts & Animation			467	218%	1,197	21%			1,664	46%		
	School of English & Liberal Studies			764	21%			764	21%				
Faculty of Communication, Arts and Design Total		714	18%			2,153	218%	2,531	21%			5,398	60%
Faculty of International Studies													
	School of International Business & School of Tourism	508	-49%					1,864	218%			2,372	50%
	English Language Institute	465	18%					465	18%				
	School of English & Liberal Studies			124	218%					124	218%		
Faculty of International Studies Total		973	-30%			1,988	218%			2,961	47%		
Counselling, Disability & Health Services													
	Counselling, Disability & Health Services	72	18%					72	18%				
Faculty of Workforce Skills Development													
	Faculty of Workforce Skills Development	26	18%	26	18%			26	18%				
Grand Total		10,834	8%	4,817	47%	5,843	218%	5,887	21%	150	53%	27,531	37%

- Source – Senior VP Academic 10-year enrolment plan from 2011/12 to 2020/21 academic years (received May 10th, 2011).
- Breakdown reflects April 2011 reorganization of academic divisions.
- Table indicates projected enrolment in 2020/21 and % variation from baseline (as per table on page 4-1).
- **Scenario A** - All programme relocation embedded in the enrolment plan accounted for, except for the Jane Campus, which remains in place

2020/21 Enrolment Projections - Scenario B

		Newnham		Markham		King		Seneca@York		Total Projection Enrolment 2021 with Relocations	Total % Change from Projection Base
		Projection Enrolment 2021 with Relocations	% Change from Projection Base	Projection Enrolment 2021 with Relocations	% Change from Projection Base	Projection Enrolment 2021 with Relocations	% Change from Projection Base	Projection Enrolment 2021 with Relocations	% Change from Projection Base		
Faculty as per 2011 Reorganization											
Faculty of Business	School of Accounting & Financial Services	2,130	-4%	140	218%					2,270	0%
	School of Business Management & Centre for Human Resources	1,708	18%	703	218%			0			45%
	School of Legal and Public Administration & School of Office Administration	996	18%					996	18%		
	School of English & Liberal Studies	361	17%					361	17%		
Faculty of Business Total		5,195	8%	843	218%	0		6,038	19%		
Faculty of Applied Arts and Health Sciences	School of Health Sciences	143	18%					2,477	110%	2,620	101%
	School of Early Childhood Education	1,706	52%					225	-40%	1,931	29%
	School of Public Safety & King Campus Programmes			1,044	26%					1,044	26%
	School of Community Studies & School of English & Liberal Studies	70	-72%					727	17%	470	21%
	School of Recreation			245	26%			245	26%	1,267	1%
Faculty of Applied Arts and Health Sciences Total		1,919	28%	245	26%	4,718	48%	470	21%	7,107	40%
Faculty of Applied Sciences and Technology	Centre For The Built Environment	790	18%					790	18%		
	School of Fire Protection Engineering Technology	603	18%					603	18%		
	School of Aviation & Flight Technology			859	218%					859	218%
	School of Biological Sciences & Applied Chemistry	1,010	20%					1,010	20%		
	School of Information & Communication Technology	2,517	20%					2,517	20%		
	Centre For Advanced Technologies	150	53%					150	53%		
Faculty of Applied Sciences and Technology Total		5,070	20%	859	218%			5,929	32%		
Faculty of Communication, Arts and Design	School of Media & Marketing			1,686	218%			570	21%	2,256	125%
	School of Fashion	714	18%					714	18%		
	School of Creative Arts & Animation			467	218%			1,197	21%	1,664	46%
	School of English & Liberal Studies			764	21%	764	21%				
Faculty of Communication, Arts and Design Total		714	18%	2,153	218%			2,531	21%	5,398	60%
Faculty of International Studies	School of International Business & School of Tourism	508	-49%			1,864	218%			2,372	50%
	English Language Institute	465	18%					465	18%		
	School of English & Liberal Studies			124	218%					124	218%
Faculty of International Studies Total		973	-30%	1,988	218%			2,961	47%		
Counselling, Disability & Health Services	Counselling, Disability & Health Services	72	18%	72	18%			72	18%		
Counselling, Disability & Health Services Total		72	18%			72	18%				
Faculty of Workforce Skills Development	Faculty of Workforce Skills Development	26	18%	26	18%			26	18%		
Faculty of Workforce Skills Development Total		26	18%			26	18%				
Grand Total		13,969	11%	5,843	218%	4,718	48%	3,001	21%	27,531	37%

- Source – Senior VP Academic 10-year enrolment plan from 2011/12 to 2020/21 academic years (received May 10th, 2011).
- Breakdown reflects April 2011 reorganization of academic divisions.
- Table indicates projected enrolment in 2020/21 and % variation from baseline (as per table on page 4-1).
- **Scenario B** – All Faculty of Applied Sciences and Technology programmes relocated to Newnham, except for the School of Aviation and Flight Technology which remains at Markham.

Section 5 – Campus Inventory

Campus Inventory

The purpose of the Master Space Plan is to shape a campus to meet future enrolment demands, trends in educations and promote the quality of the educational experience. However, before the future can be forecasted, it is essential that a comprehensive understanding of the current inventory is in place. Seneca College supplied ECS with a 2008 SCUP Space Audit to serve as campus inventory used to compare existing space allocations against benchmark standards.

College Building Inventory Overview – Square Feet

Campus	Building Name	Classroom	Laboratory & Support Space	Learner Support	Lounge and Service Sapce	Office & Support Space	Athletic Activity Areas	Bookstore / Merchandising	Food and Service Facilities	College Central Services	Facilities Maintenance	Non-Assignable Space - ESTIMATED	Grand Total	Assignable Space %	Building Services %
Newnham	A Building	19,599	30,742		3,672	17,631				2,463	660	21,884	96,650	77%	23%
	B Building	34,151	5,864	26,795	2,426	31,991		8,656	930	5,031	486	66,107	182,437	64%	36%
	C Building	1,224	12,365			18,603				340	70	24,296	56,898	57%	43%
	D Building	18,872	21,023			38,642		286	15,983	1,739	1,270	65,006	162,820	60%	40%
	E & F Building	15,871		883	10,173	8,502	7,826		1,251	877	123	17,664	63,171	72%	28%
	G Building	5,510			990	2,333	54,012		406	128	31	9,772	73,181	87%	13%
	H Building	709		251		745			269	4,114		1,713	7,801	78%	22%
	L Building	1,455	6,389								28	2,238	10,110	78%	22%
	KIP	31,525	17,162	10,042			7,184		570	8,720		75,671	150,874	50%	50%
	Facilities Management Building										13,525	500	14,025	96%	4%
Newnham Total		128,916	93,545	37,970	17,261	125,632	61,839	8,942	19,409	23,413	16,192	284,850	817,968	65%	35%
Seneca @ York	Quinlan	34,416	43,791	17,533	5,988	34,062	14,880	1,581	6,423	22,858	272	109,055	290,860	63%	37%
	TEL	9,622	19,617	2,736	3,086	25,067	207	0	5,992	8,661	628	66,502	142,116	53%	47%
Seneca @ York Total		44,038	63,408	20,269	9,074	59,129	15,087	1,581	12,414	31,519	901	175,557	432,976	59%	41%
King	Garriock	26,467	12,190	11,404	6,498	19,193	6,924	1,557	6,935	3,076	375	46,695	141,313	67%	33%
	Vet Tech	3,394	4,385		529	1,122				4,778	89	7,518	21,815	66%	34%
King Total		29,861	16,575	11,404	7,027	20,315	6,924	1,557	6,935	7,854	464	54,213	163,128	67%	33%
Markham	Markham	21,314	21,398	12,019	7,705	35,274	2,398	1,455	13,457	5,521	589	131,960	253,090	48%	52%
Markham Total		21,314	21,398	12,019	7,705	35,274	2,398	1,455	13,457	5,521	589	131,960	253,090	48%	52%
Jane	Jane	1,717	11,293			2,729					156	5,587	21,482	74%	26%
Jane Total		1,717	11,293			2,729					156	5,587	21,482	74%	26%
Grand Total		225,846	206,219	81,662	41,067	243,078	86,248	13,535	52,215	68,306	18,301	652,167	1,688,644	61%	39%



- Source
 - 2008 SCUP Space Audit
 - 2011 Building Inventory Overview (gross square feet totals by building)
- Net-to-gross ratios in institutional buildings will typically vary between:
 - 70% assignable / 30% building services – a very efficient institutional building or campus
 - 60% assignable / 40% building services – the usual ratio measured in existing Canadian institutions
 - 50% assignable / 50% building services – a generously appointed building or campus
- Validation of inventory data by ECS focused on classrooms, laboratories, learner support, office facilities and College central services ().

Section 6 – Instructional Space Requirements

Weekly Contact Hour Activity Model

This section outlines the methodology, calculations and assumptions used to model the delivery of current and projected instructional weekly contact hours (WCHs). The manipulation of WCHs, in turn, allows the estimation of classroom, laboratory and office requirements at each of the Seneca campuses.

WCH data was extrapolated from Fall 2010 room timetables at the Newnham, Seneca@York, King, Markham and Jane campuses. It is calculated according to the following formula:

$$\text{Weekly Contact Hours} = \text{Class Enrolment} \times \text{Duration of Class per Week (in Hours)}$$

Since Seneca delivers its classes and labs in 55 min intervals, the delivery period is 55min / 60 min = 0.916667 hour. For example, if we look at the School of Civil Engineering Technology at the Newnham Campus, course number BGV343 has an enrolment of 40. If the above formula is used:

$$40 \text{ Students} \times 0.916667 \text{ Hour} = 36.6 \text{ Weekly Contact Hours}$$

Therefore, BGV343 generates 36.6 WCHs. However, this calculation only represents 1 of the 6 classes offered in Fall semester. Thus, the sum of all 6 course offerings produce a value of 220 WCHs.

Having determined the student contact hours for each course, a space allocation for each WCH generated can be attributed. Assuming the course BGV343 is scheduled in a classroom setting, and based on the allocation of 0.89 square feet per WCH generated, the following calculation is made:

$$220 \text{ WCH} \times 0.89 \text{ Square Feet per WCH} = 196 \text{ square feet of classroom space generated}$$

Performing this calculation allows the estimation of the quantity of classrooms and labs required for each school to deliver their respective programs. Revisiting the example of course BGV343, it was determined that the course generated 220 WCHs during the Fall semester and a requirement for 196 square feet of classroom space. On its own, this figure is not relatively useful. However, when all the courses being offered at Seneca are processed through the same calculations as outlined above, it is possible to create green field space requirement *estimates* for all instructional spaces at each of the Seneca campuses.

Instructional Space Allocation per Weekly Contact Hours

The WCH activity model, as previously outlined, requires the calculation of an area allocation per contact hour. The following table indicates what areas were applied to estimate instructional space requirements that support the MSPs.

		A	B	C	D	E = A / (B x C x D)
		NASF per Station	Weekly Scheduling Window (Hours)	Weekly Room Utilization Rate	Seat Utilization Rate	NASF Generated per Weekly Contact Hour
Classroom	Classroom	25	50	80%	70%	0.89
	Lecture Hall	25	50	80%	50%	1.25
Laboratory	Animal Science	200	50	60%	70%	9.52
	Animation / Gaming	60	50	60%	70%	2.86
	Building Science / Civil	100	50	60%	70%	4.76
	ECE Laboratory	80	50	60%	70%	3.81
	Electronics / Comp. Hardware	80	50	60%	70%	3.81
	Fashion	80	50	60%	70%	3.81
	General Computer	40	50	60%	70%	1.90
	Graphic Arts	60	50	60%	70%	2.86
	Greenhouse	100	50	60%	70%	4.76
	Hospitality / Travel	60	50	60%	70%	2.86
	Marketing	60	50	60%	70%	2.86
	Media / Performance	80	50	60%	70%	3.81
	Metal Trades	200	50	60%	70%	9.52
	Patient Care	100	50	60%	70%	4.76
	Personal Care	80	50	60%	70%	3.81
Specialized Computer	50	50	60%	70%	2.38	
Wet Life Sciences	80	50	60%	70%	3.81	
Wet Physical Sciences	80	50	60%	70%	3.81	

Column A – ECS NASF per Station

Figures under column A correspond to the area designated to a single seat in a classroom or a single workstation in a laboratory. The size per station in each room category will depend on the activities taking place with the room and includes internal room circulation space and laboratory support areas. The proposed areas are based on standards applied in other jurisdictions, as well as precedents observed by ECS.

Column B – ECS Weekly Scheduling Window

Figures under column B correspond to the period of time that is available to schedule classroom and laboratory activities. For example, classes and labs can be scheduled between 8AM and 6PM Monday to Friday. Therefore, 10 hours a day multiplied by 5 days equals a 50 hour weekly scheduling window.

Column C – ECS Weekly Room Utilization

The percentages under column C represents the optimal percentage of the available weekly scheduling window that a particular room should be utilized. For example, a classroom should be utilized at 80% of 50 hours, or 40 hours per week.

Column D – ECS Seat Utilization Rate

The percentages under column D is a factor used to adjust the total Available Contact Hours to reflect the fact that it is not possible to always match the teaching section size to the size of the room being used. As a result there are often a number

of seats that are not occupied in some classes and labs. For example, a course with a total enrolment of 110 may be divided into 5 sections of 22 students each; if the typical class size is 24 seats, there would be 2 unused seats in each class. A seat utilization rate of 80% is used as a factor to take into account this inevitable mismatch between class size and section size.

Column E – ECS NASF Generated per Contact Hour

The figures in column E corresponds to the NASF generated by following calculation: $E = A / (B \times C \times D)$

Fall 2010 Weekly Contact Hours Generated

Fall 2010 Contact Hours Generated				
		Classroom	Laboratory	Grand Total
Newnham	Faculty of Business	61,304	17,310	78,614
	Faculty of Applied Arts & Health Sciences	13,181	10,271	23,452
	Faculty of Applied Science and Engineering Technology	24,629	13,806	38,435
	Faculty of Communication, Art & Design	1,422	8,788	10,210
	Faculty of International Studies	14,504	3,918	18,422
	General Education	28,209	1,982	30,191
	School of English and Liberal Studies	96	40	136
	Workforce Skills Development	733	198	931
Newnham Total		144,078	56,313	200,391
Seneca@York	Faculty of Business	4,714	1,600	6,314
	Faculty of Applied Arts & Health Sciences	10,005	1,498	11,503
	Faculty of Applied Science and Engineering Technology	16,393	19,412	35,805
	Faculty of Communication, Art & Design	5,552	16,039	21,591
	General Education	11,207	573	11,780
Seneca@York Total		47,871	39,122	86,993
King	Faculty of Applied Arts & Health Sciences	35,440	6,807	42,247
	General Education	6,801		6,801
King Total		42,241	6,807	49,048
Markham	Faculty of Business	6,933	3,551	10,484
	Faculty of Applied Arts & Health Sciences	1,332	1,104	2,436
	Faculty of Applied Science and Engineering Technology	1,186	380	1,566
	Faculty of Communication, Art & Design	2,222	1,319	3,541
	Faculty of International Studies	4,730	3,795	8,525
	General Education	3,704	647	4,351
Markham Total		20,107	10,796	30,903
Grand Total		254,297	113,038	367,335

Greenfield Space Requirements of Instructional Spaces as per Weekly Contact Hours Activity Model – Scenario A

Scenario A documents greenfield instructional space requirements across all campuses to 2021, as per the enrolment projections outlined in Section 4 of this workbook.

		Classroom		Classroom Total	Laboratory																	Laboratory Total	Grand Total			
		Classroom	Lecture Hall		General Computer	Specialized Computer	Animation / Gaming	Media / Performance	Graphic Arts	Fashion	Marketing	Hospitality / Travel	Greenhouse	ECE Laboratory	Electronics / Comp. Hardware	Building Science / Civil	Metal Trades	Wet Life Sciences	Wet Physical Sciences	Animal Science	Patient Care	Personal Care				
Scenario A - Proposed Location: ECS Apr 2011 Reorg Faculty																										
Newnham	Faculty of Business	54,328	2,552	56,880	32,636	2,389				161	329				143	261							70	35,918	92,798	
	Faculty of Applied Arts & Health Sciences	7,241	587	7,828	841	231				1,058	351			16,231	1,199	3,597									25,959	33,787
	Faculty of Applied Science and Engineering Technology	20,713	4,675	25,388	2,668	12,688							18,165	18,121			1,416							53,058	78,446	
	Faculty of Communication, Art & Design	1,498		1,498						24,886	5,462							7,336						37,684	39,182	
	Faculty of International Studies	6,517	108	6,625	3,806																			3,806	10,431	
	Workforce Skills Development	707		707	407																			407	1,114	
	General Education	26,962	285	27,248	1,191	3,227						609												5,027	32,275	
	School of English and Liberal Studies	93		93	82																			82	175	
Newnham Total		111,059	8,207	119,266	41,531	18,535				26,105	6,142		16,340	19,507	21,979		2,239	1,558				7,407	111,942	218,208		
Seneca@York	Faculty of Business	4,729	510	5,238	3,411	346																		3,757	8,995	
	Faculty of Applied Arts & Health Sciences	8,284	3,535	11,819	2,238	812										101								3,670	15,489	
	Faculty of Applied Science and Engineering Technology	13,681	6,024	19,705	22,845	2,806	646	69	449				11,422				11,870	9,155						59,744	79,449	
	Faculty of Communication, Art & Design	5,835	228	6,063	7,112	12,964	5,175	13,133	11,730															50,115	56,178	
	General Education	12,108		12,108	221	933						529												1,684	13,791	
Seneca@York Total		44,636	10,297	54,933	15,828	17,862	5,822	13,202	12,180						11,951		12,870	9,256					118,970	173,903		
King	Faculty of Applied Arts & Health Sciences	42,434	3,367	45,801								792	3,257	4,259			2,556	2,336		6,980	14,400			34,580	80,381	
	General Education	8,592	469	9,060																				9,060	9,060	
King Total		51,025	3,836	54,861						792	3,257	4,259	2,556	2,336		6,980	14,400		34,580	89,441						
Markham	Faculty of Business	19,043	898	19,941	14,319	227		6,154																23,462	43,404	
	Faculty of Applied Arts & Health Sciences	3,450	465	3,915	6,687							2,762												6,687	10,602	
	Faculty of Applied Science and Engineering Technology	5,429	2,313	7,742	1,145	1,726		2,471							1,938									7,817	15,559	
	Faculty of Communication, Art & Design	5,866	620	6,486	2,629	2,249		6,106																11,746	18,232	
	Faculty of International Studies	11,320	2,953	14,274	2,653	6,110		8,541				14,964												35,266	49,540	
	General Education	10,406	155	10,561	182			351				5,342												5,875	16,436	
Markham Total		55,114	7,405	62,519	27,615	10,312		23,613			24,368			1,938						2,998			90,854	153,773		
Grand Total		269,234	29,745	298,979	105,073	46,709	5,822	36,825	12,180	26,105	6,142	24,368	792	20,097	37,655	21,979	2,556	17,444	10,814	6,980	17,398	7,407	406,345	705,325		

Greenfield Space Requirements of Instructional Spaces as per Weekly Contact Hours Activity Model – Scenario B

Scenario B documents green field instructional space requirements across all campuses to 2021, as per the enrolment projections outlined in Section 4 of this workbook.

		Classroom		Classroom Total	Laboratory																Laboratory Total	Grand Total				
		Classroom	Lecture Hall		General Computer	Specialized Computer	Animation / Gaming	Media / Performance	Graphic Arts	Fashion	Marketing	Hospitality / Travel	Greenhouse	ECE Laboratory	Electronics / Comp. Hardware	Building Science / Civil	Metal Trades	Wet Life Sciences	Wet Physical Sciences	Animal Science	Patient Care	Personal Care				
Scenario B - Proposed Location ECS Apr 2011 Reorg Faculty																										
Newnham	Faculty of Business	54,328	2,552	56,880	32,636	2,389				161	329				143	261									35,918	92,798
	Faculty of Applied Arts & Health Sciences	7,241	587	7,828	841	231				1,058	351			16,231	1,199	3,597		2,239	142				70	25,959	33,787	
	Faculty of Applied Science and Engineering Technology	38,454	11,450	49,905	25,949	17,220	646					273			31,526	18,121		12,607	10,571					116,913	166,818	
	Faculty of Communication, Art & Design	1,498		1,498	254					24,886	5,462							7,336						37,938	39,436	
	Faculty of International Studies	6,517	108	6,625	3,806																			3,806	10,431	
	Workforce Skills Development	707		707	407																			407	1,114	
	General Education	27,747	285	28,032	1,191	3,469						609	529											5,798	33,830	
	School of English and Liberal Studies	93		93	82																			82	175	
Newnham Total		135,584	14,382	151,567	65,167	23,309	646			26,105	6,142	273		16,340	33,396	21,379		14,346	10,712			7,407	216,822	318,389		
Seneca@York	Faculty of Business	4,729	510	5,238	3,411	346																		3,757	8,995	
	Faculty of Applied Arts & Health Sciences	8,284	3,535	11,819	2,238	812		69	449						101									3,670	15,489	
	Faculty of Applied Science and Engineering Technology	73		73															263					263	336	
	Faculty of Communication, Art & Design	11,068	848	11,916	7,112	15,213	5,175	13,133	11,730			763												53,127	65,043	
	General Education	12,608		12,608	221	691																		913	13,521	
Seneca@York Total		36,762	4,893	41,655	12,983	17,063	5,175	13,202	12,180			763						263	101				61,729	103,384		
King	Faculty of Applied Arts & Health Sciences	42,434	3,367	45,801									792	3,257	4,259		2,556	2,336			6,980	14,400		34,580	80,381	
	General Education	7,958	469	8,426																				8,426	8,426	
King Total		50,392	3,836	54,228									792	3,257	4,259		2,556	2,336			6,980	14,400		34,580	88,807	
Markham	Faculty of Business	19,043	898	19,941	14,319	227		6,154				2,762												23,462	43,404	
	Faculty of Applied Arts & Health Sciences	3,450	465	3,915	6,687	709																		6,687	10,602	
	Faculty of Applied Science and Engineering Technology	1,295	1,562	2,857				2,471				263												3,443	6,300	
	Faculty of Communication, Art & Design	633		633	2,374			6,106																8,480	9,113	
	Faculty of International Studies	11,320	2,953	14,274	2,653	6,110		8,541				14,964										2,998		35,266	49,540	
	General Education	9,755	155	9,910	182			351				5,342												5,875	15,785	
Markham Total		45,496	6,034	51,530	26,924	6,337		23,623				23,332										2,998		83,215	134,744	
Grand Total		269,234	29,745	298,979	105,073	46,709	5,822	36,825	12,180	26,105	6,142	24,368	792	20,097	37,655	21,979	2,556	17,444	10,814	6,980	17,398	7,407	406,345	705,325		

Section 7 – Staffing Complement and Office Space

Introduction

This section estimates office space requirements based on a generic allocation of office spaces for the academic divisions and administrative units of the College.

The facing table is an example of the how Seneca College staffing data was compiled to allow for the development of office space requirement *estimates*. The number of staff was tabulated for each division or unit of the College, and then assigned a particular type of office accommodation. The types of office accommodation range from Type A, the largest but only allocated to the President, to Type G, a workstation in an open office environment.

The diagram on page 7-2 illustrates typical room office layouts associated with each type of offices. The diagram on page 7-3 illustrates how certain multipliers were then set to account for office support and internal office circulation requirement. It should be noted that this approach replicates the standards and the methodology used at Humber College to plan for estimate office space requirements.

The table of page 7-4 presents the calculation of office space allocations to accommodate current shortfalls and future growth. Unfortunately the table is complex. Highlights are as follows:

- There is an estimated current shortfall of academic and administrative office space at Seneca totalling 62,899 square feet, including:
 - Newnham Campus 26,505 square feet shortage
 - King Campus 13,822 square feet shortage
 - Markham 22,572 square feet shortage
- Under Scenario A (as per Section 4 of this document), the future estimated shortfall of office space will be as follows:
 - Newnham Campus 24,829 square feet shortage
 - King Campus 21,786 square feet shortage
 - Markham 71,811 square feet shortage
- Under Scenario B (as per Section 4 of this document), the future estimated shortfall of office space will be as follows:
 - Newnham Campus 44,949 square feet shortage
 - King Campus 21,786 square feet shortage
 - Markham 64,686 square feet shortage

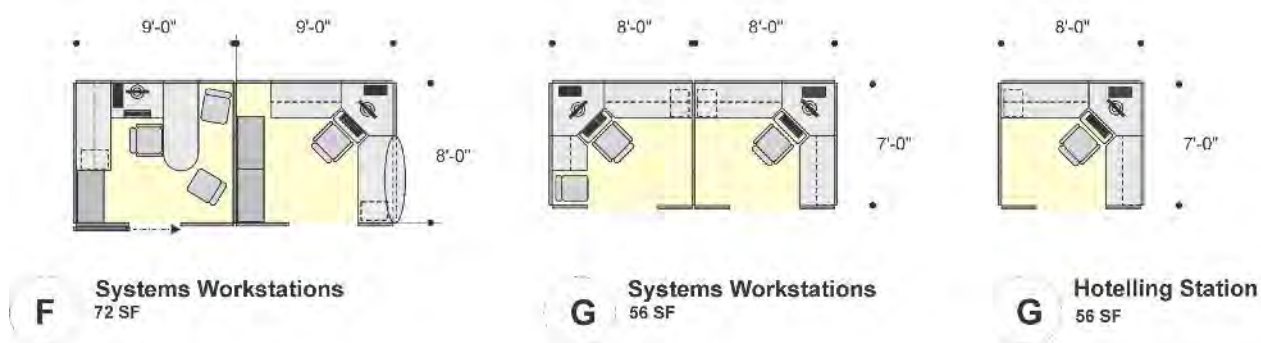
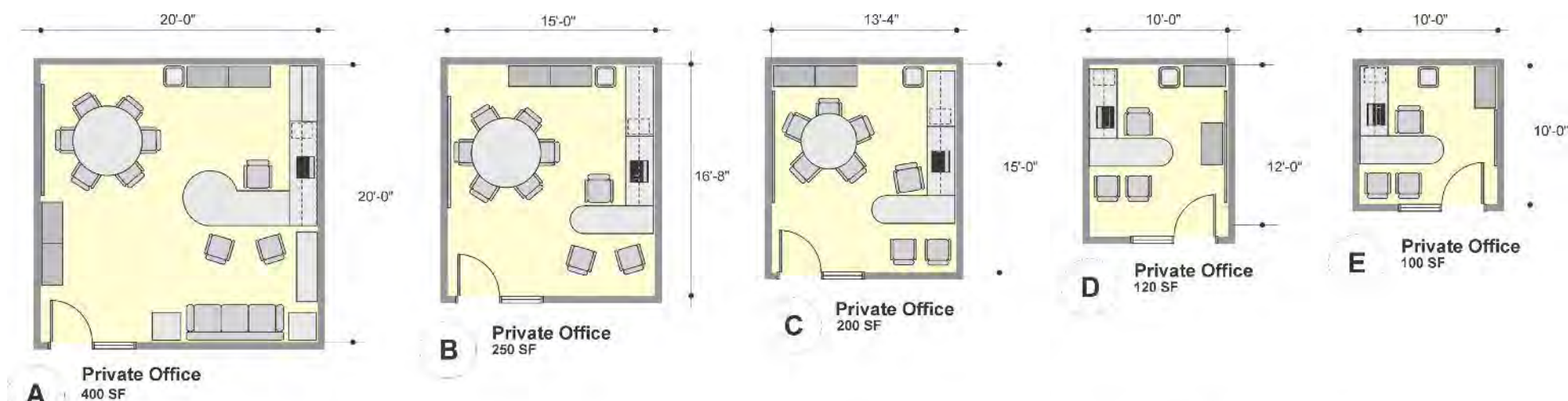
The estimates account for academic programme growth and relocations and the additional instructional staff required to support these changes in activity levels. The estimate also incorporate a 15% increase in administrative offices for the College as whole, but located at the Markham Campus.

Academic Divisions Staff Complements – Sample

Newnham Campus

	A	B	C	D	E	F	G	H	I
Division/Faculty	Group	Type C	Type D	Type E	Type F	Type G	Workroom	Grand Total	
Faculty of Business	Academic - FT					159		159	
	Academic - PT Sessional					5		5	
	Academic - PT PLD					131		131	
	Academic - PT					70		70	
	Academic - FT Admin	3		8	1			12	
	Academic - FT Support					16		16	
	Academic - PT Support						17	2	19
Faculty of Business Total		3		8	17	382	2	412	
Faculty of Applied Arts & Health Sciences	Academic - FT					12		12	
	Academic - PT Sessional					1		1	
	Academic - PT PLD					20		20	
	Academic - PT					14		14	
	Academic - FT Admin			1	1			2	
	Academic - FT Support					3	6	9	
	Academic - PT Support						13		13
Faculty of Applied Arts & Health Sciences Total				1	4	60	6	71	
Faculty of Applied Science & Engineering Technology	Academic - FT					72		72	
	Academic - PT PLD					49		49	
	Academic - PT					70		70	
	Academic - FT Admin			2				2	
	Academic - FT Support					11		11	
	Academic - PT Support						3	27	
Faculty of Applied Science & Engineering Technology Total				2	11	215	3	231	
Faculty of Communication, Art & Design	Academic - FT					33		33	
	Academic - PT Sessional					5		5	
	Academic - PT PLD					17		17	
	Academic - PT					3		3	
	Academic - FT Admin			1				1	
	Academic - FT Support					4		4	
	Academic - PT Support						3	22	25
Faculty of Communication, Art & Design Total				1	4	61	22	88	
Faculty of International Studies	Academic - FT				1	44		45	
	Academic - PT Sessional					11		11	
	Academic - PT PLD					27		27	
	Academic - PT					13		13	
	Academic - FT Admin		6	2	1			9	
	Academic - FT Support					19		19	
	Academic - PT Support						10	21	31
Faculty of International Studies Total		6	3	20	105	21	155		
Faculty Workforce Skills Development	Academic - FT				3	5		8	
	Academic - PT PLD					10		10	
	Academic - PT					7		7	
	Academic - FT Admin		1					1	
	Academic - FT Support					9		9	
	Academic - PT Support						22		22
Faculty Workforce Skills Development Total		1	3	9	44	57		57	
Faculty Continuing Education & Training	Academic - FT					1		1	
	Academic - PT PLD					4		4	
	Academic - FT Admin	1		8				9	
	Academic - FT Support					31		31	
	Academic - PT Support						85		85
Faculty Continuing Education & Training Total	1			8	31	90		130	
Grand Total		4	7	26	96	957	54	1,144	

Office Allocation Types



Note:
 - Provide 1 Station for every 5 Part-time Faculty
 - Provide 1 Station for every 2.5 Partial Load Faculty
 - Con. Ed. Faculty to share stations of above functions

Proposed Space Categories

- A** President
- B** Vice-President
- C** Dean / Director / Registrar / Etc.
- D** Manager (senior) / Deputy Registrar / Associate Registrar / Study Abroad Officer / Associate Dean / Etc.
- E** Manager (junior) / Career Advisor / Counsellor / Consultant / Academic Program Co-ordinator / Etc.
- F** Administrative / Technical Support Staff
- G** Faculty (Full-time) / Sessional / Support Staff (Part-time) / Etc.
- G** Faculty (Part-time) / Partial Load / Con. Ed. Faculty in Hotelling Stations (see Note)

Support and Circulation Allowances

Academic Offices Support Multiplier	1.25	Administrative Offices Support Space Multiplier	2.0
Academic Offices Internal Circulation Multiplier	1.5	Administrative Offices Internal Circulation Multiplier	1.5

Typical Academic Offices Layout in Former Classroom Space



1	Total Net Assignable Area (NASF)	Number of Faculty	Proposed Allocation per Faculty	Total Net Area for Faculty Stations	Office Support Areas	Internal Circulation Space	Internal Circulation Factor	Total Area NASF Per Faculty
G	2,030	20	56 SF	1,120 SF	242 SF <small>Interview, Resources, etc.</small>	668 SF	1.49	101.5 SF

2	Total Net Assignable Area (NASF)	Number of Staff	Proposed Allocation per Staff	Total Net Area for Staff	Office Support Areas	Internal Circulation Space	Internal Circulation Factor	Total Area NASF Per Staff	
C	3,045	1	200 SF	200 SF	64 SF <small>Interview</small>	1,059 SF	1.51	121.8 SF	
D		1	120 SF	120 SF					
E		2	100 SF	200 SF					100 SF <small>Copier/Supply</small>
F		1	72 SF	72 SF					50 SF <small>Waiting</small>
G		20	56 SF	1,120 SF					60 SF <small>Resources, etc.</small>

Office Space Requirements – Calculation of Allocations to Accommodate Current Shortfalls and Future Growth

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	V	W	X	
Campus	Academic / Admin	Type A Number of Positions	Office Space Requirement tNASF	Type B Number of Positions	Office Space Requirement tNASF	Type C Number of Positions	Office Space Requirement tNASF	Type D Number of Positions	Office Space Requirement tNASF	Type E Number of Positions	Office Space Requirement tNASF	Type F Number of Positions	Office Space Requirement tNASF	Type G Number of Positions	Office Space Requirement tNASF	Workroom Number of Positions	Office Space Requirement tNASF	Total Number of Positions	Total Office Space Requirement NASF	Existing Campus Inventory	Difference		
Newnham	Existing Academic			2	1,500	8	4,800	12	4,320	26	4,875	96	12,960	957	54,852	54	1,134	1,144	76,896	A1			
	Existing Administration									49	13,500	168	35,899	170	7,358	349	3,909	758	71,286	B1			
Newnham Total				2	1,500	12	6,300	19	5,895	75	18,375	264	48,859	1,127	62,210	403	5,043	1,902	148,182		121,677	-26,505	C1
Seneca@York	Existing Academic					1	375			3	563	27	3,645	395	23,982	91	1,911	517	30,476	A2			
	Existing Administration							3	1,080	2	600	50	10,800	38	1,546	102	1,142	195	15,168	B2			
Seneca@York Total						1	375	3	1,080	5	1,163	77	14,445	433	25,528	193	3,053	712	45,644		59,129	13,485	C2
King	Existing Academic					1	375	2	450	3	563	14	1,890	336	19,824	6	126	362	23,228	A3			
	Existing Administration							2	720	3	900	33	7,128	34	1,411	67	750	139	10,910	B3			
King Total						1	375	4	1,170	6	1,463	47	9,018	370	21,235	73	876	501	34,137		20,315	-13,822	C3
Markham	Existing Academic					1	375			1	188	8	1,080	170	7,224	4	84	184	8,951	A4			
	Existing Administration	1	1,200	1	750	9	5,400	8	2,880	18	5,400	103	22,248	50	2,352	56	627	246	40,857	B4			
Markham Total		1	1,200	1	750	10	5,775	8	2,880	19	5,588	111	23,328	220	9,576	60	711	430	49,808		27,236	-22,572	C4
Jane	Existing Academic											1	135	14	714	8	168	23	1,017	A5			
	Existing Administration														2	22	2	22	22	B5			
Jane Total												1	135	14	714	10	190	25	1,039		2,729	1,690	C5
Grand Total		1	1,200	3	2,250	24	12,825	34	11,025	105	26,588	500	95,785	2,164	119,263	739	9,874	3,570	278,810		231,086	-47,724	

Academic Office Space Requirements

Generated Academic Offices Total NASF **140,567** $D = A1 + A2 + A3 + A4 + A5$
 Total Weekly Contact Hours (WCH) Generated Fall 2010 **368,931** E
 NASF / WCH Ratio **0.381** $F = D / E$

Total Weekly Contact Hours (WCH) Generated 2021 as per Enrolment Projection **478,945** G
 Additional Academic Offices NASF Generated to Accommodate Enrolment Growth **41,916** $H = (G - E) \times F$

Distribution of Additional Contact Hours as per Scenario A				Additional NASF Required at Each Campus as per Scenario A			
Newnham	-4%	J1		Newnham	-1,677	$K1 = (H \times J1)$	1,677 $K1$
Seneca@York	16%	J2		Seneca@York	6,707		
King	19%	J3		King	7,964	$K3 = (H \times J3)$	-7,964 $K3$
Markham	68%	J4		Markham	28,503	$K4 = (H \times J4)$	-28,503 $K4$
Jane	1%	J5		Jane	na		

Distribution of Additional Contact Hours as per Scenario B				Additional NASF Required at Each Campus as per Scenario B			
Newnham	44%	J1		Newnham	18,443	$K1 = (H \times J1)$	-18,443 $K1$
Seneca@York	-14%	J2		Seneca@York	-5,868		
King	19%	J3		King	7,964	$K3 = (H \times J3)$	-7,964 $K3$
Markham	51%	J4		Markham	21,377	$K4 = (H \times J4)$	-21,377 $K4$

Administrative Office Space Requirements

Generated Administrative Offices Total NASF **138,244** $L = B1 + B2 + B3 + B4 + B5$
 Estimated Growth of Administrative Services from 2010 to 2020 **15%** M
 Additional Administrative Office Space NASF to Accommodate Enrolment Growth - All Markham **20,737** $N = L \times M$

Summary of Additional Space Required							
Scenario A	Newnham	24,829	$O1 = C1 + K1$	Scenario B	Newnham	44,949	$O1 = C1 + K1$
	King	21,786	$O2 = C3 + K3$		King	21,786	$O2 = C3 + K3$
	Markham	71,811	$O3 = C4 + K4 + N$		Markham	64,686	$O3 = C4 + K4 + N$

Master Space Programmes

This section presents master space programmes (MSPs) for the Newnham, Markham, King, and Seneca@York campuses. A distinct MSP has been prepared for each campus based on the Baseline, Scenario A and Scenario B enrolment data detailed in Section 4. For the Markham and King campuses, the MSPs for Scenarios A and B are presented in the same table, as the projected enrolments at these campuses do not vary across the two scenarios. Each MSP contains the following information, organized by space category:

- **Column A** lists the Net Assignable Square Feet (NASF) currently available at the campus, where NASF is defined as the available Gross Square Feet (GSF) minus space allotted for building services and circulation;
- **Column B** lists the input value used to calculate the NASF requirement for the space category, which includes number of Weekly Contact Hours (WCH), Staff, and Full Time Equivalent (FTE) Students; etc.
- **Column C** lists the existing space benchmarks at Seneca College, calculated by taking the ratio of the value in Column A to the value in Column B;
- **Column D** lists the external space standards and benchmarks applied by ECS as deemed appropriate;
- **Column E** lists the determined NASF requirement for the space category, calculated by taking the product of the value in Column B and the value in Column D;
- **Column F** lists the difference between the NASF of required space and the NASF of existing space.

Each MSP also provides the difference between the required space and the existing space at the campus as a whole. This value is given both in NASF and GSF, calculated assuming a 65% / 35% Net-to-Gross Ratio.

Newnham Campus – Baseline

	A	B		C = A / B		D			E		F = E - A
Space Category	Existing Inventory (NASF)	Input Value and Description		Seneca Calculated Benchmark		External Standard / Benchmark as Applicable	Standard / Benchmark Source		Green Field Space Requirement (NASF)	Source / Reference	Difference (NASF)
Classroom / Lecture Halls											
<i>Classroom / Seminar</i>	121,104	135,319	WCH	0.89		0.89	NASF / WCH	ECS	120,821		283
<i>Lecture Halls</i>	5,966	8,759	"	1.47		1.25	"	"	9,043		-3,077
Classroom / Lecture Halls	127,070	144,078	"	0.88	NASF / WCH				129,864	Section 6	-2,794
Laboratories											
<i>Computer Laboratories</i>	40,020	23,346	WCH	1.71	NASF / WCH	1.90	NASF / WCH	ECS	44,469		-4,449
<i>Animal Science</i>						9.52	"	"			
<i>Animation / Gaming</i>						2.86	"	"			
<i>Building Science / Civil</i>	9,150	5,980	"	1.53	"	4.76	"	"	28,476		-19,326
<i>ECE Laboratory</i>	1,500	2,951	"	0.51	"	3.81	"	"	11,242		-9,742
<i>Electronics / Comp. Hardware</i>	11,580	5,364	"	2.16	"	3.81	"	"	20,434		-8,854
<i>Fashion</i>	5,810	6,572	"	0.88	"	3.81	"	"	25,036		-19,226
<i>Graphic Arts</i>						2.86	"	"			
<i>Greenhouse</i>						4.76	"	"			
<i>Hospitality / Travel</i>	570					2.86	"	"			
<i>Media / Performance</i>						3.81	"	"			
<i>Marketing</i>	2,540	2,179	"	1.17	"	2.86	"	"	6,226		-3,686
<i>Metal Trades</i>						9.52	"	"			
<i>Patient Care</i>						4.76	"	"			
<i>Personal Care</i>	670	1,698	"	0.39	"	3.81	"	"	6,469		-5,799
<i>Specialized Computer Laboratories</i>	4,970	7,277	"	0.68	"	2.38	"	"	17,326		-12,356
<i>Wet Life Science Lab</i>	1,290	498	"	2.59	"	3.81	"	"	1,897		-607
<i>Wet Physical Science Lab</i>	900	448	"	2.01	"	3.81	"	"	1,707		-807
Laboratories	79,000	56,313	WCH	1.40	"				163,282	Section 6	-84,852
Administrative & Faculty Offices											
<i>Academic Offices</i>		1,144	Staff	63.97	NASF / Staff				77,290		
<i>Administrative Offices</i>		758	Staff						72,366		
Administrative & Faculty Offices	121,677	1,902	Staff					Section 7-Type A to G x Multipliers	149,656	Section 7	-27,979
Learner Support											
<i>Library / Information Commons</i>											
<i>Open Access Study Space</i>											
<i>Learning Centres</i>											
Learner Support	37,887	10,032	FTE Students	3.78	NASF / FTE	6.00	NASF / FTE	COU & ECS	60,192	E = B x D	-22,305
Campus Services											
<i>Food</i>	18,839	10,032	FTE Students	1.88	NASF / FTE	6.5		COU (Mid-Range)	65,208	E = B x D	-46,369
<i>Retail / Bookstore</i>	8,842	10,032	FTE Students	0.88	NASF / FTE	1.6		COU (Mid-Range)	16,051	E = B x D	-7,209
Campus Services	27,681										-53,578
Student Life											
<i>Athletic Activity Areas</i>	59,957	10,032	FTE Students	5.98	NASF / FTE	6.0	NASF / FTE	ECS	60,192	E = B x D	-235
<i>Student Centre / Lounges and Social</i>	17,261	10,032	FTE Students	1.72	NASF / FTE	6.4	NASF / FTE	COU	64,205	COU	-46,944
Student Life	77,218										-47,179

Total NASF **-235,893**
Total GSF assuming 65% / 35% Net-to-Gross Ratio **-360,916**

Newnham Campus – Scenario A

	A	B		C=A/B		D			E		F=E-A	
Space Category	Existing Inventory (NASF)	Input Value and Description		Seneca Calculated Benchmark		External Standard / Benchmark as Applicable	Standard / Benchmark Source	Green Field Space Requirement (NASF)	Source / Reference	Difference (NASF)		
Classroom / Lecture Halls												
<i>Classroom / Seminar</i>	121,104	132,226	WCH	0.92		0.89	NASF / WCH	ECS	118,059		3,045	
<i>Lecture Halls</i>	5,966	7,544	"	1.26		1.25	"	"	8,207		-2,241	
Classroom / Lecture Halls	127,070	139,770	"	0.91	NASF / WCH				126,266	Section 6	804	
Laboratories												
<i>Computer Laboratories</i>	40,020	21,856	WCH	1.83	NASF / WCH	1.90	NASF / WCH	ECS	41,631		-1,611	
<i>Animal Science</i>						9.52	"	"				
<i>Animation / Gaming</i>						2.86	"	"				
<i>Building Science / Civil</i>	9,150	4,616	"	1.98	"	4.76	"	"	21,979		-12,829	
<i>ECE Laboratory</i>	1,500	4,420	"	0.34	"	3.81	"	"	16,840		-15,340	
<i>Electronics / Comp. Hardware</i>	11,580	5,121	"	2.26	"	3.81	"	"	19,507		-7,927	
<i>Fashion</i>	5,810	6,852	"	0.85	"	3.81	"	"	26,105		-20,295	
<i>Graphic Arts</i>						2.86	"	"				
<i>Greenhouse</i>						4.76	"	"				
<i>Hospitality / Travel</i>	570					2.86	"	"				
<i>Media / Performance</i>						3.81	"	"				
<i>Marketing</i>	2,540	2,150	"	1.18	"	2.86	"	"	6,142		-3,602	
<i>Metal Trades</i>						9.52	"	"				
<i>Patient Care</i>						4.76	"	"				
<i>Personal Care</i>	670	1,944	"	0.34	"	3.81	"	"	7,407		-6,737	
<i>Specialized Computer Laboratories</i>	4,970	7,785	"	0.64	"	2.38	"	"	18,535		-13,565	
<i>Wet Life Science Lab</i>	1,290	588	"	2.19	"	3.81	"	"	2,239		-949	
<i>Wet Physical Science Lab</i>	900	409	"	2.20	"	3.81	"	"	1,558		-658	
Laboratories	79,000	55,741	WCH	1.42	"				161,943	Section 6	-83,513	
Administrative & Faculty Offices												
<i>Academic Offices</i>		1,098	Staff	61.80	NASF / Staff				74,198			
<i>Administrative Offices</i>		871	Staff						73,775			
Administrative & Faculty Offices	121,677	1,969	Staff					Section 7-Type A to G x Multipliers	ECS	147,973	Section 7	-26,296
Learner Support												
<i>Library / Information Commons</i>												
<i>Open Access Study Space</i>												
<i>Learning Centres</i>												
Learner Support	37,887	10,834	FTE Students	3.50	NASF / FTE	6.00	NASF / FTE	COU & ECS	65,004	E = B x D	-27,117	
Campus Services												
<i>Food</i>	18,839	10,834	FTE Students	1.74	NASF / FTE	6.5		COU (Mid-Range)	70,421	E = B x D	-51,582	
<i>Retail / Bookstore</i>	8,842	10,834	FTE Students	0.82	NASF / FTE	1.6		COU (Mid-Range)	17,334	E = B x D	-8,492	
Campus Services	27,681										-60,074	
Student Life												
<i>Athletic Activity Areas</i>	59,957	10,834	FTE Students	5.53	NASF / FTE	6.0	NASF / FTE	ECS	65,004	E = B x D	-5,047	
<i>Student Centre / Lounges and Social</i>	17,261	10,834	FTE Students	1.59	NASF / FTE	6.4	NASF / FTE	COU	69,338	COU	-52,077	
Student Life	77,218										-57,124	

Total NASF **-254,124**
Total GSF assuming 65% / 35% Net-to-Gross Ratio **-388,810**

Newnham Campus – Scenario B

	A	B		C=A/B		D			E		F=E-A
Space Category	Existing Inventory (NASF)	Input Value and Description		Seneca Calculated Benchmark		External Standard / Benchmark as Applicable	Standard / Benchmark Source		Green Field Space Requirement (NASF)	Source / Reference	Difference (NASF)
Classroom / Lecture Halls											
<i>Classroom / Seminar</i>	121,104	152,975	WCH	0.79		0.89	NASF / WCH	ECS	136,584		-15,480
<i>Lecture Halls</i>	5,966	12,965	"	2.17		1.25	"	"	14,982		-9,016
Classroom / Lecture Halls	127,070	165,940	"	0.77	NASF / WCH				151,566	Section 6	-24,496
Laboratories											
<i>Computer Laboratories</i>	40,020	34,213	WCH	1.17	NASF / WCH	1.90	NASF / WCH	ECS	65,167		-25,147
<i>Animal Science</i>						9.52	"	"			
<i>Animation / Gaming</i>		226				2.86	"	"	646		-646
<i>Building Science / Civil</i>	9,150	4,616	"	1.98	"	4.76	"	"	21,979		-12,829
<i>ECE Laboratory</i>	1,500	4,420	"	0.34	"	3.81	"	"	16,840		-15,340
<i>Electronics / Comp. Hardware</i>	11,580	9,812	"	1.18	"	3.81	"	"	33,396		-21,816
<i>Fashion</i>	5,810	6,852	"	0.85	"	3.81	"	"	26,105		-20,295
<i>Graphic Arts</i>						2.86	"	"			
<i>Greenhouse</i>						4.76	"	"			
<i>Hospitality / Travel</i>	570	95				2.86	"	"	273		297
<i>Media / Performance</i>						3.81	"	"			
<i>Marketing</i>	2,540	2,150	"	1.18	"	2.86	"	"	6,142		-3,602
<i>Metal Trades</i>						9.52	"	"			
<i>Patient Care</i>						4.76	"	"			
<i>Personal Care</i>	670	1,944	"	0.34	"	3.81	"	"	7,407		-6,737
<i>Specialized Computer Laboratories</i>	4,970	9,790	"	0.51	"	2.38	"	"	23,309		-18,339
<i>Wet Life Science Lab</i>	1,290	3,897	"	0.33	"	3.81	"	"	14,846		-13,556
<i>Wet Physical Science Lab</i>	900	2,812	"	0.32	"	3.81	"	"	10,712		-9,812
Laboratories	79,000	80,827	WCH	0.98	"				226,822	Section 6	-147,822
Administrative & Faculty Offices											
<i>Academic Offices</i>		1,647	Staff	48.32	NASF / Staff				74,198		
<i>Administrative Offices</i>		871	Staff						93,968		
Administrative & Faculty Offices	121,677	2,518	Staff					Section 7-Type A to G x Multipliers	168,166	Section 7	-46,489
Learner Support											
<i>Library / Information Commons</i>											
<i>Open Access Study Space</i>											
<i>Learning Centres</i>											
Learner Support	37,887	13,969	FTE Students	2.71	NASF / FTE	6.00	NASF / FTE	COU & ECS	83,814	E = B x D	-45,927
Campus Services											
<i>Food</i>	18,839	13,969	FTE Students	1.35	NASF / FTE	6.5		COU (Mid-Range)	90,799	E = B x D	-71,960
<i>Retail / Bookstore</i>	8,842	13,969	FTE Students	0.63	NASF / FTE	1.6		COU (Mid-Range)	22,350	E = B x D	-13,508
Campus Services	27,681										-85,468
Student Life											
<i>Athletic Activity Areas</i>	59,957	13,969	FTE Students	4.29	NASF / FTE	6.0	NASF / FTE	ECS	83,814	E = B x D	-23,857
<i>Student Centre / Lounges and Social</i>	17,261	13,969	FTE Students	1.24	NASF / FTE	6.4	NASF / FTE	COU	89,402	COU	-72,141
Student Life	77,218										-95,998

Total NASF **-446,200**
Total GSF assuming 65% / 35% Net-to-Gross Ratio **-682,685**

Markham Campus – Baseline

	A	B	C = A / B		D			E	F = E - A	
Space Category	Existing Inventory (NASF)	Input Value and Description	Seneca Calculated Benchmark		External Standard / Benchmark as Applicable	Standard / Benchmark Source	Green Field Space Requirement (NASF)	Source / Reference	Difference (NASF)	
Classroom / Lecture Halls										
<i>Classroom / Seminar</i>	18,915	18,618 WCH	1.02		0.89	NASF / WCH	ECS	16,289	2,626	
<i>Lecture Halls</i>	2,400	1,863 WCH	0.78		1.25	"	"	2,329	71	
Classroom / Lecture Halls	21,315	20,481 WCH	1.04	NASF / WCH			18,618	Section 6	2,697	
Laboratories										
<i>Computer Laboratories</i>	12,200	4,487 WCH	2.72	NASF / WCH	1.90	NASF / WCH	ECS	8,547	3,653	
<i>Animal Science</i>				"	9.52	"	"			
<i>Animation / Gaming</i>				"	2.86	"	"			
<i>Building Science / Civil</i>				"	4.76	"	"			
<i>ECE Laboratory</i>				"	3.81	"	"			
<i>Electronics / Comp. Hardware</i>				"	3.81	"	"			
<i>Fashion</i>				"	3.81	"	"			
<i>Graphic Arts</i>				"	2.86	"	"			
<i>Greenhouse</i>				"	4.76	"	"			
<i>Hospitality / Travel</i>	3,110	2,682 WCH	1.16	"	2.86	"	"	7,663	-4,553	
<i>Media / Performance</i>	2,200	1,950 WCH	1.13	"	3.81	"	"	7,429	-5,229	
<i>Metal Trades</i>				"	9.52	"	"			
<i>Patient Care</i>	1,095	198 WCH	5.53	"	4.76	"	"	943	152	
<i>Personal Care</i>				"	3.81	"	"			
<i>Specialized Computer Laboratories</i>	2,645	1,134 WCH	2.33	"	2.38	"	"	2,700	-55	
<i>Wet Life Science Lab</i>				"	3.81	"	"			
<i>Wet Physical Science Lab</i>				"	3.81	"	"			
Laboratories	21,250	10,451 WCH	2.03	"			27,282	Section 6	-6,032	
Administrative & Faculty Offices										
<i>Academic Offices</i>		184 Staff	63.34	NASF / Staff			8,951			
<i>Administrative Offices</i>		246 Staff					41,577			
Administrative & Faculty Offices	27,235	430 Staff				Section 7-Type A to G x Multipliers	ECS	50,528	Section 7	-23,293
Learner Support										
<i>Library / Information Commons</i>	2,300									
<i>Open Access Study Space</i>	8,925									
<i>Learning Centres</i>	430									
Learner Support	11,655	1,837 FTE Students	6.34	NASF / FTE	6.00	NASF / FTE	COU & ECS	11,022	E = B x D	633
Campus Services										
<i>Food</i>	11,340	1,837 FTE Students	6.17	NASF / FTE	6.5		COU (Mid-Range)	11,941	E = B x D	-601
<i>Retail / Bookstore</i>	1,130	1,837 FTE Students	0.62	NASF / FTE	1.6		COU (Mid-Range)	2,939	E = B x D	-1,809
Campus Services	12,470									-2,410
Student Life										
<i>Athletic Activity Areas</i>	2,400	1,837 FTE Students	1.31	NASF / FTE		Double Gym and Fitness Centre	ECS	22,000	ECS	-19,600
<i>Student Centre / Lounges and Social</i>	2,210	1,837 FTE Students	1.20	NASF / FTE		6.4 NASF / FTE	COU	11,757	COU	-9,547
Student Life	4,610									-29,147

Total NASF -57,552
Total GSF assuming 65% / 35% Net-to-Gross Ratio -88,054

King Campus – Scenario A & B

	A	B	C = A / B		D			E	F = E - A
Space Category	Existing Inventory (NASF)	Input Value and Description	Seneca Calculated Benchmark		External Standard / Benchmark as Applicable	Standard / Benchmark Source	Green Field Space Requirement (NASF)	Source / Reference	Difference (NASF)
Classroom / Lecture Halls									
Classroom / Seminar	22,260	47,481 WCH	0.47		0.89	NASF / WCH ECS	51,025		-28,765
Lecture Halls	7,600	9,623 "	1.27		1.25	" "	3,836		3,764
Classroom / Lecture Halls	29,860	57,104 "	0.52	NASF / WCH			54,861	Section 6	-25,001
Laboratories									
Computer Laboratories	3,650	4,078 WCH			1.90	NASF / WCH ECS	7,748		-4,098
Animal Science		733 "			9.52	" "	6,980		-6,980
Animation / Gaming					2.86	" "			
Building Science / Civil					4.76	" "			
ECE Laboratory		855 "			3.81	" "	3,257		-3,257
Electronics / Comp. Hardware		1,491 "			3.81	" "	4,259		-4,259
Fashion					3.81	" "			
Graphic Arts					2.86	" "			
Greenhouse		116 "			4.76	" "	792		-792
Hospitality / Travel					2.86	" "			
Media / Performance		268 "			3.81	" "	2,556		-2,556
Metal Trades					9.52	" "			
Patient Care	3,390	3,024 "			4.76	" "	14,400		-11,010
Personal Care					3.81	" "			
Specialized Computer Laboratories					2.38	" "			
Wet Life Science Lab	3,030	613 "			3.81	" "	2,336		694
Wet Physical Science Lab					3.81	" "			
Laboratories	10,070	11,178 WCH	0.90	"			42,328	Section 6	-32,258
Administrative & Faculty Offices									
Academic Offices		430 Staff	34.43	NASF / Staff			43,784		
Administrative Offices		160 Staff					12,753		
Administrative & Faculty Offices	20,315	590 Staff				Section 7-Type A to G x Multipliers ECS	56,537	Section 7	-36,222
Learner Support									
Library / Information Commons									
Open Access Study Space									
Learning Centres									
Learner Support	11,404	4,718 FTE Students	2.42	NASF / FTE	6.00	NASF / FTE COU & ECS	28,308	E = B x D	-16,904
Campus Services									
Food	6,935	4,718 FTE Students	1.47	NASF / FTE	6.5	COU (Mid-Range)	30,667	E = B x D	-23,732
Retail / Bookstore	1,557	4,718 FTE Students	0.33	NASF / FTE	1.6	COU (Mid-Range)	7,549	E = B x D	-5,992
Campus Services	8,492								-29,724
Student Life									
Athletic Activity Areas	6,924	4,718 FTE Students	1.47	NASF / FTE	Double Gym and Fitness Centre ECS		30,000	ECS	-23,076
Student Centre / Lounges and Social	7,027	4,718 FTE Students	1.49	NASF / FTE	6.4	NASF / FTE COU	30,195	COU	-23,168
Student Life	13,951								-46,244

Total NASF **-186,353**
Total GSF assuming 65% / 35% Net-to-Gross Ratio **-285,120**

Seneca@York Campus – Baseline

Space Category	A Existing Inventory (NASF)	B Input Value and Description	C=A/B Seneca Calculated Benchmark	D External Standard / Benchmark as Applicable	E Green Field Space Requirement (NASF)	F=E-A Difference (NASF)
Classroom / Lecture Halls						
<i>Classroom / Seminar</i>	37,145	41,063 WCH	0.90	0.89 NASF / WCH ECS	36,646	499
<i>Lecture Halls</i>	9,460	6,808 "	0.72	1.25 " "	8,775	685
Classroom / Lecture Halls	46,605	47,871 "	0.97 NASF / WCH		45,421 Section 6	1,184
Laboratories						
<i>Computer Laboratories</i>	15,330	15,483 WCH		1.90 NASF / WCH ECS	29,491	-14,161
<i>Animal Science</i>				9.52 " "		
<i>Animation / Gaming</i>		1,684 "		2.86 " "	4,811	-4,811
<i>Building Science / Civil</i>				4.76 " "		
<i>ECE Laboratory</i>				3.81 " "		
<i>Electronics / Comp. Hardware</i>	4,750	3,457 "		3.81 " "	9,877	-5,127
<i>Fashion</i>				3.81 " "		
<i>Graphic Arts</i>	2,590	3,523 "		2.86 " "	10,066	-7,476
<i>Greenhouse</i>				4.76 " "		
<i>Hospitality / Travel</i>				2.86 " "		
<i>Media / Performance</i>	5,390	2,864 "		3.81 " "	10,910	-5,520
<i>Metal Trades</i>				9.52 " "		
<i>Patient Care</i>				4.76 " "		
<i>Personal Care</i>				3.81 " "		
<i>Specialized Computer Laboratories</i>	12,075	6,200 "		2.38 " "	14,762	-2,687
<i>Wet Life Science Lab</i>	6,770	2,792 "		3.81 " "	10,636	-3,866
<i>Wet Physical Science Lab</i>	4,125	2,008 "		3.81 " "	7,650	-3,525
Laboratories	51,030	38,011 WCH	1.34 "	" "	98,203 Section 6	-47,173
Administrative & Faculty Offices						
<i>Academic Offices</i>		517 Staff	83.05 NASF / Staff		30,476	
<i>Administrative Offices</i>		195 Staff			15,438	
Administrative & Faculty Offices	59,129	712 Staff		Section 7-Type A to G x Multipliers ECS	45,914 Section 7	13,215
Learner Support						
<i>Library / Information Commons</i>	5,850					
<i>Open Access Study Space</i>	15,270					
<i>Learning Centres</i>						
Learner Support	21,120	4,875 FTE Students	4.33 NASF / FTE	6.00 NASF / FTE COU & ECS	29,250 E = B x D	-8,130
Campus Services						
<i>Food</i>	12,415	4,875 FTE Students	2.55 NASF / FTE	6.5 COU (Mid-Range)	31,688 E = B x D	-19,273
<i>Retail / Bookstore</i>	1,580	4,875 FTE Students	0.32 NASF / FTE	1.6 COU (Mid-Range)	7,800 E = B x D	-6,220
Campus Services	13,995					-25,493
Student Life						
<i>Athletic Activity Areas</i>	15,090	4,875 FTE Students	3.10 NASF / FTE	6.0 NASF / FTE COU	29,250 E = B x D	-14,160
<i>Student Centre / Lounges and Social</i>	9,075	4,875 FTE Students	1.86 NASF / FTE	6.4 NASF / FTE COU	31,200 COU	-22,125
Student Life	24,165					-36,285

Total NASF -102,682
Total GSF assuming 65% / 35% Net-to-Gross Ratio -157,103

Seneca@York Campus – Scenario A

	A	B	C=A/B	D	E	F=E-A	
Space Category	Existing Inventory (NASF)	Input Value and Description	Seneca Calculated Benchmark	External Standard / Benchmark as Applicable	Standard / Benchmark Source	Green Field Space Requirement (NASF) Source / Reference	Difference (NASF)
Classroom / Lecture Halls							
<i>Classroom / Seminar</i>	37,145	49,992 WCH	0.74	0.89	NASF / WCH ECS	44,636	-7,491
<i>Lecture Halls</i>	9,460	8,238 "	0.87	1.25	" "	10,287	-827
Classroom / Lecture Halls	46,605	58,230 "	0.80	NASF / WCH		54,923 Section 6	-8,318
Laboratories							
<i>Computer Laboratories</i>	15,330	18,809 WCH		1.90	NASF / WCH ECS	35,828	-20,498
<i>Animal Science</i>				9.52	" "		
<i>Animation / Gaming</i>		2,038 "		2.86	" "	5,822	-5,822
<i>Building Science / Civil</i>				4.76	" "		
<i>ECE Laboratory</i>				3.81	" "		
<i>Electronics / Comp. Hardware</i>	4,750	4,183 "		3.81	" "	11,951	-7,201
<i>Fashion</i>				3.81	" "		
<i>Graphic Arts</i>	2,590	4,263 "		2.86	" "	12,180	-9,590
<i>Greenhouse</i>				4.76	" "		
<i>Hospitality / Travel</i>				2.86	" "		
<i>Media / Performance</i>	5,390	3,465 "		3.81	" "	13,202	-7,812
<i>Metal Trades</i>				9.52	" "		
<i>Patient Care</i>				4.76	" "		
<i>Personal Care</i>				3.81	" "		
<i>Specialized Computer Laboratories</i>	12,075	7,502 "		2.38	" "	17,862	-5,787
<i>Wet Life Science Lab</i>	6,770	3,378 "		3.81	" "	12,870	-6,100
<i>Wet Physical Science Lab</i>	4,125	2,430 "		3.81	" "	9,256	-5,131
Laboratories	51,030	46,068 WCH	1.11	"	"	118,971 Section 6	-67,941
Administrative & Faculty Offices							
<i>Academic Offices</i>		600 Staff	71.76	NASF / Staff		35,352	
<i>Administrative Offices</i>		224 Staff				17,753	
Administrative & Faculty Offices	59,129	824 Staff			Section 7-Type A to G x Multipliers ECS	53,105 Section 7	6,024
Learner Support							
<i>Library / Information Commons</i>	5,850						
<i>Open Access Study Space</i>	15,270						
<i>Learning Centres</i>							
Learner Support	21,120	5,887 FTE Students	3.59	NASF / FTE	6.00 NASF / FTE COU & ECS	35,322 E = B x D	-14,202
Campus Services							
<i>Food</i>	12,415	5,887 FTE Students	2.11	NASF / FTE	6.5	COU (Mid-Range)	E = B x D
<i>Retail / Bookstore</i>	1,580	5,887 FTE Students	0.27	NASF / FTE	1.6	COU (Mid-Range)	E = B x D
Campus Services	13,995						-33,690
Student Life							
<i>Athletic Activity Areas</i>	15,090	5,887 FTE Students	2.56	NASF / FTE	6.0	NASF / FTE COU	E = B x D
<i>Student Centre / Lounges and Social</i>	9,075	5,887 FTE Students	1.54	NASF / FTE	6.4	NASF / FTE COU	
Student Life	24,165						-48,834

Total NASF -166,961
Total GSF assuming 65% / 35% Net-to-Gross Ratio -255,450

Seneca@York Campus – Scenario B

Space Category	A Existing Inventory (NASF)	B Input Value and Description	C=A/B Seneca Calculated Benchmark	D External Standard / Benchmark as Applicable	E Green Field Space Requirement (NASF)	F=E-A Difference (NASF)
Classroom / Lecture Halls						
Classroom / Seminar	37,145	41,174 WCH	0.90	0.89 NASF / WCH ECS	36,762	383
Lecture Halls	9,460	3,914 "	0.41	1.25 " "	4,893	4,567
Classroom / Lecture Halls	46,605	45,088 "	1.03 NASF / WCH		41,655 Section 6	4,950
Laboratories						
Computer Laboratories	15,330	6,816 WCH		1.90 NASF / WCH ECS	12,983	2,347
Animal Science				9.52 " "		
Animation / Gaming		1,811 "		2.86 " "	5,175	-5,175
Building Science / Civil				4.76 " "		
ECE Laboratory				3.81 " "		
Electronics / Comp. Hardware	4,750			3.81 " "		4,750
Fashion				3.81 " "		
Graphic Arts	2,590	4,236 "		2.86 " "	12,180	-9,590
Greenhouse				4.76 " "		
Hospitality / Travel		267 "		2.86 " "	763	-763
Media / Performance	5,390	3,465 "		3.81 " "	13,202	-7,812
Metal Trades				9.52 " "		
Patient Care				4.76 " "		
Personal Care				3.81 " "		
Specialized Computer Laboratories	12,075	7,166 "		2.38 " "	17,063	-4,988
Wet Life Science Lab	6,770	69 "		3.81 " "	263	6,507
Wet Physical Science Lab	4,125	27 "		3.81 " "	101	4,024
Laboratories	51,030	23,857 WCH	2.14 "	" "	61,730 Section 6	-10,700
Administrative & Faculty Offices						
Academic Offices		517 Staff	83.05 NASF / Staff		30,476	
Administrative Offices		195 Staff			15,438	
Administrative & Faculty Offices	59,129	712 Staff		Section 7-Type A to G x Multipliers ECS	45,914 Section 7	13,215
Learner Support						
Library / Information Commons	5,850					
Open Access Study Space	15,270					
Learning Centres						
Learner Support	21,120	3,001 FTE Students	7.04 NASF / FTE	6.00 NASF / FTE COU & ECS	18,006 E = B x D	3,114
Campus Services						
Food	12,415	3,001 FTE Students	4.14 NASF / FTE	6.5 COU (Mid-Range)	19,507 E = B x D	-7,092
Retail / Bookstore	1,580	3,001 FTE Students	0.53 NASF / FTE	1.6 COU (Mid-Range)	4,802 E = B x D	-3,222
Campus Services	13,995					-10,313
Student Life						
Athletic Activity Areas	15,090	3,001 FTE Students	5.03 NASF / FTE	6.0 NASF / FTE COU	18,006 E = B x D	-2,916
Student Centre / Lounges and Social	9,075	3,001 FTE Students	3.02 NASF / FTE	6.4 NASF / FTE COU	19,206 COU	-10,131
Student Life	24,165					-13,047

Total NASF **-12,782**
Total GSF assuming 65% / 35% Net-to-Gross Ratio **-19,556**

Summary of Master Space Programmes

The following table on page 8-13 provides a summary of the 10 preceding MSPs. The summary provides the following information, organized by campus:

Current Box

- **Column A** lists the existing GSF;
- **Column B** lists the number of FTE students enrolled during the Fall 2010 semester;
- **Column C** lists the number of GSF per FTE student currently available, calculated by taking the ratio of the value in Column A to the value in Column B.

Baseline Greenfield Box

- **Column D** lists the GSF deficit for the Baseline scenario, determined using the MSPs;
- **Column E** lists the optimal GSF for the Baseline scenario, calculating by taking the sum of the value in column A and the value in column D;
- **Column F** lists the optimal number of GSF per FTE for the Baseline scenario, calculated by taking the ratio of the value in Column E to the value in Column B.

Scenario A Box

- **Column G** lists the GSF deficit for Scenario A, determined using the MSPs;
- **Column H** lists the optimal GSF for Scenario A, calculated by taking the sum of the value in column A and the value in Column G;
- **Column I** lists the number of FTE students projected to be enrolled during the 2020/21 academic year, based on Scenario A enrolment projections;
- **Column J** lists the optimal number of GSF per FTE for Scenario A, calculated by taking the ratio of the value in Column H to the value in Column I.

Scenario B Box

- **Column K** lists the GSF deficit for Scenario B, determined using the MSPs;
- **Column L** lists the optimal GSF for Scenario B, calculated by taking the sum of the value in column A and the value in Column G;
- **Column M** lists the number of FTE students projected to be enrolled during the 2020/21 academic year, based on Scenario B enrolment projections;
- **Column N** lists the optimal number of GSF per FTE for Scenario B, calculated by taking the ratio of the value in Column H to the value in Column I.

The summary table also contains a row that totals the information provided in the four boxes. This row lists the combined additional GSF that must be acquired by Seneca College across the four campuses in order to achieve the optimal GSF to FTE ratio for each scenario. Throughout this report, 100 GSF / FTE has been used as this optimal ratio, which is accepted across Ontario colleges to represent the ideal balance between efficiency and effective service delivery.

It should additionally be noted, as indicated in the lower right corner on page 3-13, that under Scenario B up to 1,400 additional FTE students can be accommodated at the Seneca@York campus. By relocating all Faculty of Applied Sciences and Technology programmes to the Newnham campus, enough space is vacated to accommodate these new students, while still maintaining a desirable GSF / FTE ratio.

MSP Summary to Inform the Development of Campus Master Plans at Newnham, Markham and King

Campus	Current			Baseline Greenfield			Scenario A				Scenario B			
	A	B	C = A / B	D	E = A + D	F = E / B	G	H = A + G	I	J = H / I	K	L = A + K	M	N = K / M
	Existing Inventory (GSF)	Day 10 Fall 2010 FTE Enrolment	Existing GSF / FTE	Additional Baseline Space (GSF)	Optimal Baseline Allocation Day 10 Fall 2010	Optimal GSF / FTE	Scenario A Additional Space Requirement Estimate (GSF)	Scenario A Total Proposed Inventory	Scenario A 2020/21 Enrolment	Scenario A GSF / FTE	Scenario B Additional Space Requirement Estimate (GSF)	Scenario B Total Proposed Inventory	Scenario B 2020/21 Enrolment	Scenario B GSF / FTE
Newnham	663,807	10,032	66.2	360,916	1,024,723	102.1	388,810	1,052,617	10,834	97.2	682,685	1,346,492	13,969	96.4
Markham	216,738	1,837	118.0	88,054	304,792	165.9	425,327	642,065	5,843	109.9	425,327	642,065	5,843	109.9
King	121,832	3,280	37.1	156,054	277,886	84.7	285,120	406,952	4,817	84.5	285,120	406,952	4,817	84.5
Seneca@York	434,371	4,875	89.1	157,103	591,474	121.3	255,450	689,821	5,887	117.2	1,393,132	2,395,509	24,629	97.3
Total	1,436,748	20,024	71.8	762,127	2,198,875	109.8	1,354,707	2,791,455	27,381	101.9				

↑
Additional GSF to Address Current Shortfalls
↑
Additional GSF to Address Current Shortfall and Grow to 27,381 FTE
↑
Additional GSF to Address Current Shortfall and Grow to 24,530 FTE

Seneca@York Scenario B	19,556	453,927	3,001	151.3
Backfill of Technology Labs?			1,400	
			<u>4,401</u>	103.1