UNIVERSITY OF TORONTO

OFFICE OF THE GOVERNING COUNCIL

FOR RECOMMENDATION **PUBLIC** **OPEN SESSION**

TO: UTSC Campus Affairs Committee

SPONSOR: Andrew Arifuzzaman, Chief Administrative Officer
CONTACT INFO: 416-287-7108, andrew.arifuzzaman@utoronto.ca

PRESENTER: See Sponsor

DATE: January 4, 2021 for January 11, 2021

AGENDA ITEM: 5

ITEM IDENTIFICATION:

Capital Project: *Report of the Project Planning Committee for the New Classroom, Academic, and Administrative Building (Instructional Centre-2 or IC-2) at the University of Toronto Scarborough (UTSC)*

JURISDICTIONAL INFORMATION:

Pursuant to section 4.2.3. of the Committee's terms of Reference, "…the Committee considers reports of project planning committees and recommends to the Academic Board approval in principle of projects (i.e. space plan, site, overall cost and sources of funds)."

Under the Policy on Capital Planning and Capital Projects, "…proposals for capital projects exceeding $20 million must be considered by the appropriate Boards and Committees of Governing Council on the joint recommendation of the Vice-President and Provost and the Vice-President, University Operations. Normally, they will require approval of the Governing Council. Execution of such projects is approved by the Business Board. If the project will require financing as part of the funding, the project proposal must be considered by the Business Board."

GOVERNANCE PATH:

A. Updated to the Project Planning Report, Total Project Cost, and Sources of Funding

1. **UTSC Campus Affairs Committee [for recommendation] (January 11, 2021)**
2. UTSC Campus Council [for recommendation] (January 27, 2021)
3. Academic Board [for recommendation] (January 28, 2021)
4. Business Board [financing, for recommendation] (February 3, 2021)
5. Executive Committee [for confirmation] (February 9, 2021)
6. Governing Council [for approval] (February 25, 2021)

B. Execution of the Project:

1. Business Board [for approval] (February 3, 2021)

PREVIOUS ACTION TAKEN:

On September 29, 2017, the CaPS Executive Committee approved the Terms of Reference proposing that a Project Planning Committee be struck to proceed with the planning of a New Classroom, Academic, and Administrative Building (Instructional Centre-2 or IC-2) at the University of Toronto Scarborough.

On November 30, 2018, the CaPS Executive Committee approved the Interim Project Planning Report in principle and funding requested to proceed with hiring consultants as the 'Owner's Design Architect' for completion of Design-Build-Bridging Documents and provision of services through the Design-Build-Bridge process to the end of construction.

On June 8, 2020, the CaPS Executive Committee approved an additional $942,794 to be made available to engage consultant to the end of Contract Documents and to engage a Construction Manager to provide Pre-Construction CM services. The letter of approval was dated September 25, 2020. An RFP process was initiated for the Construction Manager Phase 1 – Preconstruction Services and Ellis Don was awarded a contract on September 3, 2020.

HIGHLIGHTS:

The University of Toronto Scarborough (UTSC) plans a new facility on its north campus that will incorporate an instructional centre, units within Student Affairs, and academic space for the Department of Computer & Mathematical Sciences. The proposed building will address space shortages experienced by all three occupant groups. This facility represents the most efficient and effective way to add new, dedicated instructional space to the UTSC Campus to be used across all academic departments, as well as a centralized Student Services Hub.

The Instructional Centre 2 (IC-2) will be a prominent feature of the north campus, incorporating high-quality teaching and learning, faculty, student service and support space. Situated midway between Toronto Pan-Am Athletic and Sports Centre (TPASC) and the original Instructional Centre (IC) and the Environmental Science and Chemistry Building (ESCB); the IC-2 will be an open and welcoming beacon, regardless of where one is travelling from. The IC-2 will be an important gathering place for students with its significant instructional space, new study space, and co-location space of important student success services. The building also plays an important part in the implementation of the North Campus Master Plan by establishing the eastern edge along the proposed pedestrianized Military Trail and creating an important façade condition on the east side of the future 'campus green'.

This location will serve to bridge the spatial gap between the new TPASC facility to the north, and IC and Environmental Science and Chemistry Building (ESCB) to the south. This facility, along with a

planned student residence building, will extend the link between the south campus and the north. The planned location also addresses ease of pedestrian access by the student population, as well as easy access for community visitors attending events and continuing education programming at UTSC.

IC-2 will provide 24 new classrooms to the UTSC classroom inventory. Classroom sizes will range from 24 seats to 500. Classroom sizes, types and quantities were determined through a combination of research into existing classrooms, a faculty survey to gather information on expected section enrolments and preferred teaching pedagogies, current and future trends in learning environments, a series of timetable simulation exercises, and a comprehensive COU analysis. Of note, there will be seven collaborative classrooms, otherwise known as active-learning classrooms. Six of the collaborative classrooms are flat floor, while one is a tiered room, modelled on the recent lecture hall at the Myhal Centre for Engineering, Innovation & Entrepreneurship.

This project also incorporates four significant departments in the Division of Student Affairs: Academic Advising & Career Centre, AccessAbility Services, Health & Wellness Centre and the Office of Student Affairs. Currently, the departments within Student Affairs are gridlocked, with no room to expand in their current locations. Services are unable to expand due to the lack of space. The services are currently located in three different buildings making collaborations and seamless care plans for students challenging. Consolidating these into one building in a central location on campus will be a long awaited milestone for these three dedicated units.

The Department of Computer and Mathematical Sciences (CMS) will be housed in the facility. Currently located in the existing Instructional Centre (IC), constructed in 2011, CMS has quickly outgrown its space due to rapid growth in its program. The move to the new Instructional Centre (IC-2) will allow for the continuing expansion of this department and permit new strategic faculty hires, greater curriculum innovation, more opportunities to engage undergraduate students in research and independent study, and more graduate student involvement at UTSC. The facility will continue to give the department a greater capacity to service the broader student population that have primary majors outside the Mathematical Sciences and require skills of "computational and quantitative reasoning". This facility will house teaching laboratories with cutting edge computer based technologies to provide an exceptional learning environment to enhance our students' educational experience.

The building is designed to have a space program totaling 9,915 nasm (net assignable square metres), and a gross floor area of 19,646 gsm (gross square metres). The program has been scrutinized to encourage shared spaces wherever possible. The building will include five levels above grade and one level below. In general, teaching and student spaces will be located on the lower levels of the building while the upper levels will house faculty and student service functions. A mechanical penthouse will be required. The basement and levels 2 and 3 have a floor to floor height of 4.8m to accommodate the majority of the teaching spaces. The ground level has a floor to floor height of 6m to increase the sense of openness to Military Trail and the future Campus Green. The upper three levels will have 3.7m floor-to-floor heights consistent with academic and administrative functions to be located on these floors.

The proposed site is designated Institutional in use, however the site has a "hold" on it, based on the Highland Creek Zoning Bylaw. The "H", or holding, zone designation was put in place to address environmental concerns due to the site's proximity to a closed City of Toronto municipal waste site. A

Zoning Amendment application is needed in order to remove the "H", as was done for previous projects on the north campus.

On November 30, 2018 CaPS Executive Committee approval to engage consultants to develop the design of the New Classroom, Academic, and Administrative Building (IC-2) was confirmed. The approved funding was to hire consultants as the 'Owner's Design Architect' for completion of Design-Build-Bridging Documents and provision of services through the Design-Build-Bridge process to the end of construction. Through a proposal call, ZAS Architects + Interiors Inc., a local architecture firm, teamed with CEBRA Architects (Aarhus, Denmark) were selected as the project architectural team. Currently, the capital project is in Design Development.

A Pre-Application Consultation (PAC) Meeting was held with the City of Toronto on January 10, 2020. The proposed Zoning Bylaw Amendment Application and Site Plan Approval Application was submitted on May 22, 2020.

In February 2020, Project Development and Capital Projects in consultation with UTSC Business, Operations, and Strategic Affairs determined that due to the complexity of development on the UTSC North Campus and the preliminary design of the IC-2 that the 'Design-Build-Bridge' project delivery method would be replaced with a 'Construction Management' approach. Additional funds to extend the consultant's contract and engage a Construction Manager were approved by the CaPS Executive Committee on June 8, 2020. An RFP was subsequently issued and Ellis Don was awarded the CM contract for pre-construction services on September 3, 2020.

During October and November of 2020 a detailed costing exercise was performed by the Consultants and the Construction Manager. This consulting exercise was followed by a value engineering phase to determine the Total Project Cost included within this application.

Anticipated start of construction is targeted for early 2021 with building occupancy in August 2023.

Secondary Effects

Secondary Effects of the Instructional Centre 2 (IC-2) project include the following:

Vacated space will be come available through the relocation of a number of student services departments and the Computer and Mathematical Sciences department to the new IC-2 permitting the relocation and consolidation of other academic departments within the existing buildings. The IC-2 will also aid in alleviating the space needs for classrooms allowing existing classrooms to be properly sized. Vacated space in existing buildings will be an opportunity to create high quality study spaces and possibly to relocate administrative units. The UTSC Space Planning committee will look at reallocation and renovation of the space that will be vacated by IC-2, as well as other space vacancies as they become available. This committee serves as a governing body to review and oversee the space allocation and renovation needs on campus. The priority for this group will be to address the critical space shortages as well as providing opportunities to meet newly identified academic and strategic planning requirements on campus.

The IC-2 will displace parking spaces from the existing inventory as well as generate new parking requirements under the current City of Toronto by-law. To address this requirement a short-term visitor parking area and drop off lay-by is proposed at the north and the east of the IC-2 site. Further parking capaticy under the by-law will be addressed by the future North Campus Parking Structure, currently in design. Existing surface lots will continue to be used to provide parking capacity to satisfy the requirements of by-law for the current and near future north campus development.

The IC-2 project does not include a loading dock facility. The projet will be connected to the loading dock at the adjacent North Campus Parkign Structure via and underground tunnel. The Tunnel will connect to a loading/staging are within the IC-2 basement and have direct access to the east freight elevator. The parking structure is currently in design with an anticipated completion to align with the IC-2.

Schedule

The following anticipated project schedule assumes that: Project is approved at 26 February 2021 Scarborough Community Council; Project is approved at the 10 March 2021 City Council Meeting; NOAC is obtained within two weeks of City Council Meeting, by March 24, 2021; Site Servicing, Below Grade Drainage and Foundation Partial Conditional Permits are obtained within one month form NOAC, by April 24, 2021; Assumes shoring is not required; Ellis Don commences tower crane installation and foundations in May 2021.

- Expected Site Plan Approval — March 2021 (NOAC)
- CM Tender — June 2020
- CM Award – Part 1: Pre-Construction Services — September 2020
- Costing & Value Engineering (Updated TPC) — October-November 2020
- Building Permitting — December 2020 – March 2021
- Sequential Sub-Contractor Tendering — December 2020 start
- Cycle 3 Governing Council Approval — February 25, 2021
- CM Award – Part 2: Construction Services
  - Upon Governing Council Approval — February 2021
- Sequential Sub-Contractor Tender Award
  - Immediately after CM Part 2 Award — February 2021 start

The Following Dates are Achievable only if NOAC is received by March 24, 2021; if NOAC is not received, each subsequent date needs to reflect duration the delay for NOAC

- Site Mobilization, Clearing, Geothermal Drilling, Excavation — February 2021
- Tentative date of Receipt of NOAC — March 2021
- Full Building Permit Application — March 2021
- Substantial Performance / Occupancy — June 2023
- Project Completion — August 2023

FINANCIAL AND PLANNING IMPLICATIONS:

Discussion of overall costs and sources of funds can be found in the *in camera* document for this project.

RECOMMENDATIONS:

Be It Recommended

THAT the Report of the Project Planning Committee for the New Classroom, Academic, and Administrative Building (Instructional Centre 2 or IC-2) at the University of Toronto Scarborough (UTSC), dated November 17, 2020, be approved in principle; and,

THAT the project totaling 9,915 net assignable square metres (nasm) and 19,646 gross square metres (gsm), be approved in principle, to be funded by Future Major Capital Project Reserves, Borrowing and UTSC Major Capital Construction.

DOCUMENTATION PROVIDED:

- *Report of the Project Planning Committee for the New Classroom, Academic, and Administrative Building (Instructional Centre 2 or IC-2) at the University of Toronto Scarborough (UTSC)* dated November 17, 2020.

Report of the Project Planning Committee for
University of Toronto
New Classroom, Academic, and
Administrative Building (Instructional Centre-2 or IC-2) at the
University of Toronto Scarborough (UTSC)

November 17, 2020

Office of University Planning - University Planning, Design and Construction

UTSC Business, Operations, and Strategic Affairs

I. Executive Summary

The University of Toronto Scarborough (UTSC) has planned a new facility on its north campus that will incorporate an instructional centre, units within Student Affairs, and academic space for the Department of Computer & Mathematical Sciences. The proposed building will address space shortages experienced by all three occupant groups. This facility represents the most efficient and effective way to add new, dedicated instructional space to the UTSC Campus to be used across all academic departments, as well as a centralized Student Services Hub.

The Instructional Centre 2 (IC-2) will be a prominent feature of the north campus, incorporating high-quality teaching and learning, faculty, student service and support space. Situated midway between Toronto Pan-Am Athletic and Sports Centre (TPASC) and the original Instructional Centre (IC) and the Environmental Science and Chemistry Building (ESCB). IC-2 will be an open and welcoming beacon, regardless of where one is travelling from. The IC-2 will be an important gathering place for students with its significant instructional space, new study space, and co-location space of important student success services. The building also plays an important part in the implementation of the North Campus Master Plan by establishing the eastern edge along the proposed pedestrianized Military Trail and creating an important façade condition on the east side of the future 'campus green'.

This location will serve to bridge the spatial gap between the new TPASC facility to the north, and IC and Environmental Science and Chemistry Building (ESCB) to the south. This facility, along with a planned student residence building, will extend the link between the south campus and the north. The planned location also addresses ease of pedestrian access by the student population, as well as easy access for community visitors attending events and continuing education programming at UTSC.

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capacity to service the broader student population that have primary majors outside the Mathematical Sciences and require skills of "computational and quantitative reasoning". This facility will house teaching laboratories with cutting edge computer based technologies to provide an exceptional learning environment to enhance our students' educational experience.

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II. Project Background

a) Membership

Prof. Bill Gough, Dean and Vice-Principal Academic, UTSC (Co-Chair)

Andrew Arifuzzaman, Chief Administrative Officer, UTSC (Co-Chair)

Prof. Clare Hasenkampf, Director, Associate Dean Teaching and Learning (to June 2018), UTSC

Curtis Cole, Registrar and Director of Enrolment Management, Registrar's Office, UTSC

Naureen Nizam, Associate Registrar and Director of Systems & Operations, Registrar's Office, UTSC

Desmond Pouyat, Dean of Student Affairs, UTSC

Tina Doyle, Director, Access*Ability* Services and Special Advisor to the Dean of Student Affairs on Campus-Wide Accessibility

Prof. Steve Joordens, Department of Psychology, UTSC

Prof. Christine Bolus-Reichert, UTSC

Prof. Dan Silver, Department of Sociology, UTSC

Vassos Hadzilacos (TBD), Department of Computer and Mathematical Sciences

Zoran Piljevic, Director IITS, UTSC

Therese Ludlow, Director of Operations, BOSA, UTSC

Jennifer Adams Peffer, Director, Architecture, Planning and Project Development, UTSC

Amanda McLeod, Manager, Architecture and Planning, DCM, UTSC

Jeff Miller, Director, Facilities Management, UTSC

Hoorik Yeghiazarian, Electrical Engineer, Facilities Management, UTSC

Jeevan Kempson, Director, Campus Planning & Analysis, UTSC

Costas Catsaros, Director, Project Development, UPDC, UofT

Adam Trotter, Planner, Campus & Facilities Planning, UPDC, UofT*

Steve Bailey, Director, Academic + Campus Events, UPDC, UofT

Kate Slotek, Classroom Planning & Standards Officer, Academic + Campus Events, UPDC, UofT

Mohammad Moustafa, U/G Student representative, UTSC

Roxanne Reid, Project Coordinator and Office Administrator, BOSA, UTSC

Darlene Costas, Project Manager, Facilities Management, UTSC

*member added to project committee in December 2019

b) Terms of Reference

1. Make recommendations for a detailed space program and functional layout for a new Classroom and Administration Building (IC-2) on the UTSC campus
2. Identify the space program as it is related to the existing and approved academic plan at UTSC, taking into account the impact of approved and proposed program that are reflected in increasing faculty, student and staff complement. Plan to realize maximum flexibility of space to permit future allocation, as program needs change.
3. Demonstrate that the proposed space program will be consistent with the Council of Ontario Universities' and the University's own space standards.
4. Identify all co-effects, including space reallocations, impact on the delivery of academic programs during construction and the possible required relocation as required to implement the plan.
5. Address campus-wide planning directives as set out in the campus master plan, open space plan, urban design criteria, and site conditions that respond to the broader University community.
6. Identify equipment and moveable furnishings necessary to the project and their estimated cost.
7. Identify all data, networking and communication requirements and their related costs.
8. Identify all security, occupational health and safety and accessibility requirements and their related costs.
9. Identify a communications strategy for the project.
10. Identify all costs associated with transition during construction and secondary effects resulting from the realization of this project.
11. Determine a total project cost estimate (TPC) for the capital project including costs of implementation in phases if required, and also identify all resource costs to the University.
12. Identify all sources of funding for capital and operating costs.
13. Complete interim project planning report by April 2018.

c) Background Information

The University of Toronto Scarborough (UTSC) plans a new facility on its north campus that will incorporate an instructional centre, units within Student Affairs, and academic space for department of Computer & Mathematical Sciences, to address space shortages experienced by all three occupant groups.

UTSC now functions as a medium-sized, comprehensive, regional university in the eastern Greater Toronto Area. UTSC has benefited from strong enrolment growth and thus has exceeded its physical capacity within existing facilities. UTSC's undergraduate and graduate enrolment has increased by 2,538 headcount or 22% over the last 5 years and is planned to grow by another 764 or 6% by 2022-23. The medium term plan is to have a 15,000 student campus by 2023-24 with a planned longer term goal of 18,000 students. UTSC has already exceeded its physical capacity based on existing classroom, administrative and academic spaces. Existing classrooms are overcrowded and do not provide adequate teaching spaces, particularly for active learning techniques.

The north campus has seen three major developments in the last decade. In 2009, UTSC received Ministry funds to build Instructional Centre Phase 1 (IC). This 7,900 nasm project built 13 high quality classrooms and 5 specialized data modeling and communications labs, along with academic space for Management and Computer & Mathematical Sciences, and administration and student space for the Arts and Science and Management Co-operative Programs. Shortly thereafter UTSC was successful in securing the aquatics facility for the 2015 Pan-American Games. A 23,500 nasm facility (TPASC) was built at the northern end of the north campus, housing two 50m pools, a dive tank, regulation basketball courts, an indoor climbing wall, a gym among other amenities. This is a shared facility with the City of Toronto. Finally, the new 5,945 nasm Environmental Science & Chemistry building (ESCB) was constructed adjacent to IC and completed in 2015. The facility has provided teaching and research lab space to the Environmental Science & Chemistry programs, as well as faculty, graduate and student space.

Concurrently with these capital developments, UTSC has been engaged in a master planning process to ensure the north campus develops in a strategic and well-designed manner. Key drivers in the development of the North campus include: reinventing the existing Military Trail right-of-way as a landscaped spine for pedestrians and cyclists; maximizing pedestrian porosity to link North and South Campuses; enhancing regional connectivity and integrate an LRT into North and South Campus in a new right-of-way; and aligning a new street with the LRT to make the street work for all users. UTSC has developed these principles into a proposed Secondary Plan that is currently working its way through the City of Toronto approval process.

On the south campus, the previous athletics facility, the R-wing (now called Highland Hall) has just undergone a significant transformation. Along with an exam centre, new administrative and student study space, four classrooms have been constructed (one lecture theatre and 3 small classrooms). Though this renovation has added classrooms to UTSC's overall classroom inventory, the campus remains underserviced in instructional, student, and academic support space.

The proposed new Instructional Centre Phase 2 (IC-2) will provide a central location for 21 new, state of the art, and various sized classrooms. This type of facility represents the most efficient and effective way to add new, dedicated instructional space to be used across all academic departments. Additionally, the IC-2 will include the academic department Computer & Mathematical Sciences, and student services spaces.

The proposed new facility will be sited centrally on the north campus, along Military Trail, lying directly across from what will become the Campus Green. This location will serve to bridge the spatial gap between the new TPASC facility to the north, and IC and ESCB to the south. This facility, along with a planned new student residence building currently in construction, will extend the link between the south campus and the north. The planned location also addresses ease of pedestrian access by the student population, as well as easy access for community visitors attending events and continuing education programming at UTSC.

As part of this planning exercise, UTSC has examined the feasibility of updating current classrooms on the south campus to modernize their infrastructure, and adjust for more active learning teaching styles. Numerous classrooms have been identified as suitable candidates for renovation, and these are included in an appendix to this report. The construction of new teaching facilities as well as renovation of current ones, should give UTSC the physical resources for effective instructional delivery for the next 10 years.

On November 30, 2018 CaPS Executive Committee approval to engage consultants to develop the design of the New Classroom, Academic, and Administrative Building (IC-2) was confirmed. The approved funding was to hire consultants as the 'Owner's Design Architect' for completion of Design-Build-Bridging Documents and provision of services through the Design-Build-Bridge process to the end of construction. Through a proposal call, ZAS Architects + Interiors Inc., a local architecture firm, teamed with CEBRA Architects (Aarhus, Denmark) were selected as the project architectural team. .

Currently, the capital project is in Design Development. A Pre-Application Consultation (PAC) Meeting was held with the City of Toronto on January 10, 2020. The proposed Zoning Bylaw Amendment Application and Site Plan Approval Application was submitted on May 22, 2020.

In February 2020, Project Development and Capital Projects in consultation with UTSC Business, Operations, and Strategic Affairs determined that due to the complexity of development on the UTSC North Campus and the preliminary design of the IC-2 that the 'Design-Build-Bridge' project delivery method would be replaced with a 'Construction Management' approach.

June 9, 2020 an RFP for the Construction Manager was issued and Ellis Don was awarded the CM contract part 1 on September 3, 2020. Anticipated start of construction is targeted for early 2021 with building occupancy in August 2023.

d) Existing Space

Classrooms

UTSC currently has fifty-four classrooms in its campus inventory, which includes four new classrooms in the recently constructed Highland Hall. Found across eight different campus buildings, the classrooms range in size and quality.

Twenty-three of classrooms are tiered and have a seating capacity range of 60-500. There are thirty-one flat floor classrooms, with a seating capacity range of 25-80. These include two active learning classrooms. Two of the flat floor classrooms are nearly exclusively booked for the Management program. In addition, three flat floor classrooms are temporary, two being converted study space, and one being located in a soon-to-be-removed portable. The current seat capacity is 4,523.

Computer and Mathematical Sciences

The Department of Computer and Mathematical Sciences occupies 1,088 nasm of purpose-built space in the IC-1, the Instructional Centre constructed in 2011. Faculty staff and student space, including teaching are all co-located.

Department Name	***Room Category***	***Category Description***	***Subcategory***	***Type Description***	***Room Area m²***	***Rooms Count***
Computer & Mathematical Sciences	2.0	Laboratory - Undergraduate	2.1	Scheduled Class Lab	34.68	1
Computer & Mathematical Sciences	2.0	Laboratory - Undergraduate	2.2	Unscheduled Class Lab	237.94	3
Computer & Mathematical Sciences	4.0	Academic Dept Offices And Related Space	4.2	Research Office/Project Space	36.86	3
Computer & Mathematical Sciences	14.0	Common Use And Student Activity	14.1	Student Office And Support Space	20.28	1
Computer & Mathematical Sciences	4.0	Academic Dept Offices And Related Space	4.1	Academic Offices	465.34	37
Computer & Mathematical Sciences	4.0	Academic Dept Offices And Related Space	4.4	Departmental Support Staff Office	74.21	6
Computer & Mathematical Sciences	4.0	Academic Dept Offices And Related Space	4.5	Office Support Space	129.16	6
Computer & Mathematical Sciences	4.0	Academic Dept Offices And Related Space	4.3	Graduate Student Office	89.67	5
					1,088.14	62

Division of Student Affairs

The Academic Advising & Career Centre, Access*Ability* Services, Health & Wellness Centre and the Office of Student Affairs departments currently occupy 1.166.75 nasm of space, in various locations on campus.

Department Name	***Room Category***	***Category Description***	***Subcategory***	***Type Description***	***Room Area m²***	***Rooms Count***
Academic Advising & Career Centre	10.0	Administrative Office And Related Space	10.2	Central Admin Office Support	138.90	4
Academic Advising & Career Centre	10.0	Administrative Office And Related Space	10.1	Central Administrative Offices	212.91	19
					351.81	23
Department Name	***Room Category***	***Category Description***	***Subcategory***	***Type Description***	Room Area m²	Rooms Count
Accessability Services	10.0	Administrative Office And Related Space	10.2	Central Admin Office Support	43.56	3
Accessability Services	1.0	Classroom Facilities	1.4	Classroom Service Space	174.33	18
Accessability Services	10.0	Administrative Office And Related Space	10.1	Central Administrative Offices	102.15	9
					320.04	30
Department Name	***Room Category***	***Category Description***	***Subcategory***	***Type Description***	Room Area m²	Rooms Count

Assoc Princ Student Affairs	14.0	Common Use And Student Activity	14.1	Student Office And Support Space	67.06	4
Assoc Princ Student Affairs	10.0	Administrative Office And Related Space	10.1	Central Administrative Offices	177.08	15
Assoc Princ Student Affairs	10.0	Administrative Office And Related Space	10.2	Central Admin Office Support	18.01	2
					262.15	21
Department Name	***Room Category***	***Category Description***	***Subcategory***	***Type Description***	***Room Area m²***	***Rooms Count***
Health & Wellness Ctr - Scarborough	13.0	Health Service Facilities	13.1	Health Service Facilities	232.72	27
					232.72	27

Occupant profile

Classrooms

IC-2 will provide 21 new classrooms to the UTSC classroom inventory. Classroom sizes will range from 24 seats to 500. Classroom sizes, types and quantities were determined through a combination of research into existing classrooms, a faculty survey to gather information on expected section enrolments and preferred teaching pedagogies, current and future trends in learning environments, a series of timetable simulation exercises, and a comprehensive COU analysis utilizing weekly student contact hours in Fall 2017.

The table below shows UTSC's undergraduate fall 2017 Weekly Student Contact Hours (WSCH) in our 48 existing, centrally booked classrooms. Using COU factors, the number of seats derived for each classroom capacity range was compared with existing seats to determine where additional seats may be needed. The analysis also incorporated faculty responses to a survey about ideal section sizes.

UTSC Classroom Needs - Based on 2017-18 data for scheduled instruction plus enrolment growth to 2022-23

Classroom Capacity	**Classroom Range Midpoint**	**Classroom WSCH [1] by 2022-23**	**# Seats Derived for 2022-23**	**# Classrooms Derived for 2022-23**	**Total Existing Classrooms + HH - Portable**	**2022-23 Incremental Classrooms Based on COU Factors**	**Proposed Array of Classrooms & Seats for IC-2 - Based on COU plus Timetable Simulation Results [3, 4]**
A	B = A / 2	C	D = C/24.5 [2]	E = D/B	F	**G = E - F**	**H**
1-29	25	5,579	228	10	5	**5**	3 @ 24 seats
30-49	40	23,175	947	24	18	**6**	5 @ 36 seats; 3 @ 48 seats
50-69	60	23,107	944	16	11	**5**	3 @ 60 seats
70-110	100	12,801	523	6	5	**1**	1 @ 72 seats; 1 @ 100 seats
111-149	130	11,810	482	4	4	**0**	1 @ 120 seats
150-210	180	17,275	706	4	3	**1**	1 @ 160 seats; 1 @ 200 seats; 1 @ 210 seats
211-299	255	8,457	345	2	2	**0**	0
300-389	345	21,350	872	3	2	**1**	0
>389	500	22,247	909	2	1	**1**	1 @ 500 seats
Total		**145,800**	**5,956**	**71**	**51**	**20**	**21 classrooms; 1938 seats**

Notes:

1. WSCH = UG weekly student contact hours = course enrolment x hourly meets per week in classrooms.
2. 24.5 = COU classroom seat utilization co-efficient = average weekly classroom utilization for scheduled instruction at 34 hrs/week multiplied by average seats occupied when room is used for instruction at 72%.
3. Using COU derived classrooms as a baseline, UTSC's Registrar's Office advised on classroom needs incorporating desired teaching pedagogies and room types. This analysis yielded one additional classroom for 21 net new classrooms overall.
4. 2 classrooms at 36 seats, 1 classroom at 48 seats and 1 classroom at 60 seats are proposed as flat floor active learning style. 1 classroom at 200 seats is proposed as tiered collaborative style.

The analysis above demonstrates UTSC is short 21 classrooms based on current undergraduate WSCH plus modest enrolment growth to 2022-23.

The new classrooms will include Active Learning formats, as well as more traditional seminar and lecture layouts. Concurrently UTSC plans to embark on a renovation project of existing classrooms once the new IC-2 Classroom building is in place. This plan includes re-working capacities to meet better standards of space usage. Capacities will be adjusted to optimize the student learning experience. Similarly spaces, many of which have not been significant touched since the origin of the campus, will be modernized to address concerns about functionality from faculty and students. Improvements will address faculty concerns regarding accessibility, acoustics, sightlines, furniture and more. Typologies of space will also be updated with a concentration on adding active learning opportunities on the south campus.

Recommended changes to capacities for existing classrooms have been taken into consideration in the analysis of new classroom spaces to be built in the IC2. Proposed changes are identified under Secondary Effects, and will be undertaken once new spaces are completed in the IC2.

Computer and Mathematical Sciences

The Department of Computer and Mathematical Sciences (CMS) will be housed in the facility. Currently located in the existing Instructional Centre (IC), constructed in 2011, CMS has quickly outgrown its space due to rapid growth in its program: from 784 students enrolled in active programs in 2011-12 to 2,558 in 2017-18 (headcount numbers). To accommodate growth, spaces dedicated to student study have been temporarily taken out of service and repurposed to bridge until new space can be made available in the IC2. These spaces are needed to accommodate larger section sizes in teaching laboratory spaces, the addition of help desk spaces for a rapidly growing population of students, and office space to accommodate graduate TAs, sessional faculty and support staff.

The move to the new Instructional Centre (IC-2) will allow for the continuing expansion of this department and permit new strategic faculty hires, greater curriculum innovation, more opportunities to engage undergraduate students in research and independent study, and more graduate students involvement at UTSC. The facility will continue to give the department a greater capacity to serve the broader student population that have primary majors outside the Mathematical Sciences and require skills of “computational and quantitative reasoning”. This facility will house teaching laboratories with cutting edge computer based technologies to provide an exceptional learning environment to enhance our students’ educational experience. CMS currently has a budgeted faculty complement of 41.3 FTE, a staff complement of 6 FTE as well as 6 FTE post-doctoral fellows.

Division of Student Affairs

The Division of Student Affairs strives to cultivate student-centred learning, personal growth and success through community building, collaboration, and innovation. The new Instructional Centre provides an opportunity to co-locate specific Student Affairs departments (Academic Advising & Career Centre, Access*Ability* Services, Health & Wellness Centre and the Office of Student Affairs) that need to work in a coordinated manner, especially as it relates to students with health and accessibility challenges. Bringing these key services together into the same space will greatly enhance the ability to provide UTSC students with excellent health, well being and academic success support, as well as create synergies in service delivery.

Currently, the departments within Student Affairs are gridlocked, with no room to expand in their current locations. Services are unable to expand due to the lack of space. For example, Access*Ability* Services is unable to bring in Occupational Therapists students) and Health & Wellness can not expand counselling placements. The three student services are currently located in three different buildings making collaborations and seamless care plans for students challenging. Consolidating these three key student services into one building in a central location on campus will be a long awaited milestone for these three dedicated units, with the Office of Student Affairs is in close proximity to key student services.

These departments currently have an appointed staff complement of 60.3 FTE. In addition, numerous casual staff are employed. To meet the needs of the current student population and to accommodate future growth, Academic Advising, Access*Ability*, and Health & Wellness are planning to expand the staff complement and utilize professional interns training for careers in these areas. This new building will provide the space required.

III. Project Description

a) Vision Statement

The Instructional Centre 2 (IC-2) will be a prominent feature of the north campus, incorporating high-quality teaching and learning, faculty, student service and support space. Situated midway between TPASC and IC, IC-2 will be an open and welcoming beacon, regardless of where one is travelling from. The IC-2 will be an important gathering place for students with its significant instructional space, new study space, and co-location space of important student success services. The building also plays an important part in the implementation of the North Campus Master Plan by establishing the eastern edge of the masterplan along the proposed pedestrianized Military Trail and creating an important façade condition on the east side of the future 'campus green'.

A porous ground floor will allow flexible movement and easy access to spaces within and beyond. The architecture should speak to the multiplicity of programs in the building and acknowledge the future presence of the Campus Green to the east. Exhibition and gathering spaces will be integrated into the public areas of the building, facilitating a highly animated frontage that will serve as a magnet for students and for the community. With the addition of new classrooms, UTSC will finally have enough space to host a large range of community enriching, Continuing Education courses. Given the numerous occupants and diversity of building users, wayfinding should be incorporated into the architecture and design of the building. Recent projects at UTSC have incorporated a number of advanced sustainability measures; the design of IC2 should consider innovative ways in which to continue this leadership.

Diversity in classrooms structure and furnishings will facilitate a variety of teaching methodologies, and will be supported by the most relevant technologies. Larger classrooms will be located on or near the ground floor and will need to be intuitive to find. Smaller classrooms may be located on the second or third floor, and should be logically placed near convenience stairs to facilitate logical movement through the building

As the only academic unit in the building, CMS should have an identifiable presence that speaks to its growing reputation in the fields of mathematics, statistics and computer science. Incorporating faculty, student administrative and teaching space, CMS will ideally be located on its own floor.

The Student Services area must be student-centred creating a "hub" for students to gather and navigate Access*Ability*, Health and Wellness and Academic Advising and Career Counseling's professional services and provide opportunities for related peer to peer programming and events. It must respect privacy and confidentiality, while being welcoming and open. Co-locating these services aims to improve service delivery through increased collaboration, and sharing services where possible. The spaces must be sustainable, efficient and effective, while supporting diverse work styles, physically accessible and easy to locate and negotiate.

Rendered Axonometric View of the IC-2 at Military Trail from the South-West (CEBRA/ZAS Architects)

b) Statement of Academic Plan

UTSC's current classroom space falls below COU standards, and classrooms are booked well beyond the standard for scheduled instruction and station sizes are much smaller than the recommended standards. This scenario has made it very challenging to find times for classrooms to be utilized for non-instructional uses, such as student meeting spaces, faculty/staff one-off usage, ancillary room rentals, and continuing education usage. Consequently, there is an urgent need to add new classrooms and new teaching space styles to accommodate the growing student population and provide a student experience similar to what is enjoyed at other UofT campuses as well as other universities. Few of UTSC's existing classrooms have been retrofitted to accommodate new modes of instructional delivery, such as active learning and collaborate learning. Creation of new classrooms that support and enhance active learning and retrofitting of several existing classrooms similarly will help UTSC meet its academic plan goals to enhance student communication, numeracy and analytic skills in-class, in a supportive environment.

The Department of Computer and Mathematical Sciences (CMS) will be the only academic unit housed in the proposed building. CMS is a multidisciplinary unit that brings together the UTSC faculty in mathematics, statistics, and computer science, and it offers the campus's undergraduate programs in these three disciplines. The University of Toronto is an international research powerhouse in these disciplines, and CMS faculty members contribute significantly to this reputation, as illustrated, for example, by the six Sloan fellowships garnered by CMS faculty in the past five years.

CMS program enrolments have increased dramatically in recent years, rising from 912 in 2012-13 to 2,558 in 2017-18, more than a 2.8-fold increase over five years. The increase is more than 3.7-fold over the eight-year period since 2010-11, when CMS moved to its present home in the Instructional Centre, a facility it shares with

another growing academic unit, the Department of Management. The growth experienced by CMS means that the department is in urgent need of additional space and teaching facilities to properly serve its students. The Instructional Centre (IC) does not have the capacity to accommodate the needs of both CMS and the Department of Management.

The proposed building will address this problem by providing the following:

- Enough space for CMS faculty and staff to accommodate the projected increase in complement needed to respond adequately to the large increase in program and course enrolments that the department has experienced in recent years.
- A variety of spaces to address vital needs in the proper delivery of the department's programs such as more computer laboratory space, more hardware laboratory space, space for a Mathematics & Statistics and a Computer Science Help Centre, and space to support courses that have significant project components, in line with UTSC's aspirations as a leader in experiential learning within the University.
- Spaces in support of undergraduate research. The department seeks to develop greater capacity to support research opportunities for undergraduate students at UTSC, in response to the marked increase in the number of high-quality undergraduate students enrolled in its programs.
- Spaces for more post-doctoral fellows working with CMS faculty, interaction spaces, and a seminar room with capacity for communication with similar rooms in other UofT campuses (to allow interactive participation in or delivery of seminars and advanced courses across campuses).
- Space for the Departmental Student Association (AMACSS), which is presently located far away from the department in the B-Wing.

c) Space Requirements, Program and Functional Plan

Space Requirements

A COU analysis has been prepared for Computer and Mathematic Science and is outlined in the table below. Since classroom space for this program is centrally allocated, it has not been included in the analysis.

UTSC - CMS

UTSC CMS: Space Requirements As Measured By COU Space Standards

	Input Measure 2017/18	Space Factor	Generated Space 2017/18	Existing Space 2017/18	E/G%	Proposed Space 2018
ACADEMIC SPACE						
CLASSROOMS						
Total FTE Students		1.11	0.00	0.00	0.0	
TEACHING LABS						
Lab Contact Hours W		0.8	0.00			
Lab Contact Hours X		0.6	0.00			
Lab Contact Hours Y	0.00	0.5	0.00			
Lab Contact Hours Z	197.00	0.3	59.10			

Total Teaching			59.10	272.62	461.3	670.0
RESEARCH LABS						
Research Disciplines A		45.0	0.00			
Research Disciplines B		30.0	0.00			
Research Disciplines C		20.0	0.00			
Research Disciplines D	48.00	10.0	480.00	0.00	0.0	
Research Disciplines E		1.0	0.00			
Total Research		0	480.00	0.00	0.0	0.00
OFFICE - ACADEMIC						
FTE Faculty (Director or Chair)	1.00	12.0	12.00			
FTE Faculty (Tenure)	26.00	12.0	312.00			
FTE Faculty (Teaching)	22.43	12.0	269.16			
FTE Faculty (Sessional)	7.00	12.0	84.00			
FTE Faculty (3902-3)	0.95	12.0	11.40			
Total - FTE Faculty	57.38	12.0	688.6	465.3	67.6	802.0
FTE Research (PdF)	12.00	12.0	144.00			
FTE Research (Research Associates)	0.00	12.0	0.00			
FTE Research (Research-Funded Staff)	0.00	12.0	0.00			
Total - FTE Research			144.00	36.86	25.6	
Total FTE Grads	30.00	3.0	90.00	89.67	99.6	80.0
Total FTE Non-Acd Staff	6.00	12.0	72.00	74.21	103.1	110.0
Office Service	994.56	0.25	248.64	129.16	51.9	214.0
Total Academic Office			1,243.20	795.24	64.0	1,206.00
LIBRARY FACILITIES & LIBRARY STUDY SPACE						
Study (Total FTE Students)		0.5	0.00			
Traditional Static Shelving Space		0.005	0.00			
Mobile Compact Shelving		0.004	0.00			
Super High Density		0.0035	0.00			
Total Stack			0.00			
Library Support	0.00	0.25	0.00			
Total Library Facilities & Campus Study Space			0.00	0.00		
NON-LIBRARY STUDY SPACE	197.00	0.4	78.80	0.00	0.0	
SUBTOTAL: ACADEMIC SPACE			**1,861.10**	**1,067.86**	**57.4**	**1,876.00**

OTHER SPACE

6 RECREATION / ATHLETIC SPACE

	Athletic Activity Areas						
	Athletic Service Space						
	Total Recreation / Athletic Space		0.9	0.00	0.00	0.0	
10	CENTRAL ADMIN. OFFICE SPACE						
	Office Areas		12.0	0.00		0.0	
	Office Support Space			0		0.0	
	Total Central Admin. Office Space			0.00	0.00	0.0	
12	CENTRAL SERVICES						
	Computing Facilities						
	Other Central Services						
	Total Central Services		1.5	0.00	0.00	0.0	
13	HEALTH SERVICES FACILITIES						
	Health Services Facilities		0.05	0.00	0.00	0.0	
14	STUDENT ACTIVITY SPACE						
	Common Use and Student Activity						
	Recreational Facilities						
	Total Student Activity Space	912.6	0.7	638.82	20.28	3.2	215.0
19	OTHER UNIVERSITY FACILITIES						
	Day Care				0.00		
	Demonstration School				0.00		
	Total Other University Facilities				0.00		
SUBTOTAL: OTHER SPACE				**782.82**	**20.28**	**2.6**	**215.00**
TOTAL:				**2,643.92**	**1,088.14**	**41.2**	**2,091.00**

Space Program

The space program has been developed for three main groups: Computer and Mathematical Sciences, Student Services and classrooms. The program has been scrutinized to encourage shared spaces wherever possible. The building anticipated a space program totalling 9,352.50 nasm, and a gross floor area of 18,495 square metres. The subsequent Schematic Design produced a space program of 9,915 nasm and gross floor area of 19,646 square metres. The increase in space program area is the result of program revisions through further stakeholder and committee input as well as the inclusion of greater ‘crush space’ and interactive learning space primarily in the introduction of the ‘Coffice’ to the space program. The resulting nasm show a 6% increase to the original space program including ‘Crush Space’ and the ‘Coffice’ and a 3.3% increase if these areas are not

included. It should be noted that the space program removed the need for a loading dock as this facility will be provided by the adjacent Parking Structure currently in Schematic Design (SD). The GSM shows an increase of 6.22% from the original space program. The SD gsm equates to a 1.98x gross-up factor which demonstrates a slight improvement on the assumed gross-up of 2.00x in the original space program.

Schematic Design Space Program (November 13, 2020)

Division Index	Department	Space Index	Space Description	Number of Spaces	Space Unit Net Area (nasm)	Subtotal Net Area (nasm)
1.1	**Computer and Mathematical Sciences**			**82.00**		**1,035.00**
1.1	Computer and Mathematical Sciences	1.11	Faculty Office	59	11.54	681.00
1.1	Computer and Mathematical Sciences	1.12	Office of the Chair	1	22.00	22.00
1.1	Computer and Mathematical Sciences	1.13	Post-Doc Fellow Office	6	11.33	68.00
1.1	Computer and Mathematical Sciences	1.14	Sessional Office	4	11.75	47.00
1.1	Computer and Mathematical Sciences	1.15	Graduate Teaching Assistant Office	2	24.00	48.00
1.1	Computer and Mathematical Sciences	1.16	Undergraduate Teaching Assistant Office	1	51.00	51.00
1.1	Computer and Mathematical Sciences	1.17	Administrative Office	8	11.63	93.00
1.1	Computer and Mathematical Sciences	1.18	Hoteling office - Emeritus	1	25.00	25.00
1.2	**Office Support / Meeting Space - CMS**			**11.00**		**280.00**
1.2	Office Support / Meeting Space - CMS	1.21	Faculty & Staff Meeting Room / Kitchenette	1	87.00	87.00
1.2	Office Support / Meeting Space - CMS	1.22	Mail and Photocopy Room	1	25.00	25.00
1.2	Office Support / Meeting Space - CMS	1.23	Interation Room - Small	3	17.33	52.00
1.2	Office Support / Meeting Space - CMS	1.24	Interation Room - Large	2	29.50	59.00
1.2	Office Support / Meeting Space - CMS	1.25	Secure Storage (Exam)	1	13.00	13.00
1.2	Office Support / Meeting Space - CMS	1.26	Storage	3	14.67	44.00
1.3	**Student Space**			**3.00**		**226.00**
1.3	Student Space	1.31	AMACSS Office	1	33.00	33.00
1.3	Student Space	1.32	Math / Stats Help Centre	1	86.00	86.00
1.3	Student Space	1.33	CS Help Centre	1	107.00	107.00
1.4	**Labs & Research Space**			**8.00**		**639.00**
1.4	Labs & Research Space	1.41	Computer Labs	2	136.00	272.00
1.4	Labs & Research Space	1.42	Hardware Labs	2	83.00	166.00
1.4	Labs & Research Space	1.43	Project Rooms	2	59.00	118.00
1.4	Labs & Research Space	1.44	Hardware Expert / Assem. Room	1	59.00	59.00
1.4	Labs & Research Space	1.45	Lab Administrator Office	1	24.00	24.00
CMS Total						**2,180.00**

1.5	**Health & Wellness**			**38.00**		**588.00**
1.5	Health & Wellness	1.51	Front Desk	1	31.00	31.00
1.5	Health & Wellness	1.52	Waiting Area	1	21.00	21.00
1.5	Health & Wellness	1.53	Business Officer / Financial Office	1	43.00	43.00
1.5	Health & Wellness	1.54	Manager's Office	1	11.00	11.00
1.5	Health & Wellness	1.55	Assistant Dean/Medical Director's Office	1	17.00	17.00
1.5	Health & Wellness	1.56	Counseling / Psychiatrist Offices	12	11.50	138.00
1.5	Health & Wellness	1.57	Health Promotion Office	1	11.00	11.00
1.5	Health & Wellness	1.58	Examination / Treatment Rooms	7	10.57	74.00
1.5	Health & Wellness	1.59	Shared Physician / Nurses Offices	1	43.00	43.00
1.5	Health & Wellness	1.60	Triage Nurse Station	1	22.00	22.00
1.5	Health & Wellness	1.61	Phlebotomy Roon	1	9.00	9.00
1.5	Health & Wellness	1.62	Dispensary	1	11.00	11.00
1.5	Health & Wellness	1.63	Medical / Financial / Office Storage	1	25.00	25.00
1.5	Health & Wellness	1.64	Clean Utility Room	1	10.00	10.00
1.5	Health & Wellness	1.65	Dirty Utility Room	1	9.00	9.00
1.5	Health & Wellness	1.66	Photocopy Room	1	18.00	18.00
1.5	Health & Wellness	1.67	Universal Washroom	1	15.00	15.00
1.5	Health & Wellness	1.68	Decompression Room	1	9.00	9.00
1.5	Health & Wellness	1.69	Physical Activity Room	1	30.00	30.00
1.5	Health & Wellness	1.70	Team Wellenss Room	1	18.00	18.00
1.5	Health & Wellness	1.71	Multipurpose/Quiet Room	1	23.00	23.00
1.8	**Student Affairs**			**8.00**		**158.00**
1.8	Student Affairs	1.81	Administrative Offices	3	11.67	35.00
1.8	Student Affairs	1.82	Shared Administrative Offices	1	13.00	13.00
1.8	Student Affairs	1.83	Dean's Office	1	23.00	23.00
1.8	Student Affairs	1.84	Open Workstations	1	48.00	48.00
1.8	Student Affairs	1.85	Office Storage / Photocopy Room	1	15.00	15.00
1.8	Student Affairs	1.86	Waiting Room	1	24.00	24.00
1.9	**AccessAbility**			**16.00**		**231.00**
1.9	AccessAbility	1.91	Director's Office	1	18.00	18.00
1.9	AccessAbility	1.92	Associate Director's Office	1	17.00	17.00
1.9	AccessAbility	1.93	Open Staff / Student Workstations	1	25.00	25.00
1.9	AccessAbility	1.94	Office Storage	1	11.00	11.00
1.9	AccessAbility	1.95	Disability / Assistive Technology Consultant Rooms	7	11.00	77.00
1.9	AccessAbility	1.96	Kitchenette / Photocopy / Mailroom	1	10.00	10.00
1.9	AccessAbility	1.97	Reception / Waiting Room	2	25.00	50.00

1.9	AccessAbility	1.98	Staff & Student Workstations	1	12.00	12.00
1.9	AccessAbility	1.99	Assistive Technology Consultant Room	1	11.00	11.00
2.0	**Academic Advising**			**27.00**		**389.00**
2.0	Academic Advising	2.01	Counselling Offices	13	11.54	150.00
2.0	Academic Advising	2.02	Shared Administrative Offices	3	10.00	30.00
2.0	Academic Advising	2.03	Administrative Offices	2	21.00	42.00
2.0	Academic Advising	2.04	Workstations	4	19.25	77.00
2.0	Academic Advising	2.05	Storage/Photocopy/Mail Room	1	13.00	13.00
2.0	Academic Advising	2.06	Reception/Waiting Room	1	31.00	31.00
2.0	Academic Advising	2.07	Senior Manager's Office	1	12.00	12.00
2.0	Academic Advising	2.08	Assitant Dean's Office, Student Success Office	1	18.00	18.00
2.0	Academic Advising	2.09	Storage Room	1	16.00	16.00
2.1	**Shared Spaces - Student Services**			**10.00**		**304.00**
2.1	Shared Spaces - Student Services	2.11	Welcome Centre	2	21.00	42.00
2.1	Shared Spaces - Student Services	2.12	Kitchen / Lunchroom / Multipurpose	1	54.00	54.00
2.1	Shared Spaces - Student Services	2.13	Workshop / Learning Lab	1	94.00	94.00
2.1	Shared Spaces - Student Services	2.14	Meeting Rooms - Small	1	34.00	34.00
2.1	Shared Spaces - Student Services	2.15	Bookable Interview / Consult Rooms	3	12.67	38.00
	Shared Spaces - Student Services	2.16	Welcome Desk	1	9.00	9.00
2.1	Shared Spaces - Student Services	2.17	Meditation / Breast Feeding Room	1	33.00	33.00
Student Affairs Total						**1,670.00**
2.2	**Classrooms**			**24.00**		**3,615.00**
2.2	Classrooms	2.21	24 Seat Classroom - Flat Floor, Seminar	3	33.00	99.00
2.2	Classrooms	2.22	36 Seat Classroom - Flat Floor, Mobile Tablet Arms	3	95.67	287.00
2.2	Classrooms	2.23	36 Seat Classroom, Collaborative	2	105.50	211.00
2.2	Classrooms	2.24	48 Seat Classroom - Flat Floor, Tiered Furniture	2	106.50	213.00
2.2	Classrooms	2.25	48 Seat Classroom - Flat Floor, Collaborative	1	152.00	152.00
2.2	Classrooms	2.26	60 Seat Classrom - Flat Floor, Collaborative	3	178.67	536.00
2.2	Classrooms	2.27	72 Seat Classroom - Tiered Horseshoe	1	150.00	150.00
2.2	Classrooms	2.28	100 Seat Classroom - Tiered Horseshoe	1	201.00	201.00
2.2	Classrooms	2.29	120 Seat Classroom - Tiered, Continuous Table	2	108.00	216.00
2.2	Classrooms	2.30	160 Seat Classroom - Tiered, Continuous Table	2	120.00	240.00
2.2	Classrooms	2.31	200 Seat Classroom - Tiered, Collaborative	1	366.00	366.00
2.2	Classrooms	2.32	210 Seat Classroom - Tiered, Continuous Table	2	144.00	288.00

2.2	Classrooms	2.33	500 Seat Classroom - Tiered, Tablet Arm	1	656.00	656.00
2.3	**Classrooms**			**13.00**		**1,211.00**
2.3	Crush Space	2.34	Crush Space (Not Included in Gross-up)	13		1,211.00
2.3	Crush Space	2.35	Coffice	1	224.00	224.00
2.4	**Other Spaces**			**33.00**		**1,239.00**
2.4	Other Spaces	2.41	Research Seminar/Boardroom with Kitchenette (Shared)	1	116.00	116.00
4.4	Other Spaces	2.42	IT Storage	2	22.00	44.00
5.4	Other Spaces	2.43	Food Services	3	40.00	120.00
9.4	Other Spaces	2.44	Study Space - Laptop bar/casual study	8	61.63	493.00
10.4	Other Spaces	2.45	Study Space - Quiet study	12	21.67	260.00
11.4	Other Spaces	2.46	Librarian Office	1	12.00	12.00
12.4	Other Spaces	2.47	Tunnel / Staging Area	2	73.50	147.00
12.4	Other Spaces	2.48	Shared Lounge	4	11.75	47.00
TOTALS				**273.00**		**9,915.00**

Classrooms

Twenty-four classrooms are proposed for the building, ranging from 24 seats to 500. The number of classrooms, their capacity and physical structure have been carefully considered for this new building. Taking into account existing classroom capacity and utilization, and factoring in proposed changes to the existing classroom complement, 20 additional classrooms are needed to optimally accommodate the existing and projected teaching needs on the UTSC Campus. One additional classroom is needed within a further 5-year-period, and is also included with an interest in not outgrowing the new building before it is occupied.
The classrooms are varied in nature to accommodate a broad range of teaching preferences. Of note, there will be seven Collaborative classrooms, otherwise known as Active-Learning classrooms. Six of the Collaborative classrooms are flat floor, while one is a tiered room, modelled on the recent lecture hall at the Myhal Centre for Engineering, Innovation & Entrepreneurship.

Existing classrooms were considered for utilization and proper match of size and typology to the match available. This analysis, along with careful consideration of future trends and requirements resulted in the following recommendations:

- Additional small seminar style classrooms are needed for upper year classes, particularly for the department of English
- Collaborative, active use classrooms of various sizes are becoming increasingly requested
- Active use classrooms should focus on the ability to work in groups, while allowing for front-facing biased teaching opportunities
- Tight horseshoe (case-study) classrooms are well liked within the existing complement of classrooms, with more being advantageous
- Additional 100 seat classrooms are anticipated to be needed as the department of Psychology considers a transition of teaching pedagogy and class size closer to 100
- Additional 200 seat classrooms are needed to accommodate CMS classes, in particular there is interest in including a large (200 seat) active-learning classroom that can accommodate lectures and more active group activities in one space. A 200 seat active-learning classroom would be well suited for

both lectures that incorporate active collaborative learning as well as the delivery of multiple tutorial sections at one time, with an aim of improving the overall student experience and quality of teaching
- With the understanding that the one 500 seat classroom on the UTSC campus is over-crowded and would benefit from the removal of seats, one optimally designed 500 seat classroom is needed on campus
- A 500 seat classroom may also be booked for community events and lectures that would bring the Scarborough community to campus

Classroom Technology

The classroom and meeting room spaces in this building shall conform to the standards described in UTSC Audio-Visual Specifications Guide 2.5 (November 2018). That document describes in detail the room layouts, viewing angles, schematics, installation requirements, equipment, and user interfaces in a variety of spaces; small and large traditional classrooms, small and large meeting rooms, and small/medium/large Active Learning Classrooms.

Rendered View of the 500 Seat 'Campfire' Classroom-in-the-round (CEBRA/ZAS Architects)

Rendered View of the 200 Seat 'Collaboratorium' Active Learning Classroom (CEBRA/ZAS Architects)

Classroom Crush Space

The crush space will provide area for student gathering, waiting and movement in and out of classrooms as well as provide additional informal student interaction space. While not necessarily programmed and furnished, the crush space is identified within the space program at 25% of the total classroom nasms to ensure that it is identified as a necessary program element distinct from gross-up components such as corridors. This ratio differs from UofT standard methodology of including crush space for 50% of classroom nams as it accounts for the increase in classroom size to accommodate active learning and other communal pedagogical requirements. The crush space identified in the space program is included in the total space program nasms and is to be grossed-up for the overall building area.

Student Study Space

UTSC currently provides 0.47 nasms of student study space per FTE student on campus, placing the campus well below the Ontario average of 0.54. The current compliment of study space on the UTSC campus is also below COU requirement, with a comparative provision of 52.4% of required space allocation. The existing space on campus is composed of 899 study spots (1 chair per spot) outside of library control (COU 11.0) at 80% of COU requirements and 688 study spots within library control (COU 5.4) at 30% of COU requirements.

The UTSC campus currently provides a total of 793 alternative student study spaces composed of seasonal study spaces and lounge space.

Student study space is primarily located within the South Campus accounting for 77.5% of the total Library, Non-library and alternate study space on the UTSC campus.

Campus	Study Space Type	No. of Study Spaces

South	Library	688
	Non-Library	735
	Alternate	413
	Total	1836
North	Library	0
	Non-Library	154
	Alternate	380 (incl. Student Residence)
	Total	534

With an anticipated growth of student enrolment of 6% by 2022-2023 the current student study space shortfalls of 70% for non-library study space will be exasperated further. Additionally, the IC-2 proposes to add an additional 1,614 seats of classroom space to the current campus total of 4,523 seats, representing 26.3% of the total inventory. For comparison, the total current student study space on campus (library and non-library) represents 0.35 seats per classroom seat. This would necessitate the addition of 565 seats of study space with the IC-2 to maintain the same ratio; a ratio which is short of COU targets by 47.6%. It is clear that student study space is necessary on the UTSC campus and should be co-located with the IC-2 in the North campus.

UTSC completed an extensive survey and student poll on the existing student study space on campus. Study spaces were categorized into Group Study Spaces, Quiet Study Spaces and Ultra-quiet Study Spaces. Feedback from the student poll determined that the ultra-quiet study spaces were less desirable than the other two typologies. It was also noted that the group study spaces were more efficiently utilized with the implementation of a room booking system. Current campus planning is looking to locate all quiet study space within the control of the library. After analysing the types of study spaces on campus, within the Ontario system the following student study spaces are recommended for inclusion in the IC-2 program:

Type of Study Space	No. of Spaces	Seats per Space	Total Seats
Individual Study/Carrels	3	120	360
Laptop Bar/Casual Study	150	1	150
Total			510

The proposed 510 student study spaces for the IC-2 will increase the North campus total to 1044 spaces and the campus total to 2,880.

A variety of study spaces will be provided in the building; location and type will be worked out through the design process.

Rendered View of the Ground Floor Atrium Space with Accessible Student Study/Lounge and Interactive Learning Spaces (CEBRA/ZAS Architects)

Computer & Mathematical Sciences

The new facility will allow for the expansion of CMS and permit new strategic faculty hires, greater curriculum innovation, more opportunities to engage undergraduate students in research and independent study, and more graduate students based at UTSC. This facility will house teaching laboratories with cutting edge computer based technologies to provide an exceptional learning environment to enhance student experience. As many alcoves, corners, open areas as possible should be turned into spaces where students work collaboratively on assignments, or for faculty and students to hold impromptu meetings. There should be blackboards and some seating.

Specialty rooms include:

- Faculty-student Interaction Rooms: These rooms will have multiple purposes. Their primary purpose is for office hours by course instructors (faculty, sessionals, PDFs) and TAs. These rooms are needed because faculty offices have become too small to accommodate meetings with more than just one or two students, and because other types of instructors (sessionals, PDFs and TAs) do not have individual offices, so their office hours disturb their office-mates. These rooms should be of varying sizes: two or three of capacity 6 (instructor and 5 students) and two of capacity 11 (instructor and 10 students). They need to be equipped with a simple table, a chair for the instructor, 3-4 chairs for students (the others can stand), and blackboard space. At least some of them should be close to faculty and staff offices, in fringe

areas.

- Project Rooms: These two rooms are for courses involving team projects, where a group of students can meet to work on their project, or an instructor or TA can meet with a group of students to discuss their project.
- TA Rooms/Exam Grading: The CMS department has several very large classes where the midterm tests and final exams are not multiple-choice. Grading these is logistically complex; it is time consuming and it must be done in a fairly secure manner. Exam grading space is planned into TA rooms to provide a secure environment in which to grade tests and exams. Large, secure and lockable exam storage cabinets will be located within these spaces.
- Research Seminar Room: Capacity for up to 35. Lots of chalkboard space, and a projector (on the side so as not to fragment the remaining chalkboard space). It is ideal if this room is equipped to communicate with similar rooms on the St. George campus, so that a seminar in either place can be attended interactively by participants in the other campus. This room can also potentially be used for advanced courses offered in either campus attended by students on the other campus. This room can also be used for AMACSS seminars and events. It should be close to faculty and staff offices.
- Computer Labs: Two 50-workstation labs, that can also be used as tutorial rooms for certain courses. Each should have similar size and equipment as IC 406. There is also interest in being able to use these rooms for exams and tests that require access to computers. These should not be too far away from faculty and staff offices, but they should not be in the same area.
- Hardware Labs. (Presently called Embedded Systems Lab.) These 2 labs have an intended total capacity 64 students/32 workstations. These should be close to the Computer Labs
- Hardware Experimentation and Assembly Room: Used for advanced architecture and robotics computer course where students will be creating hardware artifacts individually and in groups of up to three. The room should accommodate up to 20 students and 1 to 2 TA's and be located close to teaching labs in a publicly accessible area within the building core.

Student Affairs

This project incorporates four significant departments in the Division of Student Affairs: Academic Advising & Career Centre, Access*Ability* Services, Health & Wellness Centre and the Office of Student Affairs.

The facility must incorporate a Student Affairs welcome/information desk on the ground floor that is immediately visible upon entering the building. This desk will provide directions to individual departments and field general questions about Student Services.

All departments must be in close proximity as possible. While it may not be technically feasible to locate all departments on one floor, ground floor access should be prioritized for Access*Ability* and if possible, Health & Wellness. The Health & Wellness Centre needs to be in a location for emergency response access (accommodate EMS stretcher on path of travel to and from the Centre). All departments will share flexible kitchenette, bookable rooms, workshop spaces and student staff/peer spaces.

Access*Ability* Services, Academic Advising and Student Affairs may share a reception area if this is feasible from a space planning perspective; however the reception area for Health & Wellness must be separate. Any reception area must take into consideration the privacy, noise, comfort and function for students and staff. Reception areas need to be perceived and understood as "safe" spaces. The information gathered and shared at the reception areas, especially for Access*Ability* Services and the Health & Wellness Centre, is different than that of the other departments and often involves a heightened level of disclosure related to a students' health, well-being and/or disability.

Due to the specific medical nature of the office space and exam space required by the Health & Wellness Centre, adherence to infection control protocols is mandatory as regulated by various public health agencies such as the Toronto Public Health Department (TPH), Ontario Ministry of Health (MOH), and the College for Physicians and Surgeons of Ontario (CPSO). Consideration must be given to environmental, physical/geographical, and air quality requirements in order to be in compliance. Examples include exam rooms with negative pressure ventilation; plumbing available in all exam rooms; reception areas with appropriate seating; separate accessible washrooms for specimen collections; with mounted hand sanitizers throughout. Please see room data sheets for detailed information on specifications and standards.

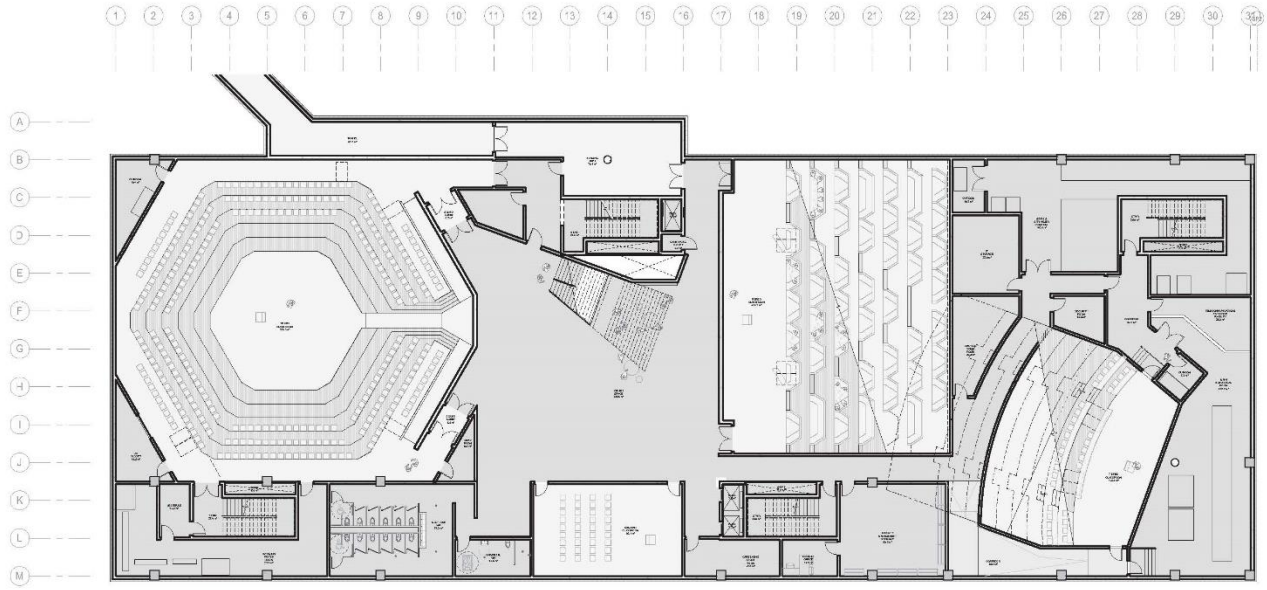
Furniture layouts must include space for persons with mobility devices to wait in the reception/common areas and offices. Space is to be provided for multiple team members and support persons for students as students attend with family, or community services providers.

The IC-2 is to provide a discreet exit/entrance shielded from public view for use by campus police, police, ambulances and other emergency personnel and vehicles. A potential location is within the loading dock area. Direct access to an elevator large enough to carry an adult sized stretcher is also a requirement for this private exit.

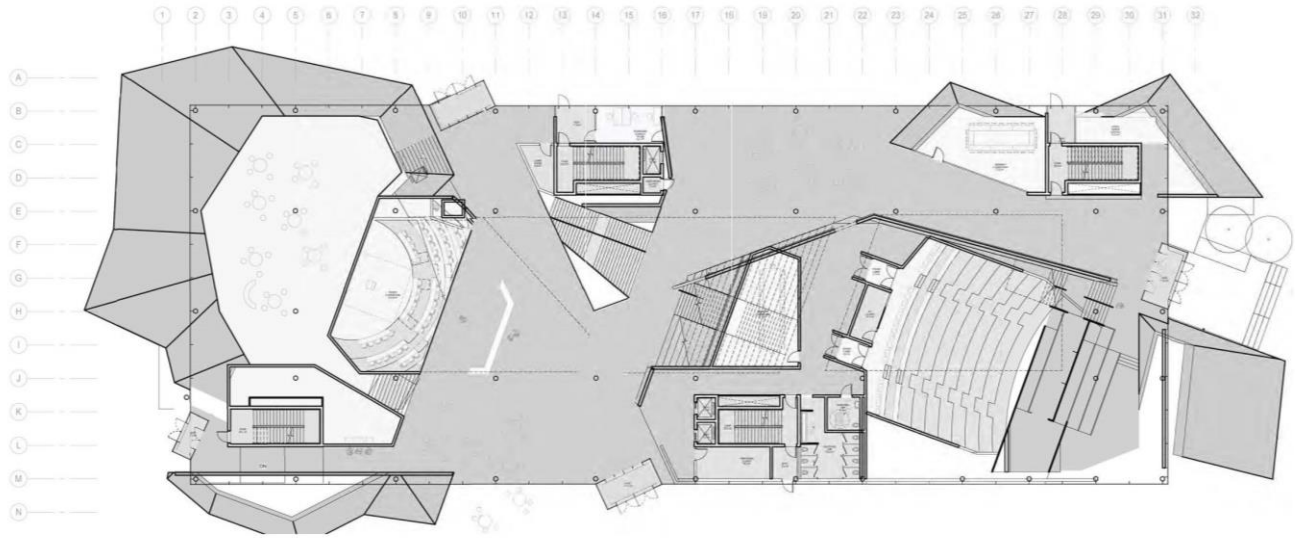
Functional Plan

The Building Design has been arranged as follows:

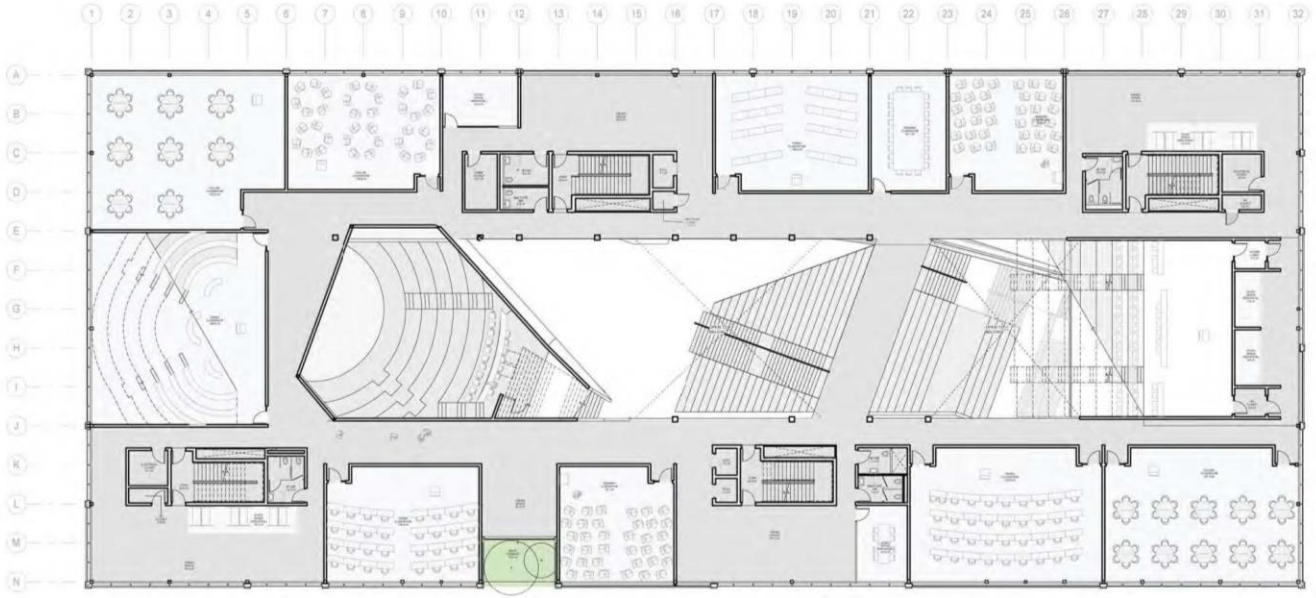
Basement (3,229sm) – Large Tiered Classrooms; Interactive Learning Space; Building Services; Tunnel Connection to Loading Dock at adjacent Parking Structure



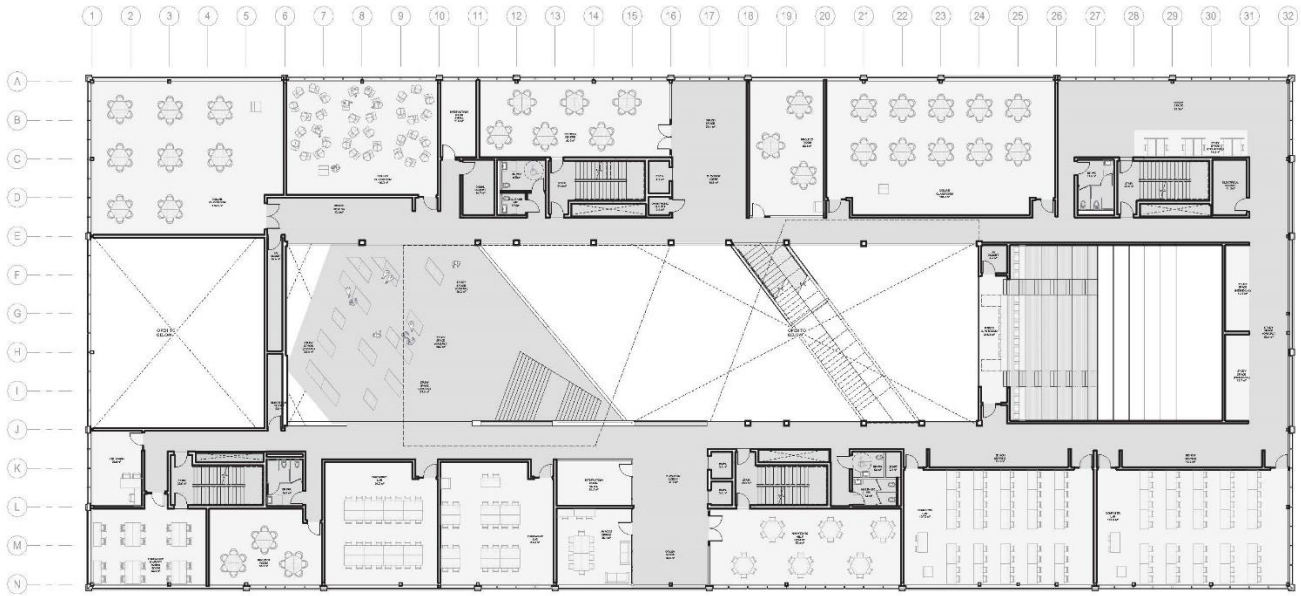
Ground Floor (3,102sm) – Building Entrances; Welcome Desk; ‘Coffice’ Student Area; Food Services; Large Tiered Classrooms (CEBRA/ZAS Architects)



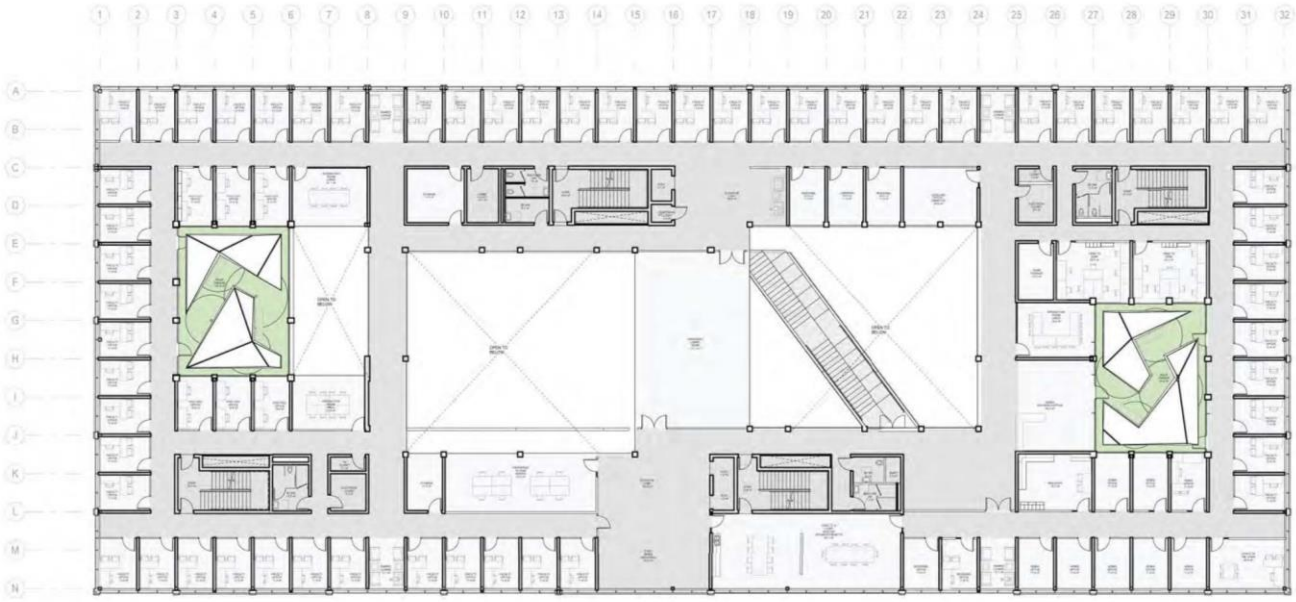
Level 2 (3,102sm) – Classrooms; Active Learning Classrooms; Student Study Space; Interactive Learning Space (CEBRA/ZAS Architects)



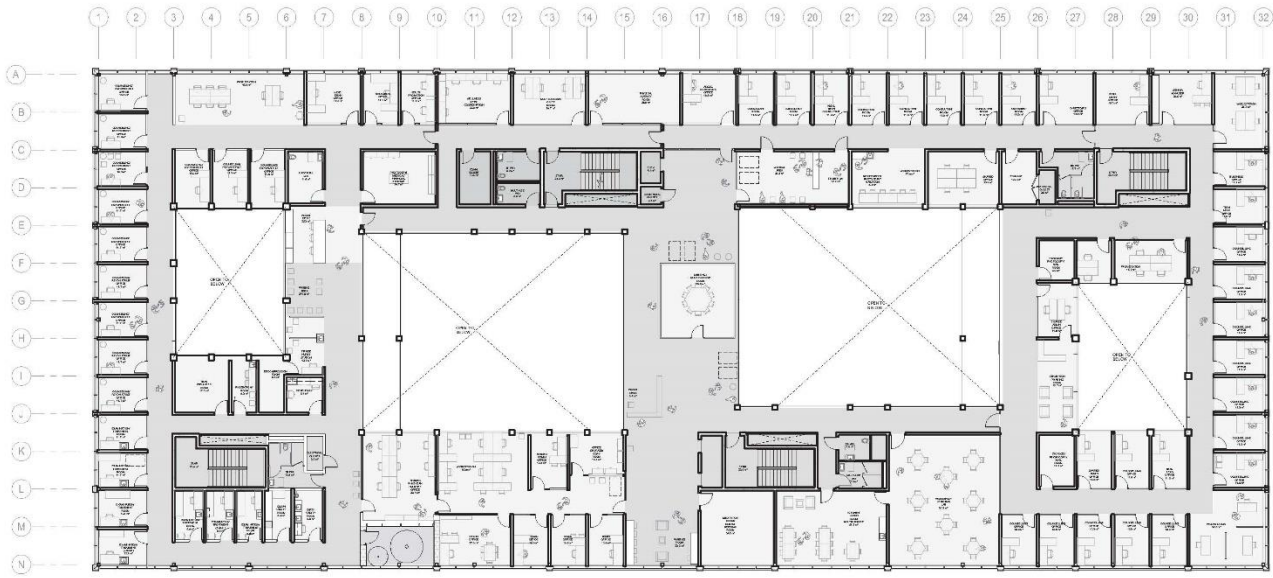
Level 3 (2.844sm) – Classrooms; Active Learning Classrooms; Student Study Space; Interactive Learning Space (CEBRA/ZAS Architects)



Level 4 (3,097sm) – Department of Computer and Mathematical Sciences: Offices; Meeting Space; Workshops (CEBRA/ZAS Architects)



Level 5 (2,784sm) – Student Services: Academic Advising & Career Centre, Access*Ability* Services, Health & Wellness Centre and the Office of Student Affairs (CEBRA/ZAS Architects)



A 1,386sm mechanical penthouse will be located at Level 6.

d) Building Considerations

Standards of construction

The new mid-rise classroom and office structure is planned to be five storeys in height, and will include a basement. The University wishes to promote activity at the ground floor, thus more than one exterior entrance should be planned for to animate this level. Ample crush space and additional activity and lounge space add to usage patterns at the classroom floors, requiring durable, well-wearing material selection. Local materials should be used where possible, for both interior and exterior elements. The material palette should be in keeping with that established at IC and the ESCB.

The intent of the design of the IC-2 is to raise the program areas to allow a continuous landscape to pass through the lower levels of the building to connect the surrounding campus fabric with the future north campus green, pedestrianized Military Trail and the commons spaces within the building. To achieve this the Architects created a 'learning landscape' on the basement to level 2 composed of rock-like forms of the larger classroom spaces. These forms contain interactive learning space, Student study space, Student amenities and open circulation. Sitting on top of these forms is the smaller classrooms and departmental program space which is contained within a rationalized 'printer's box' grid of program where the façade of the building is tailored to reflect the individual design of each program space.

Rendered View of the North-East Corner of the IC-2 demonstrating the raised program space and printer's box façade approach (CEBRA/ZAS Architects)

Rendered View of the West Entrance off Military Trail (CEBRA/ZAS Architects)

Building characteristics and massing

The building includes five levels above grade and one level below. In general, teaching and student spaces are located on the lower levels of the building while the upper levels will house faculty and student service functions. A mechanical penthouse will be required. The basement and levels 2 and 3 have a floor to floor height of 4.8m to accommodate the majority of the teaching spaces. The ground level has a floor to floor height of 6m to increase the sense of openness to Military Trail and the future Campus Green. The upper three levels will have 3.7m floor-to-floor heights consistent with academic and administrative functions to be located on these floors. The building will be located along Military Trail, immediately across from the future Campus Green. The building includes multiple entry points acknowledging that further development on the north campus will eventually mean there is no "back door". As the campus grows, consistent with the master plan and proposed secondary plan, a new street perpendicular to Military Trail will run immediately north-east of the building providing street access and loading opportunities.

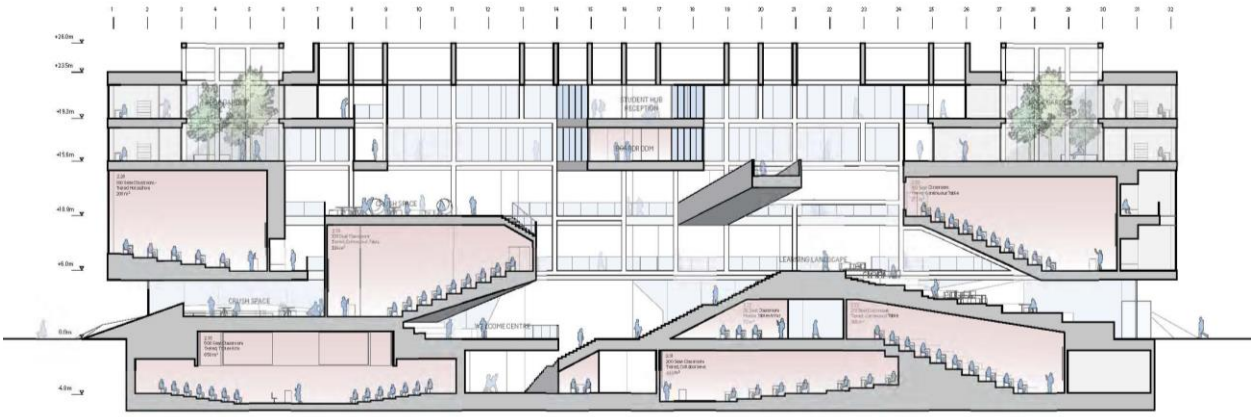
The building is expected to have an area of 16,417 gsm above grade (including mechanical penthouse) with an additional 3,229 gsm below grade.

Materials should be selected for durability, sustainability and are to be of a higher end institutional grade. The exterior material choices for this building are to be compatible with, but not limited to, the two academic buildings on the north campus: IC and ESCB.

The lower 4 levels (Basement to Level 3) are traversed by the Large Tiered Classrooms and corresponding Interactive Learning, Study, Student Amenity and Circulation spaces generating a complex 'landscape' within the more 'public' areas of the building. The following North-South longitudinal

Sectional Drawing demonstrates the complexity and interrelation of the program spaces.

Building Section (CEBRA/ZAS Architects)



Elevators

It is expected that three elevators will be required, including two passenger elevators, and a freight elevator. The building elevators will be machine room-less traction type elevators of a quantity to meet the form, massing and service requirements of the project.

At least one of the elevators must be large enough to accommodate scooters and a stretcher, with tactile, audio and visual indicators.

Sustainability design and energy conservation

The U of T Policy Statement of Energy Efficiency (Policy) requirements for new buildings, effective January 1, 2017, is that all new buildings shall have an energy use index at a minimum, 40% better than that calculated using ASHRAE 90.1 – 2013, Appendix G "Performance Rating Method" preferably with payback of 15 years or less for consideration by the U of T Implementation Committee.

ASHRAE provides Standards for all components within buildings – HVAC, windows, lighting, modeling, envelope, ventilation and reviewed by industry experts. It allows for prescriptive and performance based compliance paths to meet the minimum energy use. Toronto Green Development Standards (TGDS), OBC** and LEED use ASHRAE 90.1 to define energy efficiency targets.

Building energy performance modeling during the design of a new building shall serve several purposes. The primary objective is to inform design decisions in a way that guides the designs toward the University's goals of sustainable energy efficiency, reduced carbon footprint and optimal long-term building performance and comfort of its occupants. It is recognized that the detail and resolution of the performance assessment through modeling will refine as the design progresses from concept through design development to tendering and then on-going measurement and verification.

Energy modeling coupled with Life Cycle Cost Analyses (LCA) will serve as tools throughout design to evaluate design options and make appropriate choices that support the University of Toronto's pursuit of sustainable reduced energy use and lower carbon footprint with long term comfort.

At each design phase model submission, the consultant team will be expected to submit the energy model with EUI (Energy Use Intensity) metrics to test the energy performance for alignment with U of T Policy and standards. See Appendix 5 for UofT's Energy Modeling Guidelines.

As with recent building projects at the University this project should be designed and constructed to a minimum LEED® Silver level, however the project is not anticipated to be certified LEED. The building should be designed to meet a minimum LEED Silver Standard, as well as meet the Toronto Green Building Standard, with a desire for Voluntary Tier 2. Sustainability strategies include the use of recycled construction materials, locally manufactured materials, energy efficient LED lighting and advanced lighting control, thoughtful heating and cooling system design, passive design to reduce heat gain, operable windows where appropriate, sustainable high albedo roof, low flow plumbing fixtures, materials from sustainable sources, low VOC paints and carpets, the use of storm water for irrigation, and attention paid to the minimization of non-recyclable waste during construction.

The building design team will be asked to pay particular attention to:

- Strategies to maximize the use of natural energy or passive strategies such as the use and control of sunlight both to reduce electrical lighting levels and conversely promote reductions in solar heat gain, promote ventilating air movement, and both capitalize and minimize the effects of diurnal and seasonal temperatures. This can be accomplished concepts like significant thermal performance of building envelope in particular in areas of controlled occupancy such as offices.
- minimize energy use for heating, cooling and lighting through the careful design of the building envelope, mechanical and electrical systems, and the use of low energy fixtures in combination with natural daylight and task lighting wherever possible,
- water conservation through the use of water saving fixtures and closed-looped equipment cooling systems,
- metering of energy and water use in the building, or parts of it for benchmarking, energy management and optimized operation.
- building materials (e.g. drywall) , finishes (e.g. paint), furnishings (e.g. carpets), fixtures (e.g. lighting) and furniture which are not only emission-free (to provide building occupants with highest quality of indoor environment) but are also the most environmentally friendly in their manufacture and installation.
- provision of recycling depots for source-separation of waste throughout the building to meet the needs of the University's recycling and waste reduction programs and vehicular access to these sites.
- conveniently and sufficiently locating waste receptacles to minimize litter buildup
- directing rainwater (roof) runoff and other sources of 'gray' water to satisfy landscaping needs,
- using water penetrable systems in outdoor areas where hard landscaping is required to minimize flows to the City's storm water system (or into the building), and choosing paving materials to assist the University in minimizing the amount of salt used in snow and ice clearance.

- the design and structural reinforcement of roofs and access to them to permit use as an outdoor green space by building users
- The landscape design to promote local plant species that require low maintenance.
- The design of outdoor spaces for all-season use, with shade and cool air movement for the summer, and sun-trapping and wind shelter for winter use, and sensitive accommodation of smokers away from the building entrances to reduce potential harm from second hand smoke.
- large volumes of outdoor air for ventilation are a major component of building energy consumption and a main energy conservation opportunity. In our case, the large volumes of air will be required in the classrooms.
- elements such as LED lighting, both internal and external, Low Temperature Heating and heat recovery for building reheating and the other options identified in the central utilities plant could enhance this as well. A view to the envelope overall would improve the energy consumption

The University's implementation committee will be looking at energy/utilities consumption metrics that the facility will target. These metrics will be derived through analysis of the U of T portfolio of buildings and other published metrics as well as the University's environmental footprint targets towards 2030.

Also application to the City of Toronto's Better Building Partnerships will be considered to assist with energy modeling for selection of design alternatives and to investigate financial incentives for innovative elements of the design.

Accessibility

The design of the building will provide meaningful access for persons with disabilities. This will be achieved through a design which is informed by three principles: respect for dignity, individualization, as well as integration and full participation. To design for inclusiveness the concept of universal design must be applied. This will support the University in achieving our goal to remove barriers for students, staff, faculty and visitors with disabilities from fully participating in our environment without the need for modification, where possible.

The building will meet the highest level of accessibility standards throughout. Consideration for accessibility in all aspects of the building is required including the design for vehicular traffic (e.g., Wheeltrans drop-off), parking, exterior approach and entrances, interior circulation, services, washrooms, signage, wayfinding, emergency systems, finishes, auditoriums, and furniture layouts and designs.

The following key features will be required in the design:

- Entrances will be designed for universal access rather than employing specialized ramps.
- Any required ramps will be 1:20.
- All openers are long lever to allow person with a disability to touch the opener with their foot or hands and a service animal to push at a lower level. Openers will be included on most classrooms, all washrooms and main entrances.
- At least one of the elevators must be large enough to accommodate scooters. All elevators will include tactile, audio and visual indicators.

- Fully accessible washrooms including Universal Washrooms throughout. One single-use & all gender washroom is to be included on the main level, with consideration for additional single use & all gender facilities throughout the building. Single use & all gender washrooms will include change tables for adults and children.
- Washrooms with stalls will include one accessible stall large enough for a scooter and will comply with university standards which include a touchless sink, hand dryer and soap dispenser within the stall and close proximity to the sink.
- Space and clearance will allow for enough space to navigate the environment without barriers.
- Clear width of halls will consider two people with mobility passing each other.
- Clearance from obstructions must include a design that is cane detectable and not include hazards.
- Tactile surfaces will be used to indicate hazards and directional guidance such as a tactile warning surface on the top of stairs.
- Surfaces must provide visual contrast including the nosing on stairs.
- Illumination and lighting should reduce shadows and glares as this can be disorienting for people with disabilities.
- All handrails must be a round, continuous surface which contrasts with the background and where possible, low thermal conductivity (e.g., wood or plastic coated steel).
- Service desks will allow space for a forward approach with a large wheelchair.
- Water fountains should be accessed from all sides.
- Provide a dog relief area adjacent to the main entrance route.
- Classrooms should provide options for seating with height adjustable desks,

We encourage innovative features, where possible, to create a welcoming, inclusive, accessible design (e.g., beacons for wayfinding).

The standards for accessibility include the university standards, OBC requirements, AODA standards while implementing the principles of Universal Design.

Personal safety and security

Personal safety must be taken into consideration in the design of the building and should follow CEPTED principles wherever possible. The building will connect to the security system backbone which will run to security closets on each floor. From here, security connections will be extended to high security areas, in particular the classrooms, departmental offices and suites. Included as part of the central security system, will be the installation of a public address system that will be connected to the campus public address system and CCTV cameras will monitor entry points to the building, lecture theatres, and other security demanding areas as identified. Card access is to be provided for all perimeter exterior doors, lecture theatres, office areas, and elevator(s), and staircases.

The building will be sprinklered and have a standpipe system to meet the building code for its occupancy.

Standby power strategies will be developed to suit the nature of the facility, and serve any identified areas of refuge.

Signage, donor recognition

All signage is to abide by UTSC Signage and Graphics Standard dated January 30, 2017 or later and the AODA Information and Communication Standards. The ground floor should accommodate the display of public art, and space to display material relating to faculty and student work in public areas. At minimum, the space should be able to accommodate the length and width of glass vitrine cases. The exact sizing will be determined during the design phase.

Non-assignable space

- Each floor of the building will contain one janitors' closets. The closet on the ground floor (preferably) or at the basement level, must be about 2.5m wide by 6m long, (to permit storage of maids carts, floor scrubber machine and vacuums), and include a slop sink, one dedicated outlet for recharging equipment, and storage shelves. The other closets may be sized at a minimum of 1.5m x 3m and include a slop sink and storage. A separate area must be provided for garbage and recycling.
- The other closets may be sized at a minimum of 1.5m x 3m and include a slop sink, storage shelves, and an electrical outlet.
- Servicing/Deliveries will be via the loading dock for the building.
- The building will include a gender neutral washroom in close proximity to classrooms
- A detailed breakdown of non-assignable space is identified in the space program.

Mechanical/ Electrical and Data

Central Heating and Cooling

The building will require its own central heating and cooling plant as it there is no additional capacity in the neighbouring buildings and it is remote from the south campus central utilities plant.

The building should be designed to allow low temperature heating and other modern best practice technologies in building services design, with low carbon solutions.

This will could be in the form of a hybrid geothermal plant with supplemental low temperature condensing boilers and high efficiency chillers. A geothermal conductivity test was conducted and concluded that this location was ideal for such an installation.

Chilled beams and underfloor air distribution will could serve as means of airflow distribution throughout the building.

The building will be prepared for planned integration into a campus distributed energy system.

Natural gas will come from the Ellesmere or Military Trail main service and extend to the building.

Domestic water, Plumbing & Sanitary Sewers

Domestic water and sanitary sewer is required to service the washroom facilities, kitchenettes and retail spaces. This sanitary infrastructure will connect to Ellesmere or Military Trail, and the water would connect to neighbouring water main. The hot water will be provided by the use of hot water heaters in the mechanical room.

Electrical Systems

The incoming service for the building will be separate from the remaining buildings. The service in this building shall be flexible, to accommodate the connection of existing north campus buildings and expansion to accommodate future extensions for upcoming projects. The electrical system in this building will serve as a centralized substation for the north campus, to move the utility structure to a Class A level (by Toronto Hydro). This work shall should be coordinated with the concept of the re-routing of Military Trail.

There shall be stacked electrical and communications rooms, sized to accommodate all required equipment for the current project and spare for future expansions. A riser by the main electrical room stack will serve as the main electrical room riser. Depending on the building footprint, and communications cable runs, multiple communication rooms per floor may be required. In all cases, the rooms shall be stacked for ease of creating a riser.

All lighting in the building shall be LED, with a CRI of 90+ and dimmable drivers. All light fixtures shall have centralized controlled system with alerts for the main user (UTSC facilities), with local override switches/dimmers. All LED light fixtures shall be tunable to create the colour temperature desired for the space by end users.

All receptacles in the common areas to be duplex receptacles with Type-A and Type-C USB connection ports for device charging.

Standby Power

Standby power will be provided by a diesel or natural gas generator (natural gas preferred) with a main breaker on the generator supplying a splitter/main distribution panel, which will supply individual feeds to the life safety system, non-life safety system and the fire pump system. There will be two Automatic Transfer Switches serving the life safety and non-life safety systems.

Emergency power shall meet the minimum operation requirements for a period of no less than 2 hours. The fuel system shall be designed with separate automatic fuel filling system that holds 48 hours of fuel.

The building will also have a central Uninterrupted Power Supply (UPS) to serve the data and communication closets described below.

Refer to electrical design brief.

Communications (phone/data)

Telecommunications rooms will be placed in the building so as to support the maximum UTP cable length of 90m. Wireless will be deployed though out with a focus on high-speed and high reliability to support both the staff and students. For more details, please refer to:
"UTSC_Cable_Systems_Specification_V3.4" or later, and
"UTSC_Wireless_Systems_Specification_V1.0" or later.

- Life safety and fire protection (fire pump in light of the tower, elevator)
- Emergency lighting requirements
- Elevators (in particular with the new tower)
- Information Technology and Record keeping for business continuity

Heating Ventilation and Air Conditioning

As a basis for preliminary costing, the building should be well zoned for air handling to allow for system scheduling such that the office tower, classrooms, exam centre and other support areas all can be zoned separately. This will allow for the building to function efficiently as occupancy can be scheduled and the air handling systems can shut off in unoccupied hours

The building should use modern air handling technology and design as described below:

- Variable air Volume with enthalpy wheels and CO2 Controls in the lecture halls
- VAV with CO2 in the offices and general areas in concert with chilled beams or VRF decoupling ventilation from air conditioning
- The existing air handling system for the gymnasium and the student study space (formerly the gymnasium and key area) will be repurposed with only minor modifications

Fire Protection

Fire service will be required from a feed from Military Trail/Ellesmere.

Acoustics

The design should ensure that any noise emissions from the Facility impacting nearby receptors falls within the acceptable sound level limits defined by the Ministry of Environment (MOE) in publications NPC-205 or NPC-232.

Noise mitigation designs should also be considered for off-property points of reception, which are not defined as such in MOE Publication NPC-205/232. It is preferred if an effort is made to prevent the noise impact of the site to these points to be above a reasonably expected noise environment.

There will be an NC level matrix developed for specific spaces/functions within the building and these will be target then tracked for quality/delivery through out the design/construction process.

Environmental Health and Safety

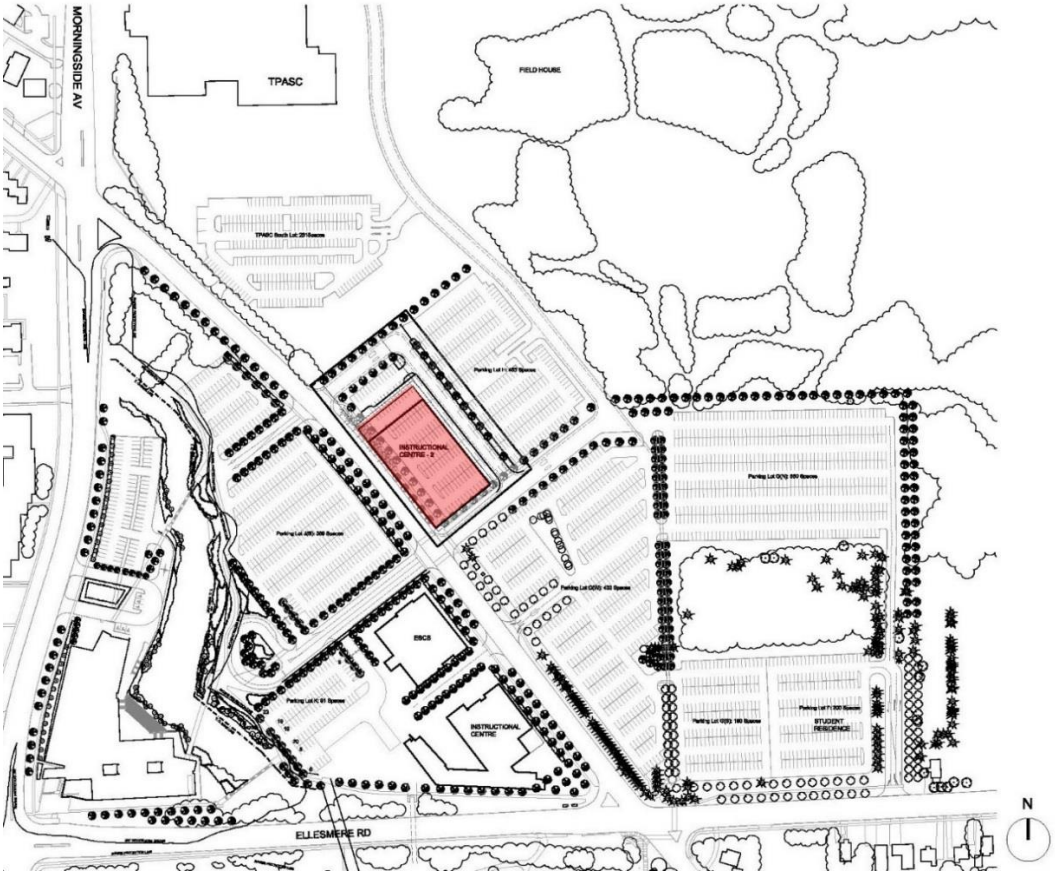
- Lighting

- Environmental emissions (MOE submission considerations)
- Safety (supply ventilation, chemical hazard quantity, specialized equipment and venting requirements)
- Special considerations for venting or sewage traps for hazardous chemicals
- Safety design for receiving areas and loading docks
- Ergonomic design of mechanical rooms

e) Site Considerations

Site context

The current UTSC Master Plan (2011)provides a framework that ensures new facilities; infrastructure and landscapes contribute to the physical quality, coherence and effectiveness of the campus and projects the long-term vision for the development of campus lands in particular on the North Campus. Consistent with the development of the north campus, current municipal and provincial planning is focused on the development of high-speed rapid transit to the campus. With the addition of efficient transit systems to UTSC, access to the campus will be greatly improved.



Master Plan/Secondary Plan

Founded over fifty years ago at the edge of the City, the University of Toronto Scarborough was envisioned as an intimate, interactive, and interdisciplinary campus where exciting new technologies and bold approaches to research and education could be tested and explored. The University has continued this commitment to innovation and academic excellence, growing from a small satellite campus to a major mid-sized university serving a rapidly expanding city-region.

In 2008, UTSC determined it needed a new vision and master plan to guide the future expansion of its physical campus. Developed through extensive consultation, the vision provides direction for the evolution of the campus and its relationship to the surrounding community and region. The 2011 master plan and subsequent secondary plan is the fulfillment of the campus vision, providing a comprehensive framework to guide UTSC as it reaches its full potential. The framework continues past traditions, where ideas of innovation and excellence informed the built environment, and it establishes a new direction, where a hub of mixed-use facilities promotes openness and integration and creates a vibrant centre for learning and community.

Rendered View of the North Campus Master Plan (Urban Strategies Inc.)

Rendered View of the North Campus Context with the IC-2 (CEBRA/ZAS Architects)

As the campus embarks on this plan to develop the North Campus, it is important that the campus vision be understood with a long-term view. The master plan and secondary plan represent this long-term view, outlining large patterns of development that can serve the needs of the campus over the next 50 years or more. With this framework in place, the university is positioned to make more detailed development decisions with a full understanding of the larger context. As development unfolds, elements of this plan will be phased to meet the requirements of the day for the university. Achieving the following master plan objectives create the essential conditions for the realization of the UTSC Master Plan by providing a physical framework for the future growth and evolution of the University of Toronto Scarborough campus.

- Create a single, accessible campus
- Realign Military Trail to form a single cohesive North Campus
- Construct a bridge over Ellesmere Road to create an internal
- Foster an inclusive campus community
- Develop the lands surrounding the Military Trail/Ellesmere Road
- Maintain continuity with existing Neighbourhood
- Develop low-rise residential uses to ensure an appropriate
- Preserve land for academic uses
- Reserve the South campus and the land area of the North
- Preserve open spaces for future investment
- Expand UTSC development opportunities
- Design the campus for improved mobility

Zoning Regulation

The UTSC campus is part of the Highland Creek Community Secondary Plan. The zoning permits a building up to five storeys in height. The proposed site is designated Institutional in use, however the site has a "hold" on it, based on the Highland Creek Zoning Bylaw.

The "H", or holding, zone designation was put in place to address environmental concerns due to the site's proximity to a closed City of Toronto municipal waste site. During the planning process for two recent academic buildings on Military Trail, this designation was successfully lifted. It is expected that the same result will be achieved for this project, although a combustible gas survey, as well as a Phase 1 environmental assessment, may be required.

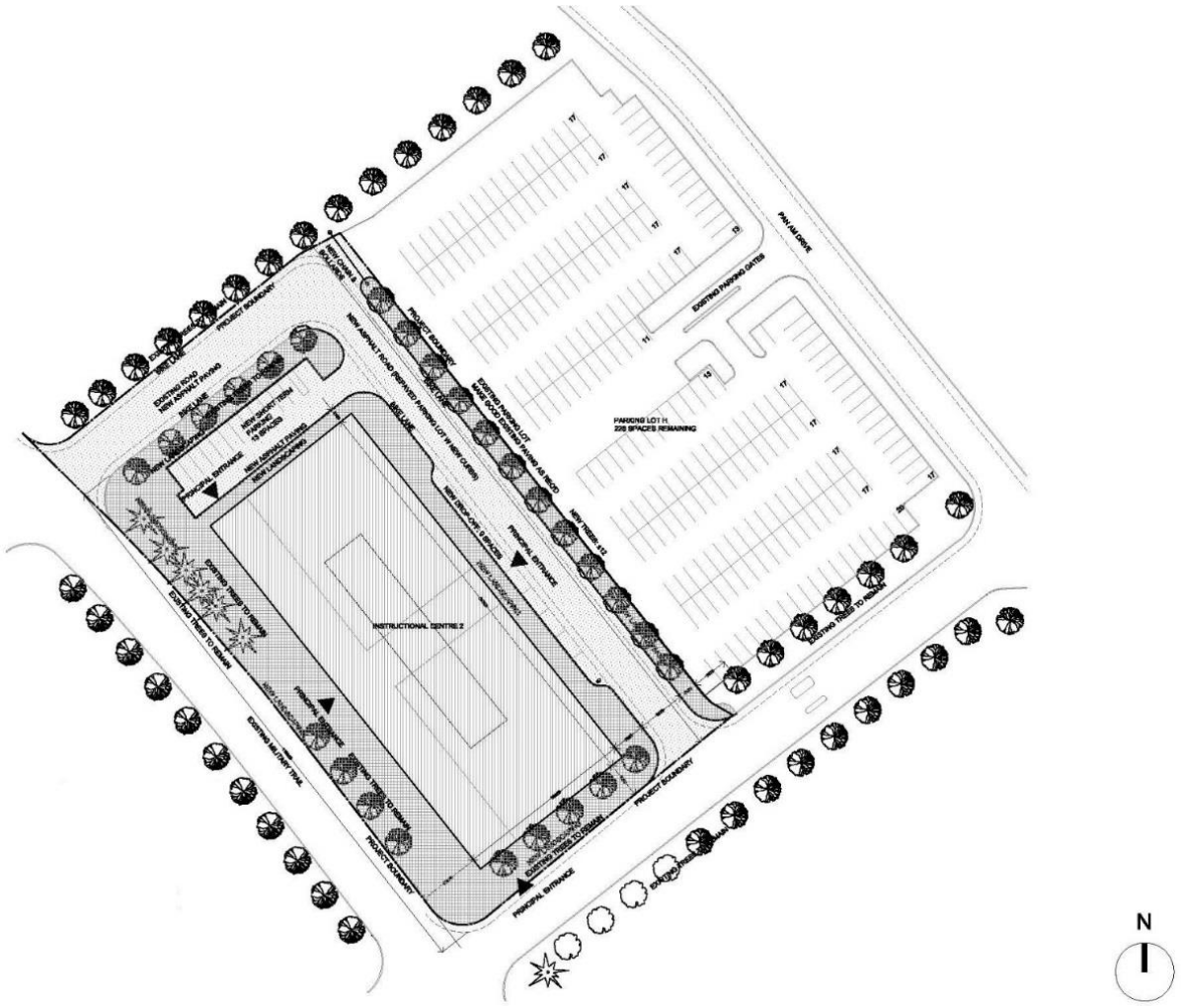
Environmental issues, regional conservation, Ministry of the Environment

In order to clear the site of the "H" (Holding) designation and make it available for development, paragraph 29.5 of the Highland Creek By-law 10827 (see appendix) details several requirements that must be satisfied, including the submission of several consulting reports (site servicing, transportation, environmental, stormwater management, etc).

The site does not have any "top of bank" issues with the TRCA and is well beyond the boundaries of the TRCA designated Environmentally Significant Area. Stormwater management and runoff will be reviewed as part of the Site Plan Application.

Investigations will need to take indicated small amounts of methane detected east of the site and management has involved an impermeable membrane around the basement and foundational building elements and a passive venting system. In addition, there are likely Salt impacts in the soil on the site that will be required to be excavated, removed form site and backfilled.

Site Boundaries, conditions and constraints



The IC-2 is to be designed to face onto existing Military Trail and the proposed large North Campus Green. The building will have secondary entrances from the east, north and south with the intention of creating a permeable ground floor.

Landscape and open space requirements

Landscaping will be provided at the perimeter of the building with both hard and soft landscaping providing a welcoming environment for pedestrians. Landscaping is to consider the future plan to pedestrianize Military Trail and the proximity and overlook of the IC-2 to the proposed large North Campus Green. A new landscape plaza or forecourt should be incorporated as part of the ground floor adjacent to the food services and student lounges potentially at the north end of the building. This area should incorporate hard and soft landscaping, with accommodation for benches, bicycle parking, in line with the campus' standard palette of street furniture and materials. The north landscaping may also make use of excavation to allow natural light and access to the basement levels similar to the UTSC student centre.

Site access

Site access will be provided in the short term via Military Trail and the existing Parking Lot H entrance road. A new road is proposed for the east side of the IC-2 in keeping with the UTSC master plan and secondary plan. A portion of the existing N-W corner of parking lot H is to be reworked in the near term to provide short-term parking and drop off for the IC-2. The long term vision places vehicular access via the new road along the eastern edge of the building. A new loading staging/storage area will be connected to a service tunnel extending to the loading facility at the new proposed parking structure. Drop-off spaces, bicycle lanes and pedestrian circulation space will be incorporated into the design.

The front façade of the IC-2 and the main entrance will face onto existing Military Trail. Additional entrances will be located at the north, south and east facades of the building.

Space for food trucks should be provided in close proximity to pedestrian access point(s).

Accessible access is required at all entrances, drop-off and loading areas. Provision for ambulance, police and Wheel-Trans vehicles is required.

Wayfinding

Interior signage and way-finding strategies are to abide by the University of Toronto Scarborough Signage Standards. Exterior way-finding should match what exists on the South Campus. The public plaza is a possible spot for public art that can supplement the way-finding strategies of the campus.

Soil conditions

According to a several recent subsurface environmental investigation, the soil is mostly sand fill and gravel. This has provided good subsurface conditions for foundation design. Some dewatering can be required based on the depth of the building however, this is not though to be significant.

Demolition of existing structures

The site is proposed to be located on the existing parking lot H. The existing parking gates located at the north entrance to parking lot H will be removed. No existing structures exist on the site. It is undisturbed, for the most part, although there may be the remains of one or two foundations/basement walls from old residences that used to be on the site. Drawings and specifications for this project will include for their removal if encountered.

Site servicing: existing and proposed

Existing site servicing currently only consists of stormwater piping + electrical services (LV electrical + communications) for parking gates. These will have to be relocated prior to construction as these services need to be maintained during construction. Underground telecommunications and electrical supply for Code Blue emergency phones on the North Parking lots must be relocated prior to construction.

Hazardous waste disposal

There will be very limited hazardous waste removal required as this will be a teaching/academic facility with limited research function. Hazardous materials will be removed using University EH&S practices and housed in certified receptacles in a closed room in the storage area of the facility managed by facilities and EH&S staff.

f) Campus Infrastructure Considerations

Utilities (electrical capacity, water, gas, steam lines)

Similar to the Instructional Centre, the main electrical service will come from the Military Trail feeder. 4 Hydro poles will need to be removed and the Military trail hydro feeder buried in front of the IC2 site along military trail to clear the building façade. The feeder will be fed in a duct bank with spaces for other services (Data). Similarly, the Hydro service will be brought to the IC2 facility in a duct bank and will extend to the eastern site boundary to serve future buildings and a parking structure to the North West.

The natural gas will be picked up from Military Trail. Also from Military Trail will be the water/fire service and the sanitary service.

All services from Military Trail should be grouped together to minimize disruption on the roadway even possibly allowing for continuous access to the outer parking lots.

Central Heating and Cooling will be provided from inside the building, most likely using chilled and low temperature hot water systems. This will be done via conventional chillers and condensing boilers or other means, such as with a geothermal field and heat pump system with a vision for a low carbon solution to meet the University's 2030 GHG targets. .

Standby Power will be required to keep the building safe and warm, emergency lighting, fire service, elevators and life safety, emergency lighting for egress. Large gathering areas may be considered areas of refuge during a sustained outage or emergency and should be considered for standby power as well.

Sewer and storm water management

Storm runoff will be managed through an infiltration based storm water system such as a "storm tech". Water conservation and other sustainable approaches such as bio-swales and porous landscaping features should be considered.

A Site Servicing Report prepared by an external consultant with the University's Secondary Plan has confirmed that the existing storm water retention system is likely sufficiently sized to accommodate the new facility. A metering program on the sanitary infiltration is being completed to ensure that requirements of Toronto water are met.

Communications (phone/data)

This building will be connected via fibre optic cable to two redundant locations on the UTSC fibre optic backbone.

Roads and pedestrian pathways

A new North-South campus road is proposed to run along the east face of the IC-2. This road is to connect the existing north and south entrance roads to parking lot H. A new boulevard with planting is proposed for the east side of the proposed new campus road to create separation between the IC-2 and the remaining portion of Parking Lot H. Pedestrian connections will be created across the proposed road at the north and south ends via existing walkways. A new drop-off lay-by is proposed at the west side of the new campus road to allow for passenger drop off, service and emergency vehicle access and short term deliveries to the IC-2. The passenger drop off is to be designed to accommodate Wheel-Trans vehicles.

A temporary short-term visitor parking area is proposed at the north end of the IC-2 site. This area is to be accessed via the proposed new campus road and is to contain pay-and-display parking meters.

A vehicular entrance is to be maintained at the North-West corner of the remaining parking lot H to allow for snow removal and service vehicle access. A bollard and chain is to be provided to restrict access to all other vehicles.

Pedestrian pathways will link the proposed building with adjacent parking lots G & H.

The existing traffic light at the South-West corner of the IC-2 building site will allow for pedestrian connections to the ESCB and IC-1 buildings in the short term. The long term vision of the north campus masterplan will see the pedestrianization of the existing Military Trail Drive, providing direct pedestrian access to the IC-2 from the remainder of the North and South campuses.

Bicycle parking

Bicycle parking must be provided in a convenient location, near the entrance as required by the City of Toronto's Green Standard.

The City of Toronto Zoning By-law 507-2015 requires the following Bicycle parking spaces:

Bicycle Zone '2'		
Space Type	Rate	No. of Spaces Required
Short Term	(3+0.18 per 100sm of interior floor area)*	17
Long Term	(0.6 per 100sm of interior floor area)*	46

* 7,604 sm of Office and Classroom floor area used for calculation purposes; refer to space program

A total of 17 short term and 46 long term bicycle parking spaces is required. Long term spaces are to be to be located within the building on the first, second or first basement levels. Short term spaces are to be located within 30m of a building entrance.

The long term bicycle parking space allocation assumes double vertical stacking for a total of 39.78 nams with a minimum vertical clearance of 2.4m.

Servicing and fire access

Servicing will be from a loading facility created as part of the construction of this facility or from a service tunnel extending from the neighbouring parking structure also being developed to allow the campus development to meet the City's parking bylaw.

Fire access will be via an existing fire access driveway of the Ellesmere Road via Military Trail in the short term and via the new secondary campus roads in the long term.

Annunciator panel is to be located within East entrance vestibule for future access from campus road network.

All elevators are to be equipped with recall function connected to the fire alarm system with firefighter's manual override.

Impact on other projects in sector

There are no impacts on other projects in this sector.

g) Secondary Effects

Vacated space
The relocation of a number of student services departments and an academic department to the new IC-2 will permit the relocation and consolidation of other academic departments within the existing buildings. IC-2 will also aid in alleviating the space needs for classrooms allowing existing classrooms to be properly sized. Vacated space in existing buildings will be an opportunity to create high quality study spaces and possibly to relocate administrative units.

	Sum of Area (sqm)
Academic Resource Centre	**375.2**
Academic Advising & Career Centre	375.2
Arts & Admin Building	**307.28**
Accessibility Services	208.55
Dean of Students/Student Affairs	98.73
Bladen Wing (B-Wing)	**65.64**
Academic Advising & Career Centre	45.36
Computer & Math Sciences	20.28
Instructional Centre (UTSC)	**1433.41**

Computer & Math Sciences	1433.41
UTSC Student Centre	**221.89**
Health & Wellness Centre	221.89
Grand Total	**2403.42**

The UTSC Space Planning committee will look at reallocation and renovation of the space that will be vacated by IC-2, as well as other space vacancies as they become available. This committee serves as a governing body to review and oversee the space allocation and renovation needs on campus. The priority for this group will be to address the critical space shortages as well as providing opportunities to meet newly identified academic and strategic planning requirements on campus.

In broad terms, based on existing space pressures, space released may allow the following:

i. ARC building space may allow for consideration of growth within the Library, Center for Teaching and Learning and IITS portfolios including the expansion of formal and informal student study and learning spaces.
ii. Arts and Administration building space may allow for much needed growth space for the senior administration offices of the Principal, Dean, VP Research and CAO.
iii. Bladen Wing space released may allow for additional accommodation for Accessibility exams.
iv. IC1 may allow for the expansion of the department of Management, Management Coop and Arts and Science Coop. This building may also accommodate smaller administrative units that might be relocated to provide additional growth space for academic departments in the MW, HW, and HL buildings.
v. Student Centre space will be returned to the Student Union to support student activities and initiatives.

Parking

In 2016 the parking by-law governing the UTSC campus was revised to require 1.75 spaces per 100 square metres of building area. The current campus total parking inventory includes 2,615 spaces with a by-law generated total need of 2,404 spaces providing a surplus of 211 parking spaces to accommodate campus development without the need for new parking facilities. The IC-2 will displace parking spaces from the existing inventory as well as generate new parking requirements under the current by-law.

A temporary short-term visitor parking area and drop off lay-by is proposed at the north and the east of the IC-2 site. This area is to be accessed via the proposed new campus road and is to contain pay-and-display parking meters. The total number of proposed spaces are 22 including 1 Type ‘A’ and 1 Type ‘B’ accessible spaces.

The net number of parking spaces generated by the IC-2 project is 326 spaces as per the following table.

UTSC IC-2 Parking Impact

Parking Area	No. of Parking Spaces	Notes
Loss of Existing Parking Spaces (Parking Lot H) to be replaced	235	
By-Law Generated Parking Spaces	324	1.75 spaces/100 gsm
IC-2 Provided Parking Spaces	22	
Current UTSC Campus Parking Inventory Surplus	211	
Total Required Parking Spaces	**326**	

UTSC is currently planning a +900 parking space parking structure to serve the north campus. In the interim, two temporary gravel surface parking lots are to be implemented to account for the parking by-law requirements during planning and construction of the IC-2 and parking structure. Along with the completion of the proposed parking structure, the temporary surface lots will continue to be used to provide parking capacity to satisfy the requirements of by-law for the current and near future north campus development.

Staging

Given the proposed massing is low-rise; the anticipated effect on nearby residential homes is minimal. Construction staging can be provided in the remaining portion of parking lot G or to the East on undeveloped land.

Other effects include:

- Renovation of existing classrooms:

  UTSC currently has 49 classrooms in its inventory, including 27 flat floor and 22 tiered classrooms. The quality of these classrooms was evaluated as part of this project analysis, and recommendations made to, in some cases, renovate, re-furnish or change occupancy numbers to provide more exemplary classroom space across campus. This work will commence after the IC2 building is completed. The following chart indicates the current thinking around changes that will be implemented within the existing classroom complement:

Building	room	existing notes	existing capacity	recommended capacity	recommended layout
ARC					
	332	currently set up seminar style with 18 seats around table, plus 7 chairs	25	20	seminar style (boardroom OR castored chair with tablet)
	334	currently desks for 23, plus 4 chairs with tablets and additional chairs with no tablets	33	30	workshop style (moveable tables with castors)
	223	complaints of lack of space at front for concerts, etc.; desire for more aisle space for faculty movement through classroom	490	390	theatre style remains
AA					
	204-209	currently set up front facing with 20" deep tables (no casters)	40	32	front facing in rows, with ability to group tables for workshop
Sco Sci					
	223	currently set up in rows front facing	30	30	
	262, 264		30	30	
SW					
	128	tiered classroom with fixed desks and mobile chairs	135	120	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
	143	tiered classroom with fixed desks and mobile chairs	135	120	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
	309	tiered classroom with fixed desks and mobile chairs	175	160	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
	319	tiered classroom with fixed desks and mobile chairs	175	160	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
BW					
	260	original classroom with viewing mirror, original plaster ceiling and integrated light fixtures. Full room requires upgrades	66	42	front facing rows, with ability to group tables for workshop
	264	rows front facing, tables not on castors	80	54	pilot three height tiers in rows
	355	tables on castors, chairs on castors, multiple blackboards	43	40	2016 pilot space - reduce furniture to right-size
	359	node chairs + 1 height adjustable table	20	20	2017 pilot space - reduce furniture to right-size
	361	tables on castors, chairs on castors, multiple blackboards	37	30	2018 pilot space - reduce furniture to right-size
	363	node chairs _+ 1 height adjustable table	54	50	2019 pilot space - reduce furniture to right-size
HW					
	214	tiered classroom with fixed desks and mobile chairs	86	80	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
	215	tiered classroom with fixed desks and mobile chairs	86	80	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
	216	tiered classroom with fixed desks and mobile chairs	207	160	remains tiered room - refurbish existing surfaces (desks, walls, ceiling, floor), new lighting, new chairs, remove partial front row to accommodate asccessible spaces
	308	tablet arm chairs in random pattern	50	32	node chairs on castors with tablet arm
	402	mixed chairs & tables front facing	46	28	node chairs on castors with tablet arm
	408	mixed chairs & tables front facing	46	32	node chairs on castors with tablet arm

Loading

The IC-2 project does not include a loading dock facility. The project will be connected to the loading dock at the adjacent North Campus Parking Structure via and underground tunnel. The Tunnel will connect to a loading/staging are within the IC-2 basement and have direct access to the east freight

elevator. The parking structure is currently in design with an anticipated completion to align with the IC-2.

h) Schedule

The following anticipated project schedule assumes that: Project is approved at 26 February 2021 Scarborough Community Council; Project is approved at the 10 March 2021 City Council Meeting; NOAC is obtained within two weeks of City Council Meeting, by March 24, 2021; Site Servicing, Below Grade Drainage and Foundation Partial Conditional Permits are obtained within one month form NOAC, by April 24, 2021; Assumes shoring is not required; Ellis Don commences tower crane installation and foundations in May 2021.

Activity	**Date**
CaPS Executive Committee	November 30th, 2018
RFSQ Issued	January 8th, 2019
RFP Issued	February 27th, 2019
RFP Award	October 1st , 2019
Schematic Design	October 2019- May 2020
Site Plan Approval Application	May 2020
Construction Manager Procurement Process	June 2020 – July 2021
Award CM Part 1	September 2020
Pre-Construction Services	August – February 2021
CaPS Executive Committee	November 2020
Building Permitting	January 2021– March 2021
Sequential Sub-Contractor Tendering	Start December 2020
Cycle 3 Governing Council Approval	February 25, 2021
Award CM Part 2 – Upon Governing Council Approval	February 2021
Sequential Sub-Contractor Tender Award – Immediately after CM Part 2 Award	Start February 2021
The Following Dates are Achievable only if NOAC is received by March 24, 2021; if NOAC is not received, each subsequent date needs to reflect duration the delay for NOAC	
Site Mobilization, Clearing, Geothermal Drilling, Excavation	February 2021

Tentative date of Receipt of NOAC	March 2021
Full Building Permit Application	March 2021
Substantial Performance	June 2023
Occupancy	June 2023
Project Completion	August 2023

IV. Resource Implications

a) Operating Costs

Operating costs will be assumed by the University of Toronto Scarborough Campus. These include costs for utilities and maintenance as well as engineering, caretaking, security, and staffing costs.

b) Funding Sources

The additional fees for design consultant scope of work revisions corresponding to the change from Design-Bridge-Build to Construction Management will be covered by UTSC.

This project will be funded through the UTSC's previous contributions to the Future Major Capital Project Reserves, Borrowing and UTSC Major Capital Construction fund.

c) Other Related Costs

N/A

APPENDICES:

1. Space Inventory
2. Room Data Sheets for Assignable and Non-assignable Program Areas (on request)
3. Total Project Cost Estimate (on request to limited distribution)
4. Project Site Plan, Floor Plans and Rendered Views.