The Commons, UBC Okanagan Campus

Credit Guidance

Indoor Environmental Quality

Prerequisite: Minimum Indoor Air Quality Performance

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver			Required
Okanagan			

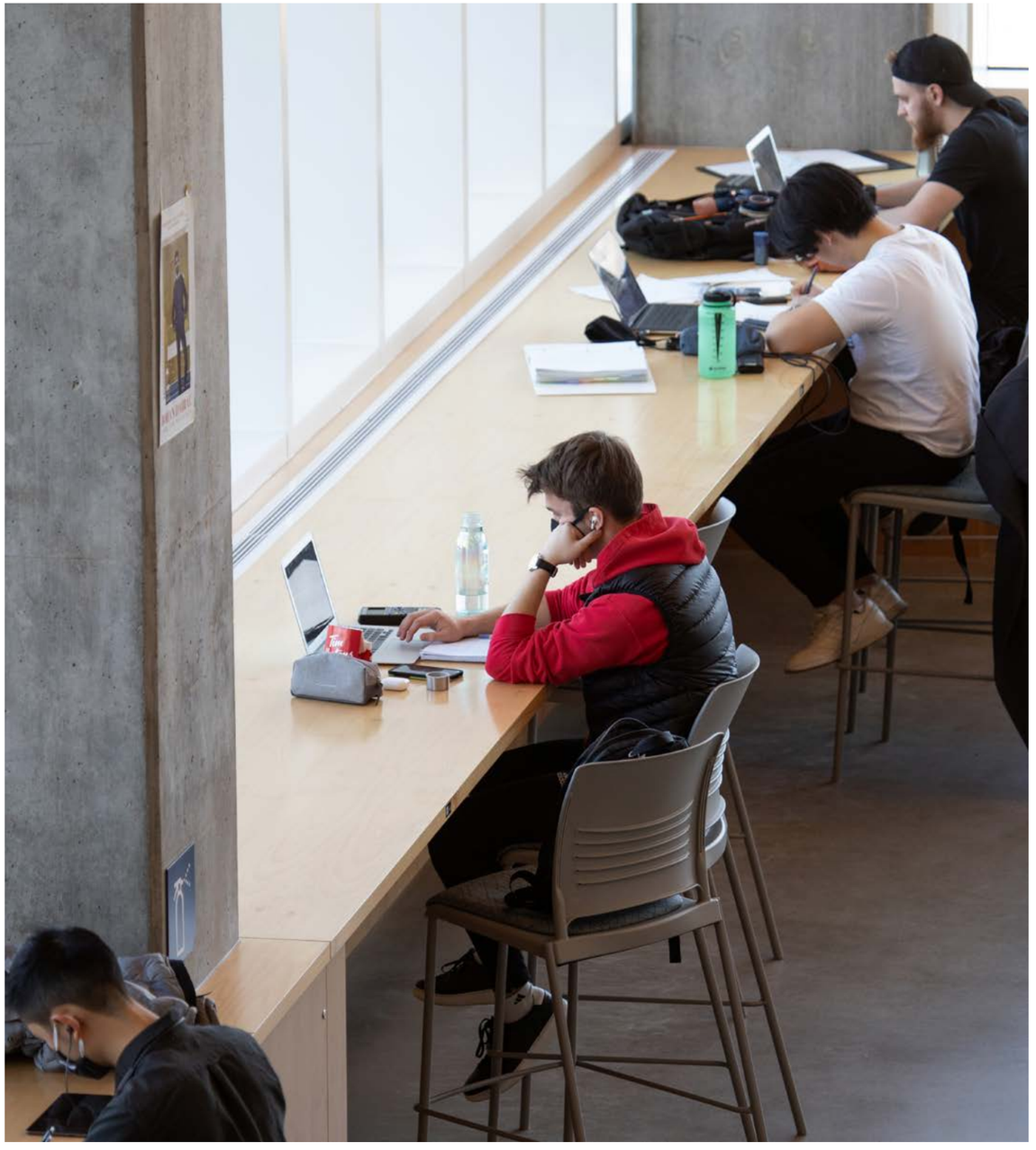
REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1.

VANCOUVER GUIDANCE

Local code (BCBC 2018) references ASHRAE 62-2001 for minimum outdoor air ventilation rates. LEEDv4.1 requires compliance with ASHRAE 62.1-2016. Project teams pursuing LEED certification are required to comply with both ventilation standards. Calculations should be completed early during the design process to confirm compliance with the most stringent ventilation rates.

The comparison should identify to what extent the total building ventilation rate will exceed either standard. This information is important to evaluate the impact on the building energy performance per Optimized Energy Credit as well as for UBC Energy targets (TEUI, TEDI, GHGI).



The Commons, UBC Okanagan Campus

Prerequisite: Environmental Tobacco Smoke Control

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver			Required
Okanagan			

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1.

RESOURCES

UBC Health & Safety

UBC Repository of Board of Governors Policies, Procedures, Rules, and Guidelines

UBC Okanagan Smoking Guidance

VANCOUVER GUIDANCE

Project teams are advised that UBC Policy No SC2 – Smoking and Vaping prohibits smoking of any kind, including vaping and cannabis, within eight meters from any doorway or building air intake, such as an openable window or air vent.

Signage indicating that smoking is not allowed within eight meters must be funded and installed as part of the project scope and budget.

OKANAGAN GUIDANCE

Project teams are advised that UBC Okanagan Policy prohibits smoking of any kind, including vaping anywhere on campus. Smoking cannabis is permitted in designated gazebos only.

Signage indicating that smoking is not allowed within eight meters must be funded and installed as part of the project scope and budget.

IEQ Credit: Enhanced Indoor Air Quality Strategies

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver	1	1	2
Okanagan	1	1	

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1, by employing at least 3 of the 10 Indoor Air Quality strategies outlined, to earn one point. Teams are encouraged to implement an additional three strategies to earn one additional point.

RESOURCES

UBC Technical Guidelines: Section 09 00 10 Finishes – General Requirements (Entry Way Systems); Section 23 30 00 Air Systems Ductwork And Equipment (Filtration Of Outdoor Air)

GUIDANCE

Applicable strategies should be prioritized according to the project context, building type, operations and maintenance needs, and occupancy.

Note that the UBC Technical Guidelines – Vancouver and Okanagan Section 23 30 00 require MERV 13 filtration on central air handling unit equipment and installation of institutional-grade entry mats in all entries to reduce cleaning, and to provide sufficient non-slip surfaces at entrances. Recessed mat systems may be considered depending on the style and maintenance requirements. Project teams are encouraged to seek approval in advance for proposed recessed entry way systems from the relevant UBC project manager.

IEQ Credit: Low Emitting Materials

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver	2	1	3
Okanagan	2	1	

REQUIREMENTS

All projects must comply as per the requirements of the LEED BD+C v4.1 Reference Guide, to earn at least two points. Teams are encouraged pursue additional product categories to earn an additional point.

RESOURCES

South Coast Air Quality Management District

UBC Green Building Action Plan Materials & Resources (page 53)

UBC Technical Guidelines:
Section 09 00 10 Finishes – General Requirements;
Section 09 21 16 Gypsum Board Assemblies;
Section 09 65 00 Resilient Flooring;
Section 09 68 00 Carpet;
Section 09 90 00 Painting and Coating;
Section 07 92 00 Joint Sealants

GUIDANCE

Material health and transparency is a high priority for UBC, and project teams are urged to consider the lowest emitting materials available across all product categories, and to advocate to manufacturers and suppliers where more information is required or better performing materials are needed.

Teams may find that documenting compliance with Flooring, Ceiling, and Insulation product categories more efficient given the number of products specified and installed are typically fewer per project. Compliant products within the Paints and Coatings category are generally widely available, although where fireproofing and intumescent coatings are required, compliant products may be more difficult to source.

IEQ Credit: Construction Indoor Air Quality Management Plan

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver	1		1
Okanagan	1		

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1

RESOURCES

Sheet Metal and Air-Conditioning National Contractors Association IAQ Guidelines for Occupied Buildings Under Construction

GUIDANCE

Teams are encouraged to collaborate with the project general contractor to draft a Construction IAQ plan that addresses each category of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings. Teams are encouraged to include a review of each measure as part of regular site visits to ensure implementation is robust throughout the construction period.

IEQ Credit: Indoor Air Quality Assessment

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver	1	1	2
Okanagan	1	1	

REQUIREMENTS

All projects must comply as per the requirements of LEED BD+C v4.1 to earn at least one point via Option 1: Flush-Out OR Option 2: Air Testing.

GUIDANCE

Project schedules may pose challenges or limitations on complying with Option 1, making Option 2 more attractive in some cases.

Note that testing costs vary depending on the size of the building, the number of samples tested, and the travel and fieldwork required of the testing agent. Teams are urged to liaise with the testing agent to determine the most applicable testing standard in advance. In the event of a discrepancy between air testing standards, the more stringent standard is to be used.

IEQ Credit: Thermal Comfort

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver		1	1
Okanagan		1	

REQUIREMENTS

Projects employing mechanical cooling are strongly encouraged to comply as per the requirements of LEED BD+C v4.1.

RESOURCES

UBC Climate Ready Requirements

UBC Technical Guidelines – Vancouver Campus, Section 20 00 30 Indoor Thermal Environment

UBC Technical Guidelines – Okanagan Campus, Section 20 00 30 Indoor Thermal Environment

GUIDANCE

Projects are required to meet requirements for both thermal comfort design and thermal comfort control to earn this credit.

While naturally ventilated and passively cooled buildings may be unable to comply with this credit given the climate, The UBC Climate Ready Requirements require design to reflect 2050 climate conditions, making mechanical cooling a more likely solution. This should be verified and confirmed by project teams to ensure thermal comfort for the 2050's is considered.

In addition, the UBC Technical Guidelines: Section 20 00 30 Indoor Thermal Environment offer more flexibility than ASHRAE 55 in terms of allowing temperatures to exceed the limits for short periods and sets specific maximum temperatures in certain space types; if mechanical cooling is not provided, a thermal comfort model is mandatory to demonstrate compliance.

For buildings employing a mixed mode ventilation strategy project teams are urged to use the energy model to verify occupant comfort. This approach is strongly recommended to limit cooling equipment runtime and energy consumption. The costs and benefits of various control options should be analyzed to identify the optimal approach to operable windows.

IEQ Credit: **Interior Lighting**

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver		1	2
Okanagan		1	

REQUIREMENTS

All projects are encouraged to comply as per the requirements of LEED BD+C v4.1 by pursuing any available option to achieve at least one point.

RESOURCES

USGBC Interior Lighting Calculator

GUIDANCE

Option 3: Lighting control is closely aligned with ASHRAE requirements, making it a likely path for compliance for most projects.

IEQ Credit: **Daylight**

CAMPUS	MANDATORY	PRIORITY	AVAILABLE
Vancouver		1	3
Okanagan		1	

REQUIREMENTS

All projects are encouraged to comply as per the requirements of LEED BD+C v4.1 by pursuing any available option to achieve at least one point.

RESOURCES

Green Building Action Plan (2018) refer to Health & Wellbeing component area (page 57)

GUIDANCE

Project teams are encouraged to consider building orientation, window to wall ratio and daylight early in the design process. While the credit is not mandatory, it is strongly aligned with UBC's Green Building Action Plan and offers good synergy with interior lighting and energy performance credits.

Teams are encouraged to use daylight simulation and analysis tools that facilitate credit achievement and help provide occupants with measurable improvements in daylighting.