

Applied Circular Economy: Zero Waste Buildings

Microcredential Part-time [School of Construction and the Environment](#)

Overview

Delivery: online. [See details.](#)

The green building sector is the largest employer in Vancouver's 'green economy' and with \$16B in construction delivered in BC annually and the trend towards low-impact building, this share will only increase.

Approximately 50% of Canada's carbon emissions are derived from the operation and construction of buildings. Deep decarbonization strategies, in line with Canada's 2050 net-zero target, require that carbon emissions reach net-zero, this requires both zero-waste construction and "design for disassembly" (DfD). This knowledge will address the economic loss and carbon emissions associated with the current practice of creating construction and demolition waste, where the cost of *unutilized* new materials and *unrecovered* demolition materials represents approximately \$100 of unnecessary expense for every square meter of newly constructed space, **with almost a tonne of CO₂e emitted in the production of every tonne of building material that goes to waste.**

Applied Circular Economy: Zero Waste Buildings will train professionals who can deliver the low-impact buildings needed to achieve net-zero targets. The microcredential will consist of three courses: *Deconstruction* (material recovery and working with salvage); *Design for Disassembly* (the principles of DfD and Cradle to Cradle (C2C); and *Construction Material Flow Analysis* (understanding the industry and the path of materials through it).

Entrance Requirements

Application processing

Ongoing throughout the year.

Recommended for success

The program is open to students from Construction or building design fields, graduates of Environmental Engineering or related fields, or those employed in or with experience in building trades and construction (ability to read building plans and specifications).

International applicants

This program is available to international applicants who will complete the program from outside Canada or who currently have a [valid status in Canada \[1\]](#) other than study permit. International applicants accepted into this program are not eligible for a study permit.

Apply to program

Formal application to the microcredential is not required. Upon successful completion of the [courses](#), email the [program contact](#) with your full name, student number, and mailing address to be issued a microcredential.

Scheduled Intakes

Ongoing Flexible Learning (Part-time Studies) intakes: [January, April, and September](#). [2]

Costs & Supplies

Tuition fees

Flexible Learning (Part-time Studies) tuition is charged on a course-by-course basis. Please see the [Flexible Learning Tuition & Fees](#) [3] page for more information.

Courses

Class hours

See each course's information.

Program matrix

Check [current availability of courses](#) [4] for this program.

Required courses:	Credits
XCIR 7510 [5] Deconstruction Management	3.0
XCIR 7520 [7] Design for Disassembly	3.0
XCIR 7530 [9] Construction Material Flows	3.0
Total Credits:	9.0

Check [current availability of courses](#) [11] for this program.

Digital badge information

For information on how to obtain your course and/or microcredential digital badge, please review our [Frequently Asked Questions](#) [12] page.

Transfer credit

Do you have credits from another BC/Yukon post-secondary school? Do you want to know if they transfer to courses here at BCIT? Check out BCIT's [Transfer Equivalency Database](#) [13] to find out.

Program Details

Program goals

Students completing this microcredential will gain the ability to:

- Explain how materials flow through the construction process, from extraction and manufacture to installation, use, and finally disposal/recycling/reuse, and how to influence this flow to enable highest and best use.
- Compare Life Cycle Assessment reports and product disclosure statements to make informed product and material selection.
- Describe the design and construction process and where and how intervention will facilitate 'closing the loop' or circularity in the building industry.
- Apply 'Design for Disassembly' and 'Cradle to Cradle' principles and strategies to building projects, choosing building materials and products that follow the same principles.
- Manage the deconstruction of a building, and incorporate salvaged and recycled materials into new projects
- Explain and apply the waste hierarchy to construction, from prevention to disposal and zero waste strategies
- Evaluate the degree to which a design meets the DfD and C2C principles.

Assessment will take place through a combination of project work and individual exams.

Program length

Students can register course-by-course and take any individual course according to interest.

To receive the microcredential, students must complete all three courses.

Maximum timeline to complete all courses is five years.

Grading

The passing grade for each course is 50%.

Program delivery

Online: This program is delivered fully online.

This program is delivered online through both online synchronous and online asynchronous learning. Optional in-person attendance for field trip only.

Program location

[Distance and online learning](#).^[14]

Contact Us

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Programs and courses are subject to change without notice.

List of links found on this page

This list includes all links found on this page for your reference.

- [1] <https://www.bcit.ca/international-students/permits-visas-status/status-in-canada/>
- [2] <https://www.bcit.ca/flexible-learning/part-time-courses-programs/flexible-learning-key-registration-dates/>
- [3] <https://www.bcit.ca/admission/tuition-fees/flexible-learning/>
- [4] <https://www.bcit.ca/courses/xcir7510,xcir7520,xcir7530/>
- [5] <https://www.bcit.ca/courses/deconstruction-management-xcir-7510/>
- [6] <https://www.bcit.ca/outlines/xcir7510/>
- [7] <https://www.bcit.ca/courses/design-for-disassembly-xcir-7520/>
- [8] <https://www.bcit.ca/outlines/xcir7520/>
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