

## Fall 2022 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Hub is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the [Sustainability Scholars Program website](#) to learn [how the program works](#) and to [apply](#).
- Be sure to review the [application guide](#) to confirm your eligibility before applying.

**Applications close at midnight on Sunday September 18, 2022.**

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### **Project title: Mitigating the environmental impacts of equipment used in healthcare through lifecycle evaluation**

#### **Project Background & Overview:**

The Equipment Planning (EP) team for Vancouver Coastal Health (VCH) performs a wide range of services for the planning, management, and coordination of new equipment for healthcare facilities. The EP team works with clinical stakeholders, architects, contractors, and facilities teams to develop a set of equipment specifications that ultimately inform what equipment is purchased for a renovation or redevelopment project. This ranges from fixed medical equipment (e.g., MRI's, CT Scanners, surgical equipment), to mobile medical equipment (e.g., vital sign monitors, ventilators, hospital beds and stretchers) to non-medical equipment (e.g., fume hoods, sterilizers and disinfectors, storage solutions).

The EP team informs the equipment planning process for redevelopment projects—through an emphasis on equipment costs, time factors, standardization, and quality—to provide maximum value for project dollar spent on equipment. Working with the Energy and Environmental Sustainability (EES) team at VCH, the EP team is working to incorporate [Planetary Healthcare principles](#) into the equipment planning process.

The objective of this research project is to develop a set of criteria to evaluate the environmental impact of the lifecycle of equipment commonly purchased for healthcare facilities. The evaluation criteria developed through this project will act as the foundation for the integration of environmental considerations into the equipment planning process and embed environmental considerations and Planetary Healthcare principles into the assessed value of equipment purchased for any new facility.

#### **Project description**

The Scholar will be responsible for conducting a literature review on existing measures of the environmental impact of equipment in healthcare facilities. This review should consider all stages of the equipment life cycle, from resource extraction through manufacturing to end of life.

Based on learnings from the literature review, the Scholar will develop the framework for a set of criteria that the EP team can incorporate into the evaluation of different equipment options during the procurement process. These criteria will be used alongside the existing evaluation criteria built into the EP team's equipment database, which captures and tracks all equipment needs for a new facility.

The Scholar will work with a mentor from the EP team to trial the developed evaluation criteria within the equipment database to help identify and categorize equipment into high, medium, and low impact categories for consideration during procurement. Equipment identified in the high impact category is equipment that has a noticeable negative contribution to the facility's environmental impact, and, given proper consideration during the specification development and assessment phase, reduces that impact through application of the developed criteria. Additionally, the categorization of this equipment will also function as a means to identify key stakeholders that will need to be involved in the exploration and assessment of alternative options.

With time permitting, the Scholar will also identify alternate approaches if the evaluation criteria is not applicable to particular categories or pieces of specialized medical equipment.

## **Project scope**

Key questions the Scholar will research include:

- Is there a particular phase of the equipment life cycle that contributes most to its environmental impact?
- Are there particular types/categories of equipment that contribute most to the facility's carbon footprint?
- What evaluation criteria have other organizations or groups used to evaluate the environmental impact over the lifespan of both medical and non-medical equipment in healthcare facilities? Areas to consider are waste avoidance, water consumption, energy consumption, use of consumable supplies, etc.
- Are particular factors more impactful than others are? What approach can be used to determine the weighting of each criteria?
- What impact could proper considerations of environmental factors during equipment procurement have? How will the facility measure this?
- Are there alternative options available for equipment with a high environmental impact? How will these be identified and assessed?

Scope of work includes:

- Conduct a literature review of current practices regarding evaluation of the health and environmental impact of equipment in healthcare facilities
- Develop a framework for evaluation criteria that can be used during the procurement phase to include environmental considerations into the assessed value of equipment
- Identify and clearly outline the work still required, with recommendations for next steps, for VCH to fully integrate the developed framework into their equipment assessment and procurement practices

Time permitting:

- Trial the evaluation criteria on commonly purchased equipment in the equipment database to help flag high/medium/low impact pieces of equipment.
- Modify the criteria and/or suggest alternative approaches for assessment of environmental impact if the criteria cannot be applied to specific categories or pieces of equipment
- Identify additional resources (e.g., Third party certifications) that can be referenced on equipment specification sheets to facilitate discussion of green technologies early on in the design phase

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## Deliverables

- Evaluation criteria for measuring the environmental impact of equipment to add to the EP team's equipment database
- At least one presentation to the EP and EES teams
- A final report containing a summary of the work completed, outlining what was incorporated into the equipment planning database and providing recommendations for next steps for the EP and EES teams to continue the work
- A final report for the online public-facing [Scholars Project Library](#).

## Time Commitment

- This project will take 250 hours to complete.
- This project must be completed between October 17, 2022 and March 15, 2023
- The scholars are to complete hours between 9 am and 5 pm, Monday to Friday, approximately 10 to 12 hours per week.

## Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Excellent public speaking and presentation skills
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Familiarity with lifecycle analysis, an asset

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Apply here: [Click here to apply](#)

Contact Karen Taylor at [sustainability.scholars@ubc.ca](mailto:sustainability.scholars@ubc.ca) if you have questions

## Useful Resources

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

<https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae>

<https://www.grad.ubc.ca/current-students/graduate-pathways-success>

<https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services>