ANNUAL REPORT 2024

Prepare. Prevent. Stay Safe

Office of Risk Management

Environmental Health and Safety

Message from the EHS Team

The Environmental Health and Safety Team reduces risk to the Carleton University community through a focus on proactive hazard management and regulatory compliance while engaging with our stakeholders through collaboration and innovation.

Some of our accomplishments:

- Launched the Field Safety program following significant consultation. The program is expected to provide additional safety consideration to multiple academic programs in Science, Engineering and Design, and Arts and Social Sciences.
- Developed the Contractor Safety Management program, providing a framework for all departments to safely manage contractor relationships and decrease liability to the University.
- Introduced an additional hazardous waste disposal method, resulting in approximately $6,000 savings annually, with added benefit of reducing energy to dispose.
- Investigated and determined causes of significant events in the faculties of Science and Engineering and Design.
- Held the first Health and Safety Day in the Faculty of Science, a successful initiative spearheaded by the faculty leadership team further to safety concerns in their department.

Innovative and collaborative approaches are more critical than ever to ensure oversight of our safety and compliance programs and that Carleton's health and safety management system remains resilient and flexible in supporting research, academic, and operational activities during a time of significant financial challenge.

Pursuing Excellence – By the Numbers

836 CuWorksafe reports. 63% more that last year	**850** Hazards identified by JHSC	**100K** Spend on annual safety equipment inspections
0.08 WSIB premium rate	**1176** Service requests	**30%** Reduction hazardous waste spend

Fume hoods and BSCs

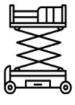
226 fume hoods and 60 BSCs

Local exhaust ventilation

88 local exhausts

Life safety alarms

99 alarms

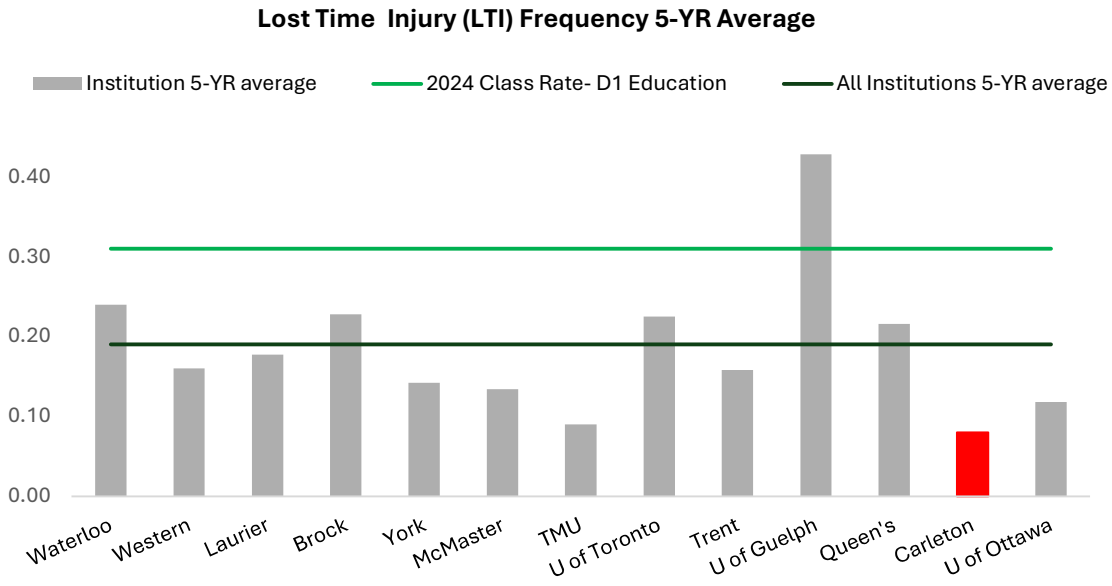


Fall arrest and lifting equipment

1500+ pieces of equipment

In 2024, there were two critical injuries on campus, with only one involving a Carleton staff member. They sustained a leg fracture when they fell walking up stairs, looking at their cell phone. While preventable at the individual level, mitigation measures at the university level are unlikely to be successful. WSIB claims submitted doubled, as did reported lost time injuries, reflecting increased awareness of reporting obligations. The number of good catches continues to decline. An awareness initiative will occur Spring of 2025.

Indicator	2020	2021	2022	2023	2024	5- Year Trend	5- YR AVG
Critical Injuries	0	1	3	3	2		1.8
Lost time Injuries	3	4	8	5	15		7
WSIB Claims	19	19	20	16	32		21.2
Days Lost to Injury Claims	8	53.3	108	11	54		46.86
Average # of Lost Days per claim	6.9	13.3	13.5	2.2	3.6		7.9
Good Catches Reported	89	139	92	77	60		91.4



Carleton continues to have the lowest 5-year average frequency rate among the Ontario universities and is currently paying the lowest WSIB premium rate.

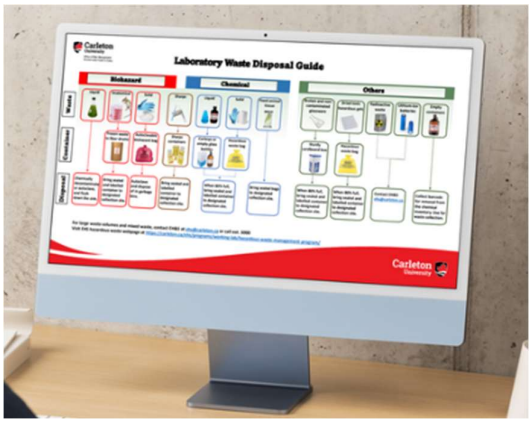
Governance and Legal Compliance

The University's Human Pathogens and Toxins Act (HPTA) Licence was updated further to a change in Biosafety Officer. Additional regulated spaces were also added to the Licence increasing research capacity. Annual Reports were provided as required for Controlled Goods, the Institutional Cannabis Research Licence, Carleton's Radioisotope Licence, and activities covered under the Chemical Weapons Convention.

There were no regulatory visits by the Ministry of Labour, Immigration, Trades and Skills Development (MLITSD), reflecting the strong relationships in place.

DID YOU KNOW?

EHS sits on the Animal Care Committee (ACC) and the Biohazards Committee. 220 Animal Use Protocols and 46 Biohazard applications were reviewed.



A focus this year was management of hazardous waste. A regulatory change combined with a new long-term contract for biomedical waste created the opportunity to raise awareness of proper disposal procedures, create a visual guide for laboratories, introduce an innovative waste stream, and update the university webpage. The result was an immediate decrease in disposal concerns. A total of $46,300 was spent on safe and compliant hazardous waste disposal, a decrease of 30% over the previous year.

Stakeholders and Collaboration

Eclipse planning

Carleton was a leader among Ontario universities in planning and for the April 2024 total Solar Eclipse. Through implementation of comprehensive safety protocols—such as the distribution of certified eclipse glasses, virtual resources and the facilitation of awareness sessions on safe viewing practices—the team ensured that all attendees were well-informed and protected. Furthermore, EHS collaborated closely with the Department of Physics to develop and execute effective crowd management strategies, resulting in a well-organized and secure experience for all participants. This initiative underscored the vital role of stakeholder collaboration in promoting safety, community well-being, and educational engagement during significant events.

Field Safety

In December 2024, EHS launched the Field Safety program, applicable to all off-campus academic and research activities. An identified institutional risk, a working group was established with stakeholders within the university as well as other research institutes across Canada early in 2024. Further to benchmarking Ontario, Canadian and US universities for best practices, a framework comprised of pre-planning, risk assessment, communications, approvals at the faculty and university level and training informed by subject matter experts was developed. Multiple engagement sessions are occurring throughout 2025 to inform the academic and research community.

Contractor Safety Management

The development of the Contractor Safety Management Program has progressed significantly, driven by extensive collaboration with key stakeholders Facilities Management and Planning (FMP), Procurement and project leads within the faculties. Programs at peer institutions across Canada were benchmarked and reviewed; providing valuable insights and aligning our program with best practices and industry standards. This effectively addresses the unique challenges faced within the higher education sector, particularly in Ontario. Key milestones include creating program documents designed to support contractors and internal management teams. These include:

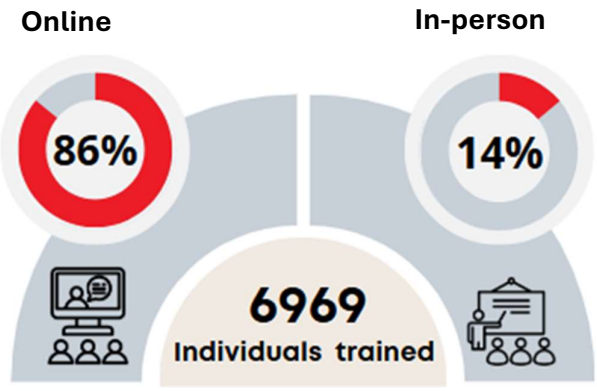
Contractor Safety Manual: A comprehensive resource for third-party contractors outlining Carleton's safety expectations, policies, and procedures.

Hazard Assessment Procedure: A standardized process for identifying and mitigating risks associated with contracted work, ensuring hazards are properly assessed and managed before and during project execution.

Through ongoing engagement with stakeholders and continuous refinement, the Contractor Safety Management Program is on track to enhance Carleton's safety culture, reduce operational risks, and ensure compliance with Occupational Health and Safety regulations. Next steps will focus on additional stakeholder training, implementation of key processes, and auditing mechanisms to ensure the program's sustainability and effectiveness.

Keeping Our People Safe - Training

In 2024, a total of **6,969** individuals participated in safety training, with 86% completing online courses and 14% attending in-person sessions. New to the existing safety training offerings was a third party provided Contractor Safety Training. This training was designed for Facilities Management and Planning (FMP) managers responsible for hiring contractors. Thus, equipping them with essential knowledge on their obligations and duties under the Ontario Occupational Health and Safety Act and Construction Projects Regulation further to a recent Supreme Court Decision which attributes greater responsibility to owners when hiring Contractors. This initiative enhances compliance and strengthens contractor safety management across the university.



Risk Reduction – Incident Investigations

Magic Show

The annual Chemistry Magic Show, which combines chemistry demonstrations in an auditorium and hands-on activities in the Steacie Superlab, was held this spring. Approximately 1000 members of the public attended this event.

Following the event, two student volunteers indicated experiencing adverse effects from one of the demonstrations. They were diagnosed with corneal burns to the eyes from working unprotected with a UV source. An investigation determined the root cause as failure to develop a formal event plan, not communicating the risks to the volunteers, and not consulting with appropriate stakeholders, resulting in insufficient resources to complete the event in a safe manner.

Lessons Learned: Failure to plan appropriately and adhere to fundamental and well-established safety processes resulted in preventable injury to students. Ongoing, all further such events will require prior written approval by the Dean.

At the present time, the Magic Show has been suspended indefinitely.

Steacie Fire

In December 2024, a fire occurred in a Chemistry Laboratory fume hood further to an overnight unattended chemical reaction. The PhD student executing the experimental procedure was experienced and considered proficient, however certain elements of the Working Alone/Working after Hours procedures were not followed. While originally theorized that equipment malfunction may have been a contributing factor, a third-party fire and cause engineer determined the probable cause to be user error. While mainly confined to a double fume hood, the estimated cost of restoration further to the fire will be approximately 120K. Repairs are expected to be completed by August 2025. It was also determined that the laboratory space had not been adequately decommissioned before a new researcher moved in, keeping several hundred legacy containers of very old, potentially unstable reactive chemicals in the adjacent space. Over 8 kgs of explosive metallic compounds were subsequently disposed of, in addition to the several hundred other containers.

While the cost of disposal was low, the impact of an out-of-control fire in the space would have been catastrophic

Res Move- In

During the Residence Move-in Weekend, several residence staff, students, parents, and Campus Safety Staff were subjected to various levels of physical violence related to the actions of a mentally ill student. This prompted a review of Carleton's Workplace Violence Prevention program and identified an opportunity to update previous violence risk assessments. The approach leveraged a violence risk tool developed by the Council of Environmental Health and Safety Officers (CEHSO). The highest priority areas of campus were identified, and assessments were completed. Assessments will continue throughout 2025. Common threads included increases in mental health challenges among students and other populations, as well as increased polarization related to escalated geopolitical tensions.

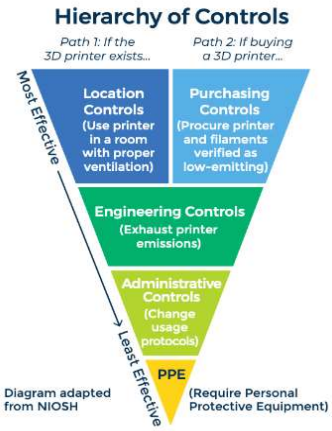
Lessons Learned: These findings emphasize the need for increased tools and training for staff to de-escalate tense situations and the critical importance of mental health services offered on campus.

Emerging - 3D Printing and Lithium-Ion Batteries

The increasing use of 3D printing and the nature of lithium-ion batteries present emerging health and safety challenges. A fire at a private residence was caused by a non-UL-certified lithium-ion battery and another incident involving improper battery disposal, highlighting the need for stricter controls. Lithium-ion batteries pose fire and explosion risks, particularly when damaged or stored improperly. EHS has emphasized safe storage and charging protocols, fire-resistant containment, and proper disposal training to mitigate these hazards.

3D printing can generate airborne nanoparticles and VOCs, posing respiratory hazards, in addition some metal-based methods introduce combustible dust risks. A survey identified 45 printers across 11 departments on Campus, with 30% classified as high risk. To address, EHS developed a safety program focused on hazard communication, material substitution, restricted access, and ventilation improvements.

As these technologies evolve, ongoing risk assessments and safety initiatives will ensure a safer campus environment.



Engagement opportunities

Safety and Health Week

As part of ongoing efforts to ensure community engagement, Safety and Health Week was held from May 6 – 11th. Activities included seminars, a safety walk, a visit by Ottawa Fire Services, time with CU Therapy Dogs, a safety meme contest, and the Health & Safety Excellence Award winners.

Science Safety Day

After identifying health and safety deficiencies during JHSC inspections, gaps in incident reporting and low health and safety training metrics, the Faculty of Science partnered with EHS to introduce the first "Science Safety Day" to start off Safety and Health Week. Over 100 faculty and senior technical staff attended a workshop with core content from Supervisor H&S and Laboratory Safety training. This produced a 75% training compliance rate. It was also the unofficial launch of the Field Safety training program.

FMP Safety Initiative

Further to an asbestos incident, FMP partnered with EHS and took proactive steps to ensure safety awareness was raised across the department. Training records were reviewed, and opportunities were created for staff to complete safety training. Training compliance metrics increased from 40% to over 80%, with asbestos awareness to over 90%. This milestone was celebrated during an all-staff safety meeting where the FMP winner of the Health & Safety Excellence Award was recognized.