

RE06

Use of Biohazardous and Radioactive Materials in Research and Education

Classification:	Research
Responsible Authority:	Vice President, Finance and Administration Dean, School of Advanced Technology Associate Vice President, Experiential Learning and Innovation
Executive Sponsor:	Senior Vice President, Academic
Approval Authority:	Algonquin College Executive Team
Date First Approved:	2005.02.23
Date Last Reviewed:	2022. 02.09
Mandatory Review Date:	2027.02.09

PURPOSE

To establish practices for the responsible management of biohazardous and radioactive materials used in research, education or any other College sanctioned activities.

SCOPE

All College personnel who use biohazardous or radioactive materials in research or education.

DEFINITIONS

Word/Term	Definition
Biohazardous Material	Infectious agents or hazardous biological materials that may present a risk or potential risk to the health of humans, animals, plants, the economy or the environment. Biohazardous materials include but are not limited to pathogenic microorganisms, biological toxins, biological materials that may contain pathogenic microorganisms and/or biological toxins, certain proteins or nucleic acids (e.g. prions, oncogenes), and genetically modified organisms.
Biosafety Program	A safety program established and administered by the Institutional Biosafety Committee (IBSC) at Algonquin College and is designed to protect workers, students and the public from potential exposure to infectious materials and to prevent the release of these materials into the environment. The safety standards outlined in the Biosafety Program align with the Public Health Agency of Canada's (PHAC) Human Pathogens and Toxins Act (HPTA) and the Canadian Food Inspection Agency's (CFIA) requirements for aquatic or terrestrial animals.
CFIA	Canadian Food Inspection Agency
CNSC	Canadian Nuclear Safety Commission

College Personnel	Includes college researchers, staff and students and any person using College facilities for the purpose of research or educational activities.
HPTA	Human Pathogens and Toxins Act
Institutional Biosafety Committee (IBSC)	Algonquin College's Institutional Biosafety Committee (IBSC) ensures that all persons working with biohazardous materials comply with relevant regulations, guidelines, standards and laws. The IBSC is comprised of members of the College community with experience and training that enables them to advise on the containment principles, technologies, and operational practices to prevent unintentional exposure to pathogens or toxins.
PHAC	Public Health Agency of Canada
Radioactive Material	Any material or object that emits a subatomic particle or electromagnetic wave with sufficient energy for ionizing, and which may present an elevated risk to the health of humans, animals, or the environment. Examples include particles such as alpha and beta particles, neutrons, gamma rays or x-rays.

POLICY

1. Algonquin College is committed to the highest ethical and safety standards involving the use of biohazardous and/or radioactive materials in research, education or any other College sanctioned activities.
2. It is important that people working with biohazardous and/or radioactive materials know about and understand the laws and the regulations that direct what they may and may not do with those materials and how they are to work with them safely.
3. Numerous agencies regulate activities involving human and animal pathogens and toxins including the Public Health Agency of Canada (PHAC) and the Canadian Food Inspection Agency (CFIA), in accordance with the *Human Pathogens and Toxins Act* (HPTA), *Human Pathogens and Toxin Human Pathogens and Toxins Regulations* (HPTR), *Health of Animals Act* (HAA) and *Health of Animals Regulations* (HAR).
4. The Biosafety Program at Algonquin College is maintained and administered by the Institutional Biosafety Committee (IBSC) and all documentation related to the Biosafety Program can be found on the Algonquin College [Biosafety website](#).
5. College personnel who are conducting or proposing to conduct research or educational activities involving biohazardous materials shall adhere to the safety regulations and policies on Biohazardous Materials outlined in the Biosafety Program at Algonquin College.
6. College personnel who are conducting or proposing to conduct research or education activities involving radioactive materials shall comply with all of the Canadian Nuclear Safety Commission's

(CNSC) regulations, recommended procedures, and safety precautions governing the use of such materials in Canada.

7. The Manager of Occupation Health and Safety acts as the HPTA License Holder on behalf of Algonquin College and operates as a Co-Chair of the IBSC. It is the license holder's responsibility to ensure that the College achieves and maintains compliance with the HPTA through implementation of the Biosafety Program and associated policies and procedures.
8. Prior to beginning research or educational activities and before any research funding can be released, College personnel shall obtain approval from the Institutional Biosafety Committee, indicating that the laboratory procedures being proposed comply with the safety precautions outlined in the Biosafety Program at Algonquin College and/or the Canadian Nuclear Safety Commission's (CNSC) regulations, recommended procedures, and safety precautions governing the use of such materials in Canada.

PROCEDURE

These are the steps to follow when undertaking any proposed research or activities involving biohazardous or radioactive materials.

Action	Responsibility
1.1 Review and comply with the regulations and standards outlined in the Biosafety Program at Algonquin College.	College Personnel
1.2 Review and comply with the regulations and standards outlined by the Canadian Nuclear Safety Commission.	College Personnel
1.3 Submit proposed research or educational activity involving biohazardous materials and/or radioactive materials to Institutional Biosafety Committee in accordance with the safety standards laid out by the College's Biosafety Program. All documentation regarding proposed educational activities and/or proposed research activities can be found on the Algonquin College Biosafety website .	College Personnel
1.4 Review and make decisions to approve or reject proposed laboratory activities in accordance with the standards and requirements outlined in the Biosafety Program and/or the Canadian Nuclear Safety Commission's (CNSC) regulations, and issue a certificate of approval to the applicant(s) if the proposal adheres to the required safety regulations.	Institutional Biosafety Committee
1.5 Following approval, recommend to the President to sign a research funding application, or approve release of funds to College personnel with a commitment they will adhere to pertinent guidelines or regulations.	Director, Applied Research

- 1.6 Report any changes in the research or educational activity to the IBSC College Personnel that could affect the level of risk, thereby requiring new or updated certification.

RELATED POLICIES

- HS01 Occupational Health and Safety System
- HS05 Accident Reporting and Investigation
- HS09 First Aid
- RE02 Integrity in Research and Scholarly Activities
- RE04 Use of Animals in Teaching, Research and Events

RELATED MATERIALS

Canadian Biosafety Standards and Guidelines, 2nd Edition

<http://canadianbiosafetystandards.collaboration.gc.ca/cbs-ncb/index-eng.php>

Canadian Food Inspection Agency's Inspection Checklist – Animal Pathogen Containment Level 2 Facilities. <http://www.inspection.gc.ca/english/sci/bio/anima/path/animae.shtml>.

Canadian Nuclear Safety Commission's (CNSC) regulations, recommended procedures, and safety precautions governing the use of radioactive materials in Canada <http://www.nuclearsafety.gc.ca/>

Algonquin College Biosafety Program. <https://www.algonquincollege.com/safety-security-services/home/occupational-health-and-safety/biosafety-at-ac/>

The Tri-Agency Framework: Responsible Conduct of Research; S2.4 Agency Requirements for Certain Types of Research. <https://rcr.ethics.gc.ca/eng/framework-cadre.html#a2-4>