

# Safety Module 1: General Safety at Queen's

Queen's University emphasizes the importance of safety in engineering, aligning with the professional and ethical duty of Canadian engineers to protect public welfare. This commitment begins during students' time at Queen's Engineering, where they develop both technical and professional leadership skills. These skills not only ensure public safety but also provide a competitive edge in the job market, setting students apart as safety-minded engineers.

## Safety Culture

A safety culture is an environment where everyone works together to ensure workplace safety. Employers highly value individuals who contribute positively to this culture, as it reflects a commitment to the well-being of others.

Engineers and students can foster a safety culture by respecting safety rules, leading by example, prioritizing public welfare, refusing unsafe work, and mentoring peers.

## Safety Leadership

Safety leadership is not limited to those in managerial positions. Anyone who positively influences others and promotes safety is demonstrating leadership. At Queen's, students can practice safety leadership by taking safety training seriously, following protocols, asking questions, and holding peers accountable for safe practices.

Developing a safety culture has significant benefits, including fewer injuries, reduced property damage, higher productivity, and positive public perception. Engineers who prioritize safety in design help prevent costly future modifications and downtime, making them more employable and promotable.

Safety culture is built through daily actions and decisions that impact personal and collective safety. Keeping a personal safety log can help students track these decisions and provide examples during job interviews.

## Safe Work: Rights and Responsibilities

The **Occupational Health and Safety Act (OHSA)** grants workers the right to know the risks and hazards in their workplace, participate in safety decisions, and refuse unsafe work without fear of reprisal.

The **Professional Engineers Ontario (PEO) Code of Ethics** requires engineers to prioritize public welfare. At Queen's, all members of the community are responsible for health and safety, embodying the **Internal Responsibility System (IRS)**. This system encourages individuals to proactively address safety issues both individually and cooperatively.

## Role Responsibilities within the Internal Responsibility System

**Workers and Students:** Must report hazards, wear personal protective equipment (PPE), follow safe procedures, and participate in safety training.

**Supervisors and Managers:** Ensure workers wear PPE, provide training, and keep safety information accessible.

**Employers:** Have a general duty to take all reasonable precautions to protect worker safety, including providing equipment and appointing competent supervisors.

### **Example Scenario: Handling a Spill in the Lab**

In the event of a spill, students must use their training to assess the situation, wear PPE, and either clean the spill if safe or barricade the area and seek assistance. Supervisors must ensure personnel are trained and protocols are followed. Employers must provide the necessary safety protocols and resources.

### **Upholding Safety Responsibilities at Queen's**

Students should actively engage with their team on safety concerns, starting with their supervisor and, if necessary, escalating to the Queen's Engineering **Joint Health and Safety Committee (JHSC)**. Following safety protocols and holding peers accountable are essential responsibilities, as non-compliance can result in loss of lab privileges or injury.

The **Queen's Environmental Health and Safety (EHS)** department supports the Internal Responsibility System by providing resources, training, and consultation on health and safety issues. Students, faculty, and staff can access EHS resources when department-specific protocols are insufficient.

Each department at Queen's administers safety training, monitors safety behaviors, and provides guidance specific to its operations. Departments have designated Safety Officers and JHSC members to oversee safety.

Every individual at Queen's contributes to the safety culture by understanding their role in the IRS, working with supervisors on safety matters, and setting a professional example in safeguarding public welfare.

### **Hazard Groups**

Engineers must be aware of various hazard groups, including:

- **Chemical Agents:** Such as flux and solder.
- **Musculoskeletal Disorders:** From lifting and repetitive strains.
- **Safety Hazards:** Like faulty equipment and tripping hazards.
- **Psychosocial Hazards:** Including work pressure and distractions.
- **Physical Agents:** Such as temperature extremes and noise.

### **Communicating Health and Safety Information**

Key safety protocols can be found on the Queen's EHS website and department-specific sites. Safety concerns should be reported immediately to a supervisor or Lab Manager, and incidents should be documented through the provided incident report forms.

The Queen's Engineering Joint Health and Safety Committee (JHSC) addresses safety concerns by working with various departments, EHS, and external consultants. The committee is a resource for resolving safety issues and ensuring a safe working environment.

To prevent safety issues, students must take training seriously, follow all procedures, and speak up when encountering unfamiliar situations.