

# ERGONOMICS PROGRAM

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## **1.0 PURPOSE**

The objective of the University of Waterloo's Ergonomics Program is to promote physical health by minimizing occupational risk factors associated with musculoskeletal disorders (MSD). Ergonomic principles address work organization and job design in order to decrease their potential to cause harm.

Workplace hazards must be managed in compliance with legislative requirements set out in the Occupational Health and Safety Act. The Ergonomics program describes the responsibilities and actions designed to ensure that ergonomics will enhance worker health, safety, and well-being, while optimizing system performance.

## **2.0 SCOPE**

This program applies to all employees at the University of Waterloo.

## **3.0 DEFINITIONS**

### **Application of ergonomics**

The use of ergonomics principles to identify and eliminate hazards, and assess and control risks at each stage of the design of a work system to enhance user health, safety, and well-being, and to optimize system performance.

### **Ergonomics**

The scientific discipline concerned with the understanding of interactions among humans and other elements of a work system. It strives to match the abilities and characteristics of people with the tasks they perform.

### **Ergonomic process**

The commitment, leadership, planning, implementation, and continuous improvement necessary to identify and eliminate hazards, and to assess and control risks using ergonomics principles. It operates within the Health, Safety, and Environment Management System, and in the design and operation of new or existing work systems.

### **Hazard**

Any source of potential damage, harm or adverse health effects on something or someone.

### **Health, Safety and Environment Management System (HSEMS)**

Provides the framework to enable University compliance with health, safety and environment legislation.

### **Hierarchy of controls**

A ranking of risk control methods from the highest level of protection and reliability to the lowest.

### **Muscular skeletal disorder (MSD)**

Injuries and disorders of the musculoskeletal system (the muscles, tendons, tendon sheaths, nerves, bursa, blood vessels, bones, joints/spinal disks, and ligaments) that can be caused or aggravated by various hazards or risk factors in the workplace.

### **Residual Risk**

The risk remaining after a hierarchy of controls has been implemented.

### **Risk**

Combination of the likelihood of the occurrence of harm and the severity of that harm.

### **Risk assessment**

The overall process used to:

- Identify hazards and risk factors that have the potential to cause harm (hazard identification).
- Analyze the risk associated with that hazard (risk analysis).
- Determine appropriate ways to eliminate the hazard or control the risk when the hazard cannot be eliminated (risk control).

### **Risk control**

The elimination or reduction of risk associated with an identified hazard.

### **Workplace**

Anywhere where university employees or students conduct work, including work environments in the field or in teaching or research facilities shared with other organizations.

### **Work system**

A system comprised of one or more users and the workspace acting together to perform the system function in a workplace, under the conditions imposed by the work tasks.

## **4.0 ROLES AND RESPONSIBILITIES**

Management commitment at all levels is critical for providing leadership, vision and the resources required to implement an effective ergonomics program within the overall Health, Safety and Environment Management System (HSEMS).

### **4.1 SUPERVISOR/MANAGER**

- Identify and manage potential ergonomic hazards in the work by establishing safe ergonomic work practices for workers and through the provision of ergonomic tools and equipment as appropriate.
- Arrange for ergonomic training, if required.
- Ensure the Safety Office is notified of any ergonomic injuries reported to them within 24 hours of the occurrence.

- Request the assistance of the Safety Office, as necessary.

## **4.2 WORKERS**

- Report any ergonomic hazards, incidents, or MSD injuries to their direct supervisor. Feedback from workers is an essential means of identifying ergonomic hazards.
- Follow all written ergonomic procedures required for the work they are performing.
- Attend any training sessions deemed necessary by supervisors.

## **4.3 SAFETY OFFICE**

- Administer the Ergonomics Program and review it at least annually.
- Provide web-based training and classroom courses.
- Conduct ergonomic assessments.
- Maintain and provide ergonomic furniture and equipment for trial use by workers.
- Facilitate physical demands analysis of jobs and tasks, as needed.
- Review ergonomic data for trends.
- Provide technical and best practice advice pertaining to ergonomics.

## **4.4 PLANT OPERATIONS DESIGN AND PROCUREMENT**

- Apply ergonomic principles when designing new workstations.
- Purchase furniture with maximum adjustability and ergonomic functionality.

## **4.5 JOINT HEALTH & SAFETY COMMITTEE (JHSC) WORKER MEMBERS**

- Identify ergonomic hazards through workplace inspections.

## **5.0 PRINCIPLES**

The ergonomics process:

- Considers the interactions between people and the components of a work system.
- Enhances worker health, safety and well-being, and optimizes system performance.
- Involves the systematic identification, assessment and control of hazards associated with MSD and psychosocial harm.
- Has its greatest benefit when used early in the design of a work system.
- Takes a user-centered approach to ensure a broad range of worker characteristics and requirements are accommodated.

- Requires worker involvement to provide valuable knowledge in work system design.

Within the framework of the HSEMS, the University of Waterloo has implemented the Ergonomics program.

## **6.0 PROCEDURES**

### **6.1 GENERAL APPROACH TO ERGONOMICS**

Within the context of the HSEMS, the University will utilize ergonomic principles in the design and operation of its work systems, in order to mitigate the physical and organizational hazards that work systems can impose on workers.

### **6.2 APPLICATION OF ERGONOMICS IN THE DESIGN OF WORK SYSTEMS**

The University of Waterloo will apply ergonomics at all stages of work systems including:

- Planning and anticipation
- Design process
- Installation and maintenance
- Decommissioning and disposal

### **6.3 HAZARD IDENTIFICATION AND RISK ASSESSMENT**

The Safety Office has established an ergonomic process, which allows for the proactive identification and assessment of hazards including those related to MSD. Risk assessments will consider information and seek input from the following:

- Worker concerns and hazard reports
- Incident investigations and illness/injury records
- Job Hazard Analyses (JHA)
- Physical Demands Analyses (PDA)
- Hazards listed on the Hazard Register
- Workplace inspections
- JHSC recommendations

Supervisors and managers shall encourage workers to report ergonomic hazards, discomfort, and injuries. In collaboration with relevant stakeholders, supervisors and managers will review information with workers to identify, assess and control for hazards. Where appropriate, a request can also be made to the Safety Office for an ergonomic assessment of the individual's workplace.

Ideally, ergonomic hazards should be identified and managed during the planning and procurement phases of work, before work begins. When this is not possible, risk must be assessed during the work operations, which incorporate worker participation.

To support the Ergonomics Program, a variety of resources are available on the [Safety Office Website](#).

## **6.4 HAZARD ELIMINATION AND RISK CONTROL**

In order to eliminate hazards and control the risks identified during ergonomic assessments, preventive and protective measures will be implemented. The first, and most effective control, is elimination. If this is not reasonably practicable, risk must be minimized by working through the levels of the hierarchy of controls. In determining risk control measures, collaboration with workers, worker representatives and supervisors and managers is required.

Following an ergonomic risk assessment, the supervisor or manager responsible will indicate to the Safety Office that in their judgement, the ergonomic process has been followed to arrive at risk controls that result in negligible or not significant residual risk.

## **7.0 TRAINING**

### **7.1 ONLINE TRAINING**

An online [office ergonomics training module](#) is available and **should be taken before requesting an office ergonomic assessment**. This is an evidence-based and standard-compliant training program designed for workers who regularly use computers on the job.

### **7.2 CLASSROOM TRAINING**

Ergonomic training is available through the Safety Office by request.

## **8.0 MONITORING AND REVIEW**

The application of ergonomics is an ongoing process, operating at each stage of design, operation, decommissioning and disposal of a work system. Continuous monitoring is required to detect new hazards and highlight any ineffective controls. Management or supervisors should follow-up with relevant stakeholders during or shortly after changes have been made, for immediate feedback on hazard elimination, mitigation or to identify other concerns. When issues are identified, corrective action should be taken to fix the problem. Corrective actions should be recorded and progress monitored through to completion.

The Safety Office shall review its Ergonomic program annual to measure its effectiveness and identify any gaps or areas for improvement.

## **9.0 RECORD KEEPING AND DOCUMENTATION**

The University of Waterloo will create and maintain documents and records to demonstrate compliance with the Ergonomic Program. Records and documentation will assist with the implementation and monitoring of the ergonomic process, and will include the following:

- Quantitative and qualitative measurements taken during ergonomic assessments.
- Recommendations made following ergonomic assessments.
- Formal ergonomic reports.

Records and documentation, which support compliance with the Ergonomic program.

## **10.0 REFERENCES**

CSA Z412-17 – Office Ergonomics – An application standard for workplace ergonomics.

CSA 1004-12 (R2017) – Workplace ergonomics – A management and implementation Standard.

University of Waterloo (2019) [Risk Assessment Program](#).

## 11.0 RECORD OF REVISIONS

| Date           | Author/Editor    | Change  | Version                          |
|----------------|------------------|---|----------------------------------|
| September 2020 | Andrew Scheifele | <ul style="list-style-type: none"> <li>No changes</li> </ul>  | Ergonomics Program_v.3.0_SEP2020 |
| September 2019 | Andrew Scheifele | <ul style="list-style-type: none"> <li>Augmented to include Risk Assessment – added to definitions and incorporated into sections 5.0 Principles and 6.0 Procedures</li> <li>Definitions expanded to include Application of Ergonomics, Ergonomic Process, Hazard, HSEMS, Hierarchy of Controls, Residual Risk, Risk, Risk Assessment, Risk Control, Workplace and Work System</li> <li>New introductory paragraph for section 4.0 Roles and Responsibilities</li> <li>Added a responsibility to section 4.4 Plant Operations Design and Procurement</li> <li>Expanded section 6.0 Procedures to include ergonomics through all stages of work and to expand on Risk Control</li> <li>Added section 8.0 Monitoring and Review (in line with Risk Assessment)</li> <li>Added section 9.0 Record Keeping</li> <li>Added section 11.0 Record of Revisions</li> </ul> | Ergonomics Program_v.3.0_SEP2019 |
| September 2018 | Andrew Scheifele | <ul style="list-style-type: none"> <li>No changes</li> </ul>  | Ergonomics Program_v.2.0_SEP2018 |
| September 2017 | Andrew Scheifele | <ul style="list-style-type: none"> <li>Formatting changes</li> </ul>  | Ergonomics Program_v.2.0_SEP2017 |
| September 2016 | Andrew Scheifele | <ul style="list-style-type: none"> <li>Changes to section 4.0 Roles and Responsibilities</li> <li>Added section 3.0 Definitions</li> <li>Added online ergonomics training to the ergonomic assessment procedure</li> <li>Added a list of resources</li> </ul>   | Ergonomics Program_v.1.0_SEP2016 |