



Health & Safety Directorate

Health and Safety Policy, Arrangements and Guidance for QMUL

Risk Assessment

(Ref: QMUL/HS/042)

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1. Policy Introduction and Scope

1.1 Queen Mary University of London (QMUL) requires that the risks of all activities, on and off site, which may affect the health and safety of its staff, students and others are assessed. The risk control measures that are implemented should be what is reasonably practicable in the circumstances and should be regularly monitored and reviewed. The way assessments are undertaken will depend on the nature of the activity and the type and extent of its hazards and risks.

1.2 QMUL aims to apply the principles of sensible risk management* which enable the University core activities of research and learning to be conducted in a safe manner and focusses on controlling the significant risks:

- a. Ensuring that workers and the public are properly protected.
- b. Enabling innovation and learning not stifling them.
- c. Ensuring that those who create risks manage them responsibly and understand that failure to manage significant risks responsibly is likely to lead to robust action.
- d. Providing overall benefit to society by balancing benefits and risks, with a focus on reducing significant risks.
- e. Enabling individuals to understand that as well as the right to protection, they also have to exercise responsibility.

*these principles are further detailed at <http://www.hse.gov.uk/risk/principles.htm>

2. Legislation

2.1 QMUL has a responsibility under Sections 2 and 3 of Health and Safety at Work Act *etc* 1974 to ensure, so far as is reasonably practicable, the health and safety of staff and other persons (students, visitors, contractors, etc.) who may be affected by its work activity.

2.2 The Management of Health and Safety at Work Regulations 1999 further amplifies this duty and impose a specific requirements upon the University to carry out a 'suitable and sufficient' assessment of all risks to the health and safety of employees and others arising at, or from a work activity.

2.3 Furthermore, topic based legislation developed contains a duty to carry out risk assessment for specific types of hazards such as those associated with substances, electricity, noise, manual handling, asbestos, fire etc.

3. Purpose

The purpose of this document is to:

- a. Describe the roles, responsibilities and arrangements to be made by QMUL Schools / Institutes / Directorates to ensure that the risk assessment process is a practical one and includes managers and representative staff and students.
- b. Ensure sensible risk management principles are embedded to enable and support innovation in both research and learning.
- c. Provide guidance and further resources to enable QMUL Schools / Institutes / Directorates to comply with risk assessment duties as required by Health and Safety law.

- d. Outline the key steps for 'suitable and sufficient' risk assessment.
- e. Describe the framework, methodology and system for risk assessment at QMUL.

4. Definitions

- a. **Hazard:** is anything that has the potential to cause harm.
- b. **Activity:** is a defined process that someone responsible has created for an individual or group to complete the work. 'An activity' may be termed as a job, project, task, experiment, procedure, process, method or event. For the purpose of risk assessment a location (e.g. a building) and the activities within it may also be collectively be considered 'an activity'.
- c. **Hazardous event:** a hazardous event takes place when someone or something interacts with the hazard and harm results.
- d. **Risk:** is the combination of the likelihood of a hazardous event occurring and the severity (or consequence) of the event.
- e. **Risk Control Measures:** method/s used to reduce or control risks arising from identified hazards and hazardous events in the defined activity.

5. QMUL Roles and Responsibilities

5.1 Heads of Schools / Institutes, Directors and Managers*

*(*Manager - anyone that has control and responsibility for people, work areas or projects at QMUL)*

Heads of Schools / Institutes, Directors and Managers are responsible for their department's compliance with QMUL and statutory requirements and will ensure that:

- a. The duty to ensure risk assessments are conducted is delegated to **line management**. At QMUL, this would typically be the individual/s who create and/or lead the work activity (they are identified as the 'responsible person' for, or 'owner' of, the risk assessment).
- b. Risk assessments are suitable and sufficient and that the management responses are fit for purpose in the particular circumstances of their department.
- c. Their departmental arrangements for risk assessment and control of risks are adequate.
- d. Competent person/s* are appointed to promote and co-ordinate risk assessment and risk controls and to initiate the risk assessment review process.

**A competent person is someone with the necessary skills, knowledge and experience to manage health and safety. At QMUL, this can be a safety coordinator, local or topic safety officer, head of section / unit / team, dept lab manager or dept administrative manager.*

- e. Seek expert advice where local experience or knowledge is insufficient or if the risks are complex. Expert advice on risk assessment can be sought at QMUL from the

Health & Safety Directorate (HSD); where complex or specialist risks exist, external specialists may be procured (e.g. for asbestos risk assessments, ionising radiation risk assessments).

- f. Where the workplace and/or activity is shared with another employer (e.g. embedded or shared spaces / activities with Barts Health Trust), or self-employed person (e.g. a contractor), the QMUL 'responsible person' will need to:

Tell the other about the specific risks in the workplace and/or activity that may affect the other.

Cooperate and coordinate with each other to control the health and safety risks via a joint risk assessment and establish risk controls.

5.2 QMUL Health and Safety Directorate

5.2.1 The QMUL Health and Safety Directorate (HSD) will provide advice and guidance on legislative changes and good practice and, where necessary, provide expert advice and training to departments.

5.2.2 The Health and Safety Directorate is responsible for the adequacy of the QMUL risk assessment system and arrangements including:

- a. The provision of an online Health and Safety risk assessment system suitable for QMUL (current system - 'MySafety' – see sections 7.2 and 8 in particular).
- b. Risk assessment model and specialist templates / checklists.
- c. Best practice risk assessment models.
- d. Internal approval, registration or notification forms for risk assessment.
- e. Risk classification schemes.
- f. Enabling or facilitating statutory Health and Safety risk assessment based regulatory notifications and permits.
- g. Provision or facilitation of training on risk assessment (*Within topic based training e.g. for working with hazardous substances and/or health and safety management training, IOSH Managing or Working Safely courses*).

6. Implementation of the Policy

6.1 QMUL School / Institute / Directorate Arrangements

QMUL Schools, Institutes and Directorates should have in place effective arrangements for the risk assessment and the risk control of all their activities. Their arrangements should cover the following key steps:

- a. Identifying hazards in their work activities.
- b. Identifying people who might be harmed by the hazards.
- c. Assessing risks (i.e. risk classification).

- d. Controlling risks.
- e. Recording and reviewing the risk assessment.

6.2 Information sources for risk assessment

Information, technical data, and where required, expert advice, are essential to the process of identifying hazards and risk assessment.

There are a number of sources:

- a. Legislation and supporting codes of practice.
- b. HSE guidance.
- c. QMUL policy, procedures and guidance.
- d. Product information including safety data sheets (SDS) and technical specifications.
- e. Relevant UK, European and International standards.
- f. Industry and HE sector guidance.
- g. Knowledge, skill and experience of managers and staff.
- h. Expert advice and opinion inside and outside QMUL.
- i. Accident, ill health and incident data from QMUL and regulatory or authoritative sources.

7. Key Steps for Risk Assessment

7.1 Hazard identification and identifying those who may be harmed

7.1.1 This is the first key step in risk assessment and control; it recognises the hazards which exist and could cause harm and defines their characteristics.

7.1.2 The identification of hazards should involve a critical appraisal of all work activities, to take account of:

- a. How the hazards might occur (including identifying hazardous events).
- b. Who might be affected; staff, students and others (including members of the public) and those using any products or services.
- c. Those who may be particularly vulnerable to a hazard should be identified (e.g. new and expectant mothers if working with reproductive toxins, those working alone in a confined space where oxygen can be depleted, young persons involved with significant manual handling).

7.1.3 Hazards relating to each work activity should be identified, ignoring the trivial and prioritising significant hazards which could result in serious harm or affect a number of people.

7.1.4 It is useful to categorise hazards by topics, for example:

- a. Mechanical.
- b. Electrical.
- c. Ionising Radiation.
- d. Substances.
- e. Fire and explosion.

7.1.5 The simplest hazards can be identified by observation and a walk around the workplace.

7.1.6 In more complex cases, measurements such as air sampling or examining the methods of machine operation may be necessary to identify the presence of hazards from chemicals or machinery.

7.1.7 In the most complex situations, special techniques and systems may be required and specialist advice necessary in choosing and applying the appropriate techniques and, where applicable, compliance with statutory frameworks and guidance.

Appendix 1 shows the hazard library checklist noted in the QMUL 'MySafety' general risk assessment module.

7.2 Assessing the level of risk (risk classification)

7.2.1 The second key step of 'Risk classification' is the determination of the relative importance of the risk, in order to define those high risk activities which will require proportionally more resources to control and to maintain the control of the risks.

7.2.2 The risk associated with each hazard should be evaluated on the basis of:

The potential **severity** (also termed 'consequence') of the harm.

The **likelihood** that harm will occur.

7.2.3 The classification for **severity** of harm in the QMUL 'MySafety' risk assessment module is quantified in numerical terms (scored 1 up to 5) as:

- 1 - Minor or first aid requiring injury, minor damage or loss
- 2 - Minor injury or illness requiring less than 3-day absence from work
- 3 - Major injury requiring greater than 3-day absence from work, substantial damage or loss
- 4 - Long term (chronic) injury or illness
- 5 - Fatality or disabling injury or illness, catastrophic damage or loss

7.2.4 In considering the **likelihood** of harm, consideration should be given to:

The adequacy of control measures already implemented (termed 'existing control measures').

The number and type (categories) of individuals potentially exposed.

The likelihood (frequency and duration of exposure) of the hazard / hazardous event in the QMUL 'MySafety' risk assessment module is quantified in numerical terms (scored 1 up to 5) as:

- 1 - Very unlikely
- 2 - Unlikely
- 3 - Likely
- 4 - Very Likely
- 5 - Virtually certain

7.2.5 The level of **risk** can then be defined as a combination of the severity of harm and the likelihood of its occurrence:

Risk = severity of harm from hazard / hazardous event x **likelihood** of occurrence

7.2.6 In the **QMUL 'MySafety'** risk assessment module, the level of risk is quantified in numerical terms by multiplying the score obtained for the severity and the likelihood to obtain a score of 1 - 25.

The level of risk is then 'banded' into one of five levels using the following 5 x 5 risk matrix table as follows:

Risk Assessment Matrix						
Likelihood		Severity				
1. Very Unlikely		1. Minor or first aid injury, minor damage or loss				
2. Unlikely		2. Minor injury (less than 3 days absence)				
3. Likely		3. Major injury. > 3 day absence, substantial damage/loss				
4. Very Likely		4. Long term injury or illness				
5. Virtually Certain		5. Fatality or disabling, catastrophic damage or loss				
Risk Level Band		Likelihood				
A - Very low / Trivial (green): 1 – 3		1	2	3	4	5
B - Low / Tolerable (green): 4 - 5		2	4	6	8	10
C - Medium / Moderate (yellow): 6 – 12		3	6	9	12	15
D - High / Substantial (red): 15 – 16		4	8	12	16	20
E - Very High / Intolerable (red): 20 - 25		5	10	15	20	25

7.2.7 In the QMUL 'MySafety' risk assessment module, the risk level is initially determined for the hazard / hazardous event **without** any risk controls present (termed 'uncontrolled risk level').

Following assignment of existing risk controls, the residual risk level is determined (termed 'risk level with existing controls').

7.2.8 Risk controls are detailed further in section 7.4 below.

7.3 Conducting Risk Assessments

7.3.1 Conducting a risk assessment is the way to determine whether planned or existing controls are:

- a. Adequate.
- b. Practical.

- c. Used, and not ignored.
- d. Represent good practice.
- e. Are cost effective.

7.3.2 Risk assessments should guide judgement on the measures to be taken to control risks before harm can occur.

7.3.3 The risk assessment process is a practical one and should include managers, representative staff and students, and Trade Union representatives.

The assessments should:

- a. Be undertaken before work starts.
- b. Ensure that all relevant risks are addressed and their relative importance identified.
- c. Should be planned and carried out systematically.
- d. Be initiated as close to the work as possible.
- e. Involve a competent person.
- f. Form the basis for implementing control measures.
- g. Provide a prioritised list for action to eliminate or reduce risks.

7.3.4 Individual or topic based [QMUL Health and Safety Policies](#) describe the requirements on risk assessments necessary to comply with specific statutory requirements, including:

- a. The identity of the duty holder- the individual/s on whom the duty is placed.
- b. The identity of the individuals and/or the process to be assessed.
- c. The hazard / hazardous event to be assessed.
- d. The purpose of the assessment.
- e. Any qualification on the duty, such as 'suitable and sufficient'.
- f. When the assessment has to be made.
- g. Provisions as to recording: thresholds, contents and length of time the record has to be kept.
- h. Review provisions such as- there has been a significant change (e.g. due to equipment or reagent change), or, reason to suspect the assessment is no longer valid or effective (e.g. after an incident).
- i. Action on review, such as - change to assessment to be made when required as scheduled or significant change points.

- j. The preparation of safety plans, protocols and where it is identified, the need for health surveillance and / or health monitoring (this may include environmental monitoring).

7.3.4 Risk assessment should be a continuing process and risk assessments should be reviewed at regular intervals, appropriate to the degree of risk and:

- a. When the nature of the work changes.
- b. If monitoring reveals near misses or plant / equipment defects.
- c. If developments suggest the assessment may no longer be valid.

7.3.5 Health & Safety representatives at QMUL (*H&S Coordinators, Trade Union H&S representatives, Student Union representatives, local health and safety officers or topic specialists*) can contribute useful knowledge and expertise. This participation encourages the ownership of the solutions, which are:

- a. Based on consultation, commitment and shared perceptions of hazards and risk.
- b. Necessary and workable.
- c. Successful in preventing accidents and incidents.

7.4 Risk Control

7.4.1 The next key stage is to identify existing Risk control measures and select further required controls.

7.4.2 Risk Controls should:

Take account of QMUL policy, procedures, guidance and statutory requirements.

Be subject to continual review and revision.

7.4.3 Some statutory duties are absolute and must be complied with. However many requirements are qualified as follows:

So far as is reasonably practical - this allows the degree of risk for the given activity to be balanced against the time, trouble, cost and physical difficulty of avoiding the risk.

Best practicable means - this is often used in the context of controlling sources of environmental pollution such as emissions to the atmosphere and can be qualified by - not entailing excessive cost.

7.4.4 Decisions should be guided by reference to the 'Hierarchy of Controls' described in The Management of Health and Safety at Work Regulations and COSHH (Control of Substances Hazardous to Health). This hierarchy takes account of the reliability of maintaining physical engineering controls and safeguards by comparison with those which rely solely on people:

Elimination of risks e.g. by:

- a. Using a less hazardous substance.

- b. Avoiding the use of certain processes.
- c. Substituting machinery that is better guarded.

Reduction of risks at source by engineering controls e.g. by:

- d. Enclosing the process, separating the operator from exposure to risk.
- e. Guarding the machine.
- f. Minimising the release, suppress or contain airborne hazards.
- g. Design of machinery / equipment with remote operation.

Minimising risks e.g. by:

- h. Design of suitable systems of work.
- i. Use of personal protective equipment.

7.4.5 Maintaining risk control measures requires adequate inspection, maintenance, monitoring and review procedures, so that if conditions change to the extent that hazard and risks are significantly affected, then risk assessments and control measures should also be reviewed.

7.4.6 Risk assessment and control measures should be documented and recorded to a level of detail that reflects the degree of risk:

- a. Simply stated general rules for minor risks affecting all staff and others.
- b. Specific standards and control procedures - for more specific and/or significant risks.
- c. Detailed performance standards and procedures such as permit to work systems - for the control of high risk activities (e.g. repair of roofing which involves working at height; fumigation of a Containment Level 3 laboratory, working in confined spaces).

7.5 Recording and Review

7.5.1 The final key stage is to record the risk assessment and establish review period and process.

7.5.2 The Management of Health and Safety at Work Regulations requires the recording of:

Significant findings from each risk assessment.

Any group of individuals identified as specially at risk (*e.g. new and expectant mothers, young persons, those with disabilities*).

7.5.3 The COSHH Regulations require the recording of:

The evaluation of risks.

The specification and implementation of control measures.

The date for further reviews.

7.5.4 QMUL Risk assessments must be kept up to date, and reviewed periodically to ensure they remains valid.

QMUL Policy is for risk assessments to be reviewed at a minimum once in three years (*please note the default setting on MySafety risk assessment module of one year in 8.6*)

Where medium to high residual risk exists, such risk assessments **must** be reviewed **annually**.

Factors that may necessitate an automatic re-assessment between scheduled reviews include: a. A change in legislation. b. A change in risk control measures. c. Any significant change in the work carried out (e.g. reagents, location, equipment, line management changes). d. Transfer to new technology. e. After an accident or incident. f. Any other reason to suspect that the original assessment is no longer valid or could be improved.

8. QMUL 'MySafety' risk assessment module

8.1 QMUL has provided an online risk assessment recording and review module within the 'MySafety' Health and Safety Management system.

8.2 Access to the module is managed by HSD and access to the risk assessment module is available to all staff, students and others who need create, read and record their sign off on the assessment relevant to their work or study activity.

8.3 Login help and guidance documents are available on 'MySafety' and the HSD website.

8.4 QMUL staff and students should utilise the 'MySafety' system to record their risk assessments, unless specialist, security / confidentiality or legislative justifications require an 'off line' risk assessment.

8.5 Guidance and best practice risk assessments along with general and more specialist risk assessment templates are available on the online system. Assistance is available from HSD to create and/or migrate risk assessments to the online system.

8.6 The QMUL 'MySafety' scheduled risk assessment review period is set to a default of one year, with the option to specify a period of up to 3 years.

8.7 Where the activity involved is continuous and of medium to very high risk (residual risk level), a default review period of one year is required and **must** be set in the 'MySafety' system.

8.8 A period of less than one year can be specified for *ad hoc*, one off or non-continuous activity risk assessments.

8.9 Some specific risk assessments on the MySafety system are set for a default of 3 years (e.g. DSE assessments, building fire risk assessments) with the ability to re-open them if there are changes in between.

8.10 The QMUL Audit and Inspection program along with specific internal and external approval processes (e.g. ionising radiation project approvals, GMO peer review and approval /

notification process) aims to ensure that QMUL risk assessments are suitable and sufficient and achieve statutory compliance.

8.11 Further details on these processes and expected outcomes are available in QMUL topic policies and procedures (*access and web links below in section 9*).

9. Risk Assessment Resources

QMUL	MySafety Portal Risk Assessment Topic A-Z*	https://qmul.oshens.com/login/ (risk assessment module) http://www.hsd.qmul.ac.uk/risk-assessment/ http://www.hsd.qmul.ac.uk/a-z/
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HSE Risk Management and Assessment	http://www.hse.gov.uk/risk/index.htm
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*Sector / industry web resources on risk assessment are signposted from the appropriate topic page.

9.0 Document Control

Initial Data

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Position:	Health and Safety Manager (SMD) & Biological Safety Adviser (QMUL)
Status:	Version 1
Date of issue:	02/12/2015

Revision(s)

Version No.	Date of alteration and re-issue	Details of changes	Changes made by
V2	15 April 2018	Updates to incorporate MySafety risk assessment system and risk classification; minor terminology and formatting changes throughout	Dr Mark Ariyanayagam (H&S Manager and Biological Safety Adviser). Checked and approved by Zarah Laing (Director of Health & Safety)
V3	26 Nov 2018	Updates to sections 7.5.4 and 8 to note the risk assessment review periods and conditions	Dr Mark Ariyanayagam (H&S Manager and Biological Safety Adviser). Checked and approved by Rebecca Jones (Acting Head of Health & Safety)

Appendix 1 - Hazard / Hazardous Event Identification Checklist

(QMUL 'MySafety' risk assessment module – hazard library checklist)

Accessed at <https://qmul.oshens.com/>

School / Institute / Directorate:

Area / location:

TOPIC (hazard / hazardous event)	Present (Y/N)	Comments
Physical		
Cold stress (hypothermia)		
Cold surface / material		
Confined Space		
Crush by load		
Electricity		
Fall onto sharp object		
Falls from height		
Heat Stress (hyperthermia)		
Hot surface / material		
Impact / collision		
Lack of oxygen		
Lightning strike		
Manual Lifting, Carrying, Handling		
Object falling, moving, flying		
Obstruction / exposed feature		
Repetitive action		
Slippery surface		
Static or poor body posture		
Stored pressure		
Trip hazard		
General welfare		
General Environmental conditions		
Spillage of chemicals or other hazardous substances		
Other physical hazard / hazardous event:		
Mechanical		
Collision		

Compressed air / pressure		
Crushing		
Cutting		
Draw-in		
Entanglement		
Friction / abrasion		
Impact		
Moving parts		
Shearing		
Cuts and punctures		
Other mechanical hazard / hazardous event:		
Physical / Chemical / Biological Agent or Substances		
High / low pressure		
Biological Agent – Hazard Group 1		
Chemical Agent (health hazard) – carcinogen, mutagen, reproductive toxin, irritant		
Chemical Agent (physical hazard) – flammable, corrosive, oxidiser, gases under pressure		
Chemical Agent (environmental hazard)		
Explosive material / atmospheres		
Fire		
Ionising Radiation		
Lighting		
Noise		
Non-ionising Radiation		
Smoke		
Vibration (hand / limb, whole body)		
Water (drowning)		
Injured by animal / plant / insect		
Cryogenic liquids		
Allergens / sensitisers		
Asbestos		
Gases		
Genetically Modified Organisms		
Optical radiation hazard		

Thermal radiation hazard		
Legionella		
Magnetic / electromagnetic field		
Dust, fume, vapour and aerosol		
Microwave radiation		
Biological Agent – Hazard Groups 2 or 3		
Inadequate or ineffective Personal Protective Equipment		
Other Agent:		
Psychosocial		
Physical fatigue		
Anxiety / stress		
Bullying (emotional, verbal, sexual)		
Intimidation / threats		
Violence (internal to organisation)		
Violence (external to organisation)		
Other psychosocial:		
Environment		
Recyclable and food waste not segregated properly		
Hazardous materials disposed inappropriately		
Lights left on when not in use		
Excessive waste		
Travel for business purposes		
Equipment left on when not in use		
Heating / cooling left on when not in use		
Small appliances used for heating / cooling		
Windows left opened during heating / cooling		
Items purchased outside procurement standards		
Hazardous Waste disposed of inappropriately		

