



Ollscoil
Teicneolaíochta
an Atlantaigh

Atlantic
Technological
University

Faculty of Science and Health

Ancillary Safety Statement

*This Ancillary Safety Statement is part of a package which includes
A Parent Safety Statement and Ancillary Safety Statements*

For:

Faculty of Business

Faculty of Engineering & Technology

Faculty of Science & Health

Estates

Sports Centre

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Introduction

The purpose of the Safety, Health and Welfare at Work Act 2005 is to ensure the safety, health and welfare of all employees in the workplace. The Act applies to employers and employees in all types of work and embraces all the activities of the ATU Donegal .

The Act requires the employer to prepare a written Safety Statement describing the employer's arrangements and the employee co-operation necessary to provide a safe workplace.

In response to this requirement, the ATU has prepared a *Parent Safety Statement* describing management's safety programme and employee co-operation. In recognition of the diverse working activities within ATU Donegal, *Ancillary Safety Statements* have been prepared for different functional areas.

Consequently, ATU Donegal's overall Safety Statement comprises of the following documents:

- Parent Safety Statement
- Ancillary Safety Statement – Faculty of Business (including Department of Design & Creative Media)
- Ancillary Safety Statement - Faculty of Engineering & Technology
- Ancillary Safety Statement - Faculty of Science and Health (including Departments and Post Graduate laboratories)
- Ancillary Statement – Department of Tourism
- Ancillary Safety Statement – Estates
- Ancillary Safety Statement- Sports Centre

Provisions, which apply across ATU Donegal, are included in the Parent Statement. The separate Ancillary Statements give details particular to these areas of activity and include the relevant Risk Assessment and Control Measures, Safe Work Practice Sheets and Laboratory Rules arising from their specific activities.

1. *The Faculty of Science and Health*

There are approximately 90 employees and 1500 students in the Faculty of Science and Health at time of revising. The Ancillary Safety Statement for the Faculty of Science and Health must be read in conjunction with the Parent Safety Statement so that all the work activities are covered.

2. *Organisations and Responsibilities*

The overall assignment of responsibilities and the identification of “*responsible persons*” are detailed in the Parent Statement.

The “*responsible persons*” in the Faculty of Science and Health are:

- Dr. Joanne Gallagher, Head of Faculty of Science and Health
- Dr. Kim McFadden, Head of Department of Life and Physical Science
- Dr. Louise McBride, Head of Department of Nursing and Health Studies
- Dr. Nigel McKelvey, Department of Early Education and Social Studies

3. *Risk Assessment Record and Control Measures*

Hazard identification and risk assessment methodology is dealt with in paragraph 3 of the Parent Statement.

While recognising that a safety audit cannot identify every single hazard, a safety audit of each of the sub-units in the Faculty of Science and Health will be carried out annually to reduce the overall risk from hazards.

The general hazards currently identified in respect of the Faculty of Science and Health are listed in the risk assessment record forms in Appendix 1. These are risk assessments for the entire Faculty of Science and Health covering all departments.

Lecturers and Technical Officers conduct specific risk assessments for all practical and research work carried out in the laboratories of the Department of Life and Physical Science. The risk assessment process is yet to be completed for a number of current courses and any new practical class/research activity that may be developed, prior to the practical class/research activity taking place. The specific risk assessment is comprehensive and covers the entire aspect of the

practical/research including preparation work carried out by technical officers and refers to the relevant MSDS where chemicals are used. This process will include risk assessments for project work and research work. More detail as to where these documents can be located is outlined on page 30.

Each and every employee must follow fully safe work practice procedures described in the Safe Work Practice Sheets. A list of the SOPs and information available to permit safe practice of work is given in Appendix 3.

To deal with possible hazards laboratory safety rules have been drawn up. These general Laboratory Rules and Safety Regulations for Science, Veterinary Nursing, Dental Nursing and Therapy laboratories and are appended to this Ancillary Safety Statement as Appendix 4.

Appendix 1:

General Risk Assessment & Control Measures

These risk assessments are conducted for the entire Faculty of Science and Health taking account of all the Departments.

Responsible person: Dr. Joanne Gallagher	Rev / Version No: 2
Prepared by: Dr. Christina Forbes	
Date Completed: 13 th February 2023	

Location / Area: Science Laboratories, Nursing areas, Research Areas _____ Date: __8thFebruary 2023__

Hazard / activity	Risk	Persons at risk	Initial Risk Rating (Probability X Severity) (H,M,L)	Control Measures	Residual Risk Rating (Probability X Severity) (H,M,L)
<p>Fire</p> <p>Fire is a universal hazard in any work environment. Any outbreak of fire has the potential to cause injury or death. The major dangers are smoke inhalation, noxious fumes, and burns.</p>	<p>Burns</p> <p>Smoke inhalation</p> <p>Death</p>	<p>All employees, all students</p>	<p>H</p>	<p>ATU Donegal has developed a detailed response to this hazard in it's Fire and Emergency Safety Management Policy which can be found in Appendix 5 of this document.</p>	<p>L</p>

<p>VDUs</p> <p>Computer equipment is in use in all sections of the Faculty, in the administration offices, in staff offices and in the laboratories. Visual display units and keyboards can lead to stress and strain where they are not ergonomically set up. Hazards may arise due to the siting and location of display screen equipment, inadequate ventilation, glare, lack of adjustment for, desk and chair design, etc</p>	<p>Strain injuries Eye strain</p>	<p>All employees, all students</p>	<p>M</p>	<p>All new office equipment shall meet E.U. directives for ergonomic performance as indicated by S.I. 299 of 2007.</p> <p>ATU Donegal undertakes to analyse all workstations to evaluate Safety and Health risks, to take appropriate measures to minimise risks found, and to ensure that work is planned to provide breaks or changes in activity.</p> <p>Appropriate eye tests will be offered to regular users of VDU equipment. Refer to Parent Statement.</p>	<p>L</p>
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Electricity Faulty or incorrectly used electrical equipment can lead to fire hazards.	Smoke damage, fires, damage to equipment and property	All employees, all students	H	All equipment should be ventilated and properly fused All circuits for portable equipment are protected by sensitive (30mA) ELCBs	L
Electricity Faulty or incorrectly used electrical equipment can lead to injuries	Electrical shocks	All employees, all students	H	All equipment must conform to industry standards. BS. 415. BS7002 or better. Portable electrically operated equipment should be visually inspected before each use, checking leads, connections, enclosures and plugs for damage. Damaged plug tops must be replaced by a competent person e.g. ATU Donegal's Electrician or any competent Technical officer. All equipment to be maintained as per manufacturer's recommendations and maintenance log kept. Portable electrical equipment has been tested where required by manufacturers or where it is subject to heavy wear and tear	L
Trailing leads and cables	Trips and falls	All employees, all students	M	All leads, powersupplies should be properly routed	L
Faulty Equipment.	The use of faulty equipment may result in electric	All employees, all students	M	All equipment should be visually inspected by the person using it before each use.	L

	shock, burns, fire ignition and explosion			Faulty equipment must not be used and should immediately be reported to the responsible person. Repairs to faulty equipment must only be carried out by a competent member of staff. Standard operating procedures to be followed for laboratory equipment.	
Physical hazards Cuts, infection or serious injury from broken glassware	Cuts and injuries	All employees, all students	M	All cuts must be given first aid attention by qualified personnel (see first aid list on all first aid cabinets). There is a qualified nurse on call. Discard broken or cracked glassware. See safe work practice sheet numbers 1,2,3,6.	L
Slips, trips and falls, resulting in injury. These account for the majority of physical hazards in this University. Slipping hazards are caused by unsuitable flooring surfaces in areas likely to become wet, e.g. vinyl floors near outside entrance doors and	Slips trips and falls	All employees, all students	M	Keep all walkways clear. Wipe up floor spillages immediately. Electric cables on portable appliances must not be left as a tripping hazard. Employees are expected to note the hazard, report spillages and take care when traversing the floors. ATU Donegal cleaners have been instructed in Safe Work Practice Sheets to use "slippery floor" signs and strategically placed warning cones. These will alert staff when floors are wet. The cleaners have also been instructed not to use solvent waxes but instead to use non-slip emulsion wax. All science laboratory flooring is non-slip. Designated areas are set aside for coats and bags.	L

<p>liquid spillages on linoleum or tiled surfaces in social area. Washrooms and toilets with similar floor surfaces may be slip hazards when wet.</p>					
<p>Working at Height Staff storing equipment or materials at height are at risk of falling and causing a serious injury.</p>	<p>Falls</p>	<p>All staff or students who work at height</p>	<p>H</p>	<p>Avoid work at height where this is reasonably practicable to do so. Equipment and materials should not be stored at height. If work at height cannot be avoided it should be properly planned and organized. The place where work at height is done should be safe and be free from obstructions. Equipment for work at height is visually inspected before each use by the user to ensure it is safe to use. Injury from falling objects is to be prevented. If safety stepladders are to be used to gain access then following should be adhered to:</p> <ul style="list-style-type: none"> • Follow manufacturers' instructions for setting up. • Work must be of short duration i.e. less than 30 minutes. 	<p>L</p>

				<ul style="list-style-type: none"> • The work is low risk e.g. light work i.e. not strenuous or heavy work. • Do not carry heavy or awkward tools or equipment. • Maintain three points of contact (hands and feet) at the working position. • Do not overload the stepladder. • Do not overreach or the stepladder may overturn. • Avoid side loading the stepladder keep the rungs facing the work activity. • Do not place filled containers on shelves at height especially containing chemicals. <p>Place stepladder on firm and level ground, not in front of or near a doorway.</p>	
<p>Lone Working</p> <p>Hazards that out of hours or lone workers may encounter include, but are not limited to:</p> <ul style="list-style-type: none"> • accidents or emergencies arising out of the work, including 	A variety of risks	Any employees or students working alone	H	The Faculty has adopted ATU Donegal guidance document on <i>Lone Working Guidance</i> , it can be found at Appendix 8 to this Statement.	

<p>inadequate provision of first aid</p> <ul style="list-style-type: none"> • sudden illnesses • physical violence from other persons <p>hazards from the work activity taking place</p>					
Manual handling injuries	Strain, sprains and other related injuries	Any staff or student	M	<p>The college operates a minimal lifting policy. Alternatives to lifting must be used. Heavy equipment stored at waist level. All students must complete the manual handling training programme. All staff must do a manual handling course every three years.</p> <p>The hoist is only used for demonstration purposes by qualified manual handling instructors.</p>	L
Sharps injury	Safe Disposal of Sharps and Sharps Injury Policy	Any staff or student involved in relevant practical	M	<p>To reduce the risk of sharps injury it is essential that the handling and disposal of sharps be managed appropriately.</p> <p>Needles should not be re –sheathed, bent, broken, removed from disposable syringes or manipulated by hand.</p>	L

procedures
in nursing or
science

If a needle sheath must be replaced, place the sheath on a stable surface and slide the needle into it.

Dispose of all sharps immediately after use.

Sharps containers specifically designated for the disposal of sharps are provided in the skills labs.

Sharps containers should be assembled properly with the lid firmly locked into the container.

Syringes and needle should be discarded immediately after use into the sharps containers. No sharps should be put into regular waste.

Non-sharps should not be placed in the sharps containers.

No attempt should be made to retrieve items from the sharps containers or to press down on sharps to create space in the container.

Sharps containers should be sealed when $\frac{3}{4}$ full to prevent overfilling.

The sealed sharps containers must be stored in safe storage for collection by the hospital for incineration.

Responsible person: Dr. Joanne Gallagher	Rev / Version No: 2
Prepared by: Dr. Christina Forbes	
Date Completed: 13th February 2023	

Location / Area: Science Laboratories, Nursing areas, Research Areas _____

Date: __8thFebruary 2023__

Hazard / activity	Risk	Persons at risk	Initial Risk Rating (Probability X Severity) (H,M,L)	Control Measures	Residual Risk Rating (Probability X Severity) (H,M,L)
<p>Chemicals. A 'chemical' will be regarded as any substance, (solid, liquid, aerosol or gas), which is used for the purpose of reacting with or effecting a change in another substance or material. This definition extends beyond the narrow context of laboratory use and</p>	<p>Dependent on chemical and nature of its use, as described in previous column.</p>	<p>Any employee/students involved in science laboratory classes/ research activities</p>	<p>H</p>	<p>Laboratory Personal protective equipment (PPE)</p> <p>Material Safety Data Sheets</p> <p>The Faculty has two policy documents on this hazard; Chemical Storage and Use Appendix 6</p> <p>Segregation Guidelines for Hazardous (Chemical) Waste Appendix 7</p>	<p>L</p>

<p>embraces the broadest possible interpretation. It includes such substances such as solvents, cleaning fluids, detergents, glues/resins, drain cleaners, paint strippers, preserving fluids as well as chemical reagents. A wide spectrum of chemicals is in use within the Faculty; they range from (seemingly) harmless,-readily available substances to highly specialised and reactive laboratory reagents. Examples of the main hazards arising from</p>					
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<p>contact with chemicals are:</p> <p>Acute or chronic poisoning resulting from ingestion, inhalation or absorption through the skin. Chemical burns. Some chemicals may cause cancer, cause genetic changes in a cell, interfere with the normal development of the foetus, cause dermatitis or respiratory problems, detonate or ignite under certain circumstances either spontaneously or under the influence of another event..</p>					
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<p>Risk will depend on the individual chemicals in use, the quantities involved and the circumstances under which they are being used. As a consequence, it can only be realistically assessed on an area by area basis and by reference to the</p>					
<p>Biological Hazard "Biological" may be defined as dealing with all living matter and its derivatives. This also includes all genetically modified organisms and cell cultures. The term extends beyond the</p>	<p>This can lead to a wide variety of a) allergic reactions b) poisonings c) diseases</p>	<p>Any employee/students involved in science laboratory classes/ research activities</p>	<p>H</p>	<p>In working with samples of living material it is essential, particularly when the source is unknown, that all samples are managed according to International Bio-Safety Standards. It is therefore, essential that good laboratory practice and containment regulations (where appropriate) will be followed at all times. Restricted access areas will also be strictly enforced and all non-technical support staff will be trained and educated in the various rules and regulations pertinent to basic laboratory safety measures.</p>	<p>L</p>

<p>narrow confines of the laboratory and embraces the broadest possible interpretation. It includes all animals, plants, fish and microorganisms as well as their components and tissue extracts. Samples of human origin are also included. The dangers of exposure to biological material can vary depending on its pathogenicity, toxin producing ability or a combination of both. From a bio-safety point of view, laboratory equipment may also be classified as</p>				<p>Where necessary, supplementary procedures shall be introduced at local level to deal with specific situations.</p> <p>No students will be allowed to work with biological material without direct supervision by qualified staff.</p>	
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<p>(a) Equipment that may create a hazard when used, or</p> <p>(b) Safety equipment specifically designed to prevent or reduce microbiological hazards.</p> <p>The areas within ATU Donegal where these risks exist are primarily the laboratories of the microbiology and biochemistry section in the Research labs.</p> <p>This exposure can be in a variety of ways i.e. working with samples, transport of materials, disposal of materials, storage of materials as well as</p>					
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<p>accidental exposure.</p> <p>Microbiological laboratories are special work environments which may pose a heightened infectious disease risk to persons in or near them.</p>					
<p>Gas Hazard</p> <p>The term 'gas' includes both fuel gas and special gases used for laboratory, workshop and other purposes. A gas system is defined as any permanent installation or mobile facility used to deliver or store the gas. Gases can be flammable, explosive, toxic and corrosive; Even inert</p>	<p>Dependent upon the nature and use of the gas</p>	<p>Any employee/students involved in science laboratory classes/ research activities</p>	<p>H</p>	<p>To minimise the risk to staff and others associated with the use of gases in the Faculty a Safe Work Practice Sheet relating to fuel gases has been prepared.</p> <p>Gas cut-offs have been fitted to each laboratory, some of which also contain gas-leak alarms. Laboratories 3702, 3703 and 3709a have gas detection systems in place with display panels and alarms located in RM3703. Gas lines are pressure tested annually.</p> <p>Propane gas proving system tests for pressure drops to determine if there are any leaks. Each time the main propane supply is turned on, the system tests the pressure.</p>	<p>L</p>

<p>and seemingly safe gases such as nitrogen, argon and helium, which are used within the Faculty, could, under certain circumstances, cause suffocation through displacement of oxygen in the atmosphere. In practice they are stored and delivered at the point of use under positive pressure and this creates a natural propensity for leakage. The weight and size of high-pressure gas cylinders can cause injury unless these cylinders are restrained. Gas can therefore</p>				<p>Staff using laboratories should turn the main propane gas supply off after each practical and at end of the day</p>	
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<p>present a hazard not merely to those using them but also to persons carrying cylinders and to others in the vicinity. Because gases are stored and delivered under positive pressure and because their use involves valves, joints, pipe work, etc. there is always a risk of leakage. Leaks can cause freeze burns in addition to explosive hazards. The risk will largely depend on the standard to which the delivery system has been constructed and is protected from damage</p>					
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<p>or interference. The risk to those in the vicinity of a gas leak will depend on the nature of the gas (toxic, flammable, corrosive) the extent of the leak, the extent to which the gas can disperse into the outside atmosphere and the procedures introduced to deal with the possibility of such an incident.</p>					
<p>Radioactive materials. External irradiation of the body, including possibly more sensitive organs such as the eyes. Internal irradiation of the body arising from</p>	<p>External or internal irradiation of the body</p>	<p>Any staff / student working with radioactive material</p>	<p>H</p>	<p>ATU Donegal is licenced by the Radiological Protection Institute of Ireland for Custody and Use of a range of radioactive materials. The control measures in place are detailed in two documents:</p> <ol style="list-style-type: none"> 1. Radiation Safety Procedures, Appendix 9 2. Risk Assessment of Radioactive materials, Appendix 10 	<p>L</p>

<p>materials which have entered by inhalation, by absorption through the skin, by ingestion or through wounds</p>				<p>Both can be found at Appendix 9 and 10 of this Statement. The Department of Life and Physical sciences possesses only one radioactive source, part of the detector on a Gas Liquid Chromatograph in 3703.</p>	
<p>Chemicals. A 'chemical' will be regarded as any substance, (solid, liquid, aerosol or gas), which is used for the purpose of reacting with or effecting a change in another substance or material. This definition extends beyond the narrow context of laboratory use and embraces the broadest possible interpretation. It includes such</p>	<p>Dependent on chemical and nature of its use, as described in previous column.</p>	<p>Any employee/students involved in science laboratory classes/ research activities</p>	<p>H</p>	<p>Laboratory Personal protective equipment (PPE) Material Safety Data Sheets The Faculty has two policy documents on this hazard : Chemical Storage and Use Appendix 6 Segregation Guidelines for Hazardous (Chemical) Waste Appendix 7</p>	<p>L</p>

<p>substances such as solvents, cleaning fluids, detergents, glues/resins, drain cleaners, paint strippers, preserving fluids as well as chemical reagents. A wide spectrum of chemicals is in use within the Faculty; they range from (seemingly) harmless,-readily available substances to highly specialised and reactive laboratory reagents. Examples of the main hazards arising from contact with chemicals are:</p>					
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<p>Acute or chronic poisoning resulting from ingestion, inhalation or absorption through the skin. Chemical burns. Some chemicals may cause cancer, cause genetic changes in a cell, interfere with the normal development of the foetus, cause dermatitis or respiratory problems, detonate or ignite under certain circumstances either spontaneously or under the influence of another event..</p> <p>Risk will depend on the individual chemicals in</p>					
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<p>use, the quantities involved and the circumstances under which they are being used. As a consequence, it can only be realistically assessed on an area by area basis and by reference to the MSDS</p>					
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Responsible person: Dr. Joanne Gallagher	Rev / Version No: 2
Prepared by: Dr. Christina Forbes	
Date Completed: 13 th February 2023	

Location / Area: Clinical teaching laboratories

Date: 13th February 2023

Hazard / activity	Risk	Persons at risk	Initial Risk Rating (Probability X Severity) (H,M,L)	Control Measures	Residual Risk Rating (Probability X Severity) (H,M,L)
The drug trolley and a controlled drug (MDA) press to simulate the administration of drugs	Ingestion of controlled drug	Staff and students of nursing programmes	L	Drugs are not stored in the labs at any time. Placebos are used in all simulations.	L
Invasive procedures inc. glucometer readings	Incision to skin	Staff and students of nursing programmes	L	Mannequins are used to demonstrate and practice invasive procedures. No invasive procedures are carried out on humans and students should not practice any invasive procedures on each other in the skills labs. A risk assessment is being prepared for use of the glucometer.	L
Latex allergies	Allergic reaction to latex	Staff and students of	L	It is not necessary to wear gloves for infection control purposes. However, staff/students need to demonstrate/learn the correct	L

		nursing programmes		<p>techniques to put on and remove sterile gloves for practice in the clinical areas.</p> <p>Gloves are not worn unless for demonstration purposes.</p> <p>Remove and wash hands.</p> <p>Powder free nitrile gloves should be used. The use of latex gloves should be avoided.</p>	
Mats for training purposes	Strain / sprain	Staff and students of nursing programmes	L	<p>These mats are only to be moved by using the proper manual handling techniques. Moved by the caretakers as required.</p> <p>They are stored on a trolley.</p>	L
Injury from specialised equipment in the Department of Nursing teaching labs not limited to the following; Simulation Mannequins, Defibrillators, Syringe pumps, CPR mannequins, infusion pumps, Venesection arms, Feeding pumps.	Various potential injuries dependent upon the piece of equipment being used	Staff and student of nursing programmes	M	<p>Training is provided for all staff in the use and care of all equipment. Specialised equipment should only be used for its proper purpose under the supervision of trained people. Equipment should be inspected and maintained in line with the manufacturers' instructions to ensure its continued safety. Any damage or faults should be reported to the Head of Department and dealt with promptly.</p>	L

Treadmill and bicycle	Physical injuries	Staff and student of nursing programmes	L	Treadmill and Bicycle not used at present and it is not to be used by untrained personnel.	L
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Responsible person: Dr. Joanne Gallagher	Rev / Version No: 2
Prepared by: Dr. Christina Forbes	
Date Completed: 13 th February 2023	

Location / Area: Placement context for veterinary nursing / Dental nursing / Human nursing students Date: 13th February 2023

Hazard / activity	Risk	Persons at risk	Initial Risk Rating (Probability X Severity) (H,M,L)	Control Measures	Residual Risk Rating (Probability X Severity) (H,M,L)
Exposure to X-rays during animal examinations	Radiation exposure	Students on placement	H	The safety procedures of the practice where the student is on placement is effective. Students are provided with dosimeters by the Department and records are maintained for 7 years. Students are issued with guidance on the use of dosimeters and sign an agreement to use the dosimeters in the appropriate manner	L

Risk Rating = Probability x Severity

KEY				
PROBABILITY		SEVERITY		RISK RATING
Probable	3	Critical	3	6-9 High Risk
Possible	2	Serious	2	4 -5 Medium Risk
Unlikely	1	Minor	1	1-3 Low Risk
Risk Rating= Probability x Severity				

Appendix 2:

Specific Hazard Identification & Control Forms for Practical and Research Activities

The risk assessment process has been completed for the practical component of programmes within the Faculty of Science and Health. Whereupon a new practical class/research activity is developed, it is risk assessed prior to the class or activity taking place. The risk assessment process is comprehensive and covers the entire aspect of the practical/research including preparation work carried out by technical officers and refers to the relevant MSDS where chemicals are used.

Current specific risk assessments are published in a number of ways:

- As the Appendix to course manuals where they exist
- By individual staff at the beginning of the relevant practical session to familiarise students with the risk assessment for each practical activity
- Each of the 3 Departments within the Faculty store electronic risk assessments in online locations that are accessible to all staff members. Details for each Department are given below;

Department of Nursing and Healthcare

- Risk assessments for the Department of Nursing and Healthcare are stored in a Teams folder that is accessible by all staff of the Department via sharepoint. The link is as below;

<https://atlantictu.sharepoint.com/sites/Staff->

[DeptofNursingHealthCare/_layouts/15/AccessDenied.aspx?Source=https%3A%2F%2Fatlantictu%2Esharepoint%2Ecom%2Fsites%2FStaff%2DDeptofNursingHealthCare%2FShared%20Documents%2FGeneral%2FRisk%20Assessment%3Fcsf%3D1%26web%3D1%26e%3D5sHAI.L%26cid%3Db81ab35e%2D340c%2D4145%2D9fe3%2Dc8d82ae0609d&correlation=97ca9ea0%2Dd025%2D6000%2D4f1e%2Db6db9ea6e1e2&Type=item&name=0fb95217%2D7720%2D4fd7%2Db942%2Dd9ca80c1bd51&listItemId=224&listItemUniqueId=367b0780%2Ddaa0%2D464c%2Db431%2Ddda6f8198d17](https://atlantictu.sharepoint.com/sites/Staff-DeptofNursingHealthCare/_layouts/15/AccessDenied.aspx?Source=https%3A%2F%2Fatlantictu%2Esharepoint%2Ecom%2Fsites%2FStaff%2DDeptofNursingHealthCare%2FShared%20Documents%2FGeneral%2FRisk%20Assessment%3Fcsf%3D1%26web%3D1%26e%3D5sHAI.L%26cid%3Db81ab35e%2D340c%2D4145%2D9fe3%2Dc8d82ae0609d&correlation=97ca9ea0%2Dd025%2D6000%2D4f1e%2Db6db9ea6e1e2&Type=item&name=0fb95217%2D7720%2D4fd7%2Db942%2Dd9ca80c1bd51&listItemId=224&listItemUniqueId=367b0780%2Ddaa0%2D464c%2Db431%2Ddda6f8198d17)

Department of Early Education and Social Studies

- Risk assessments for the Department of Early Education and Social Studies are stored in a Teams folder that is accessible by all staff of the Department via sharepoint. The link is as below;

[https://atlantictu.sharepoint.com/sites/Staff-](https://atlantictu.sharepoint.com/sites/Staff-DeptofEarlyEducationSocialStudies/layouts/15/AccessDenied.aspx?Source=https%3A%2F%2Fatlantictu%2Esharepoint%2Ecom%2Fsites%2FStaff%2DDeptofEarlyEducationSocialStudies%2FShared%20Documents%2FGeneral%2FRisk%20Assessments%3Fcsf%3D1%26web%3D1%26e%3D6VxPn3%26cid%3D0254e398%2D565d%2D4ec0%2Db659%2D84c474cb4001&correlation=bac09fa0%2Df09b%2D6000%2D4f1e%2Dbfdccdb58a52&Type=item&name=0fb95217%2D7720%2D4fd7%2Db942%2Dd9ca80c1bd51&listItemId=818&listItemUniqueId=f75dff3a%2Dbe2d%2D4b00%2D8174%2Dc16b822def96)

[DeptofEarlyEducationSocialStudies/ layouts/15/AccessDenied.aspx?Source=https%3A%2F%2Fatlantictu%2Esharepoint%2Ecom%2Fsites%2FStaff%2DDeptofEarlyEducationSocialStudies%2FShared%20Documents%2FGeneral%2FRisk%20Assessments%3Fcsf%3D1%26web%3D1%26e%3D6VxPn3%26cid%3D0254e398%2D565d%2D4ec0%2Db659%2D84c474cb4001&correlation=bac09fa0%2Df09b%2D6000%2D4f1e%2Dbfdccdb58a52&Type=item&name=0fb95217%2D7720%2D4fd7%2Db942%2Dd9ca80c1bd51&listItemId=818&listItemUniqueId=f75dff3a%2Dbe2d%2D4b00%2D8174%2Dc16b822def96](https://atlantictu.sharepoint.com/sites/Staff-DeptofEarlyEducationSocialStudies/layouts/15/AccessDenied.aspx?Source=https%3A%2F%2Fatlantictu%2Esharepoint%2Ecom%2Fsites%2FStaff%2DDeptofEarlyEducationSocialStudies%2FShared%20Documents%2FGeneral%2FRisk%20Assessments%3Fcsf%3D1%26web%3D1%26e%3D6VxPn3%26cid%3D0254e398%2D565d%2D4ec0%2Db659%2D84c474cb4001&correlation=bac09fa0%2Df09b%2D6000%2D4f1e%2Dbfdccdb58a52&Type=item&name=0fb95217%2D7720%2D4fd7%2Db942%2Dd9ca80c1bd51&listItemId=818&listItemUniqueId=f75dff3a%2Dbe2d%2D4b00%2D8174%2Dc16b822def96)

Department of Physical and Health Sciences

- The Department of Life and Physical Sciences has a Microsoft Team “Staff- Department of Life and Physical Sciences-Donegal”. Within this, there is a channel labelled “General” which contains a folder labelled “Risk Assessments”. All risk assessments for the Department of Life and Physical Sciences are stored in this folder according to programme.

[https://atlantictu.sharepoint.com/sites/DepartmentofLifeandPhysicalSciences-](https://atlantictu.sharepoint.com/sites/DepartmentofLifeandPhysicalSciences-Donegal/Shared%20Documents/Forms/AllItems.aspx?csf=1&web=1&e=ACmfHx&cid=a2195023%2Df20e%2D49b9%2Da788%2D94d0e2bdfe1d&RootFolder=%2Fsites%2FDepartmentofLifeandPhysicalSciences%2DDonegal%2FShared%20Documents%2FGeneral%2FRisk%20Assessments&FolderCTID=0x012000F5FA5A35B55D1446B43B55E60C6DE4C1)

[Donegal/Shared%20Documents/Forms/AllItems.aspx?csf=1&web=1&e=ACmfHx&cid=a2195023%2Df20e%2D49b9%2Da788%2D94d0e2bdfe1d&RootFolder=%2Fsites%2FDepartmentofLifeandPhysicalSciences%2DDonegal%2FShared%20Documents%2FGeneral%2FRisk%20Assessments&FolderCTID=0x012000F5FA5A35B55D1446B43B55E60C6DE4C1](https://atlantictu.sharepoint.com/sites/DepartmentofLifeandPhysicalSciences-Donegal/Shared%20Documents/Forms/AllItems.aspx?csf=1&web=1&e=ACmfHx&cid=a2195023%2Df20e%2D49b9%2Da788%2D94d0e2bdfe1d&RootFolder=%2Fsites%2FDepartmentofLifeandPhysicalSciences%2DDonegal%2FShared%20Documents%2FGeneral%2FRisk%20Assessments&FolderCTID=0x012000F5FA5A35B55D1446B43B55E60C6DE4C1)

Given the wide range of activities and tasks undertaken daily by the technical staff particularly of the Department of Physical and Health sciences, preparing specific risk assessments for each task carried out by these staff members would be impractical. When combined, the Hazardous Chemical Manual (Appendix 6), Radiation Safety procedures (Appendix 9) and the existing equipment SOPs (Appendix 3a) provides staff with the information they need to perform these tasks safely.

Appendix 3:

Safe Work Practice Sheets and Information Necessary for a Safe work environment

Equipment Standard Operating Procedures

The Department of Life and Physical Sciences operates two Instrumentation laboratories and a number of Research Laboratories where sophisticated analytical instruments are used. Students receive detailed instruction in the operation of this equipment in both second and third year. Fourth year and Post-Graduate students regularly used the equipment unsupervised in the course of research project work. The Department has prepared a set of Standard Operating Procedures (S.O.P.) for these instruments. The Technical Officers in the area are available for clarification of the SOP or more detailed assistance. It may also be necessary to consult the Instrument manual in certain cases.

The Department of Life and Physical Science has also produced standard operating procedures for more general equipment used within the department's laboratories. These standard operating procedures are available to all technical and academic staff. As a well as fourth project and post graduate student who may be using the equipment following training from technical or academic staff.

The current suite of equipment standard operating procedures within the Department of Life and Physical Science are listed below.

Operation of New Brunswick U570 Ultra-Low Temperature Freezer

Operation of AlphaImager HP using AlphaView Software

Operation of Denver Instrument Analytical and Top Pan Balances

Operation of Tomy Seiko SX-700E Autoclave

Operation of Labofuge 400R Centrifuge

Operation of Mikro 200R Centrifuge

Operation of Chemflow CSC Fume Hood

Operation of Analog Dry Block Heater

Operation of Stuart Heat-Stir Hotplate

Operation of Memmert GmbH OPP 55, 110 & 260 Incubators

Operation of Olympus CKX41 Inverted Microscope
Operation of IDEXX Quanti-Tray Sealer
Operation of FASTER SafeFAST Classic 212 Biosafety Cabinet
Operation of Stuart SI500 Shaking Incubator
Operation of Grant OLS 200 Shaking Waterbath
Operation of VWR 18 Litre Shaking Waterbath
Operation and Set Up of Brookfield DV-11+ pro Viscometer Through the Rheocalc Software
Operation of Shimadzu High Performance Liquid Chromatograph
Operation of Metrohm Ion Chromatograph
Operation of Shimadzu GC-15A Gas Chromatograph
Operation of Perkin Elmer 400 Atomic Absorption Spectrometer
Operation of Perkin Elmer Fourier Transform Infrared model BX
Operation of Metrohm Polarograph
Operation of Mitsubishi KF21 Karl Fischer
Operation of RSI R-3000 Raman Spectrophotometer
Operation of Perkin Elmer Clarus 400 ECD-GLC
Operation of Perkin Elmer Clarus 480 FID-GLC
Operation of Perkin Elmer Clarus 680 GC/MS
Operation of Shimadzu LC10 HPLC system
Operation of Shimadzu UV/VIS
Operation of Waters 486 High Performance Liquid Chromatograph
Operation of Total Chrom Software for Gas Chromatography

The above SOPs are collated in Appendix 3a.

Small items of equipment and general techniques

Due to the wide range of techniques and equipment used within the courses in the Department of Life and Physical Science it is not considered feasible to produce individual Safe Work Practice Sheets relevant to all the Science Laboratories and Research areas within the Department. **CLEAPSS** is an advisory service, based in the United Kingdom, providing support in science and technology for a consortium of local education authorities and their schools. Independent schools, post-16 colleges, teacher training establishments, curriculum developers and others can apply for associate membership. The Department of Life and Physical Science of ATU Donegal has been an associate member since 2008. Consequently, the Faculty has decided to use the CLEAPSS Laboratory handbook as the source for guidelines on general laboratory equipment and techniques.

While individual staff may have personal preferences on individual topics or techniques, the Handbook is the best single source available for the range of topics required. Referring to the Handbook in the Safety Statement does not preclude any member of staff teaching a safe variation on any theme covered. The relevant sections of the Handbook have been printed, bound and placed in each laboratory.

Research laboratories

The Department currently operates applied research. Research students and staff provide and devise individual risk assessments and safe methods of work appropriate to the activities they are engaged in. The University is satisfied that they are competent to conduct such assessments and maintain the necessary records.

Working with large Animals

A significant part of the Veterinary Nursing course takes place at Lurgybrack Open Farm where animal handling skills are taught. ATU DONEGAL staff and the management of the farm have prepared safety procedures for Lurgybrack Farm (Appendix 12).

Appendix 4:

General Laboratory Rules

These rules are posted in each laboratory and are to be read by all staff and students entering the laboratory. The lecturer conducting the first practical of each year is to go through these safety rules to ensure students fully understand all the contents and follow them at all times.

General Rules:

- 1 Bags and coats must be stored in lockers provided outside the laboratories.
- 2 Experimental work should not be carried out unless an instructor is present.
- 3 The position of exits, fire alarms, fire extinguishers, fire blankets, eyewash stations and safety showers should be noted.
- 4 All laboratory users must be familiar with fire evacuation procedure.
- 5 Eye protection must be worn at all times in the laboratory.
- 6 A laboratory coat, fully fastened, must be worn at all times in the laboratory.
- 7 Open sandals should not be worn.
- 8 Long hair must be tied back securely.
- 9 Eating, drinking is strictly prohibited.
- 10 All accidents/incidents (however minor) must be reported immediately to the instructor.
- 11 It is essential to act maturely and responsibly in the laboratory and never act in a way that might be dangerous to yourself or others.
- 12 The floors and benches must be clean and tidy at all times and kept free of any clutter.
- 13 Any spillages should be reported immediately to the instructor
- 14 Wash hands before leaving the laboratory

Rules when working with chemicals;

1. Chemicals should be dispensed into properly labelled containers. Safety information is available from the CLEAPSS cards in the laboratory
2. Protective gloves should be worn when handling hazardous or toxic chemicals.
3. Skin contact with chemicals must be avoided. In case of accidental contact, the chemical must be washed off immediately with plenty of running water.
4. In the event of getting a chemical in the eye the area should be flushed with large quantities of clean water for 15 to 20 minutes.
5. Pipettes containing corrosive chemicals should not be placed carelessly on benches. Glassware containing corrosive chemicals should be rinsed after use.

Rules when working with biological samples;

1. Wear disposable gloves and use aseptic technique when using microbiological cultures.
2. Cover open wounds with water-proof dressings.
3. Place contaminated pipettes, tips and slides in disinfectant.
4. Autoclave all microbiological waste. Bottles containing media or waste for sterilization should have their caps loosened before autoclaving
5. Cover spills of liquid cultures with paper towels, spray with disinfectant and leave for 20 minutes before mopping up with fresh towel. Avoid aerosol formation.
6. Gloves should be worn when handling specimens of animal origin.
7. Disinfect the workbench and any equipment used at the end of the practical.
8. Biological waste should be autoclaved and disposed of according to the procedure at the end of this section.

Fire Safety

- Portable fire extinguishers located in each laboratory note location.
- Fire alarm activated by smoke detectors and break glass units (B.G.U in hallway).
- Emergency exits clearly identified and clear of obstructions.
- Evacuation plan in place and occupants of laboratory made aware of it.
- Bunsen burners are not to be left on unattended and when not being used to heat a source, yellow flame should be visible.
- Tubing of Bunsen burners inspected visually for damage before each use.
- A naked flame, ignition source or any form of heating plate should only be turned on after a check is made that there are NO explosive chemicals in any part of the laboratory.
- Propane gas proving system should be switched off at end of each practical by lecturer or technical officer.

Rules when using laboratory equipment.

1. Students must not use analytical instruments until they have been given permission by the instructor, and had detailed instruction on their operation. Students must be supervised when using laboratory equipment.
2. Students using apparatus under vacuum or pressure must have the set-up checked by the instructor before proceeding.

Rules when using Bunsen burners.

1. Tubing should be checked for damage before use.
2. When lit, a Bunsen burner should show a visible yellow flame when not in use. A naked flame (e.g. bunsen burner) or any form of heating plate or ignition source should only be turned on after a check is made that there are no flammable or explosive chemicals in *any part* of the laboratory

First Aid

- Laboratory staff includes trained occupational first aiders.
- First aid kits provided with list of first aiders their contact numbers.
- Please note location of safety shower and eye wash station in the laboratory. Tested and flushed monthly.

Protective equipment

- Labcoats (fully fastened) and goggles EN 166 are compulsory at all times in the laboratory.
- Gloves provided:
 - Nitrile or Latex gloves for general handling of chemicals.
 - Heat resistant gloves and tongs provided for handling hot items.

Extraction Safety

- Fume cupboards provided for handling hazardous or volatile chemicals in the laboratories where the majority of the chemical handling occurs.
 - Face velocity tested annually.
 - Cupboards serviced and repaired as required.
 - Analysts must remove all portable equipment, samples and reagents from fume cupboards when they have finished with it.
- Microwave digester connected to extraction.
- Atomic absorption located under extraction canopy.

Glassware Safety

- Use PLASTIC instead of glass wherever possible.
- Never use excess force on glass. The correct safe technique as demonstrated by lecturer/technical officer is to be used when attaching pipettes to pipette fillers.
- Damaged or chipped glassware or crucibles disposed of immediately (check integrity before each use).
- Containers for broken glass provided. Use appropriate gloves when cleaning up broken glass and inform lecturer/technical officer of any breakages.
- Dishwasher provided for cleaning glassware.
- Clean glassware stored safely on shelving or in cupboards.
- Trolleys & trays provided for moving glassware.

Laboratory Rules Specific to the Veterinary Nursing Laboratory

- Dispose of waste solids, tissue, dressings etc., in the bins.
- Safety glasses or over glasses for ordinary spectacles must be worn when working with chemicals and dental machine.
- Loose hair should be tied back.
- Assume all chemicals/medications are dangerous.
- Do not handle disinfectants unless wearing protective clothing such as gloves and aprons.
- Dispose of waste liquids and blood as instructed – either into the waste-bottle, clinical waste bags provided or down the sink with lots of water if permission to do so has been given. Never return the surplus to the bottle.
- All sharps should be disposed of in the sharps bins provided.

Procedure for disposal of Microbiology practical waste.

In order to clarify the statements in the Department's *Risk Assessment for Laboratory Technician Activities* and "*Draft Hazardous Waste policy*" the following procedure should be followed when disposing of all waste petri dishes and other disposable plastic ware generated in all practical classes.

All used or surplus material should be collected at the end of each class and prepared for autoclaving that evening.

Autoclave (polypropylene) bags are tear resistant but can be punctured or burst in the autoclave and should be placed in a rigid container (Plastic containers provided) during autoclaving. Some are printed with an indicator that changes colour when processed. It is preferably to use plain bags without 'biohazard' printed on the outside. A 'biohazard' label could be placed on the bag holder and any containers used to transport or hold the material prior to sterilisation.

Note Polypropylene bags are impermeable to steam, and for this reason should not be twisted and taped shut, but gathered loosely at the top and secured with autoclave tape or stapled x3 along the top of the bag. This will create an opening through which steam can pass.

All such waste material should be autoclaved overnight, start the autoclave cycle last thing in the evening so that it will have time to run a full cycle and be cold next morning. The autoclaves are located under an extractor hood which should be switched on before the autoclaves are opened.

Remove sterilized waste from the autoclave on arrival in the morning place it in a large waste bag and take it/arrange for it to be taken to the refuse skip.

Tissue Culture Room (R3709a) Safety Notice

Access to this room is by swipe card only. Technical staff and academics who work in this area have rights activated on their University ID badges.

Access for students involved in project work is on a sign-in sign-out basis, a keycard will be issued for the duration of the work, please contact the Technical staff for details.

Please Note:

Do Not Enter this area if the Blue light above the door is flashing – this indicates a low oxygen level in the room. Inform the Technical staff immediately.

If the alarm bell within the room sounds please vacate the room immediately, then follow the normal evacuation procedures.

Appendix 5:

Fire & Emergency Safety Management Policy

1.0 Introduction

The ATU Donegal has developed this Fire and Emergency management policy to safeguard and protect the building users and campus from fire or other campus wide emergencies that require building evacuation.

2.0 Fire Safety Management Programme

A fire safety management programme has been undertaken by ATU Donegal to guard against the outbreak of fire and to ensure as far as is reasonably practicable the safety of persons on the premises in the event of outbreak of fire.

The Safety Officer, with the assistance of the Estates Manager, is responsible for the implementation and oversight of the fire safety programme.

Specific duties are also assigned to designated personnel named in the evacuation procedure.

It will be a function of the Estates Manager – Mary Daly (Letterkenny Campus) and Facilities.

The programme incorporates arrangements for:

- (a) Fire prevention
- (b) Instruction and training of staff
- (c) Maintenance of escape routes
- (d) Fire protection systems and equipment
- (e) Fire and evacuation drills
- (f) Emergency lighting system
- (g) Maintenance of a Fire Safety Register
- (h) Informing building users of the procedures to be used in the event of a fire or other emergency
- (i) Assistance to the Fire Brigade

3.0 Fire Prevention

The following are the major elements of the action to be taken by staff as appropriate to minimise the risk of the outbreak of fire:

- (a) Not allowing rubbish and waste materials to accumulate. Waste and rubbish will be placed in waste bins and larger items of refuse, e.g. packaging, will be clearly designated as refuse so that it may be removed daily by cleaning and maintenance staff.
- (b) Limiting flammable liquids and gasses to small quantities, handling them with care and storing them in suitably labelled containers in designated suitable storage areas.
- (c) Confine smoking to designated areas. Smoking is prohibited in all areas of ATU Donegal with the exception of designated smoking areas. Please see campus map of designated smoking areas in smoking control section 21.0.
- (d) Checking electrical and gas appliances regularly for defects. Any defects should be brought to the attention of the Estates Manager so that repairs may be arranged and the equipment should not be used until the defect is remedied.
- (e) Periodic inspection and testing of laboratory and LPG gas systems by specialist contractors to ensure that systems are safe and meet with the appropriate specifications. All suspected gas leaks must be brought to the attention of the Estates Manager immediately after they are detected.
- (f) Inspection of upholstery regularly by maintenance staff. Any item which has its infill material exposed should be repaired or removed immediately.
- (g) Regular cleaning and clearance of oil and grease from mechanical extract equipment, machinery and cookers and regular servicing by competent persons.
- (h) Careful control of all sources of ignition to minimise fire risk.
- (i) Never propping or wedging open fire doors and smoke control doors.
- (j) A prohibition of the use of portable gas and liquid fuel heaters. The use of portable radiant heaters is not allowed in any area to which students and members of the public have access.
- (k) The use of electric kettles, electric toasters and other heat generating culinary appliances in areas other than designated kitchens is prohibited.
- (l) Persons involved in building or maintenance operations involving the use of flame or the use of heat producing equipment as sources of ignition, e.g.
 - Brazing/soldering/welding equipment
 - Blowlamps/oxy-acetylene torches
 - liquefied gas appliances
 - Bitumen boilers
 - Cutting and burning equipment or any other hot-work equipment generating heat sparks or flame requires a "Hot Work Permit" issued by the Estates Manager, or Clerk of Works as appropriate.The permit will be issued in consultation with staff only after a detailed examination of the work area has been carried out to establish that the

contractors have taken all the steps necessary to prevent the occurrence of a fire and that they have available at hand the necessary fire fighting equipment to deal with the outbreak of fire. This activity is restricted where possible to times when students are not present in ATU Donegal.

- (m) Making all building and service contractors engaged to work on the premises aware of ATU Donegal's fire safety requirements. To this effect the Estates Manager will be informed of any new contractors coming on site. (n)
- (o) Clear marking of areas of the building to which students and the public are not allowed access. Maintenance staff take care not to allow unauthorised admittance to rooms in ATU Donegal.
- (p) Use appointed storage areas only. The use of plant rooms and services ducts for the storage of materials is prohibited
- (q) Confining the storage of cleaning materials to metal storage cabinets in appointed storage areas.
- (r) Inspection by maintenance staff of all vacant areas of ATU Donegal and removal of any potential fire hazard prior to locking rooms at the end of each day.
- (s) No services to be installed if passing through walls or floors without the approval of the Estates Manager. This is in the interests of maintaining the integrity of fire compartmentalisation. The Estates Manager will make arrangements for fire-stopping around services on completion and will arrange for periodic inspection and recertification of fire compartmentalisation

4.0 Instruction and Training of Staff

All staff to which specific duties have been assigned will be given appropriate instruction and training. Particulars of such training will be recorded by the Safety Officer. Staff will receive training and /or instruction in relation to:

- (a) fire prevention measures set out above
- (b) the emergency procedures and fire and evacuation drills devised for the premises
- (c) the evacuation of occupants, paying particular attention to the young, disabled and infirm
- (d) arrangements for ensuring that escape routes and exit doors are unobstructed and available for use
- (e) arrangements for the provision of assistance to the fire brigade
- (f) fire control techniques including the use of fire extinguishers and fire blankets; closing doors and windows to inhibit fire spread; shutting off of electricity, fuel supplies and ventilation systems where applicable; the layout of the building including escape routes; the location of fire alarm call points, fire fighting equipment and assembly points.

5.0 Maintenance of Escape Routes

All emergency escape routes must be kept free from obstruction and all doors on these routes must be kept clear and immediately available for use. All doors and gates must be easily opened by persons leaving the premises. Escape routes including escape stairways are checked regularly by maintenance staff and noted in the Fire Safety Register.

Fire resisting doors, smoke stop doors, exit doors, self-closing devices and panic bolts are checked regularly by Maintenance staff and are maintained in a usable and fault free condition.

Doors which are designated “Emergency Exit Only” must only be used as such. They must not be used as regular entry/exit doors in the interest of protecting the panic ironmongery and ensuring it will be functional when required. Materials and equipment must not be stored in escape stairwells.

External areas at or near escape routes as well as internal escape routes must be kept unobstructed and immediately available for use. Vehicles must not be parked on escape routes. Disabled Refuge Points are provided in fire protected stairwells. Disabled persons are to be assisted to these areas to await safe evacuation by the Fire Brigade. Disabled refuge areas are numbered for identification purposes and have a contact number to be rang to contact security and estates. Plans are underway to provide direct two-way communication between disabled refuge points and the main reception area for use by the fire brigade. Such a system has been installed recently in the CoLab building.

6.0 Fire Protection Systems and Equipment

- (a) A fire detection and alarm system has been installed in each campus within ATU Donegal. The systems are regularly maintained in accordance with the requirements of IS 3218 2009

The signal emitted by the alarm system sounder varies:

- (a) An intermittent audible warning signal indicates a fault or that the system is under test. Intermittent audible warning signals operate only in Letterkenny Campus. In this case all persons may remain in the building but should prepare to evacuate. When the intermittent audible signal activates, caretaker's security staff, and estates office investigate the cause of the alarm. If it is a false alarm, then they will silence the bells and reset the system. If it is a real fire then they will trigger the continuous bell.
- (b) A continuous audible signal indicates a fire or other emergency requiring evacuation of the building. In the Killybegs Campus it could also indicate a fault or test situation as outlined above, however all continuous audible alarms must be treated as a signal to evacuate. In all cases all persons must leave the building and make their way to the nearest assembly point following the evacuation procedure appropriate to their location. All persons should reach an Assembly point within 5 minutes of the alarm sounding continuously.

The system is linked to corridor dividing fire doors. In the event of alarm activation the doors will close automatically thereby preventing the spread of fire to adjoining compartments.

For security reasons as well as energy conservation considerations, many exit doors are permanently electro-magnetically locked, but are linked to the fire alarm system. When the alarm is activated the doors will open automatically. In the cases where the electro-magnetic lock does not release these can be manually overridden by breaking the green break glass unit beside the door and pushing the push bar on the door to open the door. These doors can also be opened in this manner in cases of medical emergencies to gain access or egress. All such doors have appropriate signage in place.

7.0 Emergency Lighting System

Emergency Lighting Systems operate in all ATU Donegal buildings. It is regularly maintained in accordance with the requirements of IS 3217:2008.

8.0 Fire Fighting Equipment and Systems

Fire mains and Hydrants are inspected and maintained in accordance with BS 5306. The date of the most recent inspection is noted on each appliance. Test reports on ring mains and Hydrants are held in the Estates Office and noted in the Fire Safety Register on each campus. Fire Hydrant locations are noted on the floor plans posted at prominent locations throughout

the building. Fire Hydrant covers are painted yellow and are indicated by posts with an “H” symbol in black on a yellow background.

Portable fire extinguishers complying with I.S. 290:1986 are inspected and maintained in accordance with I.S. 291:1986. The date of testing is noted on each extinguisher and records of inspections kept by Estates Manager.

Fire points holding a range of suitable extinguishers are provided in common areas. Laboratories, workshops, kitchens etc. each have extinguishers particular to the type of operations being carried out in that area. All extinguishers have instructions on their suitability or otherwise to various types of fires.

It is an offence to tamper with fire fighting equipment. It is the responsibility of maintenance staff and of lecturing and technical staff in control of laboratories to report any discharged damaged or missing extinguishers to the Estates Manager immediately after they are discovered.

9.0 Fire Safety Register

A Fire Safety Register is maintained on each campus under the supervision of the Estates Manager Mary Daly (Letterkenny Campus) and Facilities. The register records all fire safety matters. The register is available at any time for inspection by any authorised officer of the Fire Authority. The register contains the following data:

- a) The date of each fire and evacuation drill, the building and staff taking part are recorded.
- b) The type, number and location of fire protection equipment on the premises including water supplies and hydrants etc.
- c) The date of each inspection and test carried out on fire protection equipment and systems, along with brief comments on the results of the checks and actions taken (and by whom) to remedy defects.

10.0 Fuel Storage

Oil tanks are located at a safe distance from buildings and are protected from unauthorised access.

LPG gas is extremely flammable. Its handling and storage must be in accordance with I.S. 3216. It is enclosed by secure fencing and is labelled with appropriate warning and safety signs.

Laboratory gas is also hazardous and is stored in secure locations externally. Staff members working with gas must have completed BOC gas safety training. This gas supply is labelled with appropriate warning and safety signs.

Please note smoking is strictly prohibited close to any fuel storage areas (Gas or oil) please see section on smoking on campus.

11.0 Fire and Emergency Evacuation Procedures

1. These fire and emergency evacuation procedures have been prepared for use in the event of a fire or other emergency evacuation.
2. Regular fire and evacuation drills are planned and organised by the Health & Safety Officer in Letterkenny Campus. The procedures used during drills will simulate real emergency procedures. All staff and students must participate in the drills and apply the procedures efficiently and promptly. Each drill is reviewed immediately after the drill by the Chief Fire Marshal and the Checkers. A report on the drill is circulated to all staff and the Safety Monitoring Committee agrees modifications arising from the drill where necessary.
3. Floor Plans are located at prominent locations throughout ATU Donegal, the plans indicate:
 - (a) Emergency escape routes,
 - (b) Fire points i.e. fire fighting equipment locations,
 - (c) Fire alarm panel location,
 - (d) Fire Assembly points,
 - (e) Gas and power cut off devices,
 - (f) Fuel tanks, boiler houses and all areas of high risk e.g. Kitchens and Chemical Stores,
 - (g) Fire Hydrant locations.

Each plan indicates its own location by the words "*You are here*". Bound sets of these plans are kept at Security and Caretakers Offices for use by the Fire Brigade.

4. Illuminated emergency exit signs or directional exit signs are positioned in all areas of ATU Donegal indicating the nearest escape route. It is important to note the alternative escape routes from various areas.

12.0 Assembly points

Fire Assembly Points are at various locations A to E identified below and displayed on Floor Plans at the main entrance. The Assembly Points are identified by a green and white sign stating “Fire Assembly Point”.

Fire Assembly points Letterkenny Campus

Assembly Point	Location	Senior Fire Marshall
A	Rear Car Park to Ramelton Rd. side of grounds	Head of School of Engineering or Head of Department of Engineering
B	Car Park to East side of Business Innovation Centre	Caretaker 1
C	Front Car Park to Port Rd. side of grounds	Head of School of Science or Head of Department of Computing or Head of Dept of Nursing
D	Front Car Park to Port Rd. side of grounds	Head of School of Business
E	Car Park near CoLab	Institute Librarian or Assistant Librarian Institute Secretary/Financial Controller Head of Development

Fire Assembly Point Killybegs Campus

Assembly Point	Location	Senior Fire Marshall
1	Front Lower Car Park	Deirdre McCole, Ciaran O'hAnnrachain & Aisling Kennedy (Deputy)

13.0 Responsibilities of Employees

13.1 All staff

All staff must familiarise themselves with these fire and emergency evacuation procedures and must be aware of all fire escape routes in the areas where they work. They must proceed via the nearest available exit to the nearest Fire Assembly Point.

13.2 Chief Fire Marshal

The Health & Safety Officer will act as Chief Fire Marshal at Letterkenny Campus. The Estates Manager will deputise for the Health & Safety Officer in his absence at Letterkenny campus. The Chief Fire Marshal will arrange and manage fire drills and real evacuations, liaise with Senior Fire Marshals and the Fire Brigade signal the end of the drill or evacuation and review and report on the drill or evacuation.

13.3 Senior Fire Marshals

Heads of Faculties, Heads of Departments and Heads of Function will act as Senior Fire Marshals/Deputies at the Fire Assembly Points. They will ensure that all class or staff groups present at the assembly point will remain there in an orderly fashion until instructed otherwise. Senior Fire Marshals areas of responsibility are listed in the assembly point table under section 12.o above.

13.4 Fire Marshals

To assist in a speedy evacuation, Lecturers will act as Fire Marshals for the class group of which they are in charge. At the beginning of each academic year they should do a trial evacuation with each class group from where they lecture.

13.5 Checkers

A team of checkers has volunteered to check all specific nominated areas to ensure evacuation is complete and to report on the evacuation duration for their area and any operational difficulties highlighted by the drill. They will ensure nobody re-enters the building until it is safe to do so. The checkers, together with the caretakers and grounds man will ensure nobody leaves the grounds until all persons have been accounted for. The role of Checker is vital to ensuring the evacuation of Public Buildings such as ours. The roles and responsibilities of the checkers are outlined in section 18.0.

14.0 Action to be taken by Employees

14.1 On hearing the fire alarm sound **continuously**, Fire Marshals will take the following action:

- (a) Evacuate occupants using the nearest available escape route

- (b) Make a head count of people as they leave the room
- (c) Close the room door when empty
- (d) Not allow anybody to re-enter the premises for any reason
- (e) Not use the lift
- (f) Assemble at the nearest assembly point
- (g) Advise the Senior Fire Marshall at the assembly point of any persons in their charge remaining in the building.
- (h) Advise the Senior Fire Marshall of the location of the fire if discovered in their area.
- (i) Assist the Fire Brigade on arrival.

14.2 On discovering a fire, all employees should:

- (a) Operate the alarm system using the break glass in the nearest Fire alarm call point
- (b) Alert management and other staff
- (c) If necessary, call the fire brigade (see 'Calling the Fire Brigade below)
- (d) Inform students and the public and direct them to the nearest escape route
- (e) Do not use the lift
- (f) Attack the fire using the nearest suitable equipment (only if safe to do so)
- (g) Leave whenever danger threatens
- (h) Close all doors as areas are vacated, checking nobody is left behind
- (i) Assemble at the nearest Assembly point. Do not attempt to leave the grounds or to re-enter the building until it has been clearly signalled that it is safe to do so.
- (j) Assist the Fire Brigade on arrival
- (k) Assist Fire Marshals/Senior Fire Marshals/Chief Fire Marshal.

14.3 On hearing the Fire Alarm sound continuously, Senior Fire Marshals should, (a)

Proceed to the designated assembly point.

- (b) Organise and retain Fire Marshals and class/staff groups in an orderly fashion at the assembly point.
- (c) Seek information from Fire Marshals and advise the Chief Fire Marshal of any missing groups/persons/disabled persons left in the building. (d) Assist with any requests from the Fire Brigade.

15.0 Responsibilities of Students / Members of the Public

It is the responsibility of all students and members of the Public to leave the premises immediately on hearing the fire alarm sound continuously, go via the nearest available exit route to the nearest Assembly Point, assemble in an orderly fashion under the direction of the Senior Fire Marshal and remain there with their group until hearing the siren denoting

the all clear/end of drill. They may then re-enter the building. They must at all times obey the instructions of the Fire Marshals, Checkers and Senior Fire Marshals.

16.0 Fire Instruction Notices

Fire Instruction Notices will be posted in prominent areas throughout ATU Donegal advising all building occupants of the emergency escape procedures. (Please see below)

17.0 Checker Roles/Responsibilities during an emergency evacuation or drill:

1. On hearing the intermittent alarm (Letterkenny Campus only), prepare for evacuation i.e. locate checker tunic and stop clock.
2. On hearing the continuous alarm, start stop clock and proceed to most remote part of the allocated area i.e. the furthest point from an escape door or escape stairs.
3. Check the area for remaining persons and ask them to leave immediately by the nearest available exit route. All rooms including toilet areas to be checked.
4. If persons refuse to leave, please note that checkers have full authority to insist on it. The names of non-co-operative persons are to be reported to the Chief Fire Marshal.
5. If there are disabled persons in wheelchairs in your area, take them to a refuge to await evacuation by the Fire Brigade. Refuges are located at all first and second floor storey exits, i.e. stairs landings or fire protected lobbies adjacent to escape stairs landings, and also at Ground Floor exits with steps outside where not serviced by external wheelchair ramps. Checkers should familiarise themselves with the locations of refuges in their area. They are identified by signs displaying the wheelchair logo with the word 'refuge'. Take care to locate the wheelchair so that it does not create an obstruction on the escape route. Ask a couple of class members/friends to wait with the disabled person until the fire brigade arrive.
6. If there are persons with disabilities other than requiring the use of a wheelchair in the area, enlist the assistance of classmates to escort them to the Fire Point.

7. Lifts must not be used in the event of a fire. Lifts return to ground floor and open automatically (Letterkenny campus only). Checkers to check that there are no people in lifts in your area.
8. When the area has been fully checked, leave the building and remain at your designated exit point to ensure nobody re-enters the building until the drill is complete. Stop the stop clock and note the evacuation time.
9. If a checkers exit point is at an access point to the car park or road you must prevent persons from leaving the grounds.
10. The Chief Fire Marshal will check with you to ensure your area has been evacuated. You must inform them of the location of any disabled persons in refuges. The Chief Fire Marshal will inform the Fire Brigade.
11. Prevent persons leaving grounds until drill is over in conjunction with caretakers and grounds man.
12. On hearing the siren denoting the end of the drill, allow persons to re-enter the building.
13. Attend a short meeting to review performance with the Chief Fire Marshal afterwards.

18.0 Checker Area/Exit point allocation

Each checker has been issued with a drawing and information table indicating the area for which they are responsible and the Exit point they will guard on completion of the evacuation. Please note that where a checker is deputising for another checker, then the Exit point which applies is the point associated with their own area. After the area has been evacuated by a deputy checker they should command the assistance of a member of the academic staff not at that time in charge of a class or a student if no staff are available to man the exit point to ensure nobody re-enters the building.

19.0 Calling the Fire Brigade

During the hours when the switchboard is in operation, currently 9am to 1pm and 2pm to 5pm, the switchboard operator will be responsible for calling the Fire Brigade. The switchboard operator may be contacted by dialling “0”.

20.0 Smoking Control

Smoking is prohibited in all areas of ATU Donegal in compliance with the Public Health (Tobacco) Act 2002. However, there are a number of outdoor designated smoking areas where smoking is permitted.

Appendix 6:

Chemicals Storage and Use Policy

The Department of Life and Physical Science has developed a 'Hazardous Chemical manual' from which Appendices 6 and 7 of the Faculty Safety Statement have been adapted. The manual in its entirety is available to all academic and technical staff within the Department. The manual provides concise and up to date work instructions for working with hazardous chemicals and biologicals as well as a comprehensive list of all chemicals stored by the Department of Life and Physical Sciences.

Introduction

All hazardous chemicals (substances and mixtures) placed on the market must be classified, labelled, and packaged according to the CLP Regulation (EC) No. 1272/2008. The CLP Regulation is a European Union regulation from 2008, which aligns the European Union system of classification (C), labelling (L) and packaging (P) of chemical substances and mixtures to the Globally Harmonised System (GHS).

The Faculty of Science at ATU Donegal uses the GHS system to determine the appropriate storage and use of hazardous chemicals. All hazardous chemicals are stored in a locked chemical storage room and an inventory of stock is regularly carried out. Excess chemicals are stored outside the building in a locked store. Within the stores, chemicals are sub-divided and stored according to their potential hazards i.e., general stock, acids, toxins, flammables etc.

Both stores were custom built following consultation with the local fire authorities and ATU Donegal architects. Both stores have fire suppression systems, fire detection devices, fire extinguishers, forced ventilation, wooden shelving, and flame proof cabinets where necessary. Access to the store is restricted to the technical staff in the Faculty. Any maintenance work is by permit to work signed by the Estates manager following consultation.

Handling of Chemicals

The Faculty of Science and Health has adopted the following Standard Operating Procedures, (based on the GHS status of a chemical) for the routine use of chemicals as a guide to their safe use. MSDS for individual chemicals should be consulted by the academic staff member in charge of a class before permitting students to carry out practical work. The class requisition forms used in the Faculty of Science and Health include a section for the academic staff member to highlight any special hazard and /or disposal requirements for chemicals which they intend to use in either the class, project or research situation.

GHS Symbols



GHS01
Explosive



GHS05
Corrosive



GHS02
Flammable



GHS06
Toxic



GHS03
Oxidiser



GHS07
Harmful



GHS04
Compressed gas



GHS08
Health hazard



GHS09
Hazardous to the
environment

General Laboratory Safety

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- Loose hair should be tied back.
- The laboratory should be well ventilated if possible.
- Laboratory benches should be kept clean and free from clutter.
- The floor of the laboratory should be kept clear, free from schoolbags or other items which may cause hazards.
- No food or drink should be in, or consumed within the laboratory.
- Hands should be washed after the completion of practical classes.
- Thorough risk assessments of each practical class must be completed, and the use of any hazardous chemicals kept to a minimum.

GHS01 – Explosives



An explosive is a compound or mixture susceptible (by heat, shock, friction or other impulse) to a rapid chemical reaction, decomposition or combustion with the rapid generation of heat and gases with a combined volume much larger than the original substance.

There are two classes of explosive chemicals. The first is known explosive chemicals that are designed and produced for use as an explosive and the other class is potentially explosive chemicals (PECs). Most chemicals that are used in teaching laboratories are stable and non-explosive at the time of purchase. Over time, some chemicals can oxidize, become contaminated, dry out, or otherwise destabilize to become PECs (e.g., isopropyl ether, sodium amide, and picric acid).

Storage

Explosive cabinets in the external chemical store (BH100) and internal chemical store (3728).

Usage

Keep explosive chemicals away from all ignition sources such as open flames, hot surfaces, spark sources, and direct sunlight. No explosive or potentially explosive materials shall be used in fume cupboards unless specifically designed or modified for this purpose. Impact grade screens and other safety protective devices shall be in place where there is any doubt.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.

- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full personal protection equipment (P.P.E.) before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do **NOT** use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum if possible. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

Note: Most explosions occur while purifying or distilling mixtures. Therefore, use extreme caution before concentrating or purifying any mixture that may contain an explosive chemical (e.g., a peroxide forming chemical or perchlorate).

GHS02 – Flammable



Flammable substances are substances that will ignite and burn when exposed to an ignition source. They can be in a solid, liquid or gaseous state. Most flammable liquids are highly volatile and emit hazardous vapours. Common examples of flammable chemicals regularly used in the undergraduate laboratories are methanol, ethanol, methylated spirits and acetone.

Storage

Flammable cabinets in the external chemical store (BH100) and internal chemical store (3728).

Usage

Keep flammable chemicals away from all ignition sources such as open flames, hot surfaces, spark sources, and direct sunlight. As the majority of flammable chemicals have strong fumes, they should be used in the fume cupboard.

Safety procedures:

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.

Note: Inhalation of flammable liquids can cause headache, dizziness, confusion, light-headedness, loss of balance, passing out and shortness of breath.

- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full P.P.E. before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum if possible. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

GHS03 – Oxidisers



Oxidizing chemicals are materials that spontaneously evolve oxygen at room temperature or with slight heating. They include peroxides, chlorates, perchlorates, nitrates and permanganates. Strong oxidisers are capable of forming explosive mixtures when mixed with combustible, organic or easily oxidised materials. Examples of oxidisers used in the undergraduate laboratories are hydrogen peroxide, concentration perchloric acid and concentrated nitric acid.

Storage

Oxidising chemicals section in the external chemical store (BH100) and internal chemical store (3728).

Usage

Keep oxidising chemicals away from all ignition sources such as open flames, hot surfaces, spark sources, and direct sunlight. As oxidising chemicals have fumes that can be inhaled, they should be used in the fume cupboard.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air. ****Note: Inhalation of oxidisers can cause headache, dizziness, confusion, light-headedness, loss of balance, passing out and shortness of breath.**
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full ppe before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

GHS04 – Gases under pressure



Gases under pressure are gases which are contained in a receptacle (container) at a pressure of 200 kPa (kilopascals) or 29 psi (pounds square inch gauge) or more. This includes compressed gases, liquefied gases, dissolved gases, and refrigerated liquefied gases. Gases stored under pressure in ATU Donegal (Faculty of Science) include nitrogen, argon, carbon dioxide, helium and hydrogen.

Storage

Pressured gas cylinders are stored in the locked gas store outside the building and piped up to inlets in the undergraduate laboratories. Only authorised personnel have access to the gas store.

Usage

Gas cylinders under pressure are not used in the undergraduate laboratories. Gas lines are piped from cylinders in the gas store and are opened and closed using the butterfly valve on the regulators at point of use in the laboratories (Figure 1 and Figure 2). Propane gas supplied to the laboratory bench for use with Bunsen burners is controlled by the key on the gas pressure proving systems located in each lab (Figure 3 and Figure 4).



Figure 1: Butterfly valve on the gas regulator in the closed position



Figure 2: Butterfly valve on the gas regulator in the closed position



Figure 3: Gas pressure proving systems (propane) in the off position.



Figure 4: Gas pressure proving systems (propane) in the on position.

Safety procedures

- General laboratory safety guidelines should be followed when working with a gas under pressure.
- Care should be taken when removing or replacing outlets on large gas cylinders and should only be carried out by authorised personal.
- Care should be taken when moving large gas cylinders not to cause personal injury and appropriate trolleys by authorised personal only.

First aid procedures

Not applicable.

Spillage

If a suspected gas leak has occurred, open all windows and doors, evacuate the area and call the emergency services. The laboratories are equipped with a gas detection system (oxygen, carbon dioxide and flammable gas).

Waste

Not applicable.

GHS05 – Corrosive



A corrosive chemical is a highly reactive substance that causes damage to living tissue. They can directly destroy tissue or indirectly by causing inflammation. Acids and bases are common corrosive materials. Examples of corrosive chemicals used in the undergraduate laboratories are acids such as hydrochloric acid and sulphuric acid and bases such as sodium hydroxide and ammonium hydroxide.

Storage

Corrosive chemicals are stored in the external chemical store (BH100) and internal chemical store (3728).

Usage

Corrosive chemicals should be used in the fume cupboard.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full P.P.E. before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

GHS06 – Toxic



A toxic substance is a substance that can be poisonous or cause negative health effects. The severity of toxicity is affected by exposure route, dosage or concentration of the chemical exposed and length of time exposed. Examples of toxic chemicals used in the undergraduate laboratories are sodium oxalate, potassium ferricyanide and phenol.

Storage

Toxic chemicals are stored in the toxin cabinets in the external chemical store (BH100) and internal chemical store (3728).

Usage

If inhalation is a possible route of toxicity (e.g., from a toxic liquid), the chemical should be used in the fume cupboard.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full P.P.E. before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

GHS07 – Harmful



Harmful chemicals are substances and mixtures which in prolonged or repeated contact with the skin or mucous membranes can cause inflammation. This hazard symbol also includes narcotic and skin-sensitising substances. Examples of harmful chemicals used in the undergraduate laboratories are acetylsalicylic acid, benzoic acid and salicylic acid.

Storage

Harmful chemicals are stored on the general shelves of the external chemical store (BH100) and internal chemical store (3728).

Usage

The majority of harmful chemicals can be used on the laboratory bench unless increased caution is indicated on material safety data sheet.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full P.P.E. before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

GHS08 – Health Hazard



This refers to chemicals that can cause reproductive toxicity, organ toxicity, respiratory sensitisation and to carcinogens. Examples of these chemicals used in the undergraduate laboratories are potassium bromate, acetonitrile and cobalt chloride.

Storage

These chemicals are stored in the carcinogen cabinets of the external chemical store (BH100) and internal chemical store (3728).

Usage

These chemicals should be used within a fume cupboard.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full P.P.E. before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

GHS09 – Dangerous for the environment



This class of chemicals refer to anything that may cause hazards to the aquatic environment or environmental toxicity. Examples of these chemicals used in the undergraduate laboratories are activated charcoal, copper sulphate and iodine.

Storage

Chemicals that cause hazards to the aquatic environment or environmental toxicity are stored in the external chemical store (BH100) and internal chemical store (3728).

Usage

These chemicals can be used on the laboratory bench unless increased caution is indicated on the material safety data sheet.

Safety procedures

- Safety goggles or a form of protective eye wear should be worn at all times.
- A closed laboratory coat should be worn with no skin or loose clothing exposed.
- Laboratory gloves should be worn.
- Closed in footwear should be worn.
- The laboratory should be well ventilated if at all possible.
- Hands should be washed after the completion of practical classes.

First aid procedures

- Wash the exposed skin for a minimum of 15 minutes with clean water. If a large area of the body is exposed, remove clothing and use the safety shower.
- If exposure is to the eye, rinse eye using eye wash station for a minimum of 15 minutes. Eye wash solutions are also stored in the first aid press in each lab.
- If a solution is inhaled, immediately go into fresh air.
- If ingestion occurs, do not induce vomiting. Call the poison centre on **01 – 8092166** and inform them of any available details of what has been ingested.

Spillage

- Ensure you are wearing full P.P.E. before attempting to clean a spill, i.e., gloves, lab coat and protective eye wear.
- If a powder spills; gently sweep into a clean container avoiding generation of dust.
- Liquid spills: contain the spillage first to stop it spreading if possible and proceed to dry it up. Do NOT use paper towels/blue roll or similar items on strong oxidisers such as peroxides, perchlorates and nitrates as they may catch fire.
- If in doubt on how to clean a spillage, safely empty the lab of students and consult specific safety data sheet of the item/s involved.

Waste

Generated waste should be kept at a minimum. This can be done by only using the minimum quantities required by the experiment. Waste should be treated as hazardous and disposed of in accordance with chemical waste disposal procedure detailed in Appendix 7.

Appendix 7:

Hazardous Waste Policy

Introduction

ATU Donegal operates 10 teaching laboratories and two research laboratories involved in various areas of Science. All staff, researchers and students must take into consideration the disposal of waste arising from any laboratory-based practices within the Faculty.

Almost everything left at the end of an experiment is considered to be waste. Choosing the proper disposal route for this waste is essential to ensure the safety of others and our environment. This policy intends to inform you how **you** should deal with **your** laboratory waste.

All waste produced by Faculty laboratories must be disposed of in a safe and legally compliant manner. All ATU Donegal waste must be disposed of via a licensed contractor who is approved for the transport and disposal of the types of waste being handled. Failure to do so may leave ATU Donegal at risk of prosecution.

The Faculty of Science and Health has prepared a Hazardous Chemical manual which includes recommendations on the disposal of chemicals. The Department of Life and Physical Sciences has joined the CLEAPSS organisation and has placed HAZCARDS in each laboratory area. The HAZCARDS include information on the disposal of small quantities of residual chemicals following practical classes.

Laboratory waste materials must be separated into 'hazardous' and 'non-hazard' materials. The term is used to assess a materials ability to damage the environment and is not related to its potential impact on human health, remember waste electronic instruments/equipment are considered to be a hazardous waste, yet represent no health risk to humans. If there is any confusion as to whether a waste material is hazardous or not the University's Safety Officer should be consulted. In cases where a question as to a waste's status arises the assessment of what constitutes a hazardous or non-hazardous waste must be left to a specialist.

As a rule, the following should be considered as hazardous wastes:

- Any material contaminated or potentially contaminated with an infectious agent (unless it has been suitably treated to eliminate the infectious agent e.g. by autoclaving).
- All human tissues, blood and related swabs and wipes from the Department of Nursing or Science laboratories.
- Animal tissue and dressings from veterinary Nursing Room or Science laboratories.
- Microbiological cultures.
- Potentially contaminated waste from research labs.
- Most chemical wastes.
- Most electrical wastes.
- Contaminated sharps.
- Empty unclean containers, the previous contents of which are deemed to be hazardous wastes.

Persons at Risk:

If waste material is handled or stored off in an unsafe manner then all persons in the area are at risk from the hazards exhibited by the waste materials, be they chemical or biological. If waste material is not disposed of in accordance with legislative requirements then the University and individuals are at risk of prosecution.

Control measures required to reduce Risk

Biological Wastes:

1. All wastes considered to be contaminated with biological material must be disposed of in an appropriate manner.
2. All waste which is potentially contaminated is considered to be hazardous waste

and must be disposed of accordingly.

3. The following can be considered to be hazardous wastes:
 - All human tissues, blood and related swabs and wipes from the Department of Nursing or Science laboratories.
 - Animal tissue and dressings from veterinary Nursing Room or Science laboratories.
 - Contaminated needles, glass, instruments, etc.
 - Microbiological cultures
 - Potentially contaminated waste from research labs
4. All sharps must go into suitable sharps bins for disposal. Sharps include broken glassware, blades and syringe tips. Sharps must never be placed into normal bins.
5. All classes of Genetically Modified Organisms other than Class 1 require inactivation (chemical or physical) before leaving site.
6. It is recommended that all biological waste is treated (chemically or physically) before it leaves ATU Donegal in order to render it safe.
7. Biological waste subjected to long term storage must be stored in a secure area. If this area is outside then waterproof sealed or closed containers must be used to store the waste material.

Chemical Wastes:

1. Almost all chemical waste is hazardous.
2. Chemical waste should be disposed of promptly and on a regular basis.
3. Chemical waste should not be allowed to accumulate.
4. To minimise the chances of incompatible materials being mixed together and to keep
5. Do not mix chemical wastes indiscriminately.
6. Do not mix incompatible wastes together.
7. All chemical waste containers must be clearly labelled as to their contents using dedicated labels issued by technical staff. See figure 5.
8. Waste labels should also be renewed as appropriate as they may become torn or unreadable over time.
9. Waste containers should also be labelled with the date of filling and the name of

laboratory where the waste originated if possible.

10. All sharps must go into suitable sharps bins for disposal. Sharps include broken contaminated glassware. Sharps must never be placed into normal bins.
11. Researchers must ensure that all 'products' of research are properly labelled and their properties are fully understood and recorded
12. All persons should be aware of the potential for chemical waste materials to become unstable if left for long periods, e.g. picric acid; 2,4-dinitrophenol; isopropyl ether.
13. Chemical waste must always be stored in a safe manner commensurate with its properties.

MAJOR HAZARD Separate Waste Groups (collect in separate containers)

FLAMMABLE



- Non-halogenated organic solvents, <5% water
- Non-halogenated organic solvents, >5% water

TOXIC



- Halogenated solvents (% water unimportant)
- Cyanides
- Formaldehyde Solutions
- Solutions containing compounds of the following metals: **arsenic, barium, cadmium, chromium, lead, silver and selenium.**
- Any solution containing mercury or its compounds. (**Mercury/mercury** compounds should be kept separate from any liquid whenever possible.)

CORROSIVE



- Acids, organic
- Acids, mineral
- Bases, organic
- Bases, mineral

-Note: Do not put acidic or basic waste (ph <3 or >9) in metal cans. Metal cans corrode in a very short time. Keep acids and bases separate from hydrocarbons and ethers.

OXIDIZING



- Inorganic oxidizers
- Organic peroxides

AEROSOL CANS



- All aerosol cans

Miscellaneous Waste Segregation

- When possible, keep carcinogens, mutagens, and teratogens separate from other wastes
- Keep aqueous wastes separate from organic solvents
- Keep halogenated and non-halogenated wastes separate
- Sulfides
- Pesticides
- Paints
- Oils



CONSTITUENT	%

Keep container closed when not in use

Empty Chemical Containers:

1. Containers which have been in direct contact with chemical agents e.g. Winchester's are considered to be a hazardous waste and must be disposed of as if they were full.
2. However, if such containers are 'triple rinsed' when empty and all warning labels are removed they may then be classed as clean and container sent for recycling / disposal.
3. The washings generated by this process may be suitable for foul water drains or may require offsite disposal – further information is available from ATU Donegal's Safety Officer.
4. Prior approval must be obtained from the Technical Officer in the laboratory

before depositing via foul water drains.

5. Outer packaging (card/plastic) can be disposed of, through the non-hazardous waste route, as long as any chemical names and labels have been blanked off the pack and are unreadable.

Non-Hazardous Wastes:

1. Non-hazardous wastes are 'normal' type wastes which are not contaminated with any biological or chemical material. Items such as paper towels, tissues, food waste, etc. which does not look like 'laboratory waste' should be sent for recycling or placed into a bin with other general wastes. It is good practice to locate bins for non-hazardous wastes outside of laboratories and to use clear plastic bags so that the contents can be easily seen and confirmed as non-hazardous prior to disposal.

Appendix 8:

Lone/Out of Hours Working Guidance

Introduction

This guidance has been developed to ensure that any lone/out of hours work that has to take place in ATU Donegal is planned and carried out in safe manner. This guidance document covers all staff and students of ATU Donegal, whether academic or support, research or maintenance and any contractors employed by ATU Donegal. ATU Donegal strongly recommends that in the interest of health, and safety, lone/out of hours work should only be undertaken when absolutely necessary and no other alternatives are available. Please note* unsupervised out of hours work by undergraduate students is strictly prohibited by each of the Faculties within ATU Donegal.

Definitions

Normal Working Hours

8 a.m. to 6 p.m. Monday to Friday except public and fixed holidays. On most Saturdays during term time, to facilitate the library and project work in the computer rooms the building is open from 10 am to 5 pm

Lone/Out of Working Hours

Lone/out of working hours working may be defined as: any work undertaken outside 8 am – 6 pm Monday to Saturday and any work undertaken on, Sundays & Bank Holidays in where there is lone occupancy.

All buildings must be vacated at closing time to facilitate “lock up”. At Christmas and Easter, all buildings will be closed for a specified number of days. Access will only be granted under exceptional circumstances by pre-arrangement with the Estates Office either on an individual case by case basis or through standing arrangements e.g. Research Building.

Lone Working

Lone workers are those who work by themselves without close or direct supervision. Anybody who works alone, including contractors, self-employed people and staff, is classed as a lone worker.

Note: Security Personnel based on campus overnight make arrangements with security mobile patrol who visit the site on a regular basis throughout the night.

Employers Responsibility

Under the Safety Health and Welfare at Work Act 2005 every employer shall ensure, so far as is reasonably practicable the safety, health and welfare at work of his or her employees, including lone workers.

In addition, section 19 of the Safety, Health and Welfare at Work Act 2005 requires the employer to undertake risk assessments to identify the hazards and risks that employees may be exposed to and thereafter implement necessary controls to eliminate or minimise the risk to employees.

If the risk assessment shows that it is not possible for the work to be done safely by a lone worker, arrangements for providing help or backup should be put in place.

Out of Hours & Lone workers / Employees' responsibility

The employer holds the main responsibility for protecting the safety and health of lone workers. However, lone workers themselves have a responsibility to help their employer fulfil this duty, and so they must:

- Take reasonable care to look after their own safety and health
- Safeguard the safety and health of other people affected by their work
- Co-operate with their employer's safety and health procedures
- Use tools and other equipment properly, in accordance with any relevant instructions and training they have been given
- Not misuse equipment provided for their safety and health

- Report all accidents, injuries, near-misses and other dangerous occurrences

Planning for Safe Out of Hours/Lone Working

Heads of Faculty/Function are responsible for approving and planning for out of hours/lone work activities and they should ensure a risk assessment for out of hours/lone working is completed.

Risk Assessment should address the following areas:

- Identify persons at risk i.e. out of hours/lone workers
- Identify the hazards
- Assess the risk
- Put controls in place to eliminate or reduce the risk

Hazards that out of hours or lone workers may encounter include, but are not limited to:

- accidents or emergencies arising out of the work, including inadequate provision of first aid
- sudden illnesses
- physical violence from other persons
- hazards from the work activity taking place

Examples of control measures to minimise the risk to lone workers:

The risk assessment should prescribe control measures to be implemented in order to eliminate/minimise the identified risks. Such control measures may include:

- communication strategy is very important: e.g. telephone or sign in with security
- controlled periodic checks
- instruction in proper procedures e.g. code words for potentially violent situations when combined with phone communication to security
- use of Personal Protective Equipment (PPE)

- access to first-aid kits and training arrangements
- implementing standard operating procedures (SOP's)
- implementing correct incident reporting procedures
- informing estates & security staff of out of hours work being planned
- emergency preparedness e.g. fire safety, evacuation procedure, contact details

Issues to be considered when planning safe working arrangements for lone workers:

1. Can the risks of the job be adequately controlled by one person?

Lone workers should not be at more risk than other employees. This may require extra risk control measures. Precautions should take account of normal work and foreseeable emergencies, e.g. fire, illness and accidents. Employers should identify situations where people work alone and ask questions such as:

- Does the workplace present a special risk to the lone worker?
- Is there a risk of violence?
- Are women especially at risk if they work alone?
- Are young workers especially at risk if they work alone?

2. Is the person medically fit and suitable to work alone?

Check that lone workers have no medical conditions which may make them unsuitable for working alone. Seek medical opinion if necessary.

3. What training is required to ensure competency in safety matters?

Training is important where there is limited supervision to control, guide and help in situations of uncertainty. Lone workers need to be sufficiently experienced and to understand the risks and precautions fully. Heads of Faculty/Function should set the limits to what can and cannot be done while working alone. They should ensure staff are competent to deal with circumstances that are new, unusual or beyond the scope of training.

4. How will the person be supervised?

Although lone workers cannot be subject to constant supervision, it is still an employer's duty to ensure their safety and health at work. Supervision can help to ensure that employees understand the risks associated with their work and that the necessary safety precautions are carried out. Supervision of safety and health can often be carried out when checking the progress of the work; it may take the form of periodic visits by Heads of Faculty/Function combined with discussions in which health and safety issues are raised.

The extent of supervision required depends on the risks involved and the ability of the lone worker to identify and handle safety and health issues. The level of supervision required is a Head of Faculty/Function decision, which should be based on the findings of risk assessment, i.e. the higher the risk, the greater the level of supervision required.

For further information on Out of Hours/Lone working please see documents listed below:

The following documents are useful for reference and guidance for this guidance:

- Safety Health and Welfare at Work Act 2005 – S.I. No. 10 of 2005
- HSA Website - http://www.hsa.ie/eng/FAQs/Lone_Workers/
- Working Alone in Safety – Controlling the Risks of Solitary Work HSE – 1998

Appendix 9:

Radiation safety procedures

Safety Procedures for Radioactive Materials held by ATU Donegal under Environmental Protection Agency licence L2600

Section 1 Technical description of licensed items

Isotope, strength and type	Number of	Half life(yrs)	Holder type	Serial number	Manufacturer
Nickel 63, 15 mC, beta	1	100.1	Sealed in ECD detector	5456	Part of instrument manufactured by Perkin Elmer model Clarus 400, sited in R3703, license covers custody and use.

Section 2 Normal operating procedures

All experiments involving the Gas Liquid Chromatograph fitted with the Electron Capture Detector must be carried out under the supervision of a member of the academic staff.

Section 3 Emergency operating procedures

In the case of an emergency such as a fire, explosion or theft the normal ATU Donegal procedures will be followed, a member of the ATU Donegal's Estates management will be informed regardless of the time of day and the RPO will also be contacted.

Section 4 Planned maintenance

The Electron Capture Detector is the only source which will require maintenance, it is standard practice to have such equipment services annually by the vendor-trained engineer who will certify the integrity of the detector. A wipe test will constitute part of the service.

Inspection of the instrument, leak tests and containment tests are carried out periodically by the Technical Officers in the area. Annual leak tests are performed.

Section 5 Radiological safety procedures

The GLC (located in R3703) is labelled as containing radioactive material a similar notice has been erected at the door of the Instrument room and unsupervised access to the instrument room is not permitted.

Section 6 Administration

ATU Donegal has appointed Mr. Brendan Alexander to act as Radiological Protection Officer who reports to the Head of Faculty of Science and Health. In all matters relating to radioactive material the RPO will liaise closely with ATU Donegal's Estate Manager and Safety Officer.

ATU Donegal accepts any lecturer qualified to teach Chemistry or Analytical Science and all appropriately qualified members of the Technical staff as competent to operate the GLC equipment, following training by the vendor or Senior Technical Officer.

Section 7 Records

Records will be kept by the RPO of range of sources held their date of purchase serial numbers etc. A log is kept of each use of the Gas Liquid Chromatograph on the instrument control PC. Annual service records and wipe test results for the ECD are kept by the Senior Technical Officer.

Records of monthly and annual monitoring of the GLC are kept by the RPO. The Head of Faculty of Science and Health will keep the Site Licence.

A copy of the current licence is on display in the Safety Notice board at the main entrance to ATU Donegal.

Section 8 Transport

In the event of the ECD source being transferred back to a supplier it shall be packaged according to the appropriate standard in force at the time and appropriately labelled. Preferably such a transfer will be undertaken by a competent member of the vendor's staff.

Appendix 10:

Risk Assessment of Radioactive materials

Risk Assessment for Radioactive Materials held by ATU Donegal under Environmental Protection Agency licence L2600

Hazard Identification

1 Nature of Hazard

A hazard is any object, condition or practice which can cause an injury or loss. There is general recognition of many common hazards, e.g. an unguarded saw-blade, a wet stairway or an untidy floor. ATU Donegal also recognises the hazard existing from the radioactive material held under Environmental Protection Agency licence L2600. In 2012 ATU Donegal availed of a scheme from the Department of Education and Science designed to reduce the quantity of radioactive material held in third level institutions. As of August 2012, ATU Donegal is only licenced to possess 1 Nickel-63 detector.

2 Identification of hazards

The main process for identifying hazards is a periodic safety audit by a competent person or persons. However, hazards by their nature may arise at any time through a change in activities, a change in work practice, installation of new equipment, etc. Hazards once identified should be brought to the attention of a responsible person without delay. They should also be reported to Safety Officer. The primary objective will be the elimination of the hazard. Currently the radiological hazard cannot be eliminated; therefore appropriate Hazard Identification and Control Sheet have been prepared by the responsible person.

Safety Audits

A safety audit is a systematic and critical examination of the workplace for the purpose of identifying hazards, assessing the risk and recommending controls of the hazard where appropriate. ATU Donegal has designated the Radiation Protection Officers as competent persons to carry out a safety audit each year and Hazard identification and Control Sheets are prepared or amended as necessary following this audit.

3 *Risk Assessment*

3.1 *Risk*

When the safety audit identifies hazards, it is necessary to rank them so that they can be controlled in an orderly way. The risk associated with a hazard is a measure of the likelihood or probability of an accident coupled with the potential severity of the injury or loss. The safety audit has assessed the risk associated with each hazard in the Hazard Identification and Control Sheet by ranking them according to the categories described below:

H (High)

This rating is applicable where there is

- (a) a possibility of fatality, serious injury or significant loss
- (b) a possibility of injury to a number of people
- (c) a serious violation of statutory regulation

M (Medium)

This rating is applicable where there is

- (a) a conceivable though unlikely possibility of fatality, serious injury.
- (b) a possibility of minor injury to a small number of people

L (Low)

This rating applies where injury is unlikely though conceivable.

4 *Hazard Control*

4.1 *Hazard Identification and Control Sheets*

It is a function of a safety audit to recommend remedies for hazards observed. Where hazards cannot be removed, controls will be recommended to reduce the risk to an acceptable level.

5 *Persons at Risk*

Because of the nature of the materials held under licence EPA L2600 ATU Donegal regards all persons: staff, students, contractors and visitors to be at risk.

Electron Capture Detector (Nickel-63)

HAZARDS	RISKS	CONTROLS	RESPONSIBILITY
<p>External irradiation of the body, including possibly more-sensitive organs such as the eyes. Internal irradiation of the body arising from materials which have entered by inhalation, by absorption through the skin, by ingestion or through wounds</p>	<p>The risk in working with the Gas liquid Chromatograph is minimal. Even if the sealed source is damaged the risk is low (see attached advisory note for similar detector appendix 1). Provided the control measures given here are applied, the risk to health from a source of this type is Low</p>	<p>Inspection Weekly. The whole instrument should be checked for signs of damage. A record should be kept of any malfunction, blemishes or damage to instrument or detector.</p> <p>Leak/wipe test of detector Annually at service or if damage is suspected. The outer surface should be wipe tested as per manufacturer's procedure. Contamination check of container are not required unless leakage is suspected</p> <p>Storage and labelling The source should be stored in its normal position in the instrument, labelled with a radioactive warning sign</p> <p>Spills As the detector is sealed spills cannot occur.</p> <p>Disposal A take-back agreement exists with Perkin Elmer, the supplier, but this detector may not be disposed of without the permission of RPII</p>	<p>Technical staff/ RPOs and Contracted Service staff.</p>

Advisory Note from Agilent Technologies for a similar ECD Detector
SUBJECT: Radiation Hazard of Agilent Technologies ECD Cell

To Whom It May Concern:

Agilent Technologies, Inc. manufactures Electron Capture Detectors (ECDs). The ECD contains a 15 mCi source of radioactive Nickel-63. This source is enclosed within a steel housing. The device is listed as **"UN 2911 Radioactive material, excepted package, instruments"** for shipping purposes. A person receives a level of less than 0.00001% of the values listed below when the source is within an unopened detector housing.

Based upon an independent report¹, the level of radioactivity generated by the ⁶³Ni source in an unshielded condition (for example if the housing were to be opened or melted) is summarized below in regard to the risks to a human body:

SKIN DOSE: If the source were held in a hand, the thickness of skin on the hand would block all Beta Particles.

EYE DOSE: The thickness of the covering membrane on the eye will block all Beta Particles.

INHALATION DOSE: If vaporized, and all vapors were to be inhaled, the person would receive a dose of 93.75 rem. If a source were to be ground into 1 micrometer diameter particles and all particles were to be inhaled, the total body dose would be approximately 37.5 rem.

INGESTION DOSE: If the source were to be eaten, the person would receive a dose of 8.3 rem.

Persons working with an unshielded source at a distance of 16 cm from the source would require continuous exposure of 1,471 hours to obtain the annual public dose rate of 100 mrem. This assumes worst case conditions of exposure angle, source uniformity, and source radiation

Appendix 11:

Safety Procedures Lurgybrack Farm

Occupational Health and Safety of ATU Donegal Staff and Students

Working with Animals at Lurgybrack Farm

1. Personal Hygiene:

- All ATU Donegal staff and students while performing their duties shall wear overalls. Dedicated facility shoes, rubber boots, or disposable booties are required when working in cage washrooms, rooms housing animals administered hazardous agents, and areas housing cattle, sheep, horses, pigs, goats, emus, guinea pigs and uncaged cats.
- Shoes and boots visibly soiled with animal waste shall be cleaned and or disinfected prior to exiting the room in which the soiling has occurred.
- Veterinary nursing students shall change into clean uniforms and their dedicated shoes at the start of the practical in designated areas and change back into their street clothes and shoes before leaving the farm.
- Changes in attire for exiting the facility shall be determined by the ATU Donegal lecturer in collaboration with the attending staff.
- Aprons shall be worn when the body is likely to get soaked with wash water or corrosive chemicals.
- All uniforms/lab coats/overalls shall be laundered.
- Personal Protective Equipment (PPE):
 - Disposable items (booties, gloves, lab coats, masks, respirators, and sleeves shall be discarded once removed into an appropriate waste container. DO NOT REUSE.
 - Reusable items (non-disposable respirators, safety glasses, chemical splash goggles, boots, gauntlets, and leather/cloth gloves) shall be cleaned/disinfected after use and stored in an area that will keep them clean and protected from damage.

2. Facilities, Procedures, & Monitoring:

- ATU Donegal lecturers shall continuously monitor facilities and equipment to identify and eliminate potential work place hazards and insure that safety equipment is properly used and maintained.

3. Medical Evaluation and Preventative Medicine:

- All ATU Donegal staff with direct or indirect animal contact shall complete training in animal handling.

- All ATU Donegal staff and students with direct animal contact shall be immunised against tetanus as a minimum. Immunisations against rabies, hepatitis B, etc. may be required on a case-by-case basis depending on the potential for exposure and risk assessment.
- Pregnant ATU Donegal staff and students should report their condition to their line manager/ Head of Department as soon as possible so work assignments can be adjusted and additional PPE provided, if needed.

4. In the event of an Accident

- In the case of an accident stabilise the victim
- Get assistance from other staff (including farm staff)
- Seek medical help as required – see emergency numbers
- In the case of accidental injection bring the label of the drug bottle along if seeking medical attention
- In case of eye contamination, wash out eye immediately with clean water and bring contamination label along if seeking medical attention
- In the case of electrocution, switch over power supply if possible before helping victim. Otherwise use a dry plastic or wooden object to push the victim away from the source

5. In the event of a Fire:

- Raise the alarm, contact fire brigade if necessary
- Evacuate staff and students to the assembly point
- Check all staff and students are present
- Fight the fire - only if safe to do so
- If not, do not allow anyone to re-enter the buildings for any reason

6. Emergency Contact Numbers:

- | | | |
|-------------------|---------------------|-------------|
| • Nurse: | Hannah Glackin | 074 9186850 |
| • Hospital: | Letterkenny General | 074 9125888 |
| • Fire brigade: | Letterkenny | 074 9153900 |
| • Owner: | Gerard O Loan | 086 8212012 |
| • County Council: | Letterkenny | 074 9153900 |
| • EPA: | Monaghan | 047 77600 |
| • Lecturer | Aidan Finnan | 086 2687128 |

7. First Aid Box:

- A first Aid bag will be kept by the ATU Donegal staff member who is supervising the students.
- The first aid box will be maintained and checked on a monthly basis
- The first Aid box will be stored in the veterinary nursing laboratory when not being used on the farm

REFERENCES:

Citizens Information www.citizensinformation.ie/en/employment/

Department of Social Welfare website www.welfare.ie

Health and safety Authority website www.hsa.ie/

Kellogg Rural Leadership Programme Reports, New Zealand
<http://www.kellogg.org.nz/alumni/projects/>

Nuffield scholarship Reports www.nuffieldinternational.org/live/Reports

Road Safety Authority website www.rsa.ie

Teagasc www.teagasc.ie

Workplace Relations Commission <https://www.workplacerelations.ie>

