

HEALTH & SAFETY

School of Physics - RISK REGISTER

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| **Category** | **Description of Hazard/Risk** | **Inherent Risk Analysis** | | **Inherent Risk Rating** | **Legislation** | **Standards/Codes/Guidance** | **University Policies/Procedures** | **Controls** | **Residual Risk Rating** |
| **L** | **C** |
| 1. School of Physics General office-based activities: | Refer separate risk register for generic offices in Physics.  Possible risk/hazard:   * electrical, manual handling and furniture related. * Poor ergonomic and workstation layout * Poor storage and office space * Poor environmental characteristics:   + thermal discomfort   + nuisance noise   + inadequate lighting   + glare * Poorly maintained equipment * Office waste * Access to facilities including:   + toilets   + washing facilities   + drinking water   + dining facilities | **Unlikely** | **Minor** | **Low** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic)   Refer to ***Electrical*** category for electrical legislation | * AS 1680 (series) Interior lighting * AS/NZS 2107 Acoustics - Recommended design sound levels and reverberation times for building interiors * AS/NZS 1668 (series) The use of ventilation and air conditioning in buildings * AS/NZS 4438 Height Adjustable swivel chairs * AS/NZS 4442 Office desks * AS/NZS 4443 Office panel systems – Workstations   AS 3755: Acoustics - Measurement of airborne noise emitted by computer and business equipment   * AS 3756: Acoustics - Measurement of high- frequency noise emitted by computer and business equipment * AS 3757: Acoustics - Declared noise emission values of computers and business equipment * AS/NZ 2982: Laboratory design and construction * AS 4775: Emergency eyewash and shower equipment * OfficeWise A guide to health and safety in offices (Vic) * Compliance code. Workplace amenities and work environment (Vic) * Safe design (SafeWork Australia web site) * Building Code of Australia (Cth)   Refer to ***Electrical*** category for electrical Standards/codes/guidance | * *Health & Safety: Housekeeping requirements* * *Health & Safety: Temperature extremes requirements* * *Health & Safety: Facilities and amenities requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Waste management requirements* * *Health & Safety: Hazardous manual handling requirements*   *Health & Safety: Ergonomic requirements*   * *Recruitment and appointment policy (MPF1152)*   Refer to ***Electrical*** category for electrical University policies/procedures | * Risk assessment, * Training and instruction, * Ergonomic assessment course available. * Scheduled workplace inspections * Workstation ergonomic assessments * Preapproved University Providers * Provision of facilities:   + toilets   + washing facilities   + eating and drinking facilities * Office waste removal and recycling initiatives * University Services ergonomic and manual handling subject matter expert * Get Ready to Work and onboarding University web site * Local area induction * Hazardous waste removal procedures and processes * Equipment such as ladders, stepstools, anti-slip mats, handrails, anti-slip paints, cable conduits. * Safety signage:   + wet surface   + cleaning in progress   + rerouting for emergency exits | **Low** |

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| 2. Contractor | * Unfamiliar with University health and safety procedures * Work that adversely impacts on the University environment and/or staff/students * Conducting work unsafely or in conflict University procedures * High risk and/or specialised tasks * Introduced hazards into the workplace | **Possible** | **Severe** | **Extreme** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.6 High Risk Work * *Occupational Health and Safety Regulations 2017* (Vic) Part 5.1 Construction | * AS 4301 General conditions of tendering and tender form for design and construct contract * Contractor guidelines (Vic) * Information on engaging a contractor (Vic) * Checklist – Contractor, subcontractor (Vic) | * *Health & Safety: Risk management requirements* * *Health & Safety: Contractor (service provider) requirements* | * Contractor agreed scope of works and/or contracts prior to commencing work * Contractor performance monitoring and reviews * Contractor health and safety questionnaire * Contractor health and safety plans * Risk assessments * Standard operating procedures * University contact person:   + Contract Manager   + Project Manager * University of Melbourne contractor induction * Local area contractor induction | **Medium** |

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| 3. Events  Open Day | * Equipment hire * Unknown and introduced risks * Large numbers of people/public * Inadequate venue * Uncontrolled events * One-off events * Inappropriate behaviours * Traffic hazards   Refer to ***Contractors*** category for contractor hazards/risks  Refer to ***Hazardous Manual Handling*** for hazardous manual handling hazards/risks  Refer to ***Alcohol*** category for alcohol hazards/risks | **Unlikely** | **Severe** | **High** | * *Occupational Health and Safety Act 2004* * *Equipment (Public Safety) Regulations 2017* (Vic)   Refer to ***Contractors*** category for contractor legislation  Refer to ***Hazardous Manual Handling*** for hazardous manual handling legislation  Refer to ***Alcohol*** category for alcohol legislations | * Major events, advice for managing safely (Vic) * Non-profit fundraising events: alcohol, safety and event management (Qld) * Traffic management guide – events (Cth)   Refer to ***Contractors*** category for contractor Standards/codes/guidance  Refer to ***Hazardous Manual Handling*** for hazardous manual handling Standards/codes/guidance  Refer to ***Alcohol*** category for alcohol Standards/codes/guidance | * *Alcohol policy (MPF1267)* * *Appropriate workplace behaviour policy (MPF1328)* * *Health & Safety: Risk management requirements* * *Health & Safety: Contractor management requirements*   Refer to ***Contractors*** category for contractor University policies/procedures  Refer to ***Hazardous Manual Handling*** for hazardous manual handling University policies/procedures  Refer to ***Alcohol*** category for alcohol University policies/procedures | * Events management web site * Event team * Events guidance * Risk assessments * Event management processes * Events management – Health and safety   information   * Standard operating procedures for setting up events   Refer to ***Contractors*** category for contractor controls  Refer to ***Hazardous Manual Handling*** for hazardous manual handling controls  Refer to ***Alcohol*** category for alcohol controls | **Medium** |

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| 4 Hazardous manual handling | * Hazardous manual handling tasks/activities that include the following characteristics:   + repetitive or sustained application of force   + repetitive or sustained awkward posture   + repetitive movement   + application of high force   + exposure to sustained vibration   + handling of a person or an animal   + handling of unstable or unbalanced loads or loads which are difficult to grasp or hold | **Possible** | **Major** | **High** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.1 Hazardous Manual Handling | * Your health and safety guide to manual handling (Vic) * Model code of practice. Hazardous manual tasks (Cth) * Manual handling risk assessing and controlling (Vic) * Manual handling risk management in a large organisation (Vic) * Compliance code. Hazardous manual handling (Vic) * OfficeWise A guide to health and safety in offices (Vic) | * *Health & Safety: Hazardous manual handling requirements* * *Health & Safety: Ergonomic requirements* * *Health & Safety: Risk management requirements* * *Recruitment and appointment policy (MPF1152)* | * Office Ergonomics University web site * Manual handling training * Workstation ergonomic assessment training * Manual handling risk assessments * Mechanical aids and lifting devices   + trolleys   + forklifts   + pedestrian stackers and walkers   + platform ladders   + hoists * Work station risk assessments (keyboard and work station checklists) * Pre-purchase assessments * University Services ergonomic and manual handling subject matter expert * Recruitment and selection – Induction University web site * Risk assessments * Standard operating procedures * Induction | **Medium** |

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| 5. Travel and Off Campus | * Domestic travel * Overseas travel | **Unlikely** | **Major** | **High** | * *Occupational Health and Safety Act 2004* (Vic) | * Outdoor Council of Australia web site * Outdoors Victoria (Vic) | * *Health & Safety: Travel and off campus requirements* | * UniTravel booking system | **Medium** |
| 6. Activities and Placements | * Remote locations * Field trips and activities * Driving and travel arrangements * Inadequate communication * Unexpected events/emergencies * Fatigue * Placements   + Students in buildings/locations not controlled by the University   + Staff in buildings/locations not controlled by the University |  |  |  | * *Road Safety Act 1986* (Vic) * *Road Safety (Drivers) Regulations 2009* (Vic) * *Road Safety (Road Rules) Regulations 1999* (Vic) | * Adventure activity standards (Vic) * Travel (DFAT Cth web site) * National guidelines for working alone or in a remote locality [Cth Safety Management Forum] * Fatigue (SafeWork Australia web site) * Placing workers in safe workplaces. Safety management systems guide for labour hire agencies (Vic) * Safety when working off site (NSW) | * *Health & Safety: Vehicle use requirements* * *Health & Safety: Risk management requirements* * *Student travel and transport policy (MPF1209)* * *Alcohol policy (MPF1267)* | * Travel Service Provider – initial response for adverse events * Field trip risk assessment * Field trip plan * DFAT warnings * University of Melbourne Health Services * Travel to high risk destinations risk assessment * Non-UniTravel risk assessments * Medical declaration * Placement contracts/agreements * Local induction * Provision of information (eg handbook) * Host organisation information |  |

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| 7. Asbestos and Hazardous Materials | * Exposure to hazardous materials:   + asbestos   + lead   + synthetic mineral fibres   + polychlorinated biphenyl * Asbestos and hazardous materials waste | **Rare** | **Major** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 4.3 Lead * *Occupational Health and Safety Regulations 2017* (Vic) Part 4.4 Asbestos | * Compliance code. Managing asbestos in the workplace (Vic) * Model code of practice. How to manage and control asbestos in the workplace (Cth) * AS 2601 The Demolition of structures * Asbestos (WorkSafe Vic web site) | * *Health & Safety: Asbestos and hazardous materials requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Signage requirements* * *Health & Safety: Waste management requirements* | * Division 5 asbestos survey and risk assessment * Division 6 asbestos survey and risk assessment * Engage hygienists with knowledge and skills in asbestos and hazardous materials surveys and management plans * Engage licensed asbestos contractors/removalist * Asbestos and hazardous materials register * Asbestos management plan * Signage and labelling * Signage and Labelling Information training * Restricted access * Hazardous waste removal procedures and   processes | **Low** |

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| 8. Alcohol and Drugs | * Inappropriate behaviour * Injury * Discarded needles:   + occupational injury/disease * operating plant/equipment whilst impaired * working in potentially hazardous environments whilst impaired | **Rare** | **Moderate** | **Low** | * *Occupational Health and Safety Act 2004* (Vic) | * Australian Drug Information network web site (Cth) * Guide to developing a workplace alcohol and other drugs policy (Vic) * Alcohol (WorkSafe Vic web site) | * *Alcohol Policy (MPF1267)* * *Student conduct policy (MPF1324)* * *Health & Safety: Risk management requirements* | * Responsible alcohol service requirements * Conditions of employment * University of Melbourne event authorisation process * University events involving alcohol: management and safety checklist * Risk assessments * Event management * Local area procedures and processes * Immunisation * Sharps disposal facilities | **Low** |

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| 9. Confined  Spaces | * Unrestricted access to confined spaces * Inadequate risk assessment of confined space * Inadequate identification of confined space * Poorly ventilated workplaces | **Rare** | **Severe** | **High** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.4 Confined Spaces | * AS 2865 Confined spaces * HB 213 Guidelines for Safe working in a confined space * Compliance code. Confined spaces (Vic) * Confined spaces, shafts, tunnels and trenches (Vic) * The dangers of poorly ventilated workplaces (Vic) | * *Health & Safety: Confined spaces requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Signage requirements* | * Confined space entry permit system * Confined space entry training * Confined space emergency procedures * Confined spaces authorising officers * Safety signage * Confined space risk assessments * Safe work method statements * Confined spaces register * Restricted access | **Low** |

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| 10. Cooling Towers | * Legionella bacteria in cooling tower system * Access to roofs * Access to plant * Use of chemicals * Working at heights   Refer to ***Plant*** category for plant hazards/risks  Refer to ***Chemical*** category for chemical hazards/risks  Refer to ***Working at Heights*** category for working at heights hazards/risks | **Rare** | **Major** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Building Act 1993* (Vic) * *Public Health and Wellbeing Act*   2008 (Vic)   * *Public Health and Wellbeing Regu*lations *2009 (*Vic) * *Building (Legionella Risk Management) Regulations 2001* (Vic) * *Health (Legionella) Regulations 2001* (Vic)   Refer to ***Plant*** category for plant legislation  Refer to ***Chemical*** category for chemical legislation  Refer to ***Working at Heights*** category for working at heights legislation | * AS/NZS 3666: (Series) Air-handling and water systems of buildings - Microbial control - Operation and maintenance * Guide to developing risk management plans for cooling tower systems (Vic) * Victorian Government Department of Health Legionella web site (Vic) * Cooling towers and recycled water (Vic)   Refer to ***Plant*** category for plant Standards/codes/guidance  Refer to ***Chemical*** category for chemical Standards/codes/guidance  Refer to ***Working at Heights*** category for working at heights Standards/codes guidance | * *Health & Safety: Cooling tower risk requirements* * *Health & Safety: Risk management requirements*   Refer to “Plant” *category* for University plant policies/procedures  Refer to “Chemical” *category* for University chemical policies/procedures  Refer to “Working at Heights” *category* for University working at heights policies/procedures | * Cooling tower risk assessments and plans * Cooling tower system registration * Scheduled maintenance and management of cooling towers as per the risk management plans * Cooling tower audit * Restricted access to authorised personnel   Refer to ***Plant*** category for plant controls  Refer to ***Chemical*** category for chemical controls  Refer to ***Working at Heights*** category for working at heights controls | **Low** |
| 11. Emergency  and critical Incident | * Uncontrolled emergency incident leading to adverse outcomes:   + loss of life   + injury or illness   + property damage   + continued unsafe environment * Loss of communication * Breakdown in emergency procedures * Failure to identify critical incident * Uncontrolled critical incident leading to adverse outcomes:   + human life, safety and wellbeing   + animal life, safety and wellbeing   + environmental protection   + the protection of property interests; | **Rare** | **Major** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) | * Building Code of Australia * AS 3745 Emergency control organisation and procedures for buildings, structures and workplaces * AS 1603 (series) Automatic fire detection and alarm systems * AS 1670 (series) Fire detection, warning, control and intercom systems * AS/NZS 1841 (series) Portable fire extinguishers * AS/NZS ISO 31000 Risk management – Principles and guidelines * AS/NZS 5050 Business continuity – Managing disruption-related risk * Compliance Code. First aid (Vic) | * *Health & Safety: Emergency preparedness and response requirements* * *Health & Safety: First aid requirements* * *Health & Safety: Risk management requirements* * [*Health & Safety: incident, injury and hazard reporting and investigation requirements*](http://safety.unimelb.edu.au/publications/procedure/incident/) * *Risk management policy (MPF1194)* * Enterprise risk management system (ERMS) incident and hazard reporting | * Trained first aiders and building wardens * Inductions * Scheduled building evacuations * Campus/building specific Emergency management plans * Building essential services and ongoing maintenance of those services * Task/activity specific emergency procedures and plans * Breathing apparatus training * Staff/student training and instruction (evacuation drills, fire extinguisher training) * University of Melbourne Incident Management System * University of Melbourne Incident Management System resourcing – personnel and resourcing * Security systems and support | **Low** |

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| 12. Ionising  radiation | * Unintentional exposure to:   + open sources   + emitting apparatus * Ionising radiation storage and transport:   + Loss of source   + Incorrect storage   + Loss of control (eg leakage) * Ionising radiation wastes * Deterministic and stochastic injuries/ill health * Musculoskeletal injury from lifting heavy equipment/plant (Refer to “Manual Handling” *category*)   Refer to ***Plant*** category for plant hazards/risks  Refer to ***Hazardous Manual Handling*** *category* for hazardous manual handling hazards/risks | **Rare** | **Moderate** | **Low** | * *Occupational Health and Safety Act 2004* (Vic) * *Radiation Act 2005* (Vic) * *Radiation Regulations* 2007 (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.5 Plant   Refer to ***Plant*** category for plant legislation  Refer to ***Hazardous Manual Handling*** *category* for hazardous manual handling legislation | * Australian dangerous goods transport code Edition 7 * AS 2243.4 Safety in laboratories – Ionizing radiations * HB 9 Occupational personal protection * Recommendations for Limiting exposure to ionizing radiation and national standard for limiting occupational exposure to ionizing radiation (Cth) * Code of practice for the safe transport of radioactive material (Cth) * Safety guide for the safe transport of radioactive material (Cth) * Recommendations for the Discharge of patients undergoing treatment with radioactive substances (Cth) * Code of Practice and safety guide for portable density/moisture gauges containing radioactive sources (Cth) * National directory for radiation protection (Cth) | * *Health & Safety: Ionising radiation requirements* * *University of Melbourne Radiation Management Plan* * *Health & Safety: Risk management requirements* * *Health & Safety: Waste management requirements*   Refer to ***Plant*** category for University plant policies/procedures  Refer to ***Hazardous Manual Handling*** *category* for hazardous manual handling University policies/procedures | * University of Melbourne Management Licence * School/Division Radiation Management Plan * Register Ionising Radiation Sources * University Radiation Advisor and subject matter expert * Departmental Radiation Safety Officers * Secured radiation storage area(s) * Personal monitoring (badges) * Risk assessments * Standard operating procedures * Local area induction and training * Ionising Radiation training * Use licences * Security Plan * Certificate of Compliance | **Low** |

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|  |  |  |  |  |  | * Recommendations for intervention in emergency situations involving radiation exposure (Cth) * Code of practice for the exposure of humans to ionizing radiation for research purposes (Cth) * Code of practice and safety guide for radiation protection and radioactive waste management in mining and mineral processing (Cth) * Code of practice and safety guide for radiation protection in dentistry (Cth) * Code of practice for the security of radioactive sources (Cth) * Radiation protection standard for occupational exposure to ultraviolet radiation (Cth) * Code of practice and safety guide for safe use of fixed radiation gauges (Cth) * Code of practice for radiation protection in the medical applications of ionizing radiation (Cth) * Safety guide for radiation protection in diagnostic and interventional radiology (Cth) * Safety guide for radiation protection in nuclear medicine (Cth) * Safety guide for radiation protection in radiotherapy (Cth) * Safety guide for the management of naturally occurring radioactive material (NORM) (Cth) * Safety guide for the predisposal management of radioactive waste (Cth) * Code of Practice and safety guide for radiation protection in veterinary medicine (Cth) * Code of practice for radiation protection in the application of ionizing radiation by chiropractors (Cth)   Refer to ***Plant*** category for plant Standards/codes/guidance  Refer to ***Hazardous Manual Handling*** *category* for hazardous manual handling Standards/codes/guides |  | * Contamination environmental monitoring * Hazardous waste removal procedures and processes * Personal protective equipment * Laboratory certification   Refer to ***Plant*** category for plant controls Refer to ***Hazardous Manual Handling***  category for hazardous manual handling controls |  |

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| 13. Legal  Compliance | * Injury and/or property damage * Prosecution and fines * Intervention programs * Enforceable undertaking * Reputational damage to the University * Loss of funding:   + government   + private sector   + other * Loss of certification * Restrictions/conditions to or loss of self- insurance approval | **Rare** | **Major** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) * *Workplace Injury Rehabilitation and Compensation Act 2013* (Vic) | * NAT – National Audit Tool * AS/NZS 4804 Occupational health and safety management systems – General guidelines on principles, systems and supporting techniques * AS/NZS 4801 Occupational health and safety management systems – Specification with guidance for use * AS/NZS ISO 31000 Risk management – Principles and guidelines | * *Health and Safety Policy (MPF1205)* * *Health & Safety: Management system documentation requirements* * *Health & Safety: Management system review and audit requirements* * [*Health & Safety: Responsibilities and legal requirements*](http://safety.unimelb.edu.au/publications/procedure/responsibilities-legal/) * *Health & Safety: Consultation representation and committee requirements* * *Health & Safety: Risk management requirements* * [*Health & Safety: Incident, injury, hazard reporting and investigation requirements*](http://safety.unimelb.edu.au/publications/procedure/incident/) | * Health and Safety Management System * Risk assessments * Licenses, permits and agreements * Authorising Officers * Records management and data control * University Health and Safety Committee * Health and safety management representatives * Health and safety representatives and designated work groups * Internal auditing * External auditing * Incident investigation and corrective actions * Enterprise Risk Management System reporting for incidents and hazards * Health and safety resourcing – personnel and infrastructure * WorkCover injury management and rehabilitation resourcing – personnel and infrastructure * WorkCover case managements * Return-to work coordinator * Rehabilitation services | **Low** |
| 14. Noise/Sound Pressure | * Noise greater than the exposure standards * Distracting/nuisance noise * Noise impact on surrounding work areas * Deafness | **Possible** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.2 Noise | * AS 1055 (series) Acoustics – Description and measurement of environmental noise * AS/NZS 1269 (series) Occupational noise management * AS 2822 Acoustics – Methods of assessing and producing speech privacy and speech intelligibility * AS/NZS 2107 Acoustics – Recommended design sound levels and reverberation times for building interiors | * *Health & Safety: Personal protective equipment requirements* * *Health & Safety: Non-ionising radiation requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Signage requirements* | * Purchasing less noisy plant and equipment * Pre-purchase assessment * Acoustic engineering controls * Noise risk assessments * Audiometric screening * Personal protective equipment * Hearing protection training | **Low** |

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|  |  |  |  |  |  | * HB 9 Occupational personal protection * Compliance code. Noise * Noise problems at work – Guide for assessing and fixing (Vic) * Noise – Buy quiet guidelines (Vic) * Model code of practice: Managing noise and preventing hearing loss at work * OfficeWise A Guide to health and safety in offices (Vic) * Sound practice – Health handbook for   orchestra/musicians (University of Sydney) |  | * Signage |  |
| 15. Non-Ionising Radiation (excluding outdoors) including UV and LASERs | * Excessive exposure to non-ionising radiation * Hazards associated different types of non-ionising radiation including:   + UV   + lasers   + microwaves   + infrared   + magnetic resonance   + high frequency   + low frequency * Laser pointers   + possible prohibited weapon (>1 mW)   Refer to **Plant** category for plant hazards/risks | **Unlikely** | **Major** | **High** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.5 Plant * *Telecommunications Act 1997* (Cth) * *Control of Weapons Regulations 2011* (Vic)   Refer to **Plant** category for plant legislation | * AS 1337 (series) Personal eye protection * AS 2243.5 Safety in laboratories – Non- ionising radiations – Electromagnetic, sound and ultrasound * AS 2397 Safe Use of lasers in the building and construction industry * AS/NZS 1337 (series) Eye and face protection   - Lasers   * AS/NZS 1338.2 Filters for eye protectors - Filters for protection against ultraviolet radiation * AS/NZS IEC 60825.1 Safety of laser products   – Equipment classification and requirements   * AS/NZS Safety of laser products – A user’s guide * HB 9 Occupational personal protection * Radiation protection standard for maximum exposure levels to radiofrequency fields – 3kHz to 300GHz (Cth) * Radiation protection standard for occupational exposure to ultraviolet radiation (Cth)   Refer to **Plant** category for plant Standards/codes/guidance | * *Health & Safety: Non-ionising radiation requirements* * *Health & Safety: Risk management requirements* * Refer to **Plant** category for plant University policies/procedures | * University Radiation Advisor and subject matter expert * Local Laser Safety Officers * Risk assessments * Local area standard operating procedures * Local area induction and training * Laser training * Non-Ionising Radiation training * Non-ionising radiation plant register * Standard operating procedures * Personal protective equipment   Refer to **Plant** category for plant controls | **Low** |
| 16. Plant and  Equipment | * Lack of operator competency/training * Unassessed plant and equipment * Lack of/inappropriate guarding * Unrestricted access * Poor management of registrable plant * Poorly maintained plant * Plant maintenance and other non- routine activities:   + stored energy   + entrapment   + malfunction * Poor ergonomic design   + unintuitive operational control   + difficult to operate   + noisy | **Unlikely** | **Major** | **High** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic Part 3.5 Plant) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.6 High Risk Work * *Equipment (Public Safety) Regulations 2017* (Vic)   Refer to ***Electrical*** category for electrical legislation  Refer to ***Ionising Radiation*** category for ionising radiation legislation | * AS 3892 Pressure equipment – Installation * AS 4024 (series) Safety of Machinery * AS 1200 Pressure equipment * AS 2243.6 Safety in laboratories – Mechanical aspects * AS 2971: Serially produced pressure vessels * AS 1893 Code of Practice for the guarding and safe use of metal and paper cutting guillotines * AS 1418 (series) Cranes, Hoists and winches * AS 1353 (series) Flat synthetic-webbing slings * AS 1380 (series) Fibre-rope slings * AS 1438 (series) Wire-coil flat slings * AS 4497 (series) Roundslings—Synthetic fibre | * *Health & Safety: Regulated plant requirements* * *Health & Safety: Personal protective equipment requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Lock out, tagging and isolation requirements* * *Health & Safety: Unsafe plant and equipment requirements* * *Health & Safety: Waste management requirements*   Refer to ***Electrical*** category for electrical University policies/procedures | * Plant risk assessments * Guarding and engineering controls * Emergency stops * Training and supervision * Restricted access * Scheduled maintenance * Standard operating procedures * Plant registers * Pre-purchase assessment – plant and equipment * Personal protective equipment * Hazardous waste removal procedures and   processes | **Low** |
| **Category** | **Description of Hazard/Risk** | **Inherent Risk Analysis** | | **Inherent Risk Rating** | **Legislation** | **Standards/Codes/Guidance** | **University Policies/Procedures** | **Controls** | **Residual Risk Rating** |
| **L** | **C** |
|  | * awkward postures when operating * Inappropriately used * Inappropriately located   + dark area – difficult to see   + impacting adversely on surrounding activities   + unstable footing * Operated in inappropriate environment * Falling objects (including unpiloted craft eg drones)   Refer to ***Electrical*** category for hazards/risks with using electrical equipment  Refer to ***Ionising Radiation*** for hazards/risks information  Refer to ***Non-Ionising Radiation*** for hazards/risks information |  |  |  | Refer to ***Non-Ionising Radiation*** category for non-ionising radiation legislation | * AS 1473 (series) Guarding and safe use of woodworking machinery * AS/NZS 1576 (series) Scaffolding * Model code of practice. Managing risks of plant in the workplace * Compliance code. Plant (Vic) * Machinery and equipment safety – an introduction (Vic) * Clearing sales – Improving safety in used agricultural machinery and equipment sales (WorkSafe Vic web site) * Flying drones/remotely piloted aircraft in Australia (Civil Aviation Safety Authority web site)   Refer to ***Electrical*** category for electrical Standards/codes/guidance  Refer to ***Ionising Radiation*** category for ionising radiation Standards/codes/guidance  Refer to ***Non-Ionising Radiation*** category for non-ionising radiation Standards/codes/guidance | Refer to ***Ionising Radiation*** category for ionising radiation University policies/procedures  Refer to ***Non-Ionising Radiation*** category for non-ionising radiation University policies/procedures | * Removal of decommissioned plant * Plant Safety training   Refer to ***Electrical*** category for electrical controls  Refer to ***Ionising Radiation*** category for ionising radiation controls  Refer to ***Non-Ionising Radiation*** category for non-ionising radiation controls |  |
| 17. Procurement of Goods and Services | * Introducing new or uncontrolled hazards into the workplace:   + personal protective equipment   + office furniture and equipment   + chemicals and substances   + radiation sources   + plant and equipment (including electrical) * Introducing new and/or uncontrolled wastes   Refer to specific hazard category for hazards/risks including:   * + chemical   + biological (and other pathogens)   + ionising radiation   + working with animals   Refer to ***Contractors*** category for contractor hazards/risks | **Possible** | **Minor** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic)   Refer to specific hazard category for legislation including:   * + chemical   + biological (and other pathogens)   + ionising radiation   + working with animals   Refer to ***Contractors*** category for contractor legislation | Refer to specific hazard category for Standards/codes/guidance including:   * chemical * biological (and other pathogens) * ionising radiation * working with animals   Refer to ***Contractors*** category for contractor Standards/codes/guidance | * *Health & Safety: Risk management requirements* * *Health & Safety: Purchasing requirements*   Refer to specific hazard category for University policies/procedures including:   * + chemical   + biological (and other pathogens)   + ionising radiation   + working with animals   Refer to ***Contractors*** category for contractor policies/procedures | * Pre-purchasing assessments for:   + personal protective equipment   + office furniture and equipment   + chemicals and substances   + radiation sources   + plant and equipment (including electrical) * Preapproved University provider(s) * Hazardous waste removal procedures and processes   Refer to specific hazard category for controls including:   * + chemical   + biological (and other pathogens)   + ionising radiation   + working with animals   Refer to ***Contractors*** category for contractor controls | **Low** |
| 18. Psychosocial | * Occupational stress * Workplace bullying and harassment * Occupational violence * Fatigue | **Rare** | **Severe** | **High** | * *Occupational Health and Safety Act 2004* (Vic) | * Stresswise - Preventing work-related stress a guide for employers in the public sector (Vic) * Workplace bullying – prevention and response (Vic) * A guide to employer: Preventing and responding to work-related violence (Vic) * Code of practice. Working hours (WA) | * *Health & Safety: Risk management requirements* * *Appropriate workplace behaviour (MPF1328)* * *Work hours and related conditions (MPF1173)* * *Workplace relations policy (MPF1179)* * *Student conduct policy (MPF1324)* * [*Student complaints and grievances policy*](http://policy.unimelb.edu.au/UOM0402)   *(MPF1066)* | * Staff Assist Hotline * Counseling services * Employee Assistance Program * Conditions of employment * *Diversity and inclusion* web site * Risk assessments * Mental health training * Safer Community Program | **Low** |

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| **Category** | **Description of Hazard/Risk** | **Inherent Risk Analysis** | | **Inherent Risk Rating** | **Legislation** | **Standards/Codes/Guidance** | **University Policies/Procedures** | **Controls** | **Residual Risk Rating** |
| **L** | **C** |
| 19. Working in isolation | * Absence of availability of others for assistance and support:   + during an activity   + for first aid and emergencies * Increased severity/consequence from an incident * Reduction in emergency assistance and support * Absence of or distant supervision | **Rare** | **Major** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) | * Guidance note. Working alone (WA) * Code of practice. Working hours (WA) * Working alone (WorkSafe Vic web site) | * *Health & Safety: Working in isolation requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Signage requirements* | * Risk assessments * Local area standard operating procedures * Restricted access to University buildings and property * After hours sign in books * 24-hour security support * Working in isolation guidance * Duress alarms * Security monitoring/cameras | **Low** |
| 20. Workplace  Design and Construction | * Introduction hazards/risks at design * Hazards/Risks associated with construction works:   + electrical   + plant   + fall from heights   + chemicals   + manual handling   + noise   + changing environment   + unauthorised access * Hazardous materials removal * Impact on campus traffic management plan * Poor ergonomic design * Design faults   Refer to **Contractors** category for contractor hazard/risks | **Unlikely** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.6 High Risk Work * *Occupational Health and Safety Regulations 2017* (Vic) Part 5.1 Construction   Refer to **Contractors** category for contractor legislation | * AS 1345 Identification of the contents of pipes, conduits and ducts * AS/NZS 3017 Electrical Installations – Verification guidelines * AS/NZS 3019 Electrical Installations – Periodic guidelines * AS/NZS 1576 (series) Scaffolding * AS 1657 Fixed platforms, walkways, stairways and ladders – Design, construction and installation * AS 2436 Guide to noise control on construction, maintenance and demolition sites * Building Code of Australia (Cth) * Construction (SafeWork Australia web site) * Safe design (SafeWork Australia web site)   Refer to **Contractors** category for contractor Standards/codes/guidance | * *Project Management and Design Standards* * *Health & Safety: Risk management requirements* * *Health & Safety: Signage requirements* * *Health & Safety: Ergonomic requirements*   Refer to **Contractors** category for contractor University policies/procedures | * Project managers * Project management * Risk assessments * Restricted/authorised access:   + temporary fencing   + signage * Site and contractor induction * Preferred contractors * Hazardous waste removal procedures and processes   Refer to **Contractors** category for contractor controls | **Low** |
| 21. Workplace  Environment and Facilities | * Poor ergonomic and work station layout * Poor storage and office space * Poor environmental characteristics:   + thermal discomfort   + nuisance noise   + inadequate lighting   + glare * Poorly maintained equipment * Office waste * Access to facilities including:   + toilets   + washing facilities   + drinking water   + dining facilities | **Rare** | **Moderate** | **Low** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic)   Refer to ***Electrical*** category for electrical legislation | * AS 1680 (series) Interior lighting * AS/NZS 2107 Acoustics - Recommended design sound levels and reverberation times for building interiors * AS/NZS 1668 (series) The use of ventilation and air conditioning in buildings * AS/NZS 4438 Height Adjustable swivel chairs * AS/NZS 4442 Office desks * AS/NZS 4443 Office panel systems – Workstations * AS 3755: Acoustics - Measurement of airborne noise emitted by computer and business equipment | * *Health & Safety: Housekeeping requirements* * *Health & Safety: Temperature extremes requirements* * *Health & Safety: Facilities and amenities requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Waste management requirements* * *Health & Safety: Hazardous manual handling requirements* * *Health & Safety: Ergonomic requirements* | * Scheduled workplace inspections * Work station ergonomic assessments * Preapproved University Providers * Provision of facilities:   + toilets   + washing facilities   + eating and drinking facilities * Risk assessments * Office waste removal and recycling initiatives * University Services ergonomic and manual handling subject matter expert | **Low** |

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| **Category** | **Description of Hazard/Risk** | **Inherent Risk Analysis** | | **Inherent Risk Rating** | **Legislation** | **Standards/Codes/Guidance** | **University Policies/Procedures** | **Controls** | **Residual Risk Rating** |
| **L** | **C** |
|  | * Poor housekeeping:   + blocked emergency exits   + blocked emergency equipment   + waste accumulation   + electrical cable trip hazards   + trip hazards   + slips, trips and falls   Refer to ***Electrical*** category for electrical hazards/risks |  |  |  |  | * AS 3756: Acoustics - Measurement of high- frequency noise emitted by computer and business equipment * AS 3757: Acoustics - Declared noise emission values of computers and business equipment * AS/NZ 2982: Laboratory design and construction * AS 4775: Emergency eyewash and shower equipment * OfficeWise A guide to health and safety in offices (Vic) * Compliance code. Workplace amenities and work environment (Vic) * Safe design (SafeWork Australia web site) * Building Code of Australia (Cth)   Refer to ***Electrical*** category for electrical Standards/codes/guidance | * *Recruitment and appointment policy (MPF1152)*   Refer to ***Electrical*** category for electrical University policies/procedures | * Get Ready to Work and onboarding University web site * Local area induction * Hazardous waste removal procedures and processes * Equipment such as ladders, stepstools, anti-slip mats, handrails, anti-slip paints, cable conduits. * Safety signage:   + wet surface   + cleaning in progress   + rerouting for emergency exits   Refer to ***Electrical*** category for electrical controls |  |
| 22. Working  Outdoors | * Exposure to adverse weather conditions:   + thermal (heat cold)   + rain   + ultraviolet light exposure   + wind   + uncontrolled environment | **Rare** | **Minor** | **Low** | * *Occupational Health and Safety Act 2004* (Vic) | * AS/NZS 1338.2: Filters for eye protectors- Filters for protection against ultraviolet radiation * AS/NZS 4399: Sun protective clothing - Evaluation and classification * AS/NZS 4501.2: Occupational protective clothing - General requirements * AS/NZS 1067.1: Eye and face protection - Sunglasses and fashion spectacles - Requirements * Radiation protection standard for occupational exposure to ultraviolet radiation (Cth) * Sun protection for construction and other outdoor workers (Vic) * Working in heat (Vic) * HB 9 Occupational Personal Protection | * *Health & Safety: Risk management requirements* * *Health & Safety: Personal protective equipment requirements* | * Risk assessments * Scheduled work at appropriate times, seasons and weather conditions * Local area standard operating procedures * Personal protective equipment:   + wet weather gear   + long sleeved summer clothing   + sunhats   + sunglasses * Sunscreen | **Low** |

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| **L** | **C** |
| 23. Chemical | * Chemical exposure - acute or chronic:   + inhalation   + absorption   + ingestion   + injection * Fire and/or explosion through incorrect storage, handling, labeling or mixing of chemicals * New chemicals with uncertain properties arising from research and subsequent health affects * Time sensitive chemicals that can become unstable during storage * Production of hazardous wastes * Contamination due to accidental leakage, spills, emissions:   + air   + water   + soil/ground * Engineered nanoparticles | **Possible** | **Severe** | **Extreme** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 4.1 Hazardous Substances and Materials * *Occupational Health and Safety Regulations 2017* (Vic) Part 4.2 Scheduled Carcinogenic Substances * *Dangerous Goods Act 1985* (Vic) * *Dangerous Goods (Storage and Handling) Regulations 2012* (Vic) * *Drugs Poisons and Controlled Substances Regulations 2017* (Vic) * *Drugs Poisons and Controlled Substances (Precursor Chemicals) Regulations 2007* (Vic) * *Drugs Poisons and Controlled Substances (Volatile Substances) Regulations 2007* (Vic) * *Therapeutic Goods Act 2010* (Vic) * *Weapons of Mass Destruction (Prevention of Proliferation) Act 1995* (Cth) * *Weapons of Mass Destruction 1995*   (Cth)   * *Agricultural and Veterinary Chemicals (Victoria) Act 1994* (Vic) | * Australian dangerous goods transport code Edition 7 * AS/NZS 1020 The control of undesirable static electricity * AS 1216: Class labels for dangerous goods * AS 1345 Identification of the contents of pipes, conduits and ducts * AS/NZS 1596: The storage and handling of LP Gas * AS 1894 The storage and handling of non- flammable cryogenic and refrigerated liquids * AS 1940; The storage and handling of flammable and combustible liquids * AS 1940: The storage and handling of flammable and combustible liquids * AS/NZS 2022: Anhydrous ammonia - Storage and handling * AS/NZS 2229 Fuel dispensing equipment for explosive atmospheres * AS/NZS 2243.2: Safety in laboratories – Chemical aspects * AS/NZS 2243.10: Safety in laboratories – Storage of chemicals * AS 2507: The storage and handling of agricultural and veterinary chemicals * AS 2567: Laminar flow cytotoxic drug safety cabinets * AS 2714: The storage and handling of organic peroxides * AS/NZS 2927: The storage and handling of liquefied chlorine gas * AS 3780: The storage and handling of corrosive substances * AS/NZS 3833: The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers * AS 3961: The storage and handling of liquefied natural gas * AS/NZS 4081: The storage and handling of liquid and liquefied polyfunctional isocyanates * AS 4326: The storage and handling of oxidizing agents * AS 4332: The storage and handling of gases   in cylinders | * *Health & Safety: Chemical management requirements* * *Health & Safety: Regulated plant requirements* * *Health & Safety: Personal protective equipment* * *Health & Safety: Risk management requirements* * *Health & Safety: Workplace inspection requirements* * *Health & Safety: Waste management requirements* * *Health & Safety: Spill management requirements* | * GoldFFX – SDS repository, chemical manifest and inventory system * Chemical Management University web site * Chemical management guidelines * Chemical risk assessments * Risk assessments that include chemical * Local area standard operating procedures * Pre-purchase assessment – chemicals * Licensing agreements and requirements * Engineering controls such as:   + fume cupboards   + mechanical ventilation   + extraction   + atmospheric monitoring * Purpose built storage areas for cylinders and compressed gases * Restricted access to authorised personnel * Correct labelling, storage and segregation * Scheduled workplace assessments that include chemical assessment * Time sensitive chemicals dated * Emergency procedures for accidental release/spillage * Emergency showers and eye wash * Employee health monitoring * Chemical Management training * Gas Safety training * Personal protective equipment training * Personal protective equipment * Hazardous waste removal procedures and processes * University Services chemical subject matter expert | **Medium** |

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| **L** | **C** |
|  |  |  |  |  |  | * AS/NZS 4452: The storage and handling of toxic substances * AS/NZS 4681: The storage and handling of Class 9 (miscellaneous) dangerous goods and articles * AS/NZS 4757 Handling and destruction of drugs * AS/NZS 5026: The storage and handling of Class 4 dangerous goods * AS/NZS 60079.10.1 Explosive atmospheres – classification of areas – Explosive gas atmospheres (IEC 60079-10-1 ed 1.0 [2008) mod) * HB 9 Occupational Personal Protection * Model Code of Practice. Preparation of safety data sheets (Cth) * Model Code of Practice. Labelling workplace chemicals (Cth) * Globally Harmonised System for the Classification and Labelling of Chemicals (GHS) information sheet (Cth) * Standard for the uniform scheduling of drugs and poisons (Cth) * Hazardous Chemical Information System (HCIS) * National Industrial Chemical Notification and Assessment Scheme (NICNAS) * Model Code of Practice: Managing risks of hazardous chemicals in the workplace (Cth) * Hazardous Substances Information System (HSIS) web site (Cth) * Guidelines for Health Surveillance NOHSC:7039 [1995]) * Compliance code. Hazardous substances (Vic) * Engineered nanomaterials: Investigating substitution and modification options to reduce potential hazards (Safe Work Australia) * Work Health and safety assessment tool for handling engineered nanomaterials (Safe Work Australia) * National hazard exposure worker surveillance: Exposure to dust, gases, vapours, smoke and fumes and the provision of controls for these airborne hazards in Australian workplaces   (Cth) |  |  |  |

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| 24. Laboratories | * Hazards associated with the work/research undertaken in the laboratory   + chemical   + biological (and other pathogens)   + ionising radiation   + non-ionising radiation   + mechanical aspects   + electrical aspects * Hazards associated with plant and equipment. For example:   + centrifuge   + autoclave   + microscope   + pipette   + fume hoods   + biological cabinets * refrigerators/freezers * cage washer * Generation of wastes as per specific hazard category   + chemical   + biological (and other pathogens)   + radiological   + infectious diseases   Refer to specific hazard category for hazards/risks including:   * + chemical   + biological (and other pathogens)   + ionising radiation   + non-ionising radiation   + plant and equipment   + electrical aspects | **Unlikely** | **Major** | **High** | * *Occupational Health and Safety Act 2004* (Vic)   Refer to specific hazard category for legislation including:   * + chemical   + biological (and other pathogens)   + ionising radiation   + non-ionising radiation   + plant and equipment   + electrical aspects | * AS 1319 Safety signs for the occupational environment * AS 2982 Laboratory design and construction * AS 4775 Emergency eyewash and shower equipment * AS 2243 (series) Safety in laboratories * HB 9 Occupational personal protection   Refer to specific hazard category for Standards/codes/guidance including:   * + chemical   + biological (and other pathogens)   + ionising radiation * non-ionising radiation * plant and equipment * electrical aspects | * *Health & Safety: Laboratory requirements* * *Health & Safety: Personal protective equipment requirements* * *Health & Safety: Risk management requirements* * *Health & Safety: Workplace inspection requirements* * *Health & Safety: Signage requirements* * *Health & Safety: Waste management requirements* * *Health & Safety: Spill management requirements*   Refer to specific hazard category for University policies/procedures   * chemical * biological (and other pathogens) * ionising radiation * non-ionising radiation * plant and equipment * electrical aspects | * Laboratory risk assessments * Local area standard operating procedures * Restricted access * Area (laboratory) inductions * Scheduled laboratory inspections * Personal protective equipment * Refer to specific hazard *category* for required controls * Hazardous waste removal procedures and processes   Refer to specific hazard category for controls:   * chemical * biological (and other pathogens) * ionising radiation * non-ionising radiation * plant and equipment * electrical aspects | **Low** |

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| **Undergraduate Laboratories**   * **Part I, II, & III** * **Lecture Demonstrations**   Student laboratories hosting practical classes which are also used by other faculties. | Each practical exercise is designed for minimum hazards and low-level risks.  These include:   * Slips and trips * electrical, * chemical, * Mechanical sharps, collisions. * Radiation Ionizing & Non-Ionizing * Workplace and environment and Facilities Procurement of Goods and Services * Travel and Off Campus Activities and Placements * Contractor * Events related such as Large numbers of people/public * Noise/Sound Pressure | **Possible** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.6 High Risk Work * *Occupational Health and Safety Regulations 2017* (Vic) Part 5.1 Construction * *Road Safety Act 1986* (Vic) * *Road Safety (Drivers) Regulations 2009* (Vic) * *Road Safety (Road Rules) Regulations 1999* (Vic) * *Equipment (Public Safety) Regulations 2017* (Vic) | * AS/NZS 3000 Electrical installations (Australian/New Zealand Wiring Rules) * Refer to AS/NZS 3000 wiring rules Appendix A referenced documents * AS/NZS 3105 Approval and test specification – Electrical and portable outlet devices * AS/NZS 3199 Approval and test specification – Cord extension sets * AS/NZS 3200: (Series) Approval and test specification - Medical electrical equipment * AS/NZS 3760 In-service safety inspection and testing of electrical equipment * AS/NZS 3112 Approval and test specification – Plug and socket outlets * AS/NZS 1660 (series) Test methods for electric cables, cords and conductors * Model code of practice. Managing Electrical risks in the workplace * Electrical Equipment and safety guidelines (Vic) | * Liaise with Faculty Safety Manager and Radiation Officers. * Health & Safety: Risk management requirements * Health & Safety: Contractor (service provider) requirements * Refer to specific hazard category for University policies/procedures   + chemical   + ionising radiation   + non-ionising radiation   + plant and equipment   + electrical aspects * *Health & Safety: Personal protective equipment requirements* * *Health & Safety: Chemical management requirements* * *Health & Safety: Regulated plant requirements* * *Health & Safety: Personal protective equipment* * *Health & Safety: Risk management requirements* * *Health & Safety: Workplace inspection requirements* * *Health & Safety: Waste management requirements*   *Health & Safety: Spill management requirements* | * Risk assessments; * SOPs * training and instruction and inductions, * workplace inspection, onsite training, * inductions, and supervision * signage. | **Low** |

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| **Laser Optics Research Labs**:  Experimental research in physical optics including several optical technologies. | * Radiation – Laser. * Electrical. Some equipment has been specially built but Physics has access to trained engineers in the SFTW * Manual Handling * Ergonomic related * Chemical | **Possible** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Marine Act 1988* (Vic) * *Marine Regulations 1999* (Vic) | * AS/NZS 3000 Electrical installations (Australian/New Zealand Wiring Rules) * Refer to AS/NZS 3000 wiring rules Appendix A referenced documents * AS/NZS 3105 Approval and test specification – Electrical and portable outlet devices * AS/NZS 3199 Approval and test specification – Cord extension sets * AS/NZS 3200: (Series) Approval and test specification - Medical electrical equipment * AS/NZS 3760 In-service safety inspection and testing of electrical equipment * AS/NZS 3112 Approval and test specification – Plug and socket outlets * AS/NZS 1660 (series) Test methods for electric cables, cords and conductors * Model code of practice. Managing Electrical risks in the workplace   Electrical Equipment and safety guidelines (Vic) | * *Health & Safety: Scientific diving requirements* * *Health & Safety: Risk management requirements*   Guided by the Universities Radiation Officer, the Schools Radiation Officers.  Controlled by P&CS test tag; RCD testing, general earthing testing  Training Matrix and “Manual Handling”  session where appropriate  EHS safety web-site.  See Training Matrix and determine necessity for Chemical Management Training | * Risk assessments; training and instruction, workplace inspection, onsite training, inductions, supervision, and signage. Engineering, PPE, administrative, isolation (interlock) controls.   Risk assessments and advice from SFTW. Advice from OHS group where necessary.  Engineering: use of appropriate equipment.  Elimination if possible by using modern equipment (low weight alternatives)  Ergonomic training available to implement appropriate controls.  Uni supplied waste-removal.  Engineering (fume-hoods).  PPE (gloves and eye ware).  SOPs and RAs.   * These are used extensively and hence the need for an on-site Radiation Officer | **Low** |

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| **Category** | **Description of Hazard/Risk** | **Inherent Risk Analysis** | | **Inherent Risk Rating** | **Legislation** | **Standards/Codes/Guidance** | **University Policies/Procedures** | **Controls** | **Residual Risk Rating** |
| **L** | **C** |
| **X-ray Optics Labs:** This is using the new commissioned x-ray apparatus | Radiation (ionizing)  Electrical  Sounds/ noise | **Possible** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Electrical Safety Act 1998* (Vic) * *Electrical Safety (Equipment) Regulations 1999* (Vic) * *Electricity Safety (Management) Regulations 2009* (Vic) * *Electricity Safety (Installations) Regulations 2009* (Vic) | * AS/NZS 3000 Electrical installations (Australian/New Zealand Wiring Rules) * Refer to AS/NZS 3000 wiring rules Appendix A referenced documents * AS/NZS 3105 Approval and test specification – Electrical and portable outlet devices * AS/NZS 3199 Approval and test specification – Cord extension sets * AS/NZS 3200: (Series) Approval and test specification - Medical electrical equipment * AS/NZS 3760 In-service safety inspection and testing of electrical equipment * AS/NZS 3112 Approval and test specification – Plug and socket outlets * AS/NZS 1660 (series) Test methods for electric cables, cords and conductors * Model code of practice. Managing Electrical risks in the workplace * Electrical Equipment and safety guidelines (Vic) | * *Health & Safety: Risk management requirements* * *Health & Safety: Electrical inspection and testing requirements* * *Health & Safety: Isolation, lock out, tag out requirements* * *Health & Safety: Unsafe plant and equipment requirements* * *Health & Safety: Purchasing requirements*   Extensive use of on-site Radiation Officer for advice. | * Risk Assessment * Monitoring using counters and dosage badges. * Engineering: interlocks * Isolation: lead-shielding | **Low** |
| **ECMP research laboratories**: This is including the ‘Pelletron’ labs, Vapour-Deposition labs and materials labs.  The Micro Analytical Research Centre covers many areas with liaison with non-Physics groups | * Electrical * Manual Handling * Prevention of falls * Working in confined spaces * Radiation (ionizing) * Chemical * Pressurized equipment. * Large Pelletron tank housing SF6. | **Possible** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* * *Equipment (Public Safety) Regulations 2017* (Vic) | * AS/NZS 3000 Electrical installations (Australian/New Zealand Wiring Rules) * Refer to AS/NZS 3000 wiring rules Appendix A referenced documents * AS/NZS 3105 Approval and test specification – Electrical and portable outlet devices * AS/NZS 3199 Approval and test specification – Cord extension sets * AS/NZS 3200: (Series) Approval and test specification - Medical electrical equipment * AS/NZS 3760 In-service safety inspection and testing of electrical equipment * AS/NZS 3112 Approval and test specification – Plug and socket outlets * AS/NZS 1660 (series) Test methods for electric cables, cords and conductors * Model code of practice. Managing Electrical risks in the workplace * Electrical Equipment and safety guidelines (Vic) | * *Appropriate workplace behaviour policy (MPF1328)* * *Health & Safety: Risk management requirements* * *Health & Safety: Contractor management requirements*   *P&CS inspections.*  *Training Matrix to determine exposure.*  *Use of P&CS for advice.*  *Requires OHS recommendation*  *Radiation badging necessary with external processing.*  *Inspection by Uni Radiation Safety Officer*  *See Training Matrix and determine necessity for Chemical Management Training*  *P&CS schedule and external certification.* | * SOPs, RAs. Engineering: all equipment to be suitably earthed and isolated * Administrative: regular test & tag. * Engineering: use suitable equipment available from SFTW. * Engineering: protective coatings and hand-rails * Training, engineering, administrative and possible PPE. RA and SOPs to be written * Engineering, some lead shielding to reduce radiation to negligible with regular monitoring. * Uni Supplied waste-removal. * Engineering (fume-hoods). * PPE (gloves and eyeware). * SOPs and RA. * Training for safe gas-handling. Engineering overpressure devices for excess pressure. RAs and SOPs. Single operator policy. | **Low** |

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| **L** | **C** |
| **Experimental Particle Physics Lab**: This area is to be reworked with room marked for clearing.   * Contains residual unused equipment. Currently used for conferencing in main ‘office’ type space. Occupied by post-docs who work with outside agencies – eg the Synchrotron. | Electrical | **Possible** | **Moderate** | **Medium** | * *Occupational Health and Safety Act 2004* (Vic) * *Occupational Health and Safety Regulations 2017* (Vic) Part 3.1 Hazardous Manual Handling | * AS/NZS 3000 Electrical installations (Australian/New Zealand Wiring Rules) * Refer to AS/NZS 3000 wiring rules Appendix A referenced documents * AS/NZS 3105 Approval and test specification – Electrical and portable outlet devices * AS/NZS 3199 Approval and test specification – Cord extension sets * AS/NZS 3200: (Series) Approval and test specification - Medical electrical equipment * AS/NZS 3760 In-service safety inspection and testing of electrical equipment * AS/NZS 3112 Approval and test specification – Plug and socket outlets * AS/NZS 1660 (series) Test methods for electric cables, cords and conductors * Model code of practice. Managing Electrical risks in the workplace   Electrical Equipment and safety guidelines (Vic) | * *Health & Safety: Hazardous manual handling requirements* * *Health & Safety: Ergonomic requirements* * *Health & Safety: Risk management requirements*   P&CS scheduled test and tag | * via RAs and SOPs. | **Low** |