1. Introduction:

**Policy Summary:** It is the policy of The School of Mining Engineering (SoME) that all individuals in laboratories, as defined herein, wear appropriate attire and Personal Protective Equipment (PPE). Appropriate attire and PPE includes, but is not limited to, safety glasses, goggles, face-shields, lab coats, gloves, hearing protection, dust masks or respirators and protective footwear. These items are described in Section 7.

**UNSW Policy Statement**

This policy states the commitment of the University of New South Wales (UNSW) to the health, safety and welfare of all people who work, study, or visit this organisation. This policy applies to staff, students, visitors, contractors and labour hire employees of UNSW. The University of New South Wales is a leading Australian University with a diverse range of research, teaching programs and centres of excellence covering a multitude of disciplines and research areas. Health and safety is intrinsic to the way we do business at UNSW. Our overall aim is “Harm to Zero”, with the expectation that all persons shall come to no harm while in the workplace.

2. Purpose:

The purpose of this document is to outline the SoME requirements for appropriate attire and the use of PPE in laboratories. Laboratories are defined as any place where chemicals, machinery, tools and testing equipment are used, stored, or manipulated. Including where cement compounds, rock and materials of a chemical nature are poured, transferred, pipetted, reacted, heated, or in any way manipulated or stored.

3. Authority:

This document has been reviewed, approved by the Head of School and Chair of the Level 3 Health and Safety (H&S) Committee of the SoME.

4. Appropriate Lab Attire:

Personal attire while in the laboratory plays a major role in determining the level of risk of exposure to hazardous agents and of physical injury. Appropriate clothing provides an extra layer of protection against spills and splashes of hazardous materials and machinery. Appropriate clothing covers the torso, legs, and feet. Therefore, the following practices shall be adhered to in the SoME laboratories:
<table>
<thead>
<tr>
<th>Allowed</th>
<th>Not Allowed</th>
<th>Explanation</th>
</tr>
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<tbody>
<tr>
<td>Hair must be kept away from the eyes. Long hair must be tied back.</td>
<td>Hair must not impede vision, come in contact with the work.</td>
<td>Hair can impede vision. Long hair can come in contact with chemicals and be a hazard around rotating equipment.</td>
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<tr>
<td>Hair longer than 15cm from the nape of the neck must also pinned up</td>
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<td>of hair nets or hats is acceptable.</td>
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<td>Ties and scarves that do not hang loose from the body.</td>
<td>Neckwear such as ties and scarves that hang loose.</td>
<td>Dangling neckwear may come in contact with chemicals or open flames. They can also be hazardous around rotating equipment.</td>
</tr>
<tr>
<td>Baseball caps and other headgear as long as they are kept far enough</td>
<td>Caps worn low over the eyes so as to impede vision.</td>
<td>Avoiding accidents means being aware of one’s surroundings at all times. Unimpeded visual observation is key in this regard.</td>
</tr>
<tr>
<td>on the head so that vision is not impaired and do not interfere with</td>
<td>Use of iPods, MP3 players, or other electronic devices with head-phones is</td>
<td>Laboratories must be aware of their surroundings at all times which includes being able to hear alarms, sirens, run away reactions, and other people calling for help.</td>
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<td>protective eyewear.</td>
<td>not allowed in laboratories.</td>
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<tr>
<td>Shirts/tops that cover upper torso.</td>
<td>Cropped shirts, plunging necklines, spaghetti straps, or ripped shirts.</td>
<td>Layered clothing is a safety asset in that it provides an extra layer of protection against spills and splashes.</td>
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<tr>
<td>Clothing that accommodates lab coat use.</td>
<td>Loose or flowing tops with wide/bell sleeves; outerwear e.g. coats or shawls</td>
<td>Wearing this type of clothing makes it difficult/uncomfortable to wear a lab coat. The wearer may be tempted to do without the lab coat. Loose sleeves may also be dragged across the bench becoming contaminated and are a hazard around rotating equipment.</td>
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<tr>
<td></td>
<td>that make it difficult to wear a lab coat.</td>
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</table>

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| Long pants that cover the wearer to the ankle. | Ripped jeans, shorts, or skirts are not allowed when working with equipment or chemicals. | Chemicals splash up after they hit the floor; likewise shattered glass bounces up and can inflict injury on unprotected skin. Persons who must wear skirts due to personal reasons should speak with their supervisors to determine an appropriate strategy for this rule. |
| Completely enclosed shoes that cover the instep of the foot: preferably steel caped or leather which can be wiped clean. | Sandals, open toe, open back, or open weave shoes; shoes with holes in the top or sides; no Birkenstocks, cloth shoes thongs or Crocs. | Shoes need to protect the wearer from heavy objects which may fall on feet, chemicals, hot liquids, and shattered glass. Cloth shoes can absorb chemicals or hot liquids. Adequate protection from sharpS against the skin until they can be removed. |

### 5. Other Recommendations Regarding Lab Clothing:

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose clothing made of natural fibers, especially cotton whenever possible</td>
<td>Natural fibers are more fire resistant than synthetic fibers</td>
</tr>
<tr>
<td>If you are working with chemicals, keep a change of clothes, including shoes, in your office/locker.</td>
<td>After an exposure, the victim will not be allowed to wear contaminated clothing and will need something to wear home.</td>
</tr>
</tbody>
</table>

### 6. Visitor Attire:

Visitors to the lab who are not working in the lab (not coming in contact with equipment, materials, chemicals and instruments) are required to wear enclosed shoes, and safety glasses (if chemical experiments and or equipment is in operation).

### 7. Personal Protective Equipment (PPE):

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PPE includes, but is not limited to, safety glasses, goggles, face shields, gloves, lab coats, aprons, ear plugs, P2 dust mask or respirators. Additional PPE such as ear plugs and respirators should only be used as a “last resort” if the potential exposures cannot be eliminated with properly-designed engineering controls. PPE is carefully selected to ensure that it is compatible with equipment or chemicals and the process used.

7.1. Eye and Face Protection

- Safety glasses or chemical goggles must be worn if specified in Risk Assessment or Safe Work Procedure. Eye protection must be worn before working with any chemicals, high pressure hydraulic, pneumatic and rotating equipment. This applies to staff, students and visitors.
- Safety glasses must meet the Australian Standard AS/NZS 1337 standard for impact resistance and have side shields for splash protection.
- Safety glasses should be chosen to conform to the wearer’s face and minimize gaps around the glasses.
- Chemical goggles are required when working with concentrated acids and any other any other processes where safety glasses are deemed inadequate or chemical goggles have been specified on the MSDS: Safety glasses do not provide protection from chemical vapors, liquids, or caustic dust hazards which may bypass safety glasses. When exposure to these hazards cannot be avoided by use of engineering controls, chemical goggles must be worn.
- Safety glasses or goggles must be worn over prescription glasses and must be of a type intended to be worn over prescription glasses (Available from Technical officer).
- Prescription safety glasses are acceptable as long as they have side shields for splash protection and conform to the wearer’s face.

7.2. Lab Coats

- Lab coats must be worn before handling reactive chemicals.
- Must be in good condition and reasonably clean so as to not create a hazard.
- Shall cover the wearer to the knees.
- Lab coats made of 100% cotton are required in all undergraduate labs where chemicals are used including labs for mineral processing and materials testing.
- Lab coats made of polyester-cotton blends (no less than 35% cotton) are acceptable in labs where no open flames are present.
- Lab coats must be made of 100% cotton or flame resistant material in labs where open flames are used (such as alcohol burners).

7.3. Safety equipment

- Dust extractors must be set up and turned on in the sample preparation area when the sample grinder and or the diamond saw is in operation.
- Ventilation fans and dust extractors must be setup and turned on when working with mineral processing area and the milling room.
- The ventilation fans must be turned on when preparing or working with chemicals.
- Dust extractors must be setup and turned on when working with fine dust producing materials in the Geomechanics lab. All work must be confined to the area which is services by the dust extraction hoods.

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7.4. Face Protection

- Face shields worn over safety glasses may be required for certain processes as determined by the Risk Assessment/Safe Operating Procedure. These include but are not limited to grinding operations and metal cutting with powered saws.
- Face Shields must always be worn over safety glasses or goggles, not instead of safety glasses or goggles.

7.5. Hand Protection

Chemically-Resistant Gloves

- Appropriate chemical resistant gloves must be worn when handling chemicals.
- Gloves shall be chosen to be appropriately chemically resistant but also to be appropriate for the process, e.g., gloves shall not put the wearer at risk by causing:
  - Loss of dexterity
  - Risk of ergonomic injury (e.g., increased muscle strain from gloves that are too heavy or stiff for pipetting, handling small objects, etc.)
  - Increased risk of being caught in rotating equipment (from gloves that are too loose on the user’s hands)
- Nitrile exam gloves shall be used in all Mining Engineering labs as the “general purpose glove”.

Other Types of Gloves

- Protective gloves must be selected as appropriate for their processes to protect from physical trauma including but not limited to:
- Thermally protective gloves for hot or cold processes
- Appropriate gloves for protection against abrasions and cuts
- Gloves must be chosen so as to not create a hazard around moving machinery.

Consult the Material Safety Data Sheet section (MSDS) on chemical handing instructions before selecting gloves. Some, but not all MSDSs contain glove selection information.

7.6. Hearing Protection

You are required to wear hearing protection in the laboratory where:

- Plant and equipment produce noise in excess of 85 Decibels (85Db);
- When equipment is in operation and there is signage showing hearing protection is required.
- Risk Assessment and Safe Work Statement states hearing protection must be worn.
- If noise is regarded as excessive or annoying, for example a power tools, plant without enclosed cabins, rock saws, sieve shakers, mills and crushers are in operation.

Disposable earplugs and reusable ear muffs are available in the laboratory. The disposable ear plugs are to be discarded after use.

7.7. Protective Footwear
All students and staff participating in any lab activities must wear steel cap safety footwear that fully cover the feet.

- Types of footwear required in the lab:
  - Protective footwear (steel cap) must be worn if you are working or around tools and equipment.
  - Leather or cloth shoes are acceptable in the Lab if you not participating in any activities and are just observing from a safe distance.

Please see section 4 for more details on appropriate footwear

7.8. Lab Coats and Gloves outside the Lab

Wearing a lab coat and gloves outside of the lab is acceptable when transporting chemicals between labs or from the chemical stock room. However:

- The gloves must be clean- change to clean gloves before leaving the lab.
- Whenever possible, leave one hand ungloved to open doors and push elevator buttons.
- Use service elevators whenever they are available.
- Whenever possible, lab coats are to be hung in the lab or handed back to the Technical Officer before exiting.
- Lab coats and gloves are not to be worn in offices, lunch rooms, break rooms, rest rooms, conference, or meeting rooms.

8. Non-Compliance

Penalties for non-compliance with this policy may include removal from the laboratory, suspension of laboratory privileges, grade reduction, and dismissal, as appropriate to the conditions and severity of the violation.

Willful and/or repeat violations of this policy will be referred to the Head of School and, if warranted, disciplinary action will be taken.

9. References

- UNSW OHS Policy Statement:

- Visitors to UNSW Facilities Guideline OHS41:

Professor Bruce Hebblewhite
Head of School
April, 2014