

Reference	1740	Activity Description	<p>*This RA has been reviewed and updated following information from Government regarding a new, more highly transmissible variant of the SARS-Cov-2 virus present in the general population. The measures below have been re-considered to ensure they are suitable and sufficient at the present time. The whole of England was placed into lockdown on 5th January 2021 and it is expected to last until at least mid February 2021. At the current time staff are working from home where possible and only keyworkers are attending campus. Students have been delayed in their return and most teaching is taking place online only with very few practicals arranged.*</p> <p>This risk assessment covers general and broad principles when using the laboratories for teaching and associated activities during the COVID-19 pandemic caused by the SARS-CoV-2 virus.</p> <p>Its contents are based on government guidance and emerging practice in other HEI laboratory settings.</p> <p>It supplements risk and COSHH assessments already in place for processes and procedures. Other lab policies eg lone working remain in place as before.</p> <p>It does not cover particular risks relating to research (including HRP or MRP work) or other forms of training. Please see Covid-19 risk assessments: 1585 Use of labs for research and associated activities during covid19 pandemic and 1649 Laboratory Training for Staff and Students during the COVID-19 pandemic.</p>
Assessment Date	06/08/2020	Publish To Portal	Yes
Assessor Name	Victoria Talbot	Title	Use of Science Laboratories for Teaching During the COVID-19 Pandemic
Assessment Team Members	Biosafety Committee and Lab Planning Team	Review Date	No Review Set

Activity Risk Assessment Landscape Report

Project Risk Assessment Reference		Overall Potential Risk Level	8						
Org Unit	Harper Adams -> Laboratories	Overall Residual Risk Level	8						
Location	HAU Laboratories (Princess Margaret Labs, S32 Applied Science in Foulkes Crowther Building, Elizabeth Creak Building, Jean Jackson Entomology Laboratory, Instrumentation Lab RFA010 in the Regional Food Academy)	Number Of People Exposed	100						
Risk Assessment Category		People Exposed	Tutors - including visiting lecturers, demonstrators, laboratory staff, students, Estates staff, contractors, Housekeeping staff.						
Date Record Created	06/08/2020								
Hazard Category & Hazard Description	Persons At Risk & How Is Person At Risk	Control Measures	L	S	R	Additional Control Measures	L	S	R
Administration Lack of awareness of new procedures.	All lab users. Exposure to the SARS-CoV-2 virus.	All tutors and demonstrators will attend COVID-19 lab inductions specific to the areas that they will be using to outline new procedures. All new and returning students will participate in online lab inductions specific to the areas that they will be using on the Learning Hub. This will be compulsory and students will be required to show their earned 'badge' to tutors before their first class. A copy of this COVID-19 specific risk assessment will be available to all on the SHE portal, on the practical class requisition page on the HAU portal, on the website, on the Learning Hub and on the HOT (Harper Online Teaching) Team in Teams.	4 - Major	2 - Unlikely	8 - Adequate				
Access/Egress Entering and leaving the buildings, moving around the building.	Tutors, technicians, students, Estates staff, Housekeeping staff. Exposure to the SARS-CoV-2 virus	15 minutes between classes has been built into the timetable to ensure safe and orderly access/egress between groups. Teaching staff should aim to	4 - Major	2 - Unlikely	8 - Adequate				

arrive no later than 7-10 minutes before the start of their class in order to open the lab door and manage the arrival of their students.

Students should not enter the building any earlier than 2-3 minutes before the start of the class. They should not wait outside in the corridors, but enter the building in a socially-distanced and orderly fashion, but only enter their timetabled lab when the tutor indicates it is safe to do so and follow directions.

Staff to wash hands on entering the lab. Students to sanitise their hands on the way in (to protect from Covid-19) and wash hands on the way out. Students will also need to wash their hands to remove other types of contamination acquired during the class and should ensure they wash their hands on leaving as per normal lab codes of practice. IF time allows, students to wash hands as they enter as well. However, as classes are at 1m+ capacity and there are a max of 3 sinks in the larger teaching labs (and only one sink in S20) it is unlikely that there will be sufficient time available in all situations for staff and students to wash hands at both the beginning and end of classes.

Labs should fill up with students starting at the furthest point from the door. Students should then exit in similar orderly fashion, a bench or side of a bench at a time in reverse order. This should be managed by the tutor.



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		<p>Any lab areas not in use that day must remain locked to prevent unauthorised access and unnecessary spread of the virus.</p> <p>When in use, teaching labs should have their doors held open using the Dorgards to reduce the need to touch handles.</p> <p>Where doors can be pushed or pulled open without the use of door handles, then signs encouraging people to use their feet or elbows will be displayed.</p> <p>Lab capacities FOR TEACHING have been carefully assessed according to 1m+ social distancing requirements. These capacities will be clearly displayed on the doors and must not be exceeded.</p> <p>Access to certain labs is restricted to key personnel only.</p>							
<p>Teaching Breach of social distancing due to the need to demonstrate to individual students.</p> <p>Breach of social distancing due to student movement within the labs.</p> <p>Breach of social distancing due to the need to demonstrate to groups.</p> <p>Sharing of equipment.</p>	<p>Tutors, visiting lecturers and students Exposure to the SARS-CoV-2 virus .</p>	<p>Maintain 2m social distancing wherever possible for both staff and students. Staff workstation to be located at 2m at all times.</p> <p>Maintain 1m+ social distancing between students as an absolute minimum.</p> <p>Where only 1m+ can be achieved then students will be supplied with disposable 3-ply face masks and they MUST wear visors. Students will be asked to swap their face coverings as they enter the labs for 3-ply masks and asked to dispose of them in the correct manner.</p> <p>Where 1m+ between students is employed then classes will</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>				

be laid out with students positioned back to back or side to side.

Staff should maintain 2m, but if there is a need to consistently breach this then they will be supplied with an FFP3 mask. However, this is a last resort and wherever possible tutors/visiting lecturers should plan to avoid these situations eg by planning to prepare digital resources in order to demonstrate techniques or likely scenarios that students will require help with or utilising the visualisers.

Staff who fall into any of the vulnerable categories will also be supplied with FFP3 rated masks.

To deal with unplanned situations that arise, tutors and students should adopt a Step Away-Step In-Step Away approach and avoid being face to face. Tutors/students must either disinfect all equipment inbetween each step or sanitise their hands (sanitising gel will be made available), whichever is most appropriate. Tutors should be wearing a visor at this point.

Demonstrations involving students gathering closely around a specimen or workstation are not allowed.

Working in pairs where equipment is generally shared eg shared items between a workstation, or where students share a workstation, is also not allowed. However, where there is insufficient equipment for each student to have their own (eg sets of soil sieves) equipment MAY be shared IF



it can be adequately cleaned between use, or hands are sanitised and IF movement around the labs is very limited and only IF social distancing can be maintained. This should be very much a last resort though and the tutor must carefully manage the situation to ensure protocols are followed.

Classes requiring students to pass around a series of specimens or activities is not allowed UNLESS it is possible to disinfect items BETWEEN each student, or students sanitise their hands at each step. Where microscopes are involved, these must be sanitised to reduce ocular transmission - hand sanitising will be insufficient in these circumstances.

Where classes will normally share whole-class equipment eg spectrophotometers, balances etc then consideration needs to be given to disinfecting between use and positioning of equipment within the lab so that students are not required to leave their workstations. It may be possible to manage student movement by requiring students to move in a managed fashion eg 1 or 2 students, or one side of a bench of students at a time. This must be carefully risk assessed. Use of hand sanitiser is also a possibility, but it must be carefully thought through.



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<p>Safe entry and exit from work areas Use of the lifts in Elizabeth Creak and Foulkes Crowther.</p>	<p>All lab users Exposure to the SARS-CoV-2 virus from being too close to another person or from inhalation of viral particles still in the air after previous use.</p>	<p>Only one person in the lift at a time. Hand sanitiser to be made available outside the lifts at each floor. Lift users should sanitise their hands before entering the lift and on exiting. Housekeeping to clean controls according to agreed protocol.</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>				
<p>Security of personal items Storage of bags and outdoor clothing.</p>	<p>Students Personal belongings becoming contaminated with the SARS-CoV-2 virus.</p>	<p>Staff and students should only bring essential items into the lab eg notebook and pen. Other items should be stored in own rooms/offices or securely out of sight eg. in the boot of a car. Lockers in Elizabeth Creak and the RFA and bag shelving in the Princess Margaret Labs are out of bounds for personal belongings until the end of the pandemic to prevent cross-contamination between users. Any personal belongings eg a coat must be deposited on the floor under the bench (or on designated side-table in ECG3). Students should avoid taking laptops, tablets and mobile phones into labs. Appropriate anti-viral wipes are available to wipe down equipment and personal devices before and after use.</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>				
<p>Practical Laboratory Community transfer of the SARS-CoV-2 virus.</p>	<p>All lab users Exposure to the SARS-CoV-2 virus from inhalation or contaminated surfaces.</p>	<p>Maintain 2m wherever possible, but a minimum of 1m + social distancing between individuals at all times in teaching spaces. Lab capacities at 1m+ distancing are displayed on each teaching lab door and are available to view on CELCAT and eventually on the Lab</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>	<p>Students will be provided with visors to wear instead of safety specs when working in any labs NOT involving Bunsen burners or microscopes. Consideration needs to be given to students who rely on lip-reading. The Head of</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>

Users Group [Teaching channel] on Teams.

When classes run at or near maximum social distancing capacities, students will, in most labs be seated face-to-face (F2F) at slightly less than <2m distancing. If it is not possible to space the students out further, rated 3-ply face masks (which fit closely around the mouth and nose) will be required to be worn by all (unless the individual demonstrates they are in one of the proscribed exempt categories).

Cloth face coverings should be carefully managed in order to prevent community spread (see separate guidance from the H+S Office). If disposable non-rated face coverings are used then these must be placed in a sealed bag and taken home for disposal or placed in the bin provided. Only rated masks issued as PPE (eg when protecting against dusts; 3-ply issued for use at 1m+) are to be disposed of in the bins.

For smaller classes, lab staff will, wherever possible, avoid setting out work stations which are F2F and will set out classes so that students are well-spaced out and sitting back-to-back and/or side to side. Workstations will be spread out to maximise social distancing and lab staff will follow an agreed SOP for setting out classes.

Staff should also wear face visors (in addition to face coverings) to protect themselves. Staff who find it difficult to be heard should use the clip-on microphones

Disability and Learner Support Services has been consulted and further guidance will be provided in due course.

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		(available in the Elizabeth Creak teaching labs) or the neck microphones (to be available in the PM Labs) and not remove face coverings.							
Practical Laboratory Contamination of equipment and surfaces with the SARS-CoV-2 virus.	All lab users Touching contaminated surfaces.	<p>All lab users should ensure frequent handwashing for the recommended 20 seconds.</p> <p>Ensure suitable (ie effective against enveloped viruses) disinfectants and wipes are available and to hand before starting a class.</p> <p>Disinfectants in use within the PM and EC labs are: 1% Virkon and 1% Distel. Use according to the SOP (available from the Biological Safety Officer) and ensure minimum contact times are adhered to. Refer to Risk Assessments 1593 and 1594 and COSHH assessments 328 and 347. Food grade disinfectants are in use in the RFA.</p> <p>Antimicrobial wipes in use within the PM and EC labs include Azowipes and Suresan wipes. Both are antiviral to EN14476.</p> <p>Surfaces of equipment (handles, touch screens, doors, lids, control buttons and knobs etc) and surrounding benches should be thoroughly cleaned with disinfectant spray and paper towels both before and after use. Or, if this is not possible because of risks to equipment, use appropriate anti-viral wipes.</p> <p>Computer and laptop keyboards should also be cleaned with wipes before and after use and particular care</p>	4 - Major	2 - Unlikely	8 - Adequate	<p>F10 and Anigene disinfectants are also potentially suitable and their use in HAU labs are being investigated. These have shorter contact times, do not require rinsing away and, in the case of F10 carry on being effective once dried on.</p> <p>Consult instructional videos prepared by laboratory staff on how to effectively clean microscopes and other equipment.</p>	4 - Major	2 - Unlikely	8 - Adequate

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must be taken to avoid damaging the equipment.

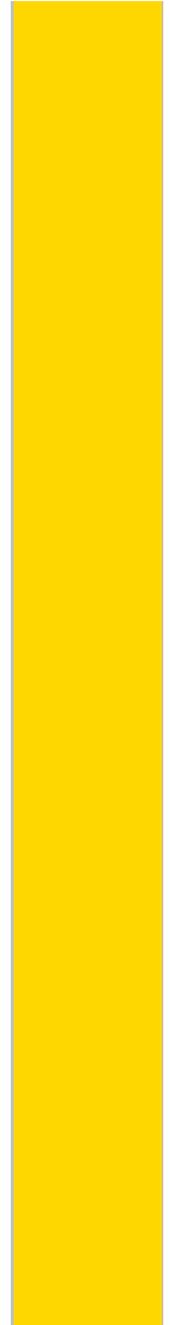
All rubbish to be placed in nearest bin and not left on bench. All work areas to be left clean and tidy after use.

Small items such as pipette tips and scalpel handles will need to be soaked in an appropriate disinfectant OR quarantined for minimum 72 hours.

Particular attention should be paid to microscope eye pieces and other working parts.

Classes must be designed so that there is sole use of microscopes by students and not shared. In the event that a microscope is required to demonstrate a particular specimen or slide then the tutor should seek to project the image onto the AV screens instead. If this is not possible then the eye pieces MUST be carefully cleaned between each use. Sharing of a microscope must be an absolute last resort and the tutor is strongly recommended to provide alternative ways of showing the specimen in question.

Classes MUST be designed to allow sufficient time for cleaning and disinfecting of equipment and surfaces, WHETHER OR NOT this is done by lab staff, tutors or students. It is HIGHLY unlikely that where there are a series of back-to-back practicals that laboratory staff alone will be able to adequately clean surfaces within such a short 15 minute window. Tutors MUST take this into account and MUST themselves be



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		prepared to assist and enlist the help of students as well.						
PPE Personal Protective Equipment Lab coats	Teaching staff and students Exposure to the SARS-CoV-2 virus from contaminated lab coats	<p>Students are required to provide and manage their own v-necked laboratory coat. When carrying to and from the laboratories it must be kept within a closed plastic or washable fabric bag to prevent it from contaminating other items</p> <p>Teaching staff will be provided with their own coat and may either use a named locker in the Elizabeth Creak Building or RFA and keep it with them in a closed plastic or washable fabric bag.</p> <p>Staff and students who forget their lab coats may borrow a freshly-laundered coat (a selection will be made available from the front of the class). At the end of the class, the coat must be dropped into the laundry trolley before the person washes or sanitises their hands.</p> <p>Howie coats continue to be made available in microbiology classes but must also be laundered after use. Laundry trollies are provided for the purpose.</p>	4 - Major	2 - Unlikely	8 - Adequate			
PPE Personal Protective Equipment Use of safety glasses and visors	<p>Students Exposure to the SARS-CoV-2 virus from contaminated safety specs/visors.</p> <p>Using safety visors to prevent exposure to the SARS-CoV-2 virus.</p>	<p>Safety glasses and over-glasses have been removed from the wall-hanging pockets.</p> <p>Cleaned glasses will be made available in each class and must be worn as per usual lab regulations.</p> <p>Used glasses must be added to the labelled bucket of disinfectant at the end of classes.</p>	4 - Major	2 - Unlikely	8 - Adequate	Where bunsens and microscopes are not in use then students will be offered the use of visors instead of glasses as an additional safety precaution against COVID-19.		

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<p>PPE Personal Protective Equipment Use of gloves</p>	<p>All lab users Exposure to the SARS-CoV-2 virus from contaminated surfaces.</p>	<p>Use gloves only when normally required eg to prevent exposure to chemicals and dusts as per the COSHH assessment for the activity in question.</p> <p>Prophylactic use of disposable gloves to prevent contamination of the hands with COVID-19 is not recommended - washing or sanitising hands is best practice. Although some protection is afforded to the wearer, gloves become contaminated and the virus can then be easily spread to other surfaces.</p> <p>Wearing of gloves as a preventative measure against COVID-19 may be useful in only a VERY limited range of circumstances eg when students have to handle a series of specimens which are hard to clean, or there is insufficient time between each student to clean them. If other methods are available to achieve the same learning outcome, then these should be considered.</p> <p>Staff/students should ensure that hands are washed or sanitised before putting on disposable gloves.</p> <p>All gloves must be removed using the approved method to avoid contaminating the hands and placed in the appropriate bin.</p> <p>PPE in the RFA might include the use of hair nets and beard snoods....</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>				
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<p>Environment Ventilation</p>	<p>All lab users Poor ventilation in older labs leading to inhalation of SARS-CoV-2 viral particles.</p>	<p>Good ventilation plays an important role in mitigating the risks of exposure to this coronavirus.</p> <p>In EC labs - all ventilation systems must be switched on at all times during the working week. These have been set to meet CIBSE recommendations as a minimum.</p> <p>In the PM Labs - windows in S21, S20 and S4 and RFA010 lab must be opened to allow sufficient air exchange. Windows must be opened AT LEAST 15 minutes before the start of occupation (whether for teaching or for lab set-up) as per CIBSE guidance.</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>				
<p>Fire Use of fire exits.</p>	<p>All lab users. Not using the fire exits when the alarm sounds due to following one-way system will cause unnecessary delay to leaving the building and increased risk of dying from smoke inhalation or fire.</p>	<p>Always exit the building in an emergency via the nearest fire exit points in the normal way. Risk of immediate injury or death in such circumstances far exceeds risks from contracting the SARS-CoV-2 virus. Ensure good housekeeping and remove any rubbish or stored materials immediately to prevent it from blocking exits.</p>	<p>4 - Major</p>	<p>2 - Unlikely</p>	<p>8 - Adequate</p>				
<p>Assessment Conclusion</p>		<p>All significant risks have been considered and relevant control measures put in place.</p>							