GENERAL HEALTH AND SAFETY RISK ASSESSMENT FORM

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Site | **Collaborative Teaching Laboratory (CTL) Teaching Labs**  | **Department** | **EPS** | **Version / Ref No.** | **2** |
| **Activity Location** | **CTL , Bioscience and Mechanical Engineering Building** | **Activity Description** | **Maximum building user utilisation 250. Maximum Lab staffing 33 and Teaching Academic staff plus demonstrators 20. (Typical but varies by lab)** |
| **Assessor** | **Mala Patel** | **Assessment Date** | **15/04/2021** | **Date of Assessment Review** | **14/05/2021** |
| **Academic / Manager Name** | **Prof. Jonathan Seville / Mala Patel** | **Academic / Manager Signature** |  |

| Hazard Assessment | Control Assessment | Actions |
| --- | --- | --- |
| Hazard Category | Hazards Identified | Who might be harmed?StaffStudentsContractors Others | How might people be harmed? | Existing Control Measures | Initial Risk Rating | Are these adequate?Yes/No | Changes to/ Additional Controls | Residual Risk Rating | Owner | Due Date | Action Complete |
| S | L | R | S | L | R |
| Organisational | Psychological wellbeing | Staff Students and Visitors | Anxiety and stress caused by concerns around returning to work and studies on Campus | Regular communications through a variety of platforms. For staff this includes 121 discussions with their line manager. For students this includes the use of social media.Advertising of mitigations made by room posters and extra details posted on the rooms information website: [www.lratbookings.bham.ac.uk](http://www.lratbookings.bham.ac.uk) | 2 | 2 | 4 | Yes |  |  |  |  |  |  |  |
| Biological | Virus transmission | Staff Students and Visitors | Exposure to respiratory droplets carrying COVID-19 from an infectious individual transmitted via sneezing, coughing or speaking | Anyone suffering from with any form of illness should not attend campus until the illness has been verified as not being Covid-19.All room users to be asked to notify if they have the virus to either line manager (staff) or personal tutor (students). In taught sessions the lecturer will ask, for cluster users posters will remind users.[General Teaching Space Instructions for Students](https://intranet.birmingham.ac.uk/as/libraryservices/lrat/documents/public/Teaching%20Space%20Gberal%20Instructions%20A4.pdf) and the student CTL COVID induction <https://canvas.bham.ac.uk/enroll/TP7TJB> is available on the University intranet informing students of how to enter and leave the general teaching spaces. This includes the time to arrive before a session, observing one-way systems and not gathering in a group.Managers/supervisors keep track of when staff can return to work/ Campus after the symptom free period.Attendance by school staff and students at sessions recorded by the school, to help contain clusters and outbreaks and assist any request for data by the NHS Test and Trace service, these records should be held for 21 days.Regular access to the Lateral Flow Device screening tests provided to staff and students who are coming onto campus. | 3 | 3 | 9 | Yes |  |  |  |  |  |  |  |
| Environmental | Virus transmission in the workplace due to lack of social distancing  | Staff Students and Visitors | Exposure to respiratory droplets carrying COVID-19 from an infectious individual transmitted via sneezing, coughing or speaking. | Lecturers and demonstrators remind students of room capacity constraint and allocated workplace.Workplace/study and timetabling routines changed to ensure room/building capacity calculated to maintain 2m social distancing is not exceeded including: * Change to peak staff and student entry and exit times, core working/study hours and arrival and departure times into the building have been staggered to reduce crowding into and out of the building. This includes local arrangements by Colleges and Schools including reducing lecture and teaching sessions to allow groups to leave early to stagger the times particularly in areas and buildings that have a large number of teaching/seminar rooms and lecture theatres.
* Adjusted booking processes in use to reduce the number of people in the building at the same time to avoid overcrowding. This includes local arrangements by Colleges and Schools to reduce student numbers in teaching/seminar rooms and lecture theatres regardless as to the maximum capacities set for the room to reduce the number of people particularly in areas and buildings that have a large number of teaching/seminar rooms and lecture theatres.

Study and teaching space has been arranged so that the government guidelines for social distancing can be maintained. In rooms with moveable desks/chairs where floor plans are not available checks are carried out by the Room Managers to ensure the rooms remain set up as they should be and/or where possible markers are used to show the layout of the furniture. (The latest Guidance on these measures can be found by clicking the following link [Social Distancing Guidelines](https://www.gov.uk/guidance/social-distancing-in-the-workplace-during-coronavirus-covid-19-sector-guidance#shops-running-a-pick-up-or-delivery-service)). Lecturers are to ensure all students / staff attending the lecture enter and leave the teaching area as per posters displayed to ensure social distances.Due to the potential increased risk of transmission from aerosol transmission steps have been taken to avoid people needing to unduly raise their voices to each other including where available using microphones during teaching/lecturing sessions and lecturers and tutors keeping the noise level within the room to a level where the volume of normal conversation can be maintained.Activities are segregated to promote the 2m social distancing rules including: * Work stations moved or individuals relocated.

Provision of additional screens where needed to segregate people. Desks are arranged with individuals facing in opposite directions.* Areas of marked out with floor tape to ensure adequate social distancing is in place. Visual management aids in place to remind people of the need for social distancing.
* Room arranged and area marked out with floor tape at the front of the room to ensure there is at least 2m social distancing between the tutor/lecturer and the students.
* Chairs and desks placed out of bounds due to social distancing in teaching areas are not to be used.
* Revised room capacities allow for 2m social distancing and are much lower than non-distanced capacities. This displayed on the doors via signs must be adhered to. These are calculated by the University’s Estates Service who work out a nominal 2m capacity which is checked by LRAT when arranging the rooms.
* College and building specific Instructions for attending lectures and teaching sessions issued to lecturers, tutors and students.

Academics/Lecturers perform frequent evaluation against social distances controls via observations of behaviour and compliance to the control and report any concerns back to the building manager and/or School/College. Additional to the school supervising staff, Lab Teams and COVID Marshals will be monitoring compliance. Lab Marshals will monitor compliance in the labs and will implement the Escalation Process, if compliance of the COVID safe measures is breached.Where the 2m social distancing guidelines cannot be followed in full in relation to a particular teaching or lecture activity or space or communal areas during changeover times. Mitigating actions have been put in place and are all or a combination of the following: * Revised room capacities allow for 1m+ distancing and are much lower than non-distanced capacities. These are calculated by the University’s Estates Service who work out a nominal 1m+ capacity which is checked by LRAT when arranging the rooms. Local arrangements by Colleges and Schools to reduce student numbers in teaching labs regardless as to the maximum capacities set for the room to reduce the number of people particularly in areas and buildings that have a large number of teaching labs~~.~~
* Further increasing the frequency of hand washing and provision of hand sanitiser and surface cleaning.
* Keeping the activity time involved as short as possible.
* Using screens or barriers to separate people from each other.
* Using back-to-back or side-to-side working (rather than face-to-face) whenever possible.
* Reducing the number of people each person has contact with by using ‘fixed teams or partnering’ (so each person works with only a few others).
* Re-engineering the technical activity to avoid congestion
* Improving ventilation by re-organising the indoor space to optimise the ventilation available.
* Review and re-organising of the pedestrian flows both inside and outside of the teaching space and additional measures including access and egress flow plans established and information provided to staff and students. Directional flow and social distancing signs displayed and where there are COVID marshals on the routes to and from the teaching space, they will, when necessary, give verbal reminders of the need for social distancing and to follow directional signs.
* Individuals (including staff, students, visitors and contractors), unless exempt, are required to wear face coverings, inside University buildings where 2m social distancing isn’t possible and cannot be maintained. Information provided in the University and local communications and local inductions and signs displayed informing people of the mandatory requirement to wear a face covering within the building.
* PPE consisting of face masks and a clear visor/shields that covers the face, and provides a barrier between the wearer and others, provided for staff working in close proximity to people and in particular a person’s face, mouth and nose, for an extended period of time (the majority of the working day). Re-usable visors are cleaned and sanitised regularly using normal cleaning products.
* Students provided with personal lab coats and safety specs in Sept 2020 and they are responsible for cleaning and location.
* Staff assigned personal lab coats which will be laundered in the workplace after every use.

Individuals, unless exempt, are required to wear face coverings, in all University buildings and learning environments, except for in single occupancy rooms or where the use of the face covering impacts on teaching and learning. Information provided in the University and local communications and signs displayed informing people of the mandatory requirement to wear a face covering within the building.Individuals have been reminded via this link (*https://www.gov.uk/government/publications/face-coverings-when-to-wear-one-and-how-to-make-your-own/face-coverings-when-to-wear-one-and-how-to-make-your-own)* of how to use face coverings safely including the following:When wearing a face covering you should:* wash your hands thoroughly with soap and water for 20 seconds or use hand sanitiser before putting a face covering on
* avoid wearing on your neck or forehead
* avoid touching the part of the face covering in contact with your mouth and nose, as it could be contaminated with the virus
* change the face covering if it becomes damp or if you’ve touched it
* avoid taking it off and putting it back on a lot in quick succession (for example, when leaving and entering buildings)

When removing a face covering:* wash your hands thoroughly with soap and water for 20 seconds or use hand sanitiser before removing
* only handle the straps, ties or clips
* do not give it to someone else to use
* if single-use, dispose of it carefully in a residual waste bin and do not recycle
* if reusable, wash it in line with manufacturer’s instructions at the highest temperature appropriate for the fabric
* wash your hands thoroughly with soap and water for 20 seconds or use hand sanitiser once removed
 | 3 | 3 | 9 | Yes |  |  |  |  |  |  |  |
| Environmental | Virus transmission in the workplace due to lack of social distancing  | Staff Students and Visitors | Exposure to respiratory droplets carrying COVID-19 from an infectious individual transmitted via sneezing, coughing or speaking. | Teaching labs cleaned daily by cleaning services.Guidance given on hand-washing and distancing at the start of all lecture and posters displayed in teaching/lecturing spacesPosters also advocate frequent hand sanitisation and following the “Catch it Bin It Kill It” displayed in all teaching labs.Soap and water and hand sanitiser are provided in the building and are placed at the entrance and in teaching areas where they will be seen.All teaching staff issued with Room Guidelines for Teaching Staff with instructions for equipment use and cleaning.Lecturers will clean all touchpoints on equipment that they intend to use: including mice, keyboards, whiteboards, AV control system and visualizers before and after use with disposable wipes provided. A tub of wipes will be provided in each room.Students asked to clean the writing surface and chair or seat that they have been sitting at before and after use.Users of touchscreens use their own personal stylus rather than their fingers. Personal styluses are available to teaching staff that do not have one from LRAT Stores in the basement of the Great Hall.Students will be informed in the Lab COVID induction and reminded by teaching staff and signage to clean the writing surface and chair or seat that they have been sitting at with wipes.Objects and surfaces that are touched regularly including study surfaces are cleaned using the antibacterial/alcohol wipes provided, by the students before they leave the teaching session. Multi-user items such as whiteboard pens and erasers will be removed from all rooms and labs. Lab users will have to bring their own pens and erasers covered in the School student communications.Loose furniture must not be moved or added into any other Teaching Spaces.  | 3 | 3 | 9 | Yes |   |  |  |  |  |  |  |
| Biological | Suspected Case of CIOVID-19 | Staff Students and Visitors | Exposure to respiratory droplets carrying COVID-19 from an infectious individual transmitted via sneezing, coughing or speaking. | Response plan in place in the event a confirmed or suspected case of COVID-19 and communicated and includes:* If a person becomes unwell in the teaching lab with suspected COVID-19, they will be sent home in accordance to the University guidance. Lecturers/Tutors will follow the NHS Test and Trace workplace guidance: <https://www.gov.uk/guidance/nhs-test-and-trace-workplace-guidance>
* The area will be cleaned in accordance with the specific Government [guidance](https://www.gov.uk/government/publications/covid-19-decontamination-in-non-healthcare-settings/covid-19-decontamination-in-non-healthcare-settings).
* Staff must tell their line manager if they develop symptoms. Absence will be managed in accordance to the University guidance provided.
* Students with suspected symptoms should follow the latest University advice at: <https://intranet.birmingham.ac.uk/student/2020/Your-safety-and-wellbeing.aspx>
* Employees and students to also follow the Government advice: <https://www.gov.uk/coronavirus>
* If an individual tests positive for COVID-19 this will be managed in accordance with the University’s [Test, Trace and Protect Process](https://intranet.birmingham.ac.uk/staff/coronavirus/test-and-trace.aspx).
* If multiple cases of coronavirus appear in a workplace, an outbreak control team from either the local authority or Public Health England will, if necessary, be assigned to help the University manage the outbreak. The University will seek advice from the local authority in the first instance.
* Individuals will be told to isolate because they:
	+ have coronavirus symptoms and are awaiting a test result
	+ have tested positive for coronavirus
	+ are a member of the same household as someone who has symptoms or has tested positive for coronavirus
	+ have been in close recent contact with someone who has tested positive and received a notification to self-isolate from NHS test and trace.

<https://www.gov.uk/government/publications/covid-19-stay-at-home-guidance/stay-at-home-guidance-for-households-with-possible-coronavirus-covid-19-infection> | 3 | 3 | 9 | Yes |  |  |  |  |  |  |  |
| Environmental | Ventilation | Staff Students and Visitors | Exposure to airborne droplets carrying the virus | Where opening windows are provided they should all be open during a teaching session. “Please ensure you open all windows on arrival and close on departure.” posters are displayed within the rooms to remind staff. Recirculation of unfiltered air within the workplace has been avoided or reduced as far as possible.Ventilation systems are maintained in line with planned and preventative maintenance schedules, including filter changes.An assessment of the ventilation in the building, and where necessary individual areas/rooms, has been undertaken which included checks such as:* Is the space naturally or mechanically ventilated
* All areas within the building which are usually occupied and have poor ventilation have been identified and the use of the area re-assessed (see below).
* An assessment of Fresh air (ventilation) has been undertaken for the workplace and where necessary individual workspaces. This included how fresh air is provided (natural, mechanical or combination of both), how many people occupy/use the area, how much time people spend in the areas, how large the area is, what activities take place in the areas, the equipment and machinery in the workspaces, the use of fans and Local Exhaust Ventilation.

Biolabs and Eng lab: Natural ventilation can be improved by fully or partially opening windows, air vents and doors, not signed as fire doors. Rooms can be purged (aired) when not in use by leaving the windows and doors fully open. However, it is important to plan and close windows to minimise the risk of rodent and pigeon issues.Wet, Dry and E-Labs: Mechanical ventilation has typically been set at maximum fresh air settings and operate 24/7; but as minimum of 3 hours before or after any stated occupancy times. Staff have been informed, via this risk assessment of the following steps which they can take to make sure their workplace is adequately ventilated whilst maintaining a comfortable temperature:* opening windows and doors partially can still provide acceptable ventilation while keeping the workplace comfortable. Opening higher-level windows will probably create fewer draughts.
* if the area is cold relax dress codes so people can wear extra layers and warmer clothing
* use [natural ventilation](https://www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation/improve-natural-ventilation.htm) alongside heating systems to maintain a reasonable temperature in the workplace.

Where specific concerns have been raised, these have been investigated and addressed where necessary.Most mechanical ventilation systems are monitored by building management systems that will raise a fault alarm; but please ensure that any potential fault with mechanical or natural ventilation is raised with the Building Management and or the Estates Helpdesk. General considerations reflected on during reopening of the buildings in relation to the ventilation and fresh air to occupied spaces. Core strategy based on ‘[CIBSE Covid-19 Ventilation Guidance](https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q3Y00000HsaFtQAJ)’, [REHVA guidance](https://www.rehva.eu/fileadmin/user_upload/REHVA_COVID-19_guidance_document_V4_09122020.pdf), [HSE guidance](https://www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation.htm), [Government](https://www.gov.uk/guidance/working-safely-during-coronavirus-covid-19#shops-running-a-pick-up-or-delivery-service) and other relevant industry guidance. The guidance is constantly under review by the University’s Estates, as SARS-CoV2 transmission routes become more clearly defined, and any updated recommendations assessed and implemented where relevant to University systems. Links used above:<https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q3Y00000HsaFtQAJ> <https://www.rehva.eu/fileadmin/user_upload/REHVA_COVID-19_guidance_document_V4_09122020.pdf> <https://www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation.htm> <https://www.gov.uk/guidance/working-safely-during-coronavirus-covid-19#shops-running-a-pick-up-or-delivery-service> | 3 | 2 | 6 | Yes |  |  |  |  |  |  |  |
| Mechanical | Machinery & Equipment | Staff Students and Visitors | Exposure to respiratory droplets carrying and contact with an object that has been contaminated with COVID-19. | Equipment and all touch points or surfaces that are touched regularly will be frequently cleaned and disinfected before and after use by the user.Specialist Lab Equipment will be frequently cleaned and disinfected before and after use, according to SOPs anti-viral wipes /70% Ethanol /diluted Virkon/ disinfectant with disposable cloths can be used. These will be discarded in the autoclave waste bin having ensured sufficient time for the alcohol to evaporate.Individual equipment such as balances and pipettes will be provided. These will be sanitised by the Lab team every changeover of student groups.The user/student is expected to sanitise equipment before and after use.Signage reminding lab users to wipe down equipment before and after use to be usedSterilising chemicals and cloths are provided in the area to clean machines and equipment prior to the commencement of work and upon completion. If machines and equipment are shared, sterilising will be carried out between operations by the user.Lab staff will use, anti-viral wipes /70% Ethanol /diluted Virkon/ disinfectant with disposable cloths provided, to clean machines (such as printers) and equipment prior to use and upon completion. Laptops will be utilised and staff will be instructed to bring in their laptops daily.Staff will assess the compatibility of the Sterilising chemicals and cloths provided to clean machines (such as printers) and equipment prior to use and upon completion. Additional to the school supervising staff, Lab Teams will monitor compliance. Marshals will also monitor compliance and will implement the Escalation Process, if compliance of the COVID safe measures is breached. | 3 | 3 | 9 | Yes |  |  |  |  |  |  |  |

**Risk Assessment Guidance**

Risk Scoring System

The scoring system is provided as a tool to help structure thinking about assessments and to provide a framework for identifying which are the most serious risks and why.

|  | **Consequence / Severity score (severity levels) and examples of descriptors**  |
| --- | --- |
|  | **1**  | **2**  | **3**  | **4**  | **5**  |
| **Domains**  | **Negligible**  | **Minor**  | **Moderate**  | **Major**  | **Catastrophic**  |
| **Impact on the safety of staff, students or public (physical / psychological harm)**  | Minimal injury not requiring first aid or requiring no/minimal intervention or treatment. No time off work | Minor injury or illness, first aid treatment needed or requiring minor intervention.Requiring time off work for <3 days  | Moderate injury requiring professional intervention Requiring time off work for 4-14 days RIDDOR / MHRA / agency reportable incident  | Major injury leading to long-term incapacity/ disability (loss of limb)Requiring time off work for >14 days  | Incident leading to death Multiple permanent injuries or irreversible health effects |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Likelihood score**  | **1**  | **2**  | **3**  | **4**  | **5**  |
| **Frequency** | **Rare**  | **Unlikely**  | **Possible**  | **Likely**  | **Almost certain**  |
| **Broad descriptor**  | This will probably never happen/occur | Do not expect it to happen/occur but it is possible it may do so | Might happen or occur occasionally | Will probably happen/occur but it is not a persisting issue | Will undoubtedly happen/occur, possibly frequently |
| **Time-framed descriptor** | Not expected to occurfor years | Expected to occurat least annually | Expected to occur atleast monthly | Expected to occur at least weekly | Expected to occur at least daily |
| **Probability** Will it happen or not? | <0.1 per cent | 0.1–1 per cent | 1.1–10 per cent | 11–50 per cent | >50 per cent |

The overall ***level of risk*** is then calculated by multiplying the two scores together.

**Risk Level = Consequence / Severity x Likelihood (C x L)**

|  |  |
| --- | --- |
|  | **Likelihood**  |
| **Likelihood score**  | **1**  | **2**  | **3**  | **4**  | **5**  |
|  | **Rare**  | **Unlikely**  | **Possible**  | **Likely**  | **Almost certain**  |
| **5 Catastrophic**  | 5  | 10  | 15  | 20  | 25  |
| **4 Major**  | 4  | 8  | 12  | 16  | 20  |
| **3 Moderate**  | 3  | 6  | 9  | 12  | 15  |
| **2 Minor**  | 2  | 4  | 6  | 8  | 10  |
| **1 Negligible**  | 1  | 2  | 3  | 4  | 5  |

The Initial Risk Rating is the level of risk before control measures have been applied or with current control measures in place.

The Residual Risk is the level of risk after further control measures are put in place.