Annex 2 to Regulation No. 4/2020/2021 of the Dean of the Faculty of Biology Adam Mickiewicz University of 16 February 2021 on the organization of classes in the summer semester 2020/2021 with regard to conditions related to prevention, counteraction and combating COVID-19

Rules of student behaviour in the building Collegium Biologicum during the COVID-19 epidemic

A. Guidelines for precautions to limit the propagation of COVID-19 epidemic

1. Entry to the Collegium Biologicum building is a declaration that the person is healthy.
2. Wearing masks and holding the safe distance is obligatory in the whole building.
3. Upon entering to the building and before entering to classrooms disinfect your hands using available dispensers with disinfectant.
4. Upon entering to the building everybody has to measure the temperature of the bottom surface of the wrist at the gate. A person with the raised body temperature will not be allowed to enter to the building, should go to the sick-room (room 0.72 near the reception) and contact medical care at phone number 999 or 112.
5. Entries to the building and exits are evidenced. Upon every entry and before exit students are obliged to scan an identity card on a reader at the reception desk.
6. Coats and jackets should be left in the locker-room. Do not bring with you unnecessary objects.
7. If you experience symptoms, such as fatigue and muscle pain, cough or raised body temperature, please inform the teacher by e-mail and stay home. Contact a doctor. If the contact does not meet your expectations, please inform the Dean.
8. In the case the symptoms of COVID-19 appear when you are in the building - immediately inform about it the teacher and comply his / her instructions.

B. Preparation for laboratory classes

1. Before you come to the classes, you are **obliged to read the protocols and the theoretical basis of the planned experiments**. An unprepared person makes work difficult for others. Properly used time during classes broadens your knowledge and the skill of harmonious cooperation with others. Be polite and do not hesitate to ask questions.

2. During the first class of each course, the teacher (who is in charge of the practicals) informs about the properties of biological material and about harmful substances that will be used during the classes, and also discusses the principles of safety at work in detail.

3. Try to know everything that is already known about the properties of the reagents you use and the biological material you work with! **Material safety data sheets** of the reagents used in the classes can be found in the workbook and/or on the desktop of the computer located in the laboratory.

4. The classes are practical. Inform the teacher if you feel unwell or need to leave the laboratory.

5. Before students start working independently, the teacher must make sure that students have acquired practical skills enabling safe application of laboratory techniques and procedures as well as proper handling of biological material.

C. Principles of hygiene at work

1. Throughout the building, wear a face mask and keep a distance from others.

2. Come to laboratory classes in closed shoes with a thick sole, the upper part of which cannot be easily soaked, as you will work with substances like acids, organic solvents or liquid nitrogen. For your own safety, bundle your hair together, so that it does not touch the tables or other objects in the laboratory.

3. After entering the laboratory, put on a laboratory coat and protective gloves. Always work in the laboratory coat and with a face shield.

4. Do not eat, drink or use cosmetics in the laboratory.

5. Do not place paper underlays on the tables. Before you put your notebook on the laboratory table, wipe the surface of the table with a paper towel moistened with a disinfectant liquid containing 70% ethanol, 10 mM EDTA and 0.2% SDS. Keep your workplace clean.

6. Place personal items, such as your purse or backpack, in a locker or in another safe place indicated by the teacher.

7. Use gloves during work. Without gloves, only touch your own objects, e.g. your notebook and pen. While working, do not touch faces, clothing or chairs with gloves. If you touch your face with a glove (which we try to avoid), spray a disinfectant on the gloves and rub it over the entire surface of the gloves.

8. The keyboards of public computers and control panels of devices, such as centrifuges and heating blocks, are only touched with clean gloves – washed with a disinfectant – as in point 9.

9. Before using a microscope, moisten a tissue with 95% ethanol and wipe the surfaces of the microscope that you can touch with the skin of your face, eyelashes or eyelids.

10. Wipe surfaces contaminated with biological material immediately after finishing work, with a paper towel, moistened with a disinfectant liquid or 50x diluted ACE or Clorox bleach.

11. Take off damaged or soiled gloves and do not put them on again! Dispose the used gloves and paper towels in a container for biological waste, intended for incineration.

12. Do not leave the laboratory with gloves on your hands.

13. After finishing laboratory work, before leaving, take off your gloves, pack your things and wash your hands with soap and wipe them with a paper towel.

14. Leave the laboratory without your laboratory coat! After the classes, take the coat off and put it in a plastic bag.

15. Polish law allows you to wash the laboratory coat at home. Soak it before washing in diluted bleach solution, e.g. ACE (1:50), and next wash the coat in a washing machine.

16. All equipment used must be routinely decontaminated, and splashes, spilled liquids and other contaminants must be removed immediately under the supervision of the teacher, using appropriate means indicated by him.

D. Principles of safety at work

1. Work with concentrated acids, bases, oxidizing agents and toxic substances is allowed only when supervised by the teacher.

2. Pour the remaining solutions of inorganic acids and bases into a polypropylene container in the sink, labelled "inorganic waste".

3. If you pour or spray on your skin a corrosive substance, e.g. a bleaching agent, immediately rinse the skin with plenty of water! Biological material, in the case of contact with skin, should be immediately washed with water and liquid soap.

4. Use a face shield when working with organic solvents (e.g. phenol or chloroform) and work under a fume hood if possible. Carefully open tubes with organic solvents and harmful substances. Close the tubes and other laboratory glassware carefully.

5. Remains of organic solvents should be poured into containers located under the hood, labelled: "non-halogen organic waste" or "halogen organic waste".

6. Waste containing fluorescent dyes that bind to nucleic acids, like ethidium bromide or SybrGold, should be put in the container labelled "dyes", found under the hood.

7. After staining and discoloration of protein gels with Coomassie dye, pour the residue into the sink under the fume hood and let the tap water dilute acetic acid. Pour non-volatile, low-harmful or harmless substances into the sink and dilute with water.

8. If a solution is spilled, ask the teacher how to remove the contamination.

9. Dusty detergents and components of media should be weighed and poured while wearing a dust mask and protective glasses or a face shield, while toxic substances (e.g. PMSF) and corrosive substances (e.g. NaOH), only when the teacher is present.

10. Work carefully so as not to cause splashes or aerosols. Work that may cause splashes, aerosols or dust should be carried out in the hood or in a chamber protecting the user.

11. Do not switch off the hood. It should be on all day long.

12. Wear a face shield whenever it is possible to generate a splash, e.g. when opening containers with liquids or when using syringes with a filter or a needle.

13. Carefully use needles, scalpels and other sharp objects. Dispose of them in special containers for sharp objects. Close the filled containers and send them to an incineration plant.

14. Turn the equipment on and off under the supervision of the teacher. Immediately report equipment failures to him/her. Do not attempt to repair it yourself.

15. Close boxes with pipette tips. Hold the pipettes vertically, with the tip pointing down.

16. Carefully describe solutions in bottles: name of the solution, reagent, pH, concentration, initial and surname of the author, laboratory number and, if necessary, an appropriate pictogram.

17. Touch the tubes containing enzymes only in gloves. Carefully screw their lids. Tubes with enzymes stored at -20$_{o}$C should be removed only for a short time needed to collect a portion of the enzyme and kept in cubes with a coolant maintaining the temperature of -20$_{o}$C. Keep DNA and RNA preparations on ice. Minimize the opening time of freezers.

18. Wear safety glasses or a face shield when working with a transilluminator or another UV lamp.

19. Use earplugs when working with ultrasonic devices. Minimize exposure to ultrasound.

20. Put on protective goggles and suitable protective gloves for working with liquid nitrogen. Work carefully and responsibly.

21. It is not allowed to work with radioactive materials in laboratories. If necessary, such an experiment has to be performed in the Isotope Unit, and the teacher should report the exercise project in advance to the Radiological Protection Inspector.

22. The teachers are responsible for biological safety and are obliged to ensure the cleanliness of the laboratory, as well as waste treatment in accordance with applicable law and standards of the GMM and GMO laboratories.

23. The most serious threats in the laboratories are: electric shock, wound, skin burn or burning of a glove, skin or eye contact with organic solvents, acids, bases, chaotropic factors, such as guanidine salts, harmful substances like fluorescent dyes for DNA staining , acrylamide, some detergents, e.g. CTAB (cetyltrimethylammonium bromide), protease inhibitors (e.g. PMSF), antibiotics (e.g. cycloheximide), heavy metal salts (cadmium, lead, mercury), and many other substances that get through cell membranes and change cell metabolism.

24. Immediately report burns, cuts and unpredicted contact with reagents or biological material to the teacher. Do not hesitate, ask for help immediately. Follow the rules for providing **first aid** – instructions are on the board. In the laboratory, one of the sinks is equipped with an eye wash. Check the operation of the eye wash during the first classes. Before rinsing your eyes, always pull out the hose and let a few litres of water into the sink.

25. In case of **skin burn or burning** glove or laboratory coat, extinguish the fire with a wet cloth or cold water from the nearest tap, or use the shower above the entrance. Rinse the burnt skin with cold water. In case of a more severe burn, you should call an ambulance or report to a student health centre on the same day.

26. Avoid **electric shock**! The equipment is well protected but try not to splash water on any device when it is turned on. Do not touch any equipment with wet hands or wet gloves. Wet hands or gloves should be dried with a paper towel. In case of an electric shock to another person, provide first aid, starting from unplugging the power cord.

27. **Wound** – immediately report to the teacher and stop any bleeding. Clean the wound if necessary and apply a dressing. Note: it is necessary to use protective gloves in such situations.

28. **In case of emergency requiring medical attention, secure the injured person, provide first aid if necessary and immediately call an ambulance.**

29. **The teacher is obliged to immediately notify the Dean and the OHS Inspectorate of the University about the accident.**

30. The teacher and the laboratory keeper are obliged to ask any person who does not comply with the regulations to leave the laboratory and they should report any violation of the regulations to the Dean.

E. Experiments with biological material from the natural environment

This applies to materials of human and animal origin (hair, bones, blood and other tissues) as well as plant material: fresh and preserved (from herbaria). Working with material collected from the natural environment, we do not know which microorganisms and viruses it contains, so we treat such samples as BSL-2 class material, with which we work in laboratories with BSL-1 standards.
The classification of biosafety levels is based on the regulation of the Polish Minister of Health of 22 April 2005, concerning biological agents harmful for health in the work environment and protection of the health of workers professionally exposed to those factors:
Group 1: Factors that are unlikely to cause human disease. Examples: lambda phage, *Saccharomyces cerevisiae*, disarmed strains of *Escherichia coli*.
Group 2: Factors that can cause human disease and can be dangerous for employees, but their spread in the human population is unlikely. Usually there are effective methods of their prevention or treatment. Examples: *Bacillus subtilis*, *Chlamydia pneumoniae*, *Corynebacterium diphtheriae*, *Haemophilus influenzae, Mycoplasma pneumoniae…*Herpesvirideae, influenza viruses, measles virus, rotavirus, *Acanthamoeba castellani*, *Babesia divergens*.
Group 3: Factors that can cause serious human diseases, so they are dangerous for employees, and their spread within the human population is very likely, but usually there are some effective methods of their prevention or treatment. Examples: *Bacillus anthracis*, *Brucella canis*, *Mycobacterium bovis*, *Mycobacterium tuberculosis*, *Salmonella typhi*, SARS viruses, dengue virus, hepatitis viruses, polio virus, HIV, rabies virus, avian influenza viruses, *Trypanosoma brucei*.
Group 4: Factors that cause serious human diseases, so they are dangerous to employees, and their spread in the human population is very likely, while usually there are no effective methods of their prevention or treatment in relation to them. Examples: *Ebolavirus*, Marburg virus, smallpox virus, haemorrhagic fever viruses, Hendra virus (formerly known as an equine morbillivirus).
The above classification corresponds to laboratories of four biosafety levels: BSL-1, BSL-2, BSL-3 and BSL-4.
Warning! Inoculation with bacteria and other microorganisms, as well as cultures of viruses and bacteriophages from the environment, can only be carried out in properly adapted laboratories of the Department of Microbiology, working in accordance with the BSL-2 laboratory standards. All studies of such materials have to be carried out there, and immediately afterwards they must be inactivated in the laboratory, and then transferred to an incineration plant. Taking inactivated biological material outside BSL-2 laboratories is prohibited. Breaking this ban is bioterrorism. Biological material from the BSL-2 laboratory cannot leave the BSL-2 laboratory! In the building nobody is allowed to incubate any organisms and cultures containing viruses of threat groups 3 and 4.

Warning! In student labs, work only with **group 1** organisms and **biological material taken from the natural environment**. For material collected from the natural environment, work in conditions for group 1, but apply precautions for group 2.

1. Each laboratory must be equipped with a manual on safety of work with biological materials. It should include all the procedures necessary in the laboratory for the safe conduct of experiments, removal of biological material contaminations, removal of residues after culture on media and experimental work, waste management, removal/neutralization of spilled liquids, surface cleaning, as well as procedures to be followed if anyone comes into contact with biological material.
2. Potential contact with infectious material should be immediately reported to a specialist centre within 72 hours of the incident. The course of action and aid in such cases must be described in the laboratory manual on safety of work with biological material.

Appendix

Solutions for disinfection

Liquid for disinfection of tables and gloves: pour into a 1-litre spray bottle or beaker 730 ml of ethanol (96%) and 230 ml of H_2O, mix them, next add 20 ml of 0.5M EDTA pH = 8.0, mix again, and finally add 20 ml of 10% SDS, and mix once again. Ready.

0.1% sodium hypochlorite: dilute ACE bleach 1:50 in demineralized water, e.g. for one table wash, 1 ml ACE and 49 ml water. The solution is effective for 24 hours.

3% hydrogen peroxide – a bottle from a pharmacy or a solution prepared in the laboratory.

95% ethanol