APPROVED
By Order No. V1-194 of the Director of
Lietuvos Inzinerijos Kolegija HEI
of November 28, 2024

HEALTH AND SAFETY INSTRUCTION NO. 10
FOR STUDENTS WORKING IN THE ELECTRICAL ENGINEERING LABORATORY

I. GENERAL PROVISIONS

Work with electrical equipment and measuring instruments is permitted only for persons aged 18 or older who have undergone a medical examination in accordance with established procedures, possess theoretical knowledge in electrical engineering, have completed workplace safety and health instruction, and perform tasks under the supervision of a teacher.

1. A student is required to:

1.1. take measures, within the scope of their knowledge and abilities, to prevent injuries and emergency situations that may endanger their own or others' safety and health;

1.2. refuse to carry out work if, in their judgment, it poses a risk to health or life, and immediately inform the supervising teacher or the occupational health and safety specialist. The student must also report any violations of occupational health and safety requirements that they cannot or are not required to eliminate themselves.

1.3. immediately report to the supervising teacher, the head of the laboratory, or an occupational health and safety specialist about any injuries sustained during work or other work-related health problems;

1.4. operate work equipment in strict accordance with the requirements specified in the equipment documentation, manuals, and this instruction. Disconnect the power supply and promptly notify the teacher if any equipment malfunctions are observed during work.

1.5. know the location of fire extinguishing equipment in the workplace, be able to operate it, and avoid actions that could cause a fire;

1.6. comply with personal hygiene requirements, ensure that work clothing and footwear are clean, and wash hands only using designated cleaning agents;

1.7. A student who fails to comply with these instructions may be removed from work and subjected to disciplinary action. Accidents occurring during the educational process are investigated in accordance with the procedure established by the Ministry of Education, Science and Sport of the Republic of Lithuania.

II. OCCUPATIONAL RISK FACTORS AND SAFETY MEASURES

2.1. The following hazards present in the student‘s work environment may pose immediate health risks:

2.2. exposure to electric current due to faulty equipment, damaged electrical installations, or the student exceeding their level of competence, as electrical equipment may only be repaired by qualified electrical personnel. Exposure to electric current may cause loss of consciousness, cardiac or respiratory arrest, or, in some cases, sudden death.

2.3. defective or poorly maintained tools and equipment, which may cause physical injuries;

2.4. sharp tools, which can cause hand injuries if handled carelessly;

2.5. unsafe work practices and failure to use personal protective equipment, both of which increase the risk of accidents and injuries;

2.6. rotating and moving parts of motors or mechanisms;

2.7. presence of unauthorised persons in the work area;

2.8. insufficient lighting, which reduces visibility and may lead to accidental injury;

2.9. release of toxic substances during soldering;

2.10. noise.
2.11. poor housekeeping, such as slippery floors, which may result in serious injuries from falls;
2.12. The overall noise level in the student's workplace must not exceed 80 dBA, and air contamination must remain within the limits established by hygiene standards.
2.13. When performing soldering operations, local exhaust ventilation must be activated.
2.14. Students must properly maintain and use their personal protective equipment in accordance with its intended purpose and promptly notify the work supervisor of any damage or wear.

III. STUDENT ACTIONS BEFORE STARTING WORK

3. Before beginning work, the student must:
3.1. arrange their clothing properly, button up, and secure loose sleeves;
3.2. familiarize themselves with the assigned task;
3.3. neatly arrange the materials and tools;
3.4. check the grounding of the equipment casing;
3.5. visually inspect all components and protective covers of the equipment, and only after ensuring that they are in good condition, request the supervisor to switch on the main electrical panel;
3.6. before switching on any electrical device, make sure that no one is in danger;
3.7. immediately report any detected faults to the supervisor;
3.8. Students are strictly prohibited from switching on the main electrical panel themselves.

IV. STUDENT ACTIONS DURING WORK

4. When working with electrical devices, the student must:
4.1. ensure that there is no electrical current present before connecting any circuit;
4.2. never open or remove protective covers from devices;
4.3. never take or pass objects over operating electrical devices;
4.4. Electrical devices must be switched off in the following cases:
- 4.4.1. when unusual noise occurs;
- 4.4.2. when temporarily leaving the device unattended;
- 4.4.3. when the power supply is interrupted;
- 4.4.4. when a malfunction is detected;
- 4.4.5. It is prohibited to touch wires, components, or fasten parts while the electrical device is operating;
- 4.4.6. If voltage is felt on the metal parts of a device, it must be switched off immediately, and the supervisor must be notified.

4.5. When operating drilling machines or hand drills, the student must:
- 4.5.1. never drill an unsecured workpiece or hold it by hand;
- 4.5.2. insert the drill bit correctly into the holder and ensure proper centering;
- 4.5.3. never blow chips out of the hole with the mouth;
- 4.5.4. never bend their head close to the cutting tool while the machine is operating;
- 4.5.5. never measure hole depth while the machine is operating;
- 4.5.6. remove chips frequently when drilling holes, but only after stopping the machine and raising the drill bit;
- 4.5.7. if the workpiece or drill bit begins to rotate, never try to stop it with their hands. The machine must be immediately stopped and the workpiece or drill bit resecured before continuing.

V. STUDENT ACTIONS DURING EMERGENCY (FIRE) SITUATIONS

5. In case of fire or an emergency situation, the student must:
5.1. switch off the electrical supply;

5.2. call the responsible personnel of the organisation to the fire site;
5.3. begin to extinguish the fire using available fire extinguishers or non-flammable fabrics. When using a fire extinguisher, the student must remove the seal, pull out the safety pin, direct the hose and nozzle toward the fire, and press the handle.
5.4. immediately stop work and inform the supervisor if a situation arises that could cause an accident or emergency;
5.5. in the event of an accident, provide first aid to the injured person, call emergency medical services if necessary, report the incident to the immediate supervisor or another one of the organisation‘s authorities, and preserve the scene of the incident if it does not endanger the health or life of other employees or students.
5.6. If a peer is injured by electrical current, the student must disconnect the laboratory power supply using the main switch and release the person from the electric current.

VI. STUDENT ACTIONS AFTER COMPLETING WORK

6.1. All equipment and devices must be switched off from the electrical supply.
6.2. The completed work must be demonstrated to the supervisor.
6.3. The workplace must be cleaned and organised.
6.4. The work area must be thoroughly wiped down.
6.5. Tools and work instructions must be neatly stored in their designated places.
6.6. Metal shavings and fine debris must not be blown away with the mouth.
6.7. Electrical devices must not be cleaned by hand.
6.8. Waste, dirty rags and debris must be placed in separate metal containers.
6.9. Hands must be washed with water and soap.
