

Safety instructions and considerations

This instructions manual is intended for the students of the course
Experimental Methods in Fluid Mechanics and Thermodynamics at the
Technical University of Liberec

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General safety considerations and recommendations

You must always keep in mind that a major consideration in both personal and equipment safety is YOUR ATTITUDE AND ATTENTION.

- Never operate equipment by yourself (alone).
- Only operate equipment with your instructor's consent.
- Never eat, drink or smoke in the lab.
- Maintain a professional attitude at all times.

Before coming to the lab

- Make sure you read the lab manual thoroughly (General Safety Instructions).
- Make sure you have appropriate clothes/gear.
- Your clothes must not be loose-fitting.
- Your shirt must not be unbuttoned and too baggy or loose.
- Your legs must be protected completely, so shorts are not allowed and pants are preferable.
- To protect your feet from falling objects and spilled liquids, you must have closed toed shoes, not flip-flops, slippers or sandals.
- Make sure you do not have any neckties or jewelry such as necklaces or bracelets which could get caught in machinery.
- If your hair is long, it must be tied back. A cap is highly recommended.
- Keep your cellphone out of the lab, as it is too much of a distraction, preferably turn it off.

Before beginning any experiment – General emergency procedures and equipment

- First make sure you know where the emergency exits are and that they are kept clear at all times. Your instructor will show you where it is.
- You should also know the locations of fire extinguishers and the lab phone. Your instructor will show you where it is.
- You should also know the locations of fire blanket, first aid kit, and eye wash. Your instructor will show you where it is.
- Your instructor should inform you how to shut down the equipment in case of an emergency.
- You should always ask your instructor if you have any questions how to operate the equipment.
- You must always inspect the lab equipment for any unsafe conditions before you start. If you notice anything suspicious, inform your instructor.

While using any laboratory equipment

- Dangerous conditions may develop suddenly while the experiment is running, so be alert to anything that could indicate a problem such as strange noises, pressure and temperature readings, vibrations, or the presence of smoke or flames.
- If you notice anything odd, You should shut down the equipment and inform your instructor immediately.
- You must always conduct the experiment only as described in the manual. Your instructor will show you where it is.
- Never stand in the plane of rotation of a rotating coupling such as between a motor and a pump. If the couplings fails, it can send metal fragments radially at high speeds. In such cases, stand off to the side a safe distance away from any coupling.
- After you finish working on the equipment, shut down the equipment in a safe manner.
- To make the experiment ready for other students to use, wipe down your work area if necessary.

Safety guidelines specific to the fluids and gases lab

- Spills are common in the fluids lab and you should be on the lookout for them at all times.
- In the event of a spill, inform your instructor who will help you clean it up safely.
- Petroleum products (especially those that are flammable) should be handled by the instructor only and should be safely stored in the flammable substances locker when not in use.
- If you work with a hazardous substance that can splash on you or get in your eyes, safety goggles will be required.

In the event of a fire

- In case of small fires and your personal safety is not threatened, inform the instructor and calmly retrieve the fire extinguisher to put the fire out.
- In case of larger fires or your personal safety is endangered, calmly evacuate the lab, close the door tightly, dial 112, and activate the building's fire alarm.

In the event of an injury

- You must always report any injuries to your instructor, no matter how serious they are.
- If the injury is serious, inform your instructor and dial 112.