

Teaching and research at the Department is provided by the 4 training, 3 research and training laboratories and 1 research center. Training laboratories provide general physical laboratory works for students almost all of schools of the MUST. High quality studies can take place in these laboratories with high-quality equipment. Also, graduate students have opportunities to do graduation thesis at research laboratories.



Mechanical laboratory

Mechanical laboratory experimental equipment provides students with real-world knowledge and hands-on learning laboratory experience. It includes a variety of equipment for mechanics. Students can do the following experiments; determining acceleration gravity with a mathematics pendulum, checking energy conservation and transformation law, studying solid rotational motion as well as determining the hardness of materials.



Molecular physics laboratory

This laboratory also offers students the hands-on learning laboratory experience needed for a Molecular Physics education. It has focused on the measurement of the specific heat capacity of solids, viscosity of liquids, and air humidity.



Electrical laboratory

Electrical laboratory equipment is designed to give students an introduction to laboratory experiments on static electricity, electric charge, the resistance of the conductor, energy of the electric field, Kirchhoff's laws, alternating current, and its resonance and frequency. In this laboratory, equipment is connected to a personal computer. The laboratory experimental data and results are produced by computer calculation.



Optics laboratory

The laboratory emphasizes hands-on work with the equipment to make optic physics real to the student. Students perform experimental works such as determining focus lengths of thin lenses, and light wavelengths by a diffraction grating and also measuring the refractive index and concentration of a solution by using a refractometer.





Laboratory of Nanotechnology

Laboratory of Nanotechnology provides research and training in the field of Materials Sciences as well as Nanotechnology. The main fields of research interests are an investigation of crystal structure and composition of materials, mineral raw materials, and substances, and the determination of nanoparticle sizes (1-10000 nm). Research results have been published in international journals.



Modeling Simulation laboratory

The laboratory interests are a theoretical simulation of the nanostructure, investigation of *Bose-Einstein* condensates at ultra-low temperatures, the study of Quantum computing, the interaction of ultra short impulse with the matter, impaction theory, plasma technology, and advanced fuel cell technology.



Surface analysis laboratory

The research interests of this laboratory are focused on the determination of surface structures of materials at the atomic level under ultra-high vacuum conditions as well as in the air. In addition, researchers study the synthesis of thin films ranging from fractions of a nanometer to several micrometers in thickness.

