

# MSc in Biomedical Engineering

The Master Degree Programs' duration is 1 year, 1.5 or 2 years after Bachelor degree Program in KNURE. The duration of master programs depends on student's choice

Biomedical engineering (BME) is a branch of Electronic Engineering, which deals with various aspects concerning the application of electronics and computing to biomedical instrumentation and health-care systems. Such medical systems require the combination of analogue and digital electronic hardware, software engineering and signal processing algorithms in order to function. The challenge for engineers specializing in biomedical electronics is to apply their knowledge and skills towards the continuous development of medical diagnostic and monitoring systems, which will enable health-care professionals to deliver the best medical care to their patients.

**BME BSc curriculum and fields of interest.** Computerized medical imaging systems and image processing; biosignals and signal processing; biophysics; electronic equipment for laboratory research; SPA devices; rehabilitation engineering; biomaterials engineering; clinical monitoring systems; biomedical system modeling; biomedical instrumentation; radiotherapy; joint replacement; artificial organs; gait and motion analysis; BME nanotechnologies; medical informatics and telecommunications; e-learning in bioengineering.

**BME BSc professional activity.** Biomedical Hardware & Software development and setup; commercial supply and maintenance of clinical electronic equipment; educational and research work in BME



**The basic state academic scientific institutions for research work at Kharkiv:** Grigoriev Institute for medical Radiology; Sytenko Institute of Spine and Joint Pathology; Ukrainian Scientific-Research Institute of Prosthetics, Prosthesis Making and Working Capacity Restoration; Kharkiv Research Institute of General and Emergency Surgery Institute; Institute for Problems of Cryobiology and Cryomedicine; Malaya Institute of Therapy; Institute of Children and Adolescents Health Care; Danilevskij Institute of Endocrinological Pathology; Institute of Experimental and Clinical Veterinary Medicine; Kharkiv Research Institute of Occupational Hygiene and Occupational Diseases, etc.



**The basic state institutions for practical training at Kharkiv:** Regional Clinical Hospital, Girshman Regional Ophthalmologic Hospital, Regional Military Hospital, joint-stock companies – manufacturers of medical electronic equipment, certificated service centers, etc.

**Entry requirements:** It is expected that a Master Degree applicant has Bachelor Degree (see Admission Procedure). Any student, holding Bachelor Degree in the BME can be admitted to Master Programs (see Admission Procedure). The Master Degree Programs' duration is 1 year, 1.5 or 2 years after Bachelor degree Program in KNURE. The duration of master programs depends on student's choice.

