

Level: bachelor				
Course title: Measuring and instrumental techniques				
Status: obligatory				
ECTS: 6				
Requirements: Mechanics, Thermodynamics, Electromagnetism				
Learning objectives To introduce students to the basic principles of modern measuring devices.				
Learning outcomes After completion of the course, students should have developed: - General skills: reading professional literature, gained experience and knowledge to work with the most modern measuring devices that are used in all areas of science and technology, as well as in everyday life. - Specific skills: students gain knowledge about the basic principles of measuring non-electrical quantities by means of electrical physical quantities.				
Syllabus <i>Theoretical instruction</i> The principles of measuring non-electrical quantities by means of electrical physical quantities. Transducers for measuring force and displacement. Methods and appropriate transducers for measuring angular velocity and angular acceleration. Measurement of vibration. Methods of measuring pressure. Measuring temperature. Methods of measurement and transducers for the determination of air humidity. <i>Practical instruction</i> The exercises that follow the content of lectures: measuring force and strain by measurement. strips. Inductive converter. The measurement of small displacement. Measurement of angular velocity using a stroboscope. Heat-conductive pressure gauges. Pirani vacuum measurement method.				
Weekly teaching load				Other:
Lectures: 3	Exercises: 2	Other forms of teaching:	Student research:	