Title	Code
Technical Diagnostics (Diagnostyka techniczna)	**1010401141010210656**
Field: **EDUCATION IN TECHNOLOGY AND INFORMATICS**	Year / Semester: **2 / 4**
Specialty: **-**	Course: **core**
Hours: Lectures: **1** Classes: **-** Laboratory: **1** Projects / seminars: **-**	Number of credits: **2**
	Language: **polish**

Lecturer:

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Faculty:

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Status of the course in the study program:

Core course of the study for Edukacja Techniczno Informatyczna, Faculty of Technical Physics.

Assumptions and objectives of the course:

Students obtain basic knowledge of technical diagnostic in particular vibroacoustical (VA) diagnostics. Practical skill of condition assessment and fault identification of machinery.

Contents of the course (course description):

Basic terminology. The symptom life curve of technical objects. Non-destructive testing (NDT) and vibroacoustical testing methods of machines and their elements. Measures and characteristics of vibroacoustical signals used as diagnostics symptoms. Assessment of machine condition on the basis of vibration measurements (PN-ISO standards). Faults detection and identification, malfunctions and phenomenon in: bearings, rotors and shafts, gear boxes, electric motors, and other types of machines and their components.

Introductory courses and the required pre-knowledge:

Basic knowledge of theory of machines and measurements of mechanical quantities

Courses form and teaching methods:

Lectures supported by multimedia presentation. Experiments carried out on laboratory stands and real machines. Laboratory exercises are realized by student groups (3-4 person).

Form and terms of complete the course - requirements and assessment methods:

Laboratory. Written test before laboratory exercises, evaluation of the experimental skills and written report. Realisation of the all exercises is obligatory. The semester grade is average note of all tests and reports.

Lectures. Written test after a series of lectures.

Basic Bibliography:

1. Inżynieria Diagnostyki Maszyn., red. B.Żółtowski i C.Cempel, PTDT ITE PIB Radom, 2004
2. Handbook of condition monitoring, Edited by B.K.N. Rao, Elsevier Science Ltd. 1996.
3. Diagnostyka Maszyn, Zasady ogólne przykłady zastosowań, Praca pod redakcją C.Cempla i F.Tomaszewskiego, Wydawnictwo MCNEMT Radom, 1992.
4. Lewińska-Romicka A., Badania nieniszczące, podstawy defektoskopii, WNT W-wa, 2001.

Additional Bibliography:

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