

Title <b>Electrical Machines</b>	Code <b>1010321231010320138</b>
Field <b>Electrical Engineering</b>	Year / Semester <b>2 / 3</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>2</b> Classes: -    Laboratory: -    Projects / seminars: -	Number of credits <b>0</b>
	Language <b>polish</b>

**Lecturer:**

prof. dr hab. inż. Andrzej Demenko  
prof. dr hab. inż. Lech Nowak  
Instytut Elektrotechniki i Elektroniki Przemysłowej  
60-965 Poznań, ul. Piotrowo 3a  
tel. +48 061 665 23 88  
e-mail: Andrzej.Demenko@put.poznan.pl  
Lech.Nowak@put.poznan.pl

**Faculty:**

Faculty of Electrical Engineering  
ul. Piotrowo 3A  
60-965 Poznań  
tel. (061) 665-2539, fax. (061) 665-2548  
e-mail: office\_deef@put.poznan.pl

**Status of the course in the study program:**

Obligatory subject, Faculty of Electrical Engineering, Field: Electrical Engineering, Full-time first-degree studies

**Assumptions and objectives of the course:**

The student should obtain knowledge of the magnetic circuits of electrical machines and knowledge of the constructions and performances of transformers and induction machine.

**Contents of the course (course description):**

Magnetic circuits. Transformers: transformer on no-load, transformer equivalent circuits, transformer on load, transformers for three phase circuits, parallel operation, selected transients. Electromechanical energy conversion principles. Rotating machines-basic concepts: distributed windings, rotating magnetic field, electromotive force induced by a rotating magnetic field, winding factors. Induction machines: basic theory and construction, equivalent circuit, speed-torque curves, squirrel-cage rotor, skin effect in rotor bars, speed control.

**Introductory courses and the required pre-knowledge:**

Elementary knowledge of electromagnetism and knowledge of electric circuit analysis.

**Courses form and teaching methods:**

Lectures supported by transparencies, exercises related to practical problems.

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

Oral examination.

**Basic Bibliography:**

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**Additional Bibliography:**

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