RTU Course "Electricity and Magnetism"

11101 Elektrotehnikas un elektronikas katedra

General data

Code	EEE101
Course title	Electricity and Magnetism
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Academic
Field of study	Power and Electrical Engineering
Responsible instructor	Dūmiņš Ivars
Academic staff	Nadežņikovs Ņikita Purviņš Andris Maksimkina Jūlija Vītols Aigars Voitkāns Jānis Hramcovs Vladimirs Miglāns Vladimirs Egle Juris
Volume of the course: parts and credits points	1 part, 2.0 Credit Points, 3.0 ECTS credits
Language of instruction	LV
Possibility of distance learning	Not planned
Abstract	Electrical charges and electrical field; foundations of relativity, origin of magnetism. Capacity, inductivity and mutual inductivity. Interaction of electrical and magnetic fields, Maxwell's equations. Propogation of electromagnetic waves and energy, skin-effect. Electric and magnetic properties of matters, superconductivity, ferromagnetism.
Goals and objectives of the course in terms of competences and skills	
Structure and tasks of independent studies	
Recommended literature	1. I. Dūmiņš «Elektrība un magnētisms. Lekciju konspekts» omega. rtu.lv/etp. 2. «Elektrība un magnētisms. Laboratorijas darbu apraksti un uzdevumi patstāvīgai risināšanai» omega. rtu.lv/etp. 3. «Elektrotehnikas teorētiskie pamati. Elektromagnētiskais lauks», Rīga, «Zvaigzne», 1991.
Course prerequisites	

Course outline

Theme	Hours
	4
	6
	4
	4
	2
	4
	2
	2
	2
	2

Learning outcomes and assessment

Learning outcomes	Assessment methods

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work

1.	2.0	3.0	1.5	0.0	0.5		*	