

## COURSE SYLLABUS ABSTRACT

### ELECTRODYNAMIC FORCES IN SYSTEMS OF RIGID AND FLEXIBLE CONDUCTORS OF ARBITRARY SPATIAL CONFIGURATION (and name)

1-43 80 01 Electric power and electrical engineering  
II stages of higher education  
(master's degree)

	full-time	part-time (shortened program)
Year	1	2
Semester	2	3
Lectures, hours	16	4
Practical classes, hours	16	4
Exam, semester	2	3
Contact hours	32	8
Independent study, hours	58	82
Total course duration in hours / credit units	90/3	

#### 1. Course outline

##### 1. Summary of the academic discipline

The object of study of the discipline is electrodynamic forces (EDU) in systems of rigid and flexible conductors of arbitrary spatial configuration that arise when currents flow through conductors in the presence of magnetic fields and manifest themselves most fully in short-circuit modes. The methods of calculating the EDM in various cases of spatial arrangement of rigid and flexible conductors of arbitrary spatial configuration based on the Law of Bio-Savard Laplace for determining the magnetic field strength generated by a conductor with a current are considered, and also on the use of the energy balance of the system of conductors with current.

##### 2. Learning outcomes.

-to know the methods of calculating the EDU, methods and methods of solving problems related to the calculation of the EDU in conductor systems.

-be able to formulate the conditions of tasks for calculating the EDU, solve problems related to calculating the EDU in conductor systems.

-possess methods and methods of solving problems related to the calculation of EDI in conductor systems.

##### 3. Formed competencies

SK-6: master the algorithm of the vector-parametric method for calculating electrodynamic forces in a system of conductors with a current having an arbitrary spatial arrangement

##### 4. Requirements and forms of current and interim certification.

The current certification is an exam. Intermediate – protection of practical works.