

## Reliability of electromechanical systems

<b>Department that provides teaching</b>	Automation of electromechanical systems and electric drive
<b>Possible restrictions</b>	No restrictions
<b>HE level</b>	First (undergraduate)
<b>Specialties for which the discipline is adapted</b>	141 "Electric power engineering, electrical engineering and electromechanics"
<b>Course</b>	4
<b>The scope of the discipline and the distribution of hours of classroom and independent work</b>	4 ECTS credits classroom classes: lectures – 36 hours, practical classes – 18 hours independent work - 66 hours
<b>Language of teaching</b>	Ukrainian
<b>Requirements for starting the study of the discipline</b>	Knowledge of electric drive control, electric drive, automated electric drive, electric machines, theoretical foundations of electrical engineering, automation systems
<b>What will be studied</b>	The discipline studies methods of analyzing the reliability of electromechanical systems and ways to increase it. For this, factors that affect the reliability of electromechanical systems and mathematical criteria for reliability assessment are studied. The basics of reliability calculations of electromechanical systems with various types of redundancy are also considered. Issues of reliability of renewable electromechanical systems are considered
<b>Why is it interesting/should be studied?</b>	The issue of analyzing the reliability of electromechanical systems and ways to increase it are relevant both when developing new electromechanical systems and at the stage of modernization of existing equipment. Therefore, this discipline will be useful primarily to those who plan to design electromechanical systems or their components in the future.
<b>What you can learn</b>	<ul style="list-style-type: none"> <li>– analyze factors that affect the reliability of electromechanical systems;</li> <li>– evaluate the reliability of the main electromechanical system;</li> <li>– evaluate the reliability of electromechanical systems with loaded, unloaded and sliding redundancy;</li> <li>– evaluate the reliability of renewable electromechanical systems.</li> </ul>
<b>How to use acquired knowledge and skills</b>	Be able to evaluate the main indicators of reliability and know ways to increase it when designing and modernizing electromechanical systems
<b>Information support of the discipline</b>	Syllabus, lecture notes, practical training manual, distance course.
<b>Semester control</b>	Test