

SYLLABUS
Life Safety

№	Fields name	Detailed content, comments
1	Name of Faculty	Faculty of Automatics and Computerized Technologies
2	Level of higher education	Bachelor level
3	Code and title of specialty	All specialties of University
4	Type and title of the educational program	
5	Title of the discipline	Life Safety
6	Number of ECTS credits	3
7	The structure of the course (distribution by type and hours of training)	Lectures – 18 hours Laboratory works - 12 hours Practical lessons – 6 hours Independent work – 48 hours Consultations – 6 hours Test – 2 hours
8	Schedule (terms) of study of the subject	1-2 course, 1-4 semester
9	Prerequisites for learning the discipline	Physics, Higher Mathematics
10	Abstract (content) of the discipline	<p>Section 1. Theoretical foundations of Life safety</p> <p> Topic 1.1. Problem of human safety</p> <p> Topic 1.2 The concept of danger</p> <p> Topic 1.3. Application of risk approach for construction of probabilistic structural-logical models of dangers</p> <p> Topic 1.4 Ensuring human safety</p> <p> Topic 1.5 Industrial and domestic accidents</p> <p> Topic 1.6 Legal bases Life safety</p> <p> <i>Laboratory work</i> "Estimation of the impact of production factors on human health"</p> <p> <i>Practice</i> "Estimation of occupational risks using Fault Tree Analysis"</p> <p> <i>Practice</i> "Estimation of energy value of food components to ensure the vital functions of the human body"</p> <p>Section 2. Ensuring industrial safety</p> <p> Topic 2.1 The effects of electrical shorting on the human body</p> <p> Topic 2.2 Danger of electrical networks and methods of their safe operation</p> <p> <i>Laboratory work</i> "Research of the resistance of the human body to electric current"</p> <p> <i>Practice</i> "Application of methods and means of ensuring life safety"</p> <p>Section 3. Ensuring industrial sanitation and hygiene of labour</p> <p> Topic 3.1 Electromagnetic fields and radiation of radio frequency and optical bands</p> <p> Topic 3.2 Noise and vibration</p> <p> Topic 3.3 Air of work area</p> <p> <i>Laboratory work</i> "Research of natural and artificial lighting parameters"</p>

		<p><i>Laboratory work " Research of the properties of human sound perception"</i></p> <p><i>Laboratory work "Research of working air"</i></p>																																																										
11	Competencies, knowledge, skills, understanding that a higher education acquirer has in the learning process	<ul style="list-style-type: none"> • safety culture and risk-oriented thinking; • ability to effectively use the legal documents in activities; • knowledge of the basic methods of maintaining the health and working productivity in buildings, on vacation and during professional activities; • the ability to assess the living environment for personal safety, the safety of society, to monitor hazards and to justify the main approaches and means of saving the lives, health and protection of workers in the event of a threat. • rationale of the choice of safe modes and parameters of production processes (in the field of activity); • ability to identify dangerous factors of natural and production environments and find ways to prevent their impact using risk theory; • eliminate the causes of accidents and professional diseases at work. • prevent domestic and industrial injuries, as well as general and professional diseases; • knowledge of organizational and legal measures to ensure safe living and the ability to justify and ensure the full implementation of measures for collective and individual security. 																																																										
12	Learning outcomes of a Higher Education applicant	<ul style="list-style-type: none"> • be able to implement safe technologies, choose optimal working conditions and modes, design workplaces based on modern technological and scientific achievements in the field of occupational safety; • ability to substantiate normative and organizational measures to ensure safe operation of equipment and prevention of technogenic hazards; • ability to analyze the mechanisms of human hazards, determine the character of its interaction, taking into account the specifics of the toxic effects of substances, energy effects and the combined action of damaging factors. 																																																										
13	Assessment system in accordance with each task for taking tests/exams	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="3"></th> <th colspan="11">Type of lesson / control measure</th> </tr> <tr> <th colspan="3">modul №1</th> <th colspan="3">modul №2</th> <th colspan="5">modul №3</th> </tr> <tr> <th>Test</th> <th>Pr</th> <th>CP</th> <th>Test</th> <th>Lab</th> <th>CP</th> <th>Pr</th> <th>Pr</th> <th>Lab</th> <th>Lab</th> <th>CP</th> </tr> </thead> <tbody> <tr> <td>Min/max</td> <td>1</td> <td>1</td> <td>1</td> <td>2</td> <td>1</td> <td>2</td> <td>2</td> <td>3</td> <td>2</td> <td>3</td> <td>3</td> </tr> <tr> <td></td> <td>15-26</td> <td>4-6</td> <td>19-32</td> <td>15-26</td> <td>6-10</td> <td>21-36</td> <td>4-6</td> <td>4-6</td> <td>6-10</td> <td>6-10</td> <td>20-32</td> </tr> </tbody> </table> <p>Test №1 – after studying the first section Test №2 – after studying the second and third sections Final test – a final assessment of three content modules Practical and laboratory classes are a mandatory component of enrollment in the discipline.</p>		Type of lesson / control measure											modul №1			modul №2			modul №3					Test	Pr	CP	Test	Lab	CP	Pr	Pr	Lab	Lab	CP	Min/max	1	1	1	2	1	2	2	3	2	3	3		15-26	4-6	19-32	15-26	6-10	21-36	4-6	4-6	6-10	6-10	20-32
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14	The quality of the educational process	Constant updating of the discipline content on the basis of modern practices, regulations, scientific achievements, the policy of academic integrity																																																										
15	Methodological support	Textbook, manuals for laboratory work, practical classes,																																																										

		independent work, complex of scientific and methodological support
16	The developer of the Syllabus	Head of the Safety Engineering Department Tatyana Stytsenko, tatiana.stytsenko@nure.ua Associate Professor of Safety Engineering Department Hanna Proniuk, ganna.proniuk@nure.ua