



Academic discipline

Technologies of Protective Coating

Specialities: 131 Applied Mechanics; 133 Industrial Machinery Engineering; 134 Aerospace Engineering; 141 Power Engineering, Electrical Engineering and Mechanics; 142 Power Engineering; 274 Automobile Transport

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|---------------------------|---|--|-------------------|--|
| Level of Higher Education | first level of Higher Education | | | |
| Course Status | student's choice | | | |
| Scope of discipline | 150 hours / 5 ECTS credits: lectures (32 hours), laboratory work (32 hours), student self-study (86 hours) | | | |
| Language | Ukrainian / English | | | |
| Annotation | <p>The course will cover the following topics:</p> <p><i>Typical and perspective means and methods of deposition and control of corrosion-resistant coatings</i></p> <ul style="list-style-type: none"> – design and technological features of the aircraft, helicopter as objects of corrosion protection. Technological means of increasing the corrosion resistance of surfaces of aerospace engineering parts. Quality indicators and methods of control of protective coatings. Types of surface preparation for coating. – Basic means of metal surfaces. Quality indicators and methods for monitoring metal protective coatings. Technological features of corrosion protection of parts made of steel, aluminum, magnesium alloys. The main indicators of the quality of galvanic coatings and the causes of defects. – Components of paints and varnishes. Classification of paints and varnishes. Methods for applying. Components. <p><i>Equipment and equipment for electroplating and paint coating shops</i></p> <ul style="list-style-type: none"> – Equipment and equipment for electroplating and paint coating shops. Equipment for chemical cleaning of surfaces of parts before applying protective coatings. The structure of the technological process of applying protective coatings and the sequence of its design. Equipment for artificial drying of paint coatings. – Ways to improve and develop the technology of applying and controlling protective coatings for parts of helicopters and aircraft. Progressive methods of organizing production in the field of galvanic and paint coatings. Equipment for painting in an electric field. Environmentally friendly technologies for electroplating and paint coatings <p><i>Topics of laboratory classes:</i></p> <ul style="list-style-type: none"> – Control of the basic properties of paints and varnishes and coatings – Typical programs for the control of metal coatings – Typical control programs for non-metallic inorganic coatings – Equipment for application and control of protective coatings of aircraft parts | | | |
| Prerequisites | – | | | |
| Department | Technology of Aircraft Manufacturing (104) | | | |
| Faculty | Aircraft Engineering | | | |
| Teacher | Name | Oleksiy Pavlenko | Name | Iryna Voronko |
| | Position | Associate Professor | Position | Associate Professor |
| | Academic title | – | Academic title | – |
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| Syllabus | https://khai.edu/files/uploads/vibirkovi/bakalavri/div3-2024/s_b_nmk-1_technologies-of-protective-coating_div-3.pdf | | | |