



# Basic Methods of Additive Manufacturing

Minor «*Perspective technologies in aircraft manufacturing*»

<b>Level of Higher Education</b>	first (Bachelor)										
<b>Course Status</b>	<i>student's choice</i>										
<b>Scope of discipline</b>	150 hours / 5 ECTS credits										
<b>Language</b>	Ukrainian / English										
<b>What will be studied (subject of study)</b>	<p>Basic concepts and definitions of additive technologies. Structure, types of additive technologies. Advantages and disadvantages of using these technologies, their development prospects.</p> <p>The concept of manufacturability of products and parts. Materials used in additive technologies.</p> <p>Fundamentals of manufacturing technology (3D printing): FDM layer-by-layer deposition modeling and SLA laser stereolithography, SLM selective laser melting, DMLS direct metal laser sintering</p>										
<b>Why is it interesting/should be studied (goal)</b>	The study of the discipline provides students with knowledge about the essence of technological processes for manufacturing aircraft and helicopter parts using innovative production methods and skills in the application of additive technologies in various fields of knowledge										
<b>How can you use the acquired knowledge and skills (competencies)</b>	<p>Skills in the use of information and communication technologies.</p> <p>Ability to work in a team.</p> <p>The ability to generate new ideas (creativity).</p> <p>Ability to learn and master modern knowledge.</p> <p>The ability to develop and implement technological processes for the production of parts and objects of aviation equipment.</p> <p>The ability to choose methods of calculation, design and production, considering the characteristics of different types of aviation equipment.</p> <p>Ability to use the latest embedded computer technologies in the creation (production) of aviation equipment</p>										
<b>Organization of training</b>	<p>Types of classes: lectures, laboratory, self-study</p> <p>Forms of education: full-time / part-time</p> <p>Forms of control: modular control, pass</p>										
<b>Department</b>	Technology of Aircraft Manufacturing (104)										
<b>Faculty</b>	Aircraft Engineering										
<b>Teacher</b>	 <table border="1"> <tr> <td>Name</td> <td><b>Kateryna Maiorova</b></td> </tr> <tr> <td>Position</td> <td>Head of the Department</td> </tr> <tr> <td>Academic title</td> <td>Docent</td> </tr> <tr> <td>Scientific degree</td> <td>PhD</td> </tr> <tr> <td>e-mail</td> <td><a href="mailto:k.majorova@khai.edu">k.majorova@khai.edu</a></td> </tr> </table>	Name	<b>Kateryna Maiorova</b>	Position	Head of the Department	Academic title	Docent	Scientific degree	PhD	e-mail	<a href="mailto:k.majorova@khai.edu">k.majorova@khai.edu</a>
Name	<b>Kateryna Maiorova</b>										
Position	Head of the Department										
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Scientific degree	PhD										
e-mail	<a href="mailto:k.majorova@khai.edu">k.majorova@khai.edu</a>										
<b>Links to course materials</b>	<p>1. Сучасні методи координатних вимірювань в авіа- та ракетобудуванні [Електронний ресурс]: навч. посіб. / І. В. Бичков, К. В. Майорова, І. О. Воронько, С. Ю. Миронова, Ю. В. Д'яченко, О. В. Романцов, А. С. Морголенко, Г. С. Селезньова. – Харків: Нац. аерокосм. ун-т ім. М. Є. Жуковського «Харків. авіац. ін-т», 2019. – 96 с.</p> <p><a href="http://library.khai.edu/library/fulltexts/metod/Suchasni_Metodi_Koordinatnih.pdf">http://library.khai.edu/library/fulltexts/metod/Suchasni_Metodi_Koordinatnih.pdf</a></p>										

**Link to work program  
(syllabus)**

[https://khai.edu/assets/files/silabusi/Minor/104/s\\_b\\_134\\_Basic-Methods-of-Additive-Manufacturing\\_minor-3.pdf](https://khai.edu/assets/files/silabusi/Minor/104/s_b_134_Basic-Methods-of-Additive-Manufacturing_minor-3.pdf)