



## Additive Manufacturing Technologies for Aviation Parts

Minor «*Perspective technologies in aircraft manufacturing*»

<b>Level of Higher Education</b>	first (Bachelor)												
<b>Course Status</b>	student's choice												
<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>Main characteristics of additive manufacturing. Features of basing and choice of product orientation in the process of its layer-by-layer growth. Tool equipment, production of equipment and products. Methods of direct and indirect manufacturing.</p> <p>The main examples of the use of additive technologies in the aircraft industry and astronautics. Potential for the development of additive technologies. Profitability of embedded generative technologies.</p>												
<b>Why is it interesting/should be studied (goal)</b>	<p>The study of the discipline provides students with knowledge and skills in additive manufacturing technologies. The acquired knowledge will allow to be implemented as a 3D printing engineer in production and repair in architecture, construction, industrial design, automotive, aerospace, military-industrial, engineering and medical industries, bioengineering (to create artificial fabrics), production of fashionable clothes and shoes, jewelry, in education, geographic information systems, food industry and many other areas of human activity</p>												
<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, exam</p>												
<b>Department</b>	Technology of Aircraft Manufacturing (104)												
<b>Faculty</b>	Aircraft Engineering												
<b>Teacher</b>		<table> <tr> <td>Name</td> <td><b>Сікульський Валерій Терентійович</b></td> </tr> <tr> <td>Position</td> <td>Professor</td> </tr> <tr> <td>Academic title</td> <td>Docent</td> </tr> <tr> <td>Scientific degree</td> <td>Dr.Tech.Sc.</td> </tr> <tr> <td>e-mail</td> <td><a href="mailto:v.sikulskiy@khai.edu">v.sikulskiy@khai.edu</a></td> </tr> </table>	Name	<b>Сікульський Валерій Терентійович</b>	Position	Professor	Academic title	Docent	Scientific degree	Dr.Tech.Sc.	e-mail	<a href="mailto:v.sikulskiy@khai.edu">v.sikulskiy@khai.edu</a>	
Name	<b>Сікульський Валерій Терентійович</b>												
Position	Professor												
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Scientific degree	Dr.Tech.Sc.												
e-mail	<a href="mailto:v.sikulskiy@khai.edu">v.sikulskiy@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.  <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> <p>2. Sectoral Systems of Innovation and Production in Developing Countries: Actors, Structures and Evolution. 2009. Ed. by F. Malerba and S. Mani. Edward Elgar Publishing Limited. Cheltenham, UK; Nothampton, MA, USA. 394 p.</p> <p>3. Wright, Paul K. (2001). 21st Century Manufacturing. New Jersey: Prentice-Hall Inc</p>
<b>Link to work program (syllabus)</b>	<p><a href="https://khai.edu/assets/files/silabusi/Minor/104/s_b_134_Additive-Manufacturing-Technologies-for-Aviation-Parts_minor-4.pdf">https://khai.edu/assets/files/silabusi/Minor/104/s_b_134_Additive-Manufacturing-Technologies-for-Aviation-Parts_minor-4.pdf</a></p>