




Additive Manufacturing Technologies for Aviation Parts

Minor «Perspective technologies in aircraft manufacturing»

Level of Higher Education	<i>first (Bachelor)</i>		
Course Status	<i>student's choice</i>		
Scope of discipline	150 hours / 5 ECTS credits		
Language	<i>Ukrainian / English</i>		
What will be studied (subject of study)	<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>		
Why is it interesting/should be studied (goal)	<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>		
How can you use the acquired knowledge and skills (competencies)	<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>		
Organization of training	<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>		
Department	Technology of Aircraft Manufacturing (104)		
Faculty	Aircraft Engineering		
Teacher		Name	Сікульський Валерій Терентійович
		Position	Professor
		Academic title	Docent
		Scientific degree	Dr.Tech.Sc.
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<p>Links to course materials</p>	<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. http://library.khai.edu/library/fulltexts/metod/Suchasni_Metodi_Koordinatnih.pdf</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; Northampton, MA, USA. 394 p.</p> <p>3. Wright, Paul K. (2001). 21st Century Manufacturing. New Jersey: Prentice-Hall Inc</p>
<p>Link to work program (syllabus)</p>	<p>https://khai.edu/assets/files/silabusi/Minor/104/s_b_134_Additive-Manufacturing-Technologies-for-Aviation-Parts_minor-4.pdf</p>