Additive Manufacturing Technologies for Aviation Parts

Minor ***«Perspective technologies in aircraft manufacturing»***

Level of Higher Education	*first (Bachelor)*
Course Status	*student's choice*
Scope of discipline	150 hours / 5 ECTS credits
Language	*Ukrainian / English*
What will be studied (subject of study)	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. 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.
Why is it interesting/should be studied (goal)	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
How can you use the acquired knowledge and skills (competencies)	Skills in the use of information and communication technologies. Ability to work in a team. The ability to generate new ideas (creativity). Ability to learn and master modern knowledge. The ability to develop and implement technological processes for the production of parts nd objects of aviation equipment. The ability to choose methods of calculation, design and production, considering the characteristics of different types of aviation equipment. Ability to use the latest embedded computer technologies in the creation (production) of aviation equipment
Organization of training	Types of classes: lectures, laboratory, self-study Forms of education: full-time / part-time Forms of control: modular control, exam
Department	Technology of Aircraft Manufacturing (104)
Faculty	Aircraft Engineering

Teacher

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Academic title	Docent
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Links to course materials	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 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. 3. Wright, Paul K. (2001). 21st Century Manufacturing. New Jersey: Prentice-Hall Inc
Link to work program (syllabus)	https://khai.edu/files/uploads/vibirkovi/bakalavri/minor/s_b_134_additive-manufacturing-technologies-for-aviation-parts_minor-4-s.pdf