




Theoretical bases of numerical simulation

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)	Basic terms and definitions of concepts in the field of numerical modeling of physical processes. Physical process of changing the state of matter, momentum, energy, entropy. The procedure for studying the object for modeling. Basic mathematical modeling methods are necessary for the implementation of the process. Formation of tasks, goals, stages of modeling.		
Why is it interesting/should be studied (goal)	The study of the discipline provides students with knowledge about the concept of mathematical modeling, classification of models, application of mathematical modeling methods for the physical process. The skills of implementing the procedure for studying an object are trained, in which a model is directly studied that can replace it in specific cases during modeling		
How can you use the acquired knowledge and skills (competencies)	Ability to communicate in the state language both orally and in writing. 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 and objects 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, practical, self-study Forms of education: full-time / part-time Forms of control: exam		
Department	Technology of Aircraft Manufacturing (104)		
Faculty	Aircraft Engineering		
Teacher		Name	Tryfonov Oleh
		Position	Associate Professor
		Academic title	
		Scientific degree	PhD
		e-mail	o.trifonov@khai.edu
Links to course materials	<p>1. Інженерний аналіз елементів технологічного оснащення з використанням системи COSMOSWorks: навч. посібник до лабораторного практикуму / О.А. Павленко, В.С. Зайцев, В.В. Борисевич; Х.: Нац. аерокосм. ун-т «Харк. авіац. ін-т», 2008. – 54 с</p> <p>2. Гліненко, Л.К. Основи моделювання технічних систем: Навч. посібник/ Л.К.Гліненко, О.Г. Сухоносів. – Львів: Бескид Біт, – 2003. – 176 с.</p> <p>3. Стеценко, І.В. Моделювання систем: навч. посібник/ І.В. Стеценко.– Черкаси: ЧДТУ, 2010.– 399 с.</p> <p>https://mentor.khai.edu/user/index.php?id=7675</p>		
Link to syllabus			