



## Theoretical bases of numerical simulation

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>	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.										
<b>Why is it interesting/should be studied (goal)</b>	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										
<b>How can you use the acquired knowledge and skills (competencies)</b>	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										
<b>Organization of training</b>	Types of classes: lectures, laboratory, practical, self-study Forms of education: full-time / part-time Forms of control: exam										
<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>Tryfonov Oleh</b></td> </tr> <tr> <td>Position</td> <td>Associate Professor</td> </tr> <tr> <td>Academic title</td> <td></td> </tr> <tr> <td>Scientific degree</td> <td>PhD</td> </tr> <tr> <td>e-mail</td> <td><a href="mailto:o.trifonov@khai.edu">o.trifonov@khai.edu</a></td> </tr> </table>	Name	<b>Tryfonov Oleh</b>	Position	Associate Professor	Academic title		Scientific degree	PhD	e-mail	<a href="mailto:o.trifonov@khai.edu">o.trifonov@khai.edu</a>
Name	<b>Tryfonov Oleh</b>										
Position	Associate Professor										
Academic title											
Scientific degree	PhD										
e-mail	<a href="mailto:o.trifonov@khai.edu">o.trifonov@khai.edu</a>										
<b>Links to course materials</b>	<ol style="list-style-type: none"> <li>Інженерний аналіз елементів технологічного оснащення з використанням системи COSMOSWorks: навч. посібник до лабораторного практикуму / О.А. Павленко, В.Є. Зайцев, В.В. Борисевич; Х.: Нац. аерокосм. ун-т «Харк. авіац. ін-т», 2008. – 54 с</li> <li>Гліненко, Л.К. Основи моделювання технічних систем: Навч. посібник/ Л.К.Гліненко, О.Г. Сухоносов. – Львів: Бескид Біг, – 2003. – 176 с.</li> <li>Стеценко, І.В. Моделювання систем: навч. посібник/ І.В. Стеценко.– Черкаси: ЧДТУ, 2010.– 399 с.</li> </ol>										
<b>Link to work program (syllabus)</b>											