

## **ABSTRACT**

for coursework, student Chaban Dmitro, group XA-51  
on discipline "Numerical methods"  
on the topic of *"Solving the system of ordinary differential equations  
using the Euler-Cauchy method with iterative processing"*

In the coursework were analyzed the task, define the means needed for its implementation, studied the Euler-Cauchy method with iterative processing.

To solve this problem has been developed a program in Microsoft Visual Studio 2013 (C++, Win32 Console Application). The program was tested on several test examples. The results are analyzed and conclusions.

In the second part of the coursework solved typical problems of approximation of function: defined the type is empirical dependence, calculated are coefficients, received approximating polynomial, and also solved the problem of the spline interpolation. Analysis of the results showed that all functions describe the experimental data.