Summary

"**Noise and Vibration of Equipment**"
for students of all forms of education

Credit module « Noise and Vibration of Equipment» is part of a cycle independent choice of educational institution in the direction of preparation Mechanical Engineering speciality Equipment of Pharmaceutical and Biotechnological Productions for students 3 course (6 semester).

The discipline of the department realized Department of Bioengineering and Biotechnies Faculty of Biotechnology and Biotechnies *NTYY «KPI»*.

in this study credit module scheduled lectures, opratsovannya it on practical and implementation of settlement and graphic works with a combination of homework.

We consider the following issues: introduction. External disturbing factors external disturbing factors. Overview of disturbing factors. The nature of their origin. Features of action for equipment kinematic disturbance kinematic disturbance. Nature of mechanism of action on the mechanical system. Specifications disturbance. Speed and acceleration of a point. Distribution of velocities and accelerations in solids by spherical movement of force, causes of vibration. Payment schemes. Vibro. The free oscillation system with two degrees, permeable acoustic radiation, acoustic radiation. Flat and cylindrical, spherical wave. Mechanical impedance. Symmetric and antisymmetric components. Wave number. Wave phrase. Soundproofing, reverberatsiyni effects, sound permeable radiation, heat torch, torch heat. Imovirnistni characteristics of random processes. The thermal effect. His characteristics. Wave equation, Imovirnostni characteristics of external disturbances Imovirnistni characteristics of random processes Abatement of noise and vibration, Payment schemes, Principles of settlement schemes, models Calculated disturbances coming through support. Features of settlement schemes of spatial factors. flat obstacles supports efforts to equipment, element base, the supports Types and methods fasteners, flat (cylindrical), ball joints, ideal thread, ideal rods, hard driving. The generalized case. components design, terms of balance, flat and spatial concordant and arbitrary system of forces. system solids. Method perereziv, Vibration plane fragments, thin isotropic plate of infinite length. Lame equation. Forced bending vibration plates. Wave singing falling (spatial resonance) and its features. Soundproofing plates, porous plate, plane-parallel plate, limited by the length of the plate, double trigonometric series to determine the nature of the phenomenon. Wave pattern space spatial-frequency response, frequency response..

Developer summary *Karachun Vladimir Vladimirovich,* *Professor*