

ON THE PROJECT OF DIGITAL UPDATING OF WORK PROGRAMS OF DISCIPLINES FOR STUDENTS OF A TECHNICAL UNIVERSITY

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One of the key tasks of higher professional education in modern conditions is the effective and flexible use of digital technologies in the preparation of a future specialist in accordance with the social order and the requirements of the labor market. The purpose of this work is to present an actualization project with the active introduction of digital technologies and tools using the example of the WPD "Self-organization processes in Chemistry".

Classes in the discipline (optional) have been held for several years for masters in "Chemobiodynamics and Bioinformatics", and are also of interest as an elective for students of ecologists, biomechanics, biotechnologists.

The purpose of developing digital skills in practical classes is to prepare specialists for the development of modern research technologies in the field of bioinformatics, the ability to use digital measuring and computing equipment to solve fundamental and applied problems. A graduate of a master's degree should be able to use digital tools for organizing teamwork, storing, processing data, visualizing the process and results

The actual tasks of the implementation of the master's degree program in the direction 01.04.02 include the possession of standard means of information presentation (MS Office, My Office), Yandex Teleconference, Telegram communication tools, as well as analysis of models of processes of formation of self-organizing structures, taking into account the concept of digitalization of natural science research, development and use of digital tools to improve the efficiency of work, including (MATLAB (Wavelet), Python, CHEMCAD, SigmaPlot, ChemBio 3D, Chem Draw and their Russian counterparts; Yandex documents, Yandex Form, Google Form, GNU plot, educational platform Stepic, ANJOS PNRPU Moodle LMS). In addition, observations using digital technology: microscope + computer (for example, ordered self-organizing structures in nature (Lysegang rings) and visual observation of the formation of similar structures in the laboratory

We have Lecture block (16 hours), Laboratory / practical classes (18 hours). Independent work (72.), as well as a fund of evaluation tools, which includes not only subject indicators, but also indicators of the development of digital tools, including a case (project assignment).

The result of the work is the continuation of updating the work programs of the disciplines on the example of the master's program "Self-organization processes in chemistry" with a wider inclusion of digital technologies and digital tools