

DIGITALIZATION OF THE COURSE “CHEMISTRY OF NANOMATERIALS” FOR MASTER’S DEGREE STUDENTS IN FRAMES OF THE PROJECT “UKRAINE DIGITAL”*Zhylytsova S.*

Vasyl’ Stus Donetsk National University, vul. 600-richchia 21, Vinnytsia 21021, Ukraine
sv.zhylytsova@donnu.edu.ua

Digitalization of the study process at higher school is a trend of the past several years. Pandemy of COVID-19 resulted in active development of digital platforms, forms of control and online learning for students. In 2022, after the start of the full-scale war in Ukraine, online process became the only way to conduct studies at higher school for several months, before the development of the relatively safe conditions for students and staff members. And at some regions of the country the studies in the remote format lasts more than 2 years already. Universities from all over the world responded to this situation via giving access to their resources, development and adaptation courses for Ukrainian students, collaboration with teaching staff from the Ukrainian universities for creation of new digital content. Such kind of activities was funded by different organisations. One of them is DAAD which supported Ukrainian teaching staff via the project “Ukraine Digital: Ensuring academic success in times of crisis”. Vasyl’ Stus Donetsk National University is one of the members of this project coordinated by the University of Duisburg-Essen (Germany). The start of this cooperation was in June 2022. In frames of the second project, “Ukraine Digital-2023”, cooperation continued through the development of new content of the courses for the students majoring in Chemistry, Physics, Germanistics.

In frames of the project, digital online teaching material for the mandatory course “Chemistry of Nanomaterials” of the curriculum for second-year students of the Master’s degree programme “Chemistry” was developed.

The platforms for the digital content of the courses were: Microsoft SharePoint Portal of the Faculty of Chemistry, Biology and Biotechnologies, Microsoft Teams, Moodle. Main language of instruction was Ukrainian. The lectures for the course “Chemistry of Nanomaterials” were conducted in the hybrid format (depending on the dates the study process at the university was conducted offline or remotely). The online lectures were conducted through MS Teams.

The course “Chemistry of Nanomaterials” contained 5 main topics (Nanomaterials, Nanotechnologies and Nanobiotechnologies; Methods of obtaining nanomaterials; Physico-chemical basis of obtaining nanomaterials; Size dependences of properties of nanomaterials; Methods of nanomaterials research). For each topic the MS PowerPoint presentation was prepared. Lectures were accompanied with laboratory works and additional practical tasks for work with the English-language texts in the scientific-popular style. Additionally, the English-language lecture with the PowerPoint presentation to the 1st topic (“Nanomaterials. Nanotechnologies and Nanobiotechnologies”) was prepared. All the topics were accompanied with the English-language open access short videos from different YouTube channels to develop the language skills of the students and deepen their knowledge: they were viewed and discussed during the lecture sessions. The links to those videos were added to the relevant topics on Moodle platform as additional activities for independent work.

The form of the final theoretical control was the test on Moodle platform. The test was formed as the combination of closed-type test tasks with one or more correct answers, as well as matching questions. All the students have successfully passed the exams and received positive grades for the course.

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