

Teaching the course "Chemistry" at RUDN University in the context of distance learning

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The coronavirus pandemic has affected all areas of public life. The need to conduct classes outside the walls of universities in a distance learning mode forced the faculty to revise all the teaching methods developed over the years and contributed to the search for new education methods. At RUDN University, Chemistry is taught at the Faculty of Physics, Mathematics and Natural Sciences (Faculty of Sciences). In addition to the students of chemical specialties at the Faculty of Sciences, the Faculty provides training to the students of the Faculty of Ecology, Agrarian-Technological and Medical Institutes, and the Engineering Academy. This publication discusses the problems of teaching the course "Chemistry" for non-chemical specialties. Despite the fact that the electronic forms of education have always been actively introduced at RUDN University and some of the exams and tests have been conducted via a telecommunication educational and information system (TUIS), using a bank of questions for online assessment on various topics created for this purpose, nevertheless, when the pandemic broke out the chemistry teachers faced a number of significant difficulties. Teaching such a rather complex subject as "Chemistry" for a wide contingent of students from 139 countries of the world (the percentage of foreign students is about 70%) is not easy. The level of the students' initial training is very different, there is also a language barrier. Usually, studying Chemistry is carried out in the 1st year, and for the vast majority of students of non-chemical fields, the study of chemistry is limited to this. Also, doing the Chemistry course must be accompanied by an experimental part, but the laboratories turned out to be inaccessible. In the distance learning mode, teaching was carried out using the TEAMS platform. When conducting lectures and seminars, it turned out that the demonstration of presentations, even if competently prepared, gives very low results. Using graphic tablets and videos proved much more effective in explaining the material. Lectures were recorded and then uploaded to TUIS, where the students could view them again. When conducting laboratory exercises, an integrated approach was used: the demonstration of the experiments was followed by filling out laboratory journals and using a virtual laboratory. The Faculty of Science is planning to introduce the so-called "zero course" - "Digital Preparatory Faculty" in chemistry for students who have "poor" training in this subject. The introduction of such a course, conducted in the first month of study, would facilitate the early adaptation of first-year students to mastering the material in chemistry according to the higher school curriculum.