

INTEGRATING MATHEMATICAL KNOWLEDGE INTO CHEMISTRY LABORATORY EXERCISES IN HIGH SCHOOL

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Many university students in the chemical field took medium-level maths exam in the high school [1, 2], but during the education they need advanced mathematical knowledge to perform the required chemical calculations.

To solve this problem, I designed a course for secondary school students that brings mathematics closer to chemistry. The topics of the course includes mathematical background knowledge and a mathematical toolkit in connection with chemical experiments [3]. We conduct chemical experiments and then evaluate the results using the adequate methods. In addition, I tried to make the mathematical problems more clear to the students by discussing and generalising the simple phenomena.

I have designed the thematic and the worksheets for the course that I would show you. Moreover, I will present the results of the first lessons which was held for a small group of students.

- [1] MOLNÁR ZOLTÁN GÁBOR: Milyen matematikát kell tanítanunk és azt hogyan? *Új Pedagógiai Szemle*, 2018., 5-6: 86–108.
- [2] CSÁKÁNY ANIKÓ: Mit tudnak az elsőéves műegyetemi hallgatók a vektorokról? *Acta Carolus Robertus*, 2013., 3. 1. sz., 189–196.
- [3] RADNÓTI KATALIN, NAGY MÁRIA: A matematika szerepe a természettudományos képzésben. *Új pedagógiai szemle*, 2014., 5-6: 89-88.