

Information sheet for the course Analytical Chemistry I.

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of Health Care</i>	
Course unit code: <i>AnCh1/e</i>	Course unit title: <i>Analytical Chemistry I.</i>
Type of course unit: <i>compulsory</i>	
Planned types, learning activities and teaching methods: <i>Lecture: 2 hours weekly/26 hours per semester of study; full-time</i> <i>Seminar: 2 hours weekly/26 hours per semester of study; full-time</i>	
Number of credits: 3	
Recommended semester: <i>1st semester in the 1st year (part-time)</i>	
Degree of study: <i>I (bachelor)</i>	
Course prerequisites: <i>none</i>	
Assessment methods: <i>Written or oral examination (50 score points) - for obtaining the particular grades it is necessary to achieve:</i> <i>at least 45 score points for the grade A</i> <i>at least 40 score points for the grade B</i> <i>at least 35 score points for the grade C</i> <i>at least 30 score points for the grade D</i> <i>at least 25 score points for the grade E</i>	
Learning outcomes of the course unit: <i>The student will acquire knowledge by studying the subject of basic concepts and theoretical principles of analytical chemistry in the context of qualitative and quantitative analysis. The student will acquire a solid and sufficiently broad theoretical and methodological basis for chemical analysis.</i>	
Course contents: Lecture: <i>1. Introduction to Analytical Chemistry</i> <i>2. Basic principles of volumetric analysis</i> <i>3. Expressing the composition of the solution, determine the empirical formula</i> <i>4. Acid-base reactions</i> <i>5. Acid-base titration curves</i> <i>6. Buffers</i> <i>7. Complex reactions</i> <i>8. Precipitation reactions</i> <i>9. Gravimetric stoichiometry</i> <i>10. Solubility product</i> <i>11. Solubility, conditional solubility product</i> <i>12. Redox reactions</i> Seminar: <i>1. Computation Seminar - determine the empirical formula</i> <i>2. Computation Seminar - concentration solutions</i> <i>3. Computation Seminar - gravimetric stoichiometry</i> <i>4. Computation Seminar - acids and bases I</i> <i>5. Computation Seminar - acid-base titration curve I</i> <i>6. Computation seminar - acid-base titration curves II</i> <i>7. Computation seminar - buffers I</i>	

8. *Computation seminar - buffers II*
9. *Computation seminar - the product of solubility*
10. *Computation Seminar - solubility, conditional solubility product*
11. *Computation Seminar - complexation reactions I*
12. *Computation Seminar - complexation reactions II*

Recommended of required reading:

1. GARAJ, J., BUSTIN, D., HLADKÝ, Z.: *Analytická chémia, Alfa/SNTL, Bratislava, 1987*
2. HOLZBECHER, Z., CHURÁČEK, J. a kol.: *Analytická chemie, SNTL/Alfa, Praha, 1987*
3. HIGSON, P.J.: *Analytical chemistry, Oxford, 2004*
4. ZÝKA, J.: *Analytická príručka 1, SNTL/Alfa, Praha, 1979*
5. GARAJ, J. a kol.: *Fyzikálne a fyzikálnochemické analytické metódy, Alfa, Bratislava, 1977*
6. ZELENSKÝ, I. a kol.: *Seminár a cvičenie z analytickej chémie, PriF UK, Bratislava, 1999*
7. ČAKRT, M., KRUPČÍK, J., MOCÁK, J. a kol.: *Analytická chémia Praktikum I, SVST, Bratislava, 1981*

Language: *Slovak*

Remarks: -

Evaluation history: *Number of evaluated students 117*

a	b	c	d	e	f
23.93%	42.74%	6.84%	10.26%	11.11%	5.13%

Lectures: *RNDr. Zdenka Krajčovičová, PhD., Ing. Jana Netriová, PhD.*

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Supervisor: *doc. MUDr. Jana Slobodníková, CSc.*