

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/d</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 (full-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: <ol style="list-style-type: none"> <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: <ol style="list-style-type: none"> <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 1, 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.*