

<b>Course Information Sheet</b>	
<b>University:</b> <i>University of Presov</i>	
<b>Faculty:</b> <i>Faculty of Humanities and Natural Sciences</i>	
<b>Code:</b> <i>2EKO/DANCH2X/22</i>	<b>Title of Course:</b> <i>Analytical Chemistry 2</i>
<b>Form of Study:</b> <i>lectures 1 hour per week, seminars and laboratory course 2 hours per week</i>  <b>Number of contact hours:</b>  <b>per week:</b> <i>2+2</i> <b>per level/semester:</b> <i>lectures 20 hours, seminars and laboratory course 20 hours, self-study 260 hours</i>  <b>Method of study:</b> <i>full-time study</i>	
<b>Number of credits:</b> <i>10</i>	
<b>Semester:</b> <i>1-8.</i>	
<b>Degree/Level:</b> <i>3.</i>	
<b>Prerequisites:</b> <i>-</i>	
<b>Grading Policy (Assessment/Evaluation):</b>  <i>Written exam 70 %.</i>  <i>Continuous semestral examination during seminars 30 %.</i>  <i>Success criteria (percentage):</i>  <i>a) Passed - 100.00 - 50.00%</i>  <i>f) Not- passed - 49.99 and less%.</i>	
<b>Aims and Objectives:</b>  After the completion of this course, students will:  <i>- be familiar with the methods of chemical analysis;</i>  <i>- be able to perform basic calculations in analytical chemistry;</i>  <i>- know to determine results of basic analytical measurements;</i>  <i>- be able to perform basic laboratory experiments in analytical chemistry.</i>	
<b>Syllabus/Indicative Content:</b>  <i>1. Historic perspectives and scopes of environmental Analytical chemistry.</i>  <i>2. Environmental sampling: purpose, design strategy and techniques.</i>  <i>3. Sample preparation for Environmental analysis.</i>  <i>4. Instrumental Analysis of Environmental chemicals. Classical Methods.</i>  <i>5. Molecular spectroscopy in Environmental analysis.</i>	

6. Atomic Spectroscopy in Environmental analysis.

7. Chromatography in Environmental analysis

8. Mass Spectrometry in Environmental analysis.

9. Electroanalytical methods in Environmental analysis.

10. Radiochemical methods in Environmental analysis.

11. Bioanalysis of Environmental chemicals

12. Biosensors.

13. Future perspectives and challenges of Environmental Analytical chemistry.

Self-study:

1. Preparation to laboratory course (protocols).

2. Calculations in general and inorganic chemistry.

**Suggested readings:**

1. A. Skoog, F.J. West, F.J. Holler: *Analytical Chemistry. An Introduction*, Saunders College, 6th ed., Philadelphia, 1994.

2. R. Keller (Ed.): *Analytical chemistry*, Wiley-VCH, Weinheim 1998.

3. Dean's *Analytical Chemistry Handbook*. Pradyot Patnaik, McGraw-Hill Education - Europe, 2004, 1280 p.

4. *Handbook of Green Analytical Chemistry*, Eds: Miguel de la Guardia Salvador Garrigues, 2012, ISBN: 9780470972014, John Wiley & Sons, Ltd, 566 p.

**Language of Instruction:** *slovak*

**Other course information:** available in winter semester

**Grading history**

A	B	C	D	E	FX
0%	0%	0%	0%	0%	0%

**Lecturer/Instructor:**

Doc. Ruslan Mariychuk, PhD. - lectures

RNDr. Romana Smolková, PhD. – seminars

RNDr. Adriana Eliašová, PhD. – seminars / laboratory course

RNDr. Daniela Gruľová, PhD. – seminars / laboratory course

**Last update:** 18. September 2023

**Approved by:** *uvádza sa meno a priezvisko zamestnanca vysokej školy (štandardne garant študijného programu), ktorý zmenu schválil*

