Title	**Chemistry of Air**
Code	ZDIK34
Study Program	Postgraduate Interdisciplinary University Programme Environment protection and Nature Conservation
Semester	III.
ECTS	5
Status	elective
Lecturer	assistant professor Gordana Pehnec, PhD
Co-Lecturers	
Requirements for Enrolment	Enrolled to postgraduate studies
Objectives	The aim is to become acquainted with the topic of air quality management, particularly from a scientific perspective. Students will get insight into basic and specific air pollution, its sources and behaviour in the atmosphere. Studying air chemistry will also include knowledge on analytical methods and models for determination of air pollutants, as well as ways to implement permanent harmonisation of measuring networks.
Learning Outcomes	After successful completion, students will be able to: 1. Understand atmospheric processes and be aware of the basics of atmospheric chemistry 2. Select the appropriate analytical method or model for determining general and specific air pollution 3. Use the obtained knowledge to design strategies for improving air quality promoting the principle of sustainable development 4. Understand and know how to apply relevant legislation on air quality 5. Independently work on creating and improving air quality databases

Connection between Learning Outcomes, Curricular and Student Activities

Student Activities	ECTS	Learning Outcomes	Curricular Activities	Methods of Assessment	Credits*	
					min	max
Present in class with active participation	1	1-5	Classes	Attendance record, evaluation	10	20
Present at practicums with active participation	1	1-5	Practicum	Attendance record, evaluation	10	20
Preparation for oral exam	3	1-5	Final exam	Oral exam	30	60
Total	**5**				**50**	**100**

Consultations	If needed, in agreement with students		
Learning Activities	**Lectures**	**Seminars**	**Practice**
Hours	10		5
Contents / Teaching Units	Students will learn about the significance of air pollution sources with regard to their development and used source of energy, as well as the behaviour of pollutants during their presence in the air - their physical and chemical changes, changes over time (daily, weekly, and annual variations) and space. Focus will be given to particulate matter, ozone in the atmosphere, photochemical processes, greenhouse effect, appearance of smog and acid rains. We will analyse methods of monitoring air quality, approaches to monitoring, sampling strategies, available analytical methods and procedures, measurements, data analysis and interpretation with regard to limit values of immission and emission. Students will also be introduced to air quality assessment and categorization of geographical areas according to current air quality legislation.		

	Measures to protect and strategies to improve air quality will be studied as well.
Obligatory Literature	1. Stumm, W., Morgan, J., 1996: Aquatic Chemistry, 3rd Ed. John Wiley,New York. 2. Bidoglio, G. Stumm, W., 1994: Chemistry of Aquatic Systems: Local and Global Perspectives. Kluver Academic Publishers, Dordrecht. 3. Chin Pao Huang, O Melia, Ch.R., Morgan, J.J.,1995: Aquatic Chemistry, American Chemical Society, Washington.
Recommended literature	
Requirements for Aquiring Signature	
Type of Exam	Oral exam
Lectures Language	Croatian, classes can also be held in English
Quality Monitoring	Communication with students during class, tracking the success rate of students on the exam