Study Programme: Multidisciplinary Forensic Studies	
Course Unit Title: Environmental Forensics	
Course Unit Code: FH-13	
Name of Lecturer(s): Associate Professor Aleksandra Tubić	
Type and Level of Studies: Master Academic Degree	
Course Status (compulsory/elective): Elective	
Semester (winter/summer): Summer	
Language of instruction: English	
Mode of course unit delivery (face-to-face/distance learning): Face-to-face	
Number of ECTS Allocated: 6	
Prerequisites: None	

Course Aims:
Gaining knowledge about pollutants relevant for the environmental forensics, as well as methods of chemical analysis which are used to determine the pollutants present in the environment and the period of their discharge in the environment, in accordance with legislation relevant for environmental forensics.

Learning Outcomes:
Upon completion of the course, students will be able to: understand the importance of the proper selection of techniques for sampling and pollution analysis in environmental forensics; recognize different types of pollutants in the environment; apply statistical methods for data processing; interpret the results of the chemical analysis and link them to the sources and the time frame of the pollution discharge in the environment.

Syllabus:
Theory
Introduction to environmental forensics. Legislation in the field of environmental forensics. Types of samples and sampling in a laboratory for environmental forensics (water, air, soil, biota). Storage, preservation and preparation of samples for analysis. Application of spectrometric methods for the analysis of inorganic substances. Application of chromatographic methods for the analysis of organic substances. Determination of age of contamination. Identification of the source of contamination. Determination of Characteristic Chemical Responses for Chemical Fingerprinting Compounds. Statistical methods in environmental forensics.
Practice
Taking samples from the environment. Preparation of samples from the environment. Application of spectrometric and chromatographic methods in environmental forensics. Processing and interpretation of analytical data. Application of statistical methods in the forensics of the environment.

Required Reading:
1. Murphy B.L. and Morrison R.D. (Ed.) *Introduction to Environmental Forensics*, Elsevier Academic Press, 2007.
2. Murphy B.L. and Morrison R.D. (Ed.) *Environmental Forensics*, Elsevier Academic Press, 2006.

Weekly Contact Hours: 6	**Lectures: 3**	**Practical work: 3**

Teaching Methods:
Lectures, seminars and student presentations, practical laboratory work, calculation and interpretation of results, consultations.

Knowledge Assessment (maximum of 100 points): 100

Pre-exam obligations	points	Final exam	points
Practical laboratory work	20	written exam	40
Seminar(s)	20	oral exam	20