



No. _____ of _____

USAMV form 0107030103

SUBJECT OUTLINE**1. Information on the programme**

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca
1.2. Faculty	Agriculture
1.3. Department	Environmental and Plant Protection
1.4. Field of study	Environmental Engineering
1.5. Cycle of study ¹	Bachelor
1.6. Specialization/ Study programme	Environmental Engineering
1.7. Form of education	Full time

2. Information on the discipline

2.1. Discipline name	Sources, processes and polluting products							
2.2. Course coordinator	Prof. Dr. Marian PROOROCU							
2.3. Seminar/ laboratory/ project coordinator	Prof. Dr. Marian PROOROCU							
2.4. Year of study	III	2.5. Semester	I	2.6. Evaluation type	E	2.7. Discipline status	Content ²	S
							Compulsoriness ³	DD

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. lecture	2	3.3. seminar/ laboratory/ project	2
3.4. Total number of hours in the curriculum	56	out of which: 3.5. lecture	28	3.6. seminar/laboratory	28
Distribution of the time allotted					hours
3.4.1. Study based on books, textbooks, bibliography and notes					20
3.4.2. Additional documentation in the library, electronic platforms and field experiences					10
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					10
3.4.4. Tutorials					4
3.4.5. Examinations					4
3.4.6. Other activities					
3.7. Total hours of individual study	44				
3.8. Total hours per semester	100				
3.9. Number of credits ⁴	4				

4. Prerequisites (if applicable)

4.1. curriculum-related	
4.2. skills-related	.

5. Conditions (if applicable)

5.1. for the course	The course is interactive, the presentations are in the form of power points or case studies. Students can ask questions about the content of the exhibition. The university discipline requires the observance of the start and end time of the course. No other activities are tolerated during the lecture, mobile phones to be closed.
5.2. for the seminar/ laboratory/ project	In practical work it is compulsory to consult the practical guide, each student will carry out an individual activity. This will consist in the

8.2. PRACTICAL WORKS Number of hours - 28	Teaching methods	Observation
1. Preparation of the documentation in order to obtain the integrated environmental permit under the IED Directive - request, announcement. 2. Preparation of the documentation in order to obtain the integrated environmental authorization under the IED Directive - location report. 3. Preparation of the risk report for Seveso Industrial activities. 4. Presentation of the documentation elaborated in order to obtain environmental authorization within the Technical Approval Commission (CAT). 5. Preparation of Environmental Notice, Environmental Agreement, Environmental Authorization. 6. Visit on site - Hazardous waste incineration station - (traceability of waste, monitoring of emissions, impact on the environment, etc.). 7. Visit on the site of S.C. CARBOCHIM S.A. - (technological process, waste management, emission monitoring, environmental impact, etc.).	Preparation of the documented - Presentation of the documented - Consultation / decision of the interested public	2 lab works 2 lab works 1 lab work 1 lab work 2 lab works 3 lab works 3 lab works
Compulsory bibliography: 1. Marian PROOROCU, Impact of the industry on the Environment - practicum, Ed.Bioflux, Cluj-Napoca, 2017, eISBN 978-606-8887-15-9. 2. Marian PROOROCU, The Impact of Industry on the Environment - revised edition, Bioflux Ed., Cluj-Napoca, 2016, ISBN 978-606-8887-03-6. 3. Council Directive 96/61 / EC on integrated pollution prevention and control - GAME n° L 257 of 10 October 1996). 4. Directive 85/337 of Council Directive 85/337 / EEC of June 1985 on the assessment of the environmental consequences of certain public and private projects. 5. Marian PROOROCU - Waste Management, Napoca Star Ed., ISBN: 973-647-264-7, Cluj-Napoca, 229p., 2005. 6. Marian PROOROCU - Implementation of the Kyoto Protocol and the European Union Directives on Emission Trading in Romania, Accent Ed., ISBN: 973-8915-25-2, Cluj-Napoca, 120p, 2006.		
Optional bibliography: 1. Twinning Project RO2004 / IB / EN-09 - IPPC Directive Implementation Manual). 2. IPPC Project Ro 2004 / 016-772.03.03.01 - IPPC documents Proorocu Marian, Hategan Raluca, Popita Gabriela - The Management of Hazardous Medical Waste in 6 NW Region, Romania; USAMV-CN Bulletin No. 62 / oct. 2006, ISSN 1454-2382, Cluj-Napoca, pp. 192-198, 2006. 3. IED Directive 2010 / 75- Industrial Emission Directive.		

9. Corroborating the discipline content with the expectations of the epistemic community representatives, of the professional associations and of the relevant employers in the corresponding field

For a continuous updating of the course information and seminars, the subject holder participates in national and international conferences on this topic, while also successfully collaborating with the other specializations within USAMVCN. At the same time, it maintains a close connection with the complementary authorities for environmental protection, in order to improve the quality of the courses.

10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation type	10.3. Percentage of the final grade
10.4. Course	- knowledge of general notions regarding industrial pollution; - the acquisition of knowledge regarding the elaboration of environmental documentation; - acquiring the knowledge necessary to analyze the potential environmental impacts of the different industrial branches; - acquiring legislation related to industrial pollution.	summative(E)	70%

<p>10.5. Seminar/Laboratory</p>	<p>-drawing up the environmental documentation (location report) to obtain the integrated environmental permit. -presentation of the documentation - decision to issue the integrated environmental permit - presentation of a report on the topic: "Industrial Pollution".</p>	<p>Documentation analysis and a as well as the way presentation.</p>	<p>30%</p>
<p>10.6. Minimum performance standards Mastery of scientific information transmitted through lectures and practical papers at an acceptable level. The preparation of the environmental documentation, its presentation and the report is a condition of promotability..</p>			

- 1 Cycle of studies - choose one of the three options: Bachelor/Master/Ph.D.
- 2 according to the educational plan
- 3 Discipline status (compulsoriness) - choose one of the options - **DI** (compulsory discipline) **DO** (optional discipline) **DFac** (facultative discipline).
- 4 One credit is equivalent to 25-30 hours of study (teaching activities and individual study).

Filled in on
04.09.2019

Course coordinator
Prof. Dr. Marian PROOROCU

Laboratory work/seminar coordinator
Prof. Dr. Marian PROOROCU

Approved by the
department on
05.09.2019

Head of the Department
Prof. Dr. Ioan OROIAN