



No. _____ of _____

USAMV form 0101030110 (discipline code)

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	Plants cultivation
1.4. Field of study	Agronomy
1.5. Cycle of study¹	Bachelor
1.6. Specialization/ Study programme	Agriculture
1.7. Form of education	Full time

2. Information on the discipline

2.1. Discipline name		Land reclamation						
2.2. Course coordinator				Prof. Dr. Emil Luca				
2.3. Seminar/ laboratory/ project coordinator				Assistant Prof. Dr. Adela Hoble				
2.4. Year of study	III	2.5. Semester	II	2.6. Evaluation type	summative	2.7. Discipline status	Content ²	DD
							Compulsoriness ³	DI

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					15
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					15
3.4.4. Tutorials					4
3.4.5. Examinations					10
3.4.6. Other activities					
3.7. Total hours of individual study	64				
3.8. Total hours per semester	120				
3.9. Number of credits⁴	4				

4. Prerequisites (if applicable)

4.1. curriculum-related	Botany, Pedology, Physiology
4.2. skills-related	Calculus, Graphic representations

5. Conditions (if applicable)

5.1. for the course	The course, which is interactive, is based on modern methods and means of teaching: exposing, explaining and demonstrating the topics, highlighting the practical applications. During the time reserved for the course, is assigned a significant weight of the dialogue, the students having the opportunity to ask questions on the topic. The rules of university conduct established by internal or
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5.2. for the seminar/ laboratory/ project	The practical work will focus on the individual activity carried out under the supervision of the teacher, on verifying the acquisition of notions and concepts, on forming the skills of solving some practical problems regarding irrigation of plants, drainage of land with excess humidity and soil erosion control. The practical guidance of the discipline will be consulted, when appropriate.
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6. Cumulated specific competences

Professional competences	<p>To become familiar with the specialized language of the discipline;</p> <p>To enter into the details related to soil - water - plant - atmosphere relationships;</p> <p>To understand the role and importance of the physical and hydrophysical properties of the soil in choosing the method of irrigation of agricultural crops;</p> <p>To know the role of each of the factors that determine the need for irrigation of plants: rainfall; temperature; plant - spreading of roots and water extraction; accessibility of water; minimum humidity ceiling;</p> <p>To know the main elements of the irrigation regime of plants;</p> <p>To know the sources and the factors that determine the excess humidity as well as the methods of eliminating the excess humidity;</p> <p>To know and be able to apply measures to prevent and control soil erosion on agricultural lands on the slope.</p>
Transversal competences	<p>To participate in the elaboration of some studies to determine the flow of a watercourse in order to establish the water requirement for irrigating an agricultural farm;</p> <p>Be able to choose the most appropriate method of watering an agricultural crop according to the climatic and pedological factors of the area;</p> <p>To participate in training programs in high performing agricultural farms in the area;</p> <p>To learn the methods of determining the excess water on agricultural lands and the ways of diminishing and eliminating it in order to render the agricultural circuit of the affected areas.</p>

7. Discipline objectives (based on the cumulated specific competences)

7.1. General objective	Acquisition of the concepts and concepts related to the irrigation of plants, the drainage of the lands with excess humidity, the prevention and control of soil erosion on the agricultural lands.
7.2. Specific objectives	To be able to draw up a hydraulic sizing project for an irrigation canal or to drain excess water.

8. Content

8.1. COURSE Number of hours –	Teaching methods	Observation
I. The evolution of the land reclamation works	Lecture	1 lecture = 2 hours
II. Documentation and new concepts in the design, execution and operation of land reclamation works	Lecture	1 lecture = 2 hours
III. Notions of hydraulics	Lecture	1 lecture = 2 hours
IV. Notions of hydrology, hydrography and hydrometry	Lecture	1 lecture = 2 hours
V. Interrelations in the soil - water - plant - atmosphere system	Lecture	1 lecture = 2 hours
VI. Irrigation of agricultural land. Water consumption and irrigation regime for agricultural crops	Lecture	1 lecture = 2 hours
VII. Watering methods; The factors that determine the choice of the watering method;	Lecture	1 lecture = 2 hours
VIII. Excess humidity on agricultural land – general aspects; Sources and factors that determine excess humidity;	Lecture	1 lecture = 2 hours
IX. Influence of excess moisture on soil and plant;	Lecture	1 lecture = 2 hours
X. Methods for removing excess moisture;	Lecture	1 lecture = 2 hours
XI. General notions about the soil erosion process;	Lecture	1 lecture = 2 hours
XII. Prevention and control of soil erosion on arable land; Prevention and control of soil erosion in vine and tree plantations; Prevention and control of soil erosion on grasslands;	Lecture	1 lecture = 2 hours
XIII. Gully erosion control; Landslides control	Lecture	1 lecture = 2 hours
XIV. Prevention and control of wind erosion.	Lecture	1 lecture = 2 hours

	view, in relation to the specific conditions of an agricultural area.	analysis	
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10.6. Minimum performance standards

Acquiring an acceptable level of scientific information in the discipline profile. For the promotion, it is compulsory to obtain the minimum passing grade for the ongoing checks.

- 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. Emil Luca

Laboratory work/seminar coordinator
Assistant Prof. Dr. Adela Hoble

Approved by the
department on
05.09.2019

Head of the Department
Prof. dr. Marcel DUDA

