



No. _____ of _____

USAMV form 0101030106 (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	Plant culture
1.4. Field of study	Agronomy
1.5. Cycle of study ¹	Bachelor
1.6. Specialization/ Study programme	Agriculture
1.7. Form of education	Full time

2. Information on the discipline

2.1. Discipline name	Grasslands and forage crops culture							
2.2. Course coordinator	Prof. Ioan Rotar PhD							
2.3. Seminar/ laboratory/ project coordinator	Lect. Florin Pacurar PhD							
2.4. Year of study	III	2.5. Semester	I	2.6. Evaluation type	Continuous	2.7. Discipline status	Content ²	DS
							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					22
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 credits ⁴	4				

4. Prerequisites (if applicable)

4.1. curriculum-related	Botany, Pedology, Agrochemistry
4.2. skills-related	Student must have knowledge of plant botany.

5. Conditions (if applicable)

5.1. for the course	The course is interactive, students may ask questions about the lecture content. University discipline requires strict observance of course start and end times. No other activities are tolerated during the lecture. Personal devices must be turned off.
5.2. for the seminar/ laboratory/ project	Consulting the handbook is required during seminars/labs, as each student will work individually with available materials which are described in the

6. Cumulated specific competences

Professional competences	<p>Being knowledgeable of the agronomic vocabulary specific to Pratology and Forage Crops.</p> <p>Being knowledgeable of the functions of pratoecosystems.</p> <p>Being able to identify the main grassland species.</p> <p>Being knowledgeable of the means of increasing yield and yield quality from natural grasslands.</p> <p>Being knowledgeable of the European and Romanian subsidy benefits and requirements for grassland management.</p> <p>Mastering forage conservation systems.</p> <p>Being knowledgeable of zonal and extrazonal vegetation.</p> <p>Being knowledgeable of the technologies used in natural and sown grassland management.</p>
Transversal competences	<p>Can demonstrate the capacity of planning a forage production system for a farm.</p> <p>Can develop projects for producing forage for farms in different climatic conditions.</p> <p>Being able to propose research activities for studying forage crop production, including field trial setup.</p> <p>Can demonstrate a professional interest in improvement by engaging in studies on the impacts of technology on the structure and dynamics of pratoecosystems.</p> <p>Can participate in research activities in the discipline's field.</p>

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

7.1. General objective	Attaining a level of knowledge about grassland systems suitable for current needs.
7.2. Specific objectives	<p>Understanding the distribution of grasslands in Romania and Europe.</p> <p>Having the ability of interpreting fodder balance at the farm level.</p> <p>Knowing the parameters that influence the quality and productivity of natural grasslands.</p>

8. Content

8.1. COURSE Number of hours – 28	Teaching methods	Observation
Forage crop production in the Romania and the World's economies.	Lecture	1 lecture = 2 hours
Grassland plant traits - Grasses, Legumes, Forbs	Lecture	2 lectures = 4 hours
The grassland as an ecosystem: Types of grasslands in Romania. The structure of grassland ecosystems and the factors they are influenced by. Types of grasslands. Assessing and charting grasslands.	Lecture	2 lectures = 4 hours
Grassland improvement: improving the water regime, fertilization, work safety measures during fertilization, applying amendments, removing woody vegetation, overseeding, sowing, and other operations.	Lecture	4 lectures = 8 hours
Grassland management: grazing, mowing, mixed use and alternative use	Lecture	3 lecture = 6 hours
Cultivating perennial grasses for seeds	Lecture	1 lecture = 2 hours
Evaluation	Written exam	

8.2. PRACTICAL WORKS Number of hours – 28	Teaching methods	Observation
Perennial grasses – morphology	Practical works	2 lab work (4 hours/work)
Grass seeds	Practical works	2 lab work (4 hours/work)
Legumes - morphology	Practical works	2 lab work (4 hours/work)
Legume seeds	Practical works	2 lab work (4 hours/work)

Rushes and sedges	Practical works	Practical works
Plants from other botanical families (forbs)	Practical works	3 lab work (6 hours/work)
Examination	Oral/practical	1 lab work (2 hours/work)
Compulsory bibliography: 1. Rotar I., (1996) – <i>Notițe de curs</i> 2. ROTAR I., CARLIER L., (2010), <i>Cultura pașiștilor</i> , Ed. RisoPrint 3. PUJA I., et. Al. (1991), <i>Cultura pașiștilor și a plantelor furajere</i> , Ed. Did. Si Ped. București 4. ROTAR I., VIDICAN R., SIMA N., (2005), <i>Cultura pașiștilor și a plantelor furajere – ghid practic</i> , Ed. RisoPrint 5. VĂNTU V., A. MOISUC, G. MOTCĂ, I. ROTAR, (2004), <i>Cultura pașiștilor și a plantelor furajere</i> , Ed. „Ion Ionescu de la Brad”.		
Optional bibliography: 1. Carlier, L., I. Puja, I. Rotar, <i>For a better grass production</i> , Ed. Risoprint, 2. Buletinul ICPCP Brașov, 3. Revista Fourrages 2000-2013 4. Romanian Journal of Grassland and Forage Crops		

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

In order to identify means of modernization and continuous improvement in teaching and building courses by means of updating information and didactic solutions, the teaching personnel participates in the annual reunion of the Romanian Grassland Society (SRP) where they also meet with farmers and debate present challenges in the use of grasslands and the production of forage crops in Romania and Europe.

10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation type	10.3. Percentage of the final grade
10.4. Course	Knowing the typology of Romanian grasslands. Knowing the factors that influence productivity and quality in grassland management. Knowing aspects of trophicity. Understanding the agroecosystem, its profile, structure and functions. Knowing how management with grazing and mowing work.	continuous(VP)	70%
10.5. Seminar/Laboratory	Identifying forage species in grassland: grasses, legumes, forbs. Identifying the seeds of the main grasses and legumes	continuous(VP) in 1 round	30%

10.6. Minimum performance standards

Mastering the scientific information communicated within the course at an acceptable level. Obtaining a passing grade at continuous evaluations (VP).

- Cycle of studies - choose one of the three options: Bachelor/Master/Ph.D.
- according to the educational plan
- Discipline status (compulsoriness) - choose one of the options – DI (compulsory discipline) DO (optional discipline) DFac (facultative discipline).
- 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. Rotar Ioan PhD

Laboratory work/seminar coordinator
Lect. Florin Păcurar PhD

Approved by the
department on
05.09.2019

Head of the Department
Prof. Duda Marcel PhD