

Updated On	2023/03/28																																
Curricular Year / Period	2022/23 / S2																																
Course	CTeSP - Agricultural Production																																
Curricular Unit	Pasture and Forage crops																																
Language(s) of Instruction	Portugues																																
ECTS/tempo de trabalho (horas)	<table border="1"> <thead> <tr> <th>ECTS</th><th>Total</th><th colspan="8">Horas de contacto semestral</th></tr> <tr> <th>6</th><th></th><th>T</th><th>TP</th><th>PL</th><th>S</th><th>TC</th><th>E</th><th>O</th><th>OT</th><th>EC</th></tr> </thead> <tbody> <tr> <td></td><td></td><td>64</td><td>0</td><td>32</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </tbody> </table> <p>T - Theoretical; TP - Theoretical and practical; LP - Laboratory Practice; S - Seminar; TG - Tutorial guidance; FW - Fieldwork; T - Training; ; EC - Clinical teaching; O* - Other hours typified as Clinical Training under the Directive 77/453/EEC of June 27, adapted by Directive 2005/36/EC.</p>	ECTS	Total	Horas de contacto semestral								6		T	TP	PL	S	TC	E	O	OT	EC			64	0	32	0	0	0	0	0	0
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Teacher in charge (GDPR consent) [complete name, email]	Noémia Do Céu Machado Farinha / nfarinha@ipportalegre.pt																																
Prerequisites [Curricular Units that must precede and specific entry competences]	Not applicable																																
Learning outcomes [Description of the overall and specific objectives] [Knowledge, skills and competences to be developed by students]	With the curricular unit of Pastures and Forages, it is intended that students know the most relevant biological, physiological, and cultural aspects of pastures and forages, one of the most representative land occupations in the world and the main basis of animal production. It is intended that students acquire knowledge about the main species, of grasses and legumes, annual and perennial, with pratense and/or forage interest, as well as its role as a protective cover against erosion, CO2 sequestration and as an element of agro-silvo-pastoral system. The relationships between growth, development stage and nutritive value of plants are discussed, and grazing systems and animal-pasture and animal-soil relationships are discussed. Observing the relationship between soil-climatic conditions and plant requirements, introduce students to the ability to suggest mixtures of species more adapted to a given environmental condition. Enable them to select cultural practices and define the most appropriate technical itinerary for the implantation and management of a pasture. Understand the relationships between food availability and needs, their fluctuations throughout the year, as well as recognizing the consequent need for supplementation. Know the forage conservation processes as well as the factors that most influence the quality of hays and silages and the ways in which it can be evaluated. Awaken in students an interest in applied research.																																
Syllabus	<p>1. INTRODUCTION: 1.1 Definition of pasture and forage; 1.2 Classification of pastures and forages; 1.3 Note history; 1.4 Economic and social importance; 1.5 Forages and pastures in the context of Portuguese agriculture; 1.6 Importance of forages and pastures for agrarian ecosystems and for the environment; 1.7 Main conditions of pasture and forage production;</p> <p>2. MORPHOLOGICAL AND PHYSIOLOGICAL ASPECTS OF PRATENSE AND FORAGE SPECIES: 2.1 Main morphological aspects; 2.2 Development stages; 2.3 Physiology of growth; 2.4 Aspects relevant to the production of pastures and forages;</p> <p>3. MAIN SPECIES USED IN PASTURE: 3.1 Annual and perennial grasses; 3.2 Annual and perennial legumes; 3.3 Consociations;</p> <p>4. ESTABLISHMENT OF PASTURES: 4.1 Choice of species; 4.2 Land preparation; 4.3 Sowing; 4.4 Fertilization. Biological nitrogen fixation.</p> <p>5. MAIN FORAGE SPECIES: 5.1 Annual cold season; 5.2 Hot season annuals; 5.3 Multiannual;</p> <p>6. CUTTING AND CONSERVATION OF FORAGE: 6.1 Machines; 6.2 Haying; 6.3 Silage.</p> <p>7. PASTURE AND FORAGE USE: 7.1 Nutritional value and food value; 7.2 Use by grazing animals. Grazing systems. Header. Animal-pasture relationship. Animal-soil relations; 7.3 Example of a balance between food needs and availability</p>																																
Teaching methodologies (including assessment) [Specify the types of assessment and the weights and evaluation criteria]	<p>1 - Teaching methodologies</p> <p>Theoretical framework and debate sessions; Presentation of demonstrative examples and their criticism; discussion of practical cases presented by the teacher and the students, assuming the active participation of students in classes. Existence of at least 2 study visits, practical research initiation work.</p>																																

EVALUATION. The assessment has essentially 2 components: theoretical assessment and practical assessment. The theoretical assessment, with a weight of 70% in the final classification, is composed of 2 tests throughout the semester, the 1st on chapters 1 to 3 and the 2nd on chapters 4 to 7. Each test has a weight of 35% in the final classification. Practical work with a weight of 30% in the final classification. Students are given a protocol for the preparation of the work.

Working student students can follow the components of the previous assessment, or they can, as an alternative to the practical work that requires presence in the field, present a work with a similar structure, but based only on bibliography. The weights remain.

It is a condition for obtaining attendance that students (with the exception of students with student worker status) obtain presence in 75% of classes (theoretical and practical). Otherwise the student will fail the UC. If the student does not attend the entire class, without justification accepted by the teacher, he will be considered missing class.

At each evaluation moment/instrument, the minimum grade is 9.5. In the Exam, the student can be assessed for the entire subject (being approved if the final grade is ≥ 9.5 values) or only the components of the assessment with a grade of < 9.5 values.

2 - Period assessment

The assessment has essentially 2 components: theoretical assessment and practical assessment.

The theoretical assessment, with a weight of 70% in the final classification, is composed of 2 tests throughout the semester, the 1st on chapters 1 to 3 and the 2nd on chapters 4 to 7. Each test has a weight of 35% in the final classification. Practical work with a weight of 30% in the final classification. Students are given a protocol for the preparation of the work.

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3 - Examination assesement

Under the same conditions as the assessment by frequency

Bibliography

1 - Main Bibliography

- Crespo, D.G. 1980. Pastagens, forragens e produção animal face à crise energética dos nossos dias. Pastagens e Forragens vol 1, Pág. 17-32.

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- Cavaco, M.; Calouro, F. (coord). Produção Integrada das Culturas - pastagens e forragens. QARS/DGPC, Lisboa, Portugal. 52 p. + Anexos

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- Moreira, M.; B.; Coelho, I.S. 2008. A silvopastorícia na prevenção dos fogos rurais. ISAPress

- Pardo, E.M., Garcia, R. 1991. Praderas y forrajes. Producción y aprovechamiento. Ediciones Mundi-Prensa, Madrid. Pastagens e Forragens.

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Teixeira, R. F. M., Domingos, T., Costa, A. P. S. V., Oliveira, R., Farropas, L., Calouro, F., Carneiro, J. P. B. G. (2011). Soil organic matter dynamics in Portuguese natural and sown rainfed grasslands. Ecological Modelling, 222(4), 993-1001

Vasconcelos, T., Monteiro, A., Torres, M. O., Sá, G., & Forte, P. (2014). Infestantes de Pastagens.

Plantas tóxicas e agressivas. Série didática Herbologia 6 (Monteiro A, Coord) ISA Press, Lisboa, 104pp.

	2 - Complementary Bibliography
Special Situations [Students with special status]	<p>1 - Period assessment - Students with special status</p> <p>Under the same conditions as the assessment by frequency Working student students can follow the components of the previous assessment, or they can, as an alternative to the practical work that requires presence in the field, present a work with a similar structure, but based only on bibliography. The weights remain. It is a condition for obtaining attendance that students (with the exception of students with student worker status) obtain presence in 75% of classes (theoretical and practical). Otherwise, the student will fail the UC. If the student does not attend the entire class, without justification accepted by the teacher, he will be considered missing class.</p> <p>2 - Examination assessment - Students with special status</p> <p>Under the same conditions as the assessment by frequency Working student students can follow the components of the previous assessment, or they can, as an alternative to the practical work that requires presence in the field, present a work with a similar structure, but based only on bibliography. The weights remain. It is a condition for obtaining attendance that students (with the exception of students with student worker status) obtain presence in 75% of classes (theoretical and practical). Otherwise, the student will fail the UC. If the student does not attend the entire class, without justification accepted by the teacher, he will be considered missing class.</p>