Curricular Unit Form

POLITÉCNICO DE PORTALEGRE

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Escola Superior Agrária de Elvas

Updated On	2023/03/28
Curricular Year / Period	2022/23 / S1
Course	CTeSP - Agricultural Production
Curricular Unit	Meteorology and Climatology
Language(s) of Instruction	Português Inglês

ECTS/tempo de trabalho (horas)

ECTS	Total	Horas de contacto semestral								
		T	TP	PL	S	TC	E	O	OT	EC
6		0	80	0	0	0	0	0	0	0

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.

Teacher in charge (GDPR consent) [complete name, email]	José António Vaz Caraças Telo Da Gama / jose.gama@ipportalegre.pt
Other teachers (GDPR consent) [complete name, email]	Francisco Luís Mondragão Rodrigues / fmondragao@ipportalegre.pt
Prerequisites [Curricular Units that must precede and specific entry competences]	
Learning outcomes [Description of the overall and specific objectives] [Knowledge, skills and competences to be developed by students]	Provide the fundamental knowledge of meteorology and climatology that interfere in the biology and ecology of agricultural crops. Provide adequate knowledge to consult sources of meteorological/ climatological information so that students can, with sufficient autonomy, make the most appropriate decisions for the development and production of crops, particularly with regard to phytosanitary protection. Achieve that the student can apply the knowledge acquired in the management and programming of cultural operations of the technical itinerary of the culture, in particular in maintaining the balance between vegetative development and production, depending on the evolution of weather conditions. Knowing how to plan the location of the crop, its division into sectors and the choice of varieties/clones and other plant materials based on the climate of the region.
Syllabus	1 Meteorology. 1.1 Introduction. General definitions and concepts. Importance and application of meteorology in agriculture. 1.2 General circulation of the atmosphere. Structure and composition of the atmosphere. Isobaric systems. Air masses. Fronts and Front Systems. 1.3 Weather forecast. Sources of meteorological information. Synoptic chart analysis. Application of weather forecasts to agriculture. 1.4 Weather stations. Manual stations and automatic stations. Meteorological instruments. 2 Climatology 2.1 - Climate and distribution of the main crops in Portugal and in the world. Climatic needs of cultivated plants. Agricultural zoning depending on the climate. 2.2 - Elements of climate. Variation regime of the main elements of the climate. Influence of climate on the phenology, development and production of major agricultural crops. 2.3 Climatic classifications. Climatic indices. Thornthwaite climatic classification. 2.4 The Mediterranean climate. Characterization and distribution. Advantages and disadvantages for agricultural production. 2.5 The climate of Portugal. Regional variation. Winter types and summer types. Dry season.
Teaching methodologies (including assessment) [Specify the types of assessment and the weights and evaluation criteria]	**1 - Teaching methodologies** **2 - Period assessment** 30% 1st frequency

	30% 2nd frequency 10% study visit report (single delivery on 21/11/2021) 30% final written paper with oral presentation and discussion (single delivery on 20/01/2022) **3 - Examination assessement** 60% final exam 10% study visit report (single delivery on 21/11/2021) 30% final written paper with oral presentation and discussion (single delivery on 20/01/2022)
Bibliography	**1 - Main Bibliography** CASTILLO, F.E.; SENTIS, F. C. (2004). Agrometeorologia. Ediciones Mundi-Prensa. Madrid FEIO, M. (1991). Clima e Agricultura. Ministério da Agricultura, Pescas e Alimentação. Lisboa GARCIA, F.F. (1996). Manual de Climatologia Aplicada. Editorial Sintesis. Madrid LOUREIRO, J.M. (1983). Manual de instrumentos hidrometeorológicos. Direcção Geral dos Recursos e Aproveitamentos Hidráulicos. Lisboa MOTA, F.S. (1981). Meteorologia Agrícola. Livaria Nobel, S.A. São Paulo RIBEIRO, O. (1986). Portugal. O mediterrâneo e o Atlântico. Livraria Sá da Costa Editora. Lisboa VIDE, J.M. (1991). Fundamentos de climatologia analítica. Editorial Sintesis. Madrid YAGÜE, J.M. (1989). Iniciación a la meteorologia agrícola. MAPA e Ediciones Mundi-Prensa. Madrid **2 - Complementary Bibliography**
Special Situations [Students with special status]	**1 - Period assessment - Students with special status** **2 - Examination assessement - Students with special status**