

Updated On	2023/09/17																																									
Curricular Year / Period	2023/24 / S1																																									
Course	Equiniculture																																									
Curricular Unit	Exercise Physiology and Biomechanics																																									
Language(s) of Instruction	Português Inglês (apoio tutorial a estudantes ERASMUS+)																																									
ECTS/tempo de trabalho (horas)	<table border="1"> <thead> <tr> <th rowspan="2">ECTS</th> <th rowspan="2">Total</th> <th colspan="9">Horas de contacto semestral</th> </tr> <tr> <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>6</td> <td>160</td> <td>32</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									T	TP	PL	S	TC	E	O	OT	EC	6	160	32	0	32	0	0	0	0	0	0
ECTS	Total	Horas de contacto semestral																																								
		T	TP	PL	S	TC	E	O	OT	EC																																
6	160	32	0	32	0	0	0	0	0	0																																
Teacher in charge (GDPR consent) <small>[complete name, email]</small>	Rute Isabel Duarte Guedes Dos Santos / rutesantos@ippportalegre.pt																																									
Prerequisites <small>[Curricular Units that must precede and specific entry competences]</small>	This subject has no mandatory precedences; however, basic entry skills include basic knowledge of the anatomy and physiology of the horse, namely of the cardiovascular, respiratory, nervous and endocrine systems.																																									
Learning outcomes <small>[Description of the overall and specific objectives] [Knowledge, skills and competences to be developed by students]</small>	Students should acquire theoretical knowledge and practical skills that enable them to understand the functioning of the equine body during exercise, the response to conditioning and the most common methods for evaluation of physical condition, to allow a rational use of the horse in sports activity, combining sports performance with preservation of health and animal welfare.																																									
Sustainable Development Goals																																										
Syllabus	<p>LECTURES: Introduction to Exercise Physiology Energy bases of exercise Muscle and muscle contraction Thermoregulation Cardiovascular and blood Fluid and electrolyte balance Respiratory system Endocrinological response to exercise Neurophysiology of locomotion Training principles Equine biomechanics: analytical methods and fundamentals of the locomotion of horses Influence factors on horse locomotion Jump biomechanics</p> <p>PRACTICAL CLASSES: Energy balance of sporting activity Monitoring of resting heart rate Monitoring of exercising heart rate Rectal temperature monitoring Thermograms Assessment of hydration status and gut movements Hematocrit, leukogram, and total plasma protein determination Biochemical parameters in sport horses Evaluation of biometric measures Assessment of conformation and natural horse movements</p>																																									

<p>Teaching methodologies (including assessment) [Specify the types of assessment and the weights and evaluation criteria]</p>	<p>1 - Teaching methodologies</p> <p>Theoretical classes with explanation and discussion of concepts and practical classes dedicated to the application of those same concepts, namely, calculation of energy balance, cardiac and body temperature monitoring, blood parameters, hydration status assessment, biometrics, and morphofunctional analysis. Theoretical assessment through written tests (70%), and practical assessment by performing one of the practical tasks addressed (selected at random), and an oral test, with answers to questions regarding the performed task (30%).</p> <p>2 - Period assessment</p> <p>Theoretical assessment: 2 written tests, each representing 35% of final grade; minimum grade for each test: 10 out of 20 marks Practical assessment: practical/oral test, representing 30% of final grade; minimum grade: 10 out of 20 marks</p> <p>3 - Examination assessment</p> <p>Theoretical assessment: written test, representing 70% of final grade; minimum grade: 10 out of 20 marks Practical assessment: practical/oral test, representing 30% of final grade; minimum grade: 10 out of 20 marks</p>
<p>Bibliography</p>	<p>1 - Main Bibliography</p> <p>Back, W; Clayton, HM (2002). Equine Locomotion. Saunders Elsevier Science, 2nd Edition, 384 pp. Denoix, J-M (2014). Biomechanics and Physical Training of the Horse, CRC Press, 184 pp. Hinchcliff, K. W. (Ed.). (2014). Equine sports medicine and surgery: Basic and clinical sciences of the equine athlete (2. ed). Saunders Elsevier. Hodgson, D. R., McKeever, K. H., & McGowan, C. M. (Eds.). (2014). The athletic horse: Principles and practice of equine sports medicine (2nd ed). Saunders/Elsevier. Ross, MW; Dyson, SJ (2003). Diagnosis and Management of Lameness in the Horse. Saunders Elsevier Science, 1140 pp. + CD-ROM</p> <p>2 - Complementary Bibliography</p>
<p>Special Situations [Students with special status]</p>	<p>1 - Period assessment - Students with special status</p> <p>Theoretical assessment: 2 written tests, each representing 35% of final grade; minimum grade for each test: 10 out of 20 marks Practical assessment: practical/oral test, representing 30% of final grade; minimum grade: 10 out of 20 marks</p> <p>2 - Examination assessment - Students with special status</p> <p>Theoretical assessment: written test, representing 70% of final grade; minimum grade: 10 out of 20 marks Practical assessment: practical/oral test, representing 30% of final grade; minimum grade: 10 out of 20 marks</p>