

Subject name	Biological Clocks in Living Organisms	
Subject code	H.HTCa.BIO9.SM.HZOXY	
Department	Animal Biotechnology	
Faculty	Animal Sciences	
Subject supervisor/Lecturer	Professor Dorota Zięba-Przybylska	
General information	semester	summer
	ECTS credits	2
	Lectures total	15 hrs
	Laboratories	0
Objective and general description	<p>The main objective of the course is the characterization of chronobiology as a field of biology that examines periodic (cyclic) phenomena in living organisms and their adaptation to solar and lunar related rhythms. These cycles are known as biological rhythms. The related terms –chronomics and chronome will be described and the molecular mechanisms involved in chronobiological phenomena or the more quantitative aspects of chronobiology, particularly where comparison of cycles between organisms will be required.</p> <p>Lectures: Introduction to biological rhythms and their characteristics Biological clocks in microorganisms Molecular aspects of biological clocks mechanisms and clock genes Insects' and mammals' clocks Neurohormonal mechanisms of a biological clock Cell cycle in relation to biological clocks Chronobiology of periodic work in humans.</p>	
Assessment method	examination	
References	Cell circadian cycle. Cell Cycle, 1-6,2009,34-56 Circadian clocks in daily and seasonal control development. Science 301,2003-316 Molecular analysis of mammalian circadian rhythms. Annu.Rev.Physiol,61,2003:647-665	