

Subject name	Estimation of Risk Associated with Using Molecular Techniques	
Subject code	H.KFZa.EST9.SM.HZOBY	
Department	Animal Physiology and Endocrinology	
Faculty	Animal Sciences	
Subject supervisor/Lecturer	Professor Krystyna Koziec	
General information	semester	summer
	ECTS credits	5
	Lectures total	15
	Laboratories	15
Objective and general description	<p>Molecular biology provides background knowledge appropriate for further work in the rapidly expanding areas of genomics, cell biology, biotechnology, microbiology, diagnostics and therapeutics. This course will focus on selected aspects of molecular methods that provide the principles for understanding the structure and functional relationships of molecular biology techniques including DNA isolation, RFLP profiles, analysis of protein expression and molecular diagnostic markers. The main objective of the course is to understand the rules of choosing the most appropriate molecular techniques for different diagnostic applications.</p> <p><u>Lectures</u> Advanced preparative techniques to establish probes for molecular analysis Applied molecular techniques for cancer diagnosis Specific diagnostic methods for autoimmune diseases Multiplicity of molecular techniques for mutation analysis Validation issue of molecular methods</p> <p><u>Laboratories</u> Template isolation and preparation: principles and practice Extraction and amplification of DNA from different biological sources Determination of PCR-RFLP profiles Western Blot detection of prion protein Detection of serological cancer markers</p>	
Assessment method	examination	
References	<ol style="list-style-type: none"> 1. PCR Technology Thomas Weissensteiner, Hugh G. Griffin, Annette M. Griffin, 2004 2. Molecular and Genetic Analysis of human traits Gustavo Maroni 2001 3. Handbook of molecular and cellular methods in biology and medicine Leland J.Cseke, 2004 	