

General Information			
Course name and code	Model Organisms in Genetics ÚBEV/MOG/03	ECTS Credits	5
		Semester	2nd (Summer) Master & Doctoral Degree
Aims			
To provide the students with an information on model systems of prokaryotic and eukaryotic organisms used in genetic research.			
Contents			
Basic properties of model organisms used in genetics. Prokaryotic model systems (<i>Escherichia coli</i> , <i>Diplococcus pneumoniae</i> , <i>Agrobacterium tumefaciens</i> and <i>A. rhizogenes</i>). Model systems of simple eukaryotic organisms (<i>Saccharomyces cerevisiae</i> , <i>Neurospora crassa</i>). Plant and animal model systems <i>in vitro</i> and <i>in vivo</i> . <i>Caenorhabditis elegans</i> . <i>Arabidopsis thaliana</i> . Mendel's laws. <i>Drosophila melanogaster</i> . Morgan's rules. <i>Danio rerio</i> . <i>Mus musculus</i> . Human genome. Transgenic plants and animals. HeLa cells. Stem cells. Genetic importance of the study of twins. Genetic databases.			
Evaluation			
Protocols, oral examination.			
Bibliography			
Genetic periodicals, Internet sources.			