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| **General Information** | | | |
| **Course name and code** | **Model Organisms in Genetics**  **ÚBEV/MOG/03** | **ECTS Credits** | **5** |
| **Semester** | **2nd (Summer) Master & Doctoral Degree** |
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| **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 (*Escherichia coli, Diplococcus pneumoniae, Agrobacterium tumefaciens and A. rhizogenes*). Model systems of simple eukaryotic organisms (*Saccharomyces cerevisiae, Neurospora crassa*). Plant and animal model systems *in vitro* and *in vivo*. *Caenorhabditis elegans. Arabidopsis thaliana*. Mendel´s laws. *Drosophila melanogaster.* Morgan´s rules. *Danio rerio*. *Mus musculus*. Human genome. Transgenic plants and animals. HeLa cells. Stem cells. Genetic importance of the study of twins. Genetic databases.  **Prerequisities:** This course is an advanced course for students who have already passed **Genetics** and **Molecular Biology**. | | | |
| **Assessment Methods and Criteria** | | | |
| Protocols, oral examination.  Grading Scale (in %): A ... 100 - 91%, B ... 90 - 81%, C ... 80 - 71%, D ... 70 - 61%, E ... 60 - 51%,  Fx ... < 51%  Grading System:  The University recognises the following six degrees for the evaluation of the study results:  a) A – excellent (excellent results) (numerical value 1)  b) B – very good (above average results) (1.5)  c) C – good (average results) (2)  d) D – satisfactory (acceptable results) (2.5)  e) E – sufficient (results meet the minimum criteria) (3)  f) FX –failed (requires further work) (4) | | | |
| **Bibliography** | | | |
| Genetic periodicals, Internet sources. | | | |