Model title
Model Organisms
03-98-MMOD-152-m01

Module coordinator
Dean of Studies Biomedizin (Biomedicine)

Module offered by
Faculty of Medicine

ECTS
20

Method of grading
numerical grade

Duration
graduate

Contents
With the help of selected eukaryotic model organisms (mouse, fish, Drosophila, nematodes and flatworms, yeast) and complex tissue models, students will become familiar with methods and questions of experimental biomedicine and will apply these. Building on the students’ knowledge of anatomy, cell biology and developmental biology, the module will illustrate the relevance and usage of individual models for understanding physiological processes and pathophysiological changes and will experimentally analyse these with molecular, cell biological, histological and imaging techniques. The module will acquaint students with cell-based strategies for regenerative therapies and biodiagnostics as well as an alternative to animal experiments. Over the course of one week each, students will examine model organisms in detail, also taking into account current research.

Intended learning outcomes
Students are able to define key terms for each model organism and use them in the right context. They are able to correctly assess the importance of model organisms and 3D tissue culture systems for current biomedical issues and questions. They are able to discuss the relevant scientific advantages and disadvantages in a deliberative manner, also taking into account ethical issues. Under supervision, they are able to independently perform sophisticated genetic, cell biological and histological experiments and document the results. In particular, they are able to present the results in a written report in accordance with scientific standards, to critically evaluate and interpret the data and put it in the context of current literature. Working in small groups as well as preparing and delivering group presentations, they demonstrate their knowledge of the contents covered as well as their team working skills.

Courses
S (3) + P (15)
Module taught in: German/English

Method of assessment
Log (30 to 60 pages)
Assessment offered: Once a year, winter semester
Language of assessment: German or English

Allocation of places
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Additional information
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Referred to in LPO I
(examination regulations for teaching-degree programmes)
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Module appears in
Master's degree (1 major) Biomedicine (2015)
Master’s degree (1 major) Biomedicine (2018)