Title of module	Advanced Practical in the Focal Point Program: "Molecular Medicine" VZ: 185881 **" Molecular mechanisms of retinal diseases"**

Credit points	7.5 (of 15)	***Available in semester(s)***	2
Hours per week	9	***Compact course***	☒

Lecturer(s)	S. Joachim
Teaching methods	A five-week all-day practical lab course with a compulsory seminar presentation. **Please note:** A second Advanced Practical will have to be performed in the same semester to earn the full complement of 15 credits
Evaluation of learning progress	Active participation, feedback during independently performed experiments, project discussions with the supervisor
Mode of examination	Assessment of experimental skills during the practical (50%), a written project report (40%), and a seminar presentation of experimental results (10%).
Learning objectives	The students will learn about pathomechanisms and apoptotic processes in retinal disorders. These mechanisms will be analyzed in vitro, for example in a retinal organ culture. The students will learn how several substances affect the retina, especially the retinal ganglion cells. Structural and immonological
Soft skills	Documentation of workflow and results Critical discussions of results Presentation of scientific publications Scientific writing

Contents of module	- Isolation and characterization of retinal proteins via biochemical methods like Western blot - Detection of structural and immunological molecules via immunohistochemistry - Preparation of retina and optic nerve sections - Cultivation of porcine retina for different neurodegeneration models