Title of Course:

Modular advanced practical in the focal point programme "Molecular Medicine",

VZ: 209 806 / 209 852

"Protein misfolding and neurodegeneration"

Type: Compulsory Course		**Workload** 120h	**Intended for Semester** 1	**Duration** 2 weeks
1	**Module:** Elective Practical	**Hours per Week** 5.25	**Self-study** 46,5 h	**Credit Points** 4
2	**Teaching Methods:** a) A two-week all-day practical lab course in a research group; b) Integrated seminar			
3	**Group Size:** *1-2*			
4	**Learning/Course Objectives:** Aberrant protein folding is a characteristic feature of different neurodegenerative diseases, such as Alzheimer's and Parkinson disease and prion diseases. The students will learn state-of-the-art techniques to analyze protein folding and trafficking in neuronal cell and to evaluate the cytotoxic activity of misfolded proteins.			
5	**Contents:** The module focuses on the following methods: Expression and purification of recombinant proteins; Cultivation and transfection of mammalian cells; Western blotting; Immunofluorescence analyses using Super-Resolution Microscopy			
6	**Degree Courses:** Master of Science Biochemistry			
7	**Prerequisite(s):** Knowledge of basic methods in molecular biology and protein chemistry.			
8	**Method(s) of Examination:** Assessment of active and successful participation in the practical (50%) and a written project report (50%)			
9	**Requirements for Acquiring Credit Points:** Achievement of at least the mark "sufficient" regarding the above modes of examination.			
10	**Significance for Overall Grade:** Weighted according to CPs			
11	**Frequency:** Every winter term			
12	**Lecturer(s):** Prof. Jörg Tatzelt and team members			
13	**Additional Information:** This lab course is one of four courses in total to be completed in the first term, which have to be fulfilled in different Focal Point Programs			