Title of Course:

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

VZ: 209806 / 209852

“ Techniques to study the interaction of signalling molecules with Fluorescence Resonance Energy Transfer (FRET)-based biosensors”

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:** *2*				
4	**Learning/Course Objectives:** Students will acquire practical skills in cell culture, fluorescence microscopy and imaging.				
5	**Contents:** The module focuses on the investigation of signalling pathways downstream of G protein coupled receptor activation in HEK293 cells. Different fluorescent FRET-biosensors are used to monitor the activity of signalling molecules following receptor stimulation.				
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 semester				
12	**Lecturer(s):** Prof. Marie-Cecile Kienitz and teaching assistants				
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				