Title of module	Advanced Practical in the Focal Point Programme: "Molecular Medicine" VZ: 185881 **"Experimental Allergology and Immunology"**

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

Lecturer(s)	M. Raulf and teaching assistants
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	After completion of the course the students will have acquired practical skills in immunological and protein-chemical techniques like whole blood assay including cytokine release and cytokine quantification or the establishment of a sandwich ELISA for the determination of allergic proteins e.g. in dust samples.
Soft skills	Interaction with the members of the research laboratory as well as the team of the Center Allergology/Immunology of the IPA, presentation of a scientific paper, weekly report in the lab meeting, final presentation of the results.

Contents of module	**Topics** "Experimental allergology and immunology" participation of the students in ongoing projects. Two different focal points are possible: a) Characterization of bioaerosols using components of the innate immunity b) Development of new sandwich ELISA for the detection of allergens **Methods (optional)** Whole blood assay; LAL assay; cytokine release and cytokine quantification; flow cytometry; ELISA performance; lung vision; antibody purification via protein G/A-column or antigen specific, establishment and evaluation of a standard curve; cross-reactivity testing; quantification of the relevant allergen in samples e.g. collected from different workplaces