

**Title of Course:**

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

VZ: 209 806 / 209 852

**"Title of Practical"** Allergy Research – from the production of allergen extract to allergen characterization"

<b>Type:</b> Compulsory Course			<b>Workload</b> 120h	<b>Intended for</b> <b>Semester I</b>	<b>Duration</b> 2 weeks
<b>I</b>	<b>Module:</b> Elective Practical		<b>Hours per Week</b> 5-25	<b>Self-study</b> 46,5 h	<b>Credit Points</b> 4
<b>2</b>	<b>Teaching Methods:</b> a) A two-week all-day practical lab course in a research group; b) Integrated seminar				
<b>3</b>	<b>Group Size:</b> 1-3				
<b>4</b>	<b>Learning/Course Objectives:</b> Students will work on small projects in the laboratory of the department of allergology/immunology Institute for Prevention and Occupational Medicine of the German Social Accident Insurance Institute of the Ruhr University Bochum (IPA). The course objectives are: Preparing of an allergen extract, detection of allergens, testing for allergenicity, characterization of IgE binding sites, determination of cross-reactivity and quantification of allergen content in several allergen extract preparations.				
<b>5</b>	<b>Contents:</b> The module focuses on Allergy Research – from the production of allergen extract to allergen characterization". After completion of the course students will have acquired basic practical skills in the preparation of extracts from different allergen sources including protein chemical techniques like protein extraction, protein determination, quantification of protein content, dialysis, SDS-PAGE, silver staining, IgE immunoblotting, IgG immunoblotting, inhibition analysis, enzymatic digestion of allergen extracts, ELISA procedure, determination of cross-reactivity.				
<b>6</b>	<b>Degree Courses:</b> Master of Science Biochemistry				
<b>7</b>	<b>Prerequisite(s):</b> Knowledge of basic methods in molecular biology and protein chemistry.				
<b>8</b>	<b>Method(s) of Examination:</b> Assessment of active and successful participation in the practical (50%) and a written project report (50%)				
<b>9</b>	<b>Requirements for Acquiring Credit Points:</b> Achievement of at least the mark "sufficient" regarding the above modes of examination.				
<b>10</b>	<b>Significance for Overall Grade:</b> Weighted according to CPs				
<b>11</b>	<b>Frequency:</b> Every winter term				
<b>12</b>	<b>Lecturer(s):</b> Prof. Dr. Monika Raulf, Dr. Sabine Kespohl and teaching assistants				
<b>13</b>	<b>Additional Information:</b> 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				