

<b>Module Name</b> Advanced Biochemistry and Molecular Medicine					
<b>Identification Number</b>	<b>Workload</b>	<b>Credit Points</b>	<b>Term</b>	<b>Offered Every</b>	<b>Duration</b>
MN-BC-ABMM	180 h	6 CP	1 <sup>st</sup> or 2 <sup>nd</sup>	winter term	15 weeks
<b>1</b>	<b>Type of lessons</b> Lectures	<b>Contact Times</b> 49 h	<b>Self-Study Times</b> 131 h	<b>Group Size*</b> approx. 50-70	
<b>2</b>	<b>Module Objectives and Skills to be Acquired</b> Students who successfully completed this module ... <ul style="list-style-type: none"> <li>• have acquired an understanding of advanced concepts and technologies related to the molecular basis of biochemical principles.</li> <li>• possess the ability to develop hypotheses through problem analysis and will be able to develop experiments to test these hypotheses.</li> <li>• have acquired a knowledge of important concepts in biochemistry such as reaction mechanisms, molecular basis of diseases, development and use of model systems and key technologies</li> </ul>				
<b>3</b>	<b>Selected content of the module</b> The lecture series is organized into 6 blocks (see below) consisting of 4-5 lectures with a review tutorial at the end of each block. <ul style="list-style-type: none"> <li>• Structure &amp; proteomics</li> <li>• Extracellular matrix &amp; transport</li> <li>• Metabolism &amp; hereditary disease</li> <li>• Mitochondria &amp; death, immunity, cancer</li> <li>• Regulation &amp; proteostasis</li> <li>• Engineering + tools</li> </ul> We bring together a wide range of local researchers to give you a broad overview of advanced biochemistry and molecular medicine topics, spike your curiosity regarding new areas, and lead to research projects for you.				
<b>4</b>	<b>Teaching Methods</b> Research-oriented, interactive lectures (incl. e.g. audience response systems and concept mapping)				
<b>5</b>	<b>Prerequisites</b> Enrolment in the Master's degree course "Biochemistry and Molecular Medicine" or in the Master's degree course "Biological Sciences" <b>Additional academic requirements</b> The knowledge of basic and specific biochemistry, cell biology and genetics on the level of general biochemistry text books (e.g. Stryer/Alberts) is required.				
<b>6</b>	<b>Type of Examination</b> Two hours written examination (100% of the total mark). All lectures have a first, introductory part relevant for the exam and a second, scientific part not relevant for the exam. The exam will have one question per lecture and you can select a subset.				
<b>7</b>	<b>Credits Awarded</b> Written examination at least "sufficient"				

8	<b>Compatibility with other Curricula*</b> Master's degree courses "Biological Sciences"
9	<b>Proportion of Final Grade</b> 10%
10	<b>Module Coordinator</b> Dr. Jakob Suckale, phone 470-3536, e-mail: <a href="mailto:jsuckale@uni-koeln.de">jsuckale@uni-koeln.de</a>
11	<b>Further Information</b> <b>Participating faculty:</b> Prof. Dr. U. Baumann, Prof. Dr. E. Behrmann, Prof. Dr. T. Benzing, Prof. Dr. U. Brandt, Prof. Dr. B. Brachvogel, Dr. M. Escobar, Prof. Dr. M. Gather, Prof. Dr. N. Kononenko, Prof. Dr. S. Kath-Schorr, Prof. Dr. M. Krüger, Dr. P. Krüger, Prof. Dr. T. Langer, Prof. Dr. M Lemberg, Dr. Elisa Motori, Prof. Dr. I. Neundorf, apl. Prof. Dr. K. Niefind, Prof. Dr. M. Pasparakis, Prof. Dr. J. Riemer, Prof. Dr. G. Schwarz, Dr. Katrin Ulrich, Prof. Dr. H. Walczak, Prof. Dr. B. Wirth <b>Literature:</b> <ul style="list-style-type: none"> <li>• Information material will be given via ILIAS.</li> </ul> <b>General time schedule:</b> Weeks 1-13: Tue. and Fri. from 8:15 to 9:45AM in the Biocenter ground floor lecture hall (0.024); Week 14-15 (Mon.-Fri) preparation for the written examination. The series starts on 8 Oct 2024. <b>Written examination:</b> The preliminary examination dates are 11 Feb and 28 March 2025.

\* Depending on how many students from other subject areas (and if indicated also from other master's degree courses, see 5) choose this module.