

Module Name Advanced Biochemistry and Molecular Medicine					
Identification Number	Workload	Credit Points	Term	Offered Every	Duration
MN-BC-ABMM	180 h	6 CP	1 st or 2 nd	winter term	15 weeks
1	Type of lessons Lectures	Contact Times 49 h	Self-Study Times 131 h	Group Size* approx. 50-70	
2	Module Objectives and Skills to be Acquired Students who successfully completed this module ... <ul style="list-style-type: none"> • have acquired an understanding of advanced concepts and technologies related to the molecular basis of biochemical principles. • possess the ability to develop hypotheses through problem analysis and will be able to develop experiments to test these hypotheses. • 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 				
3	Selected content of the module 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"> • Structure & proteomics • Extracellular matrix & transport • Metabolism & hereditary disease • Mitochondria & death, immunity, cancer • Regulation & proteostasis • Engineering + tools 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.				
4	Teaching Methods Research-oriented, interactive lectures (incl. e.g. audience response systems and concept mapping)				
5	Prerequisites Enrolment in the Master's degree course "Biochemistry and Molecular Medicine" or in the Master's degree course "Biological Sciences" Additional academic requirements The knowledge of basic and specific biochemistry, cell biology and genetics on the level of general biochemistry/biology text books (e.g. Voet-Voet/Stryer/Lehninger, Alberts and Lewin) is required. Lecturers will hand out review articles on the topic that should be read before the lecture.				
6	Type of Examination 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.				
7	Credits Awarded Written examination at least "sufficient"				

8	Compatibility with other Curricula* Master's degree course "Biological Sciences"
9	Proportion of Final Grade 10%
10	Module Coordinator Dr. Jakob Suckale, phone 470-3536, e-mail: jsuckale@uni-koeln.de
11	Further Information Participating faculty: Prof. Dr. U. Baumann, Prof. Dr. E. Behrmann, Prof. Dr. T. Benzing, Prof. Dr. U. Brandt, Prof. Dr. B. Brachvogel, Prof. Dr. J. Chai, Dr. M. Escobar, Prof. Dr. M. Gather, Prof. Dr. N. Kononenko, Prof. Dr. S. Höning, Prof. Dr. P. Huesgen, Prof. Dr. S. Kath-Schorr, Prof. Dr. M. Krüger, Prof. Dr. T. Langer, Prof. Dr. M Lemberg, Prof. Dr. I. Neundorf, apl. Prof. Dr. K. Niefind, Prof. Dr. M. Pasparakis, Prof. Dr. J. Riemer, Prof. Dr. H.-G. Schmalz, Prof. Dr. G. Schwarz, Dr. Gerhard Sengle, Prof. Dr. H. Walczak, Prof. Dr. B. Wirth Literature: <ul style="list-style-type: none"> • Information material will be given via ILIAS. General time chedule: Weeks 1-13: Tue. and Fri. from 8:15 to 9:45AM in seminar room 170 (1 st floor, Biochemistry Institute); Week 14-15 (Mon.-Fri) preparation for the written examination. The series starts on 11 Oct 2022. The preliminary examination date is 14 Feb 2023. Written examination: February 14, 2023, second/supplementary examination March 14, 2023; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.

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