Title of the module	**‚Methods in biochemistry and molecular cell biology**
Term/semester	Winter term / 1
VAK-Number	Will be assigned centrally
Credit points	6 ECTS
Compulsory /elective	Compulsory course
Teaching methods	Method: Lecture; Lab course SWS: 0.86 (12 h); 6.9 (96 h) CP: 1.3; 4.7
Self studies	protocols 45 h learning for the exam 25 h
Module representative	Prof. S. Kelm
Instructors	Prof. S. Kelm (Biochemistry), Prof. B. Reinhold-Hurek (Microbiology)
Examiner	Prof. S. Kelm
Objectives	Based on the knowledge in biochemistry certified by the admission test the course provides the essential theoretical background and practical handling of basic biochemical and molecular biology methods.
Content of teaching	*The methods lectures deals with the following topics:* • Nucleic acids isolation and characterisation • RNA characterisation • Gene transfer • Differential gene expression • Chromatography • Antibodies • Cell culture techniques *Methods which are used in the practical part:* • Work with nucleic acids (Isolation, determination of concentration, restriction digest, agarose gel electrophoresis, ligation, PCR) • work with proteins (affinity chromatography, determination of protein concentration, SDS-PAGE, protein staining, protein tagging, ELISA)
Educational objectives	• Ability to understand the basics in Biochemistry based on the topics teached (experiments are organised as regards content in a large degree). • Ability to understand the aim and the use of important methods for biochemical work. • Ability to write lab journals and to evaluate and discuss results
Evaluation of learning progress	Successful completion of the exercises Protocol for the experimental part
Assessment	Written test (100%)
Frequency	Each winter semester
Usage in other degree programmes	The module is also offered for students of the diploma course of studies biology (examination terms biochemistry, molecular biology and cell biology) as well as for students of the diploma course of studies chemistry (main subject biochemistry)
Requirements	Basic biochemistry in theory and practice