

Labs will provide practical experience with current methods used in molecular/cell biology and biotechnology. The first half of the course will cover protein folding, bioenergetics, cell growth, and microscopy. The second half will be devoted to a single multi-week module on genetic engineering and gene regulation. Students will build a bacterial gene expression system, learning recombinant DNA technology, cloning and gene expression measurement techniques. Labs will emphasize the experimental and analytical skills required in modern engineering and scientific research.

LABORATORY

Required: Laboratory Manual – White Lab coat

Tuesday: 3.00 pm – 6.00 pm

Location: MTZ, Fiedlerstrasse 42 (map: Bld. 91)

Examination/Grading: Active Attendance / Written

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Exam Seminar 1: 24%

Exam Seminar 2: 32%

Exam Seminar 3: 27%

Exam Laboratory: 7%

Active Attendance: 10%

Day	Content	Discipline Responsibility	Location
April 04	Laboratory 1 Analysis of Simulated Epidemic and Hand Contamination and Cytological Studies	Microbiology Prof. Jacobs	Mikroskopiersaal
April 11	Laboratory 2 General Histology	Anatomy Prof. Kasper Dr. Barth	Mikroskopiersaal
April 18	Laboratory 3 Quantitative Determination and Spectrums of Haemoglobins in Blood	Biochemistry Dr. Hempel	Institut für Physiologische Chemie
April 25	Laboratory 4 Determination of Activity of Lactate Dehydrogenase in Optical Test	Biochemistry Dr. Hempel	Institut für Physiologische Chemie
May 02	Laboratory 5 Molecular Biological Diagnosis of Cystic Fibrosis with the Help of PCR	Biochemistry Dr. Kreuzmann	Institut für Physiologische Chemie
May 09	Laboratory 6 Characterization of DNA using Restriction Endonucleases	Biochemistry Dr. Kreuzmann	Institut für Physiologische Chemie
May 16	Laboratory 7 Bacterial Transformation	Immunology Anett Skupin	Institut für Immunologie
May 23	Laboratory 8 Plasmid Preparation from <i>E. coli</i> and Sequencing of	Immunology Anett Skupin	Institut für Immunologie
May 30	Laboratory 9 Transient Transfection of Eukaryotic Cells Western Blotting Technique	Immunology Anett Skupin	Institut für Immunologie