

Biochemical Methods including Clinical Chemistry

Lecture-Nr.: 53890

Type: lab course

Duration: 7 hours per week (winter and summer semester)

Method of Assessment: written examination (in combination with lectures "Selected Topics in Biochemistry / Introduction to Clinical Chemistry", "Biochemical Techniques" and "Introduction to Biotechnology")

ECTS Credit Points: 7

Topics:

Enzymes: isolation, activities, kinetics, inhibition, reagents and surrogate markers in clinical chemistry. DNA: isolation, purification, characterization, quantification, hyperchromicity, PCR. Radiochemical analysis (ligand receptor binding), hemoglobin: quantitative determination and derivatisation, urine analyses. Peptide analysis, electrophoresis including micellar electrokinetic chromatography, drug metabolism, enzyme induction

Literature:

1. Practical instructions provided as course material
2. Pingoud; Urbanke; Hoggett; Jeltsch: Biochemical methods: a concise guide for students and researchers. Wiley-VCH, Weinheim.
3. Lottspeich; Engels: Bioanalytik. Spektrum Akademischer Verlag, Heidelberg.
4. Wilson; Walker: Principles and Techniques of Biochemistry and Molecular Biology. Cambridge University Press, Cambridge.
5. Richter: Praktische Biochemie: Grundlagen und Techniken. Thieme, Stuttgart.
6. Voet; Voet: Biochemistry, Wiley, New York.
7. Berg; Tymoczko; Stryer: Biochemistry. Palgrave Macmillan, London.
8. Löffler; Petrides; Heinrich: Biochemie und Pathobiochemie. Springer, Heidelberg.

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