

## Selected Topics in Biochemistry / Introduction to Clinical Chemistry

**Lecture-Nr.:** 53814

**Type:** lecture

**Duration:** 2 hours per week (winter)

**Method of Assessment:** written examination (in combination with lab course "Biochemical Methods including Clinical Chemistry")

**ECTS Credit Points:** 2

### Topics:

Peptides/proteins: structure, function; enzymes: mechanisms, kinetics.

General clinical chemistry: history, definitions, scope of clinical chemistry/biochemistry; different phases of laboratory examination, specimen collection and processing, selection and analytical evaluation of methods with statistical techniques, clinical utility of laboratory tests, establishment and use of reference values, pre-analytical variables and biological variation, quality management. Diagnostically relevant enzymes, principles of enzymatic analysis, enzymes as surrogate markers of hepatic and pancreatic dysfunction, alkaline phosphatase, choline esterase, creatin kinase, lactic dehydrogenase, surrogate markers of cardiac damage. Urine analysis.

### Literature:

1. Voet; Voet: Biochemistry. Wiley, New York.
2. Berg; Tymoczko; Stryer: Biochemistry. Palgrave Macmillan, London.
3. Löffler; Petrides; Heinrich: Biochemie und Pathobiochemie. Springer, Heidelberg.
4. Burtis; Ashwood; Bruns; Tietz: Fundamentals of Clinical Chemistry. Elsevier, Amsterdam.
5. Pagana; Pagana: Mosby's Manual of Diagnostic and Laboratory Tests. Elsevier, Amsterdam.
6. Halbach: Klinische Chemie und Hämatologie. Thieme, Stuttgart.

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