

BIOCHEMISTRY II
SEMINARY CLASSES

4th Semester 2009

VSBC041s, ZLBC041s
Spring 2009

<i>Week</i>	<i>Date</i>	
1	16. 2. – 20. 2.	Methods in clinical biochemistry (photometry, electrophoretic methods) Biochemical analyzers.
2	23. 2. – 27. 2.	Laboratory tests in clinical biochemistry. Sources of error, assessing the significance of a test result. Enzyme assays in clinical diagnostics.
3	2. – 6. 3.	Plasma lipoproteins, interconversion of lipoproteins. Cholesterol transport, balance of cholesterol intake and excretion.
4	9. – 13. 3.	Blood glucose (sources, consumption, regulation). Diabetes mellitus. 1st written test (<i>Methods, biochemical tests and sources of error in them, assessing the significance of results. Digestion, absorption and transport of lipids, lipoproteins, cholesterol, metabolism of lipids at the tissue and organ level,*)</i> *)
5	16. – 20. 3.	Catabolism of proteins and of amino acid nitrogen. Proteins in nutrition. Absorption of amino acids, utilization of amino acids in tissues, blood transport of fixed ammonia, the glutamine cycle. Nitrogenous compounds excreted into the urine. Protein intake and nitrogen balance.
6	23. – 27. 3.	Integration of metabolism of nutrients: relationships among the major metabolic pathways in the fed state, postabsorptive state, and prolonged starvation.
7	30. 3. – 3. 4.	The liver functions – the role in metabolism of nutrients, hormones, and vitamins. Catabolism of haemoglobin, urobilinoids, the types of hyperbilirubinaemia.
8	6. – 10. 4.	Biotransformation of xenobiotics. 2nd written test (<i>Metabolism of glucose in the absorptive, postabsorptive state and in prolonged fasting (the liver, adipose tissue, and muscle, diabetes and impairment of saccharide metabolism). Proteins in nutrition, nitrogen metabolism, integration of intermediary metabolism of nutrients, biochemical functions of the liver, catabolism of haemoglobin,*)</i> *)
9	14. – 20. 4.	Neurotransmitter and hormone receptors.
10	21. – 27. 4.	Water and mineral metabolism. Electrolyte composition of blood plasma, buffer bases. Respiration – transport of oxygen and CO ₂ . The role of the kidney and the liver in acid-base balance
11	28. 4. – 4. 5.	Blood acid-base parameters, the values indicating particular type of disturbance.
12	5. – 11. 5.	Major functions of the kidney. Glomerular filtration. Tubular resorption and secretion.
13	12. - 18. 5.	3rd written test (<i>Metabolism of xenobiotics, neurotransmitter and hormone receptors, water and mineral metabolism, ionograms, acid-base balance.)*</i> *) Urine - normal constituents, amounts of nitrogenous compounds excreted per 24 h. The proteinuria types. Urinary sediment, renal stones.
14	19. – 25. 5.	Biochemistry of muscle tissue. Energy resources in working muscle. Nitroxide and smooth muscles, mechanism of action.
15	25. 5. – 29. 5.	Credit test for the students who did not reach the required result in preceding tests. Compensatory lessons, consultation. Credits.

***) The tests contain also questions from Practicals.**

Neglected lessons have to be made up by the 19th of June 2009.

Students are expected to come to the seminary room at least 5 minutes before the start of the lesson.

Attendance in seminars is obligatory.

All absences must be justified through the Department of study affairs **up to 5 days!** Illness is usually the only acceptable excuse for absence from class and must be officially confirmed. After being absent the student must make up for the study materials from the given seminar according to the teachers instructions.

Conditions for giving the course-unit credit

The first condition is full (100%) attendance in the all seminars.

Three short tests are written during the semester. Students that will obtain 70% points or more during the semester are not obliged to write the credit test.

The other students will write the credit test with the 30 questions in the last week of the semester.

The limit for passing the credit test is 12 points. Students that will not fulfill this limit will be allowed to repeat the test once. Remedial dates for writing the credit test will be scheduled till 19.6.2009. Students that will not fulfill this requirement will not be given the course-unit credit.

Obtaining of course-unit credits of practices and seminars is the pre-requisite for registration to the examination of Biochemistry II.