MEDICAL CHEMISTRY 1st Semester Academic Year 2007 / 2008

LABORATORY CLASSES VSLC011c

Students are expected to come to the laboratory at least 5 minutes before the start of the lesson. Laboratory coat is necessary.
Attendance in all laboratory courses is obligatory. All absences must be justified through the Department of Study Affairs. Illness is usually the only acceptable excuse for absence from lesson and must be officially confirmed. After being absent the student must make up for the lesson.
Student is obliged to prepare himself for each lesson. Students that are not sufficiently prepared will not be admitted in participating in the lesson.
The deadline for making up all the laboratory classes including handing of all reports is the 31st January 2008. If the student has been absent from three or more lessons without serious reasons, the course –unit credit will be not given.

Week	Date	Number of experiment	
1 - 2	**17. 9. – 26. 9. 2007**		Rules of study and directions for laboratory work General safety guidelines
		1	**Solutions**
		1.1	Volumetric ware in chemical laboratory
		1.2	Preparation of solution with given concentration
		1.3	Photometric verification of concentration
3 - 4	**1. 10. – 10. 10. 2007**	**2**	**pH Measurement. Titration curves**
		2.1	Measuring pH of solutions of acids, bases and salts
		2.2	Construction of acid-base titration curves
5 - 6	**15. 10. – 24. 10. 2007**	**3**	**Buffer solutions**
		3.1	Preparation of phosphate buffers with different values of pH
		3.2	Titration of buffer and determination of buffer capacity
7 - 8	**29. 10. – 7. 11. 2007**	**4**	**Selected ionic reactions**
		4.1	Detection and determination of nitrates in water
		4.2	Detection of nitrite in water
		4.3	Properties and detection of ammonium (NH_4^+)
		4.4	Properties and reactions of phosphate anions
		4.5	Properties and reactions of carbonate & bicarbonate anions

9 - 10	**12. 11. – 21. 11. 2007**	**5**	**Chromatography**
		5.1	Adsorption thin layer chromatography of azo dyes
		5.2	Gel chromatography
		5.3	High performance liquid chromatography – demonstration
11 - 12	**26. 11. – 5. 12. 2007**	**6**	**Alcohols, saccharides**
		6.1	Oxidation of alcohols
		6.2	Determination of ethanol in blood – demonstration
		6.3	Reducing properties of sugars
		6.4	Reducing effects of L-ascorbic acid
		6.5	Molecular models of monosaccharides and L-ascorbic acid
13 - 14	**10. 12. – 19. 12. 2007**	**7**	**Amino acids and proteins**
		7.1	Effect of pH on ionization of amino acids
		7.2	Colour reactions of amino acids and proteins
		7.3	Estimation of isoelectric point of casein
		7.4	Solubility of proteins, precipitation of proteins

Compensatory dates for neglected lessons (justified properly) will be given only by agreement with the respective teacher of the group.

The **31st of January 2008** is the deadline for making up all the lessons!

Recommended literature: Tomandl - Medical Chemistry – Practicals. Brno 2007

Conditions for giving the course-unit credit

Full attendance in all lessons (making up all missing and justified lessons), completion of all lab reports and handing them to the teacher.

Obtaining of course-unit credits of practices is the pre-requisite for registration to the examination of Medical chemistry and for enrollment of Biochemistry in the Spring semester.