

School of medicine, University of Mostar		MEDICAL STUDIES IN ENGLISH		
Course:		Medical chemistry		
Course teacher:		Associate Professor Ivana Martinović, PhD		
Godina:	I	Semestar:	II	
Razina kolegija:	basic	ECTS bodovi:	7,5	
Status kolegija:	Compulsory			
Type of instruction		L + S + LE : 24 + 30 + 26 (80)		
(lectures + seminars + laboratory exercises; L + S + LE)				
		Number of hours		
		Lectures	Seminars	Laboratory exercises
		24	30	26
1.	Physical chemistry	14	18	26
2.	Organic chemistry	10	12	

Student responsibilities: Regular attendance and active participation in all forms of teaching;

Evaluating of student's work: Written exam

Teachers:

Associate Professor Ivana Martinović, PhD (IM)

Associate Professor Ilijana Odak, PhD (IO)

Gloria Zlatić, mag. biol. et. chem., senior assistant. (GZ)

Ante Pušić, mag. chem., assistant. (AP)

Day / Date / Time	Lecture schedule	Type of teaching	Group	Teacher
Monday 17. 05. 2021. 8,30-10,00	Chemical bonding. Intermolecular forces. Water. Solutions.	L 2h	All	IM
10,30-12,00 12,15-13,45	Seminars.	S 4h		GZ

Tuesday 18. 05. 2021. 8,30-10,00 10,15-11:00 11:15 - 12,00 12,15-13,45	Acids and bases. pH, buffers. Seminar.	L 3h S 3h	All	IM GZ
Wednesday 19. 05. 2021. 8,30-10,00 10,15-11:00 11:15 - 12,00 12,15-13,45	Colligative properties of solutions. Solubility of gases. Colloids. Adsorption. Seminars.	L 3h S 3h	All	IM GZ
Thursday 20. 05. 2021. 8,30-10,00 10,15-11:00 11:15 - 12,00 12,15-13,45 14,00-14,45	Chemical equilibrium and the equilibrium constant. Gibbs free energy and chemical equilibrium . Chemical thermodynamics. Biochemical egzergonic reactions . Seminars.	L 3h S 4h	All	IM GZ
Friday 21. 05. 2021. 8,30-10,00 10,15-11:00 11:15 - 12,00 12,15-13,45 14,00-14,45	Electrolytes. Electrochemical processes. Chemical kinetics. Activation Energy. Reaction Mechanisms. Photochemical processes. Seminars.	L 3h S 4h	All	IM GZ
Monday 24. 05. 2021. 13:00 - 16:00	Exercise 1	LE 4h	All (2 groups)	GZ, AP
Tuesday 25. 05. 2021. 13:00 - 15:15 15:15 - 15:30 15:30 - 17:45	E2: Preparation of the solutions break E3-9	LE 6h	All(2 groups)	GZ, AP
Wednesday 26. 05. 2021. 13:00 - 15:15 15:15 - 15:30 15:30 - 17:45	E3-9 break E3-9	LE 6h	All(2 groups)	GZ, AP
Thursday 27. 05. 2021. 13:00 - 15:15 15:15 - 15:30	E3-9 break E3-9	LE 6h	All(2 groups)	GZ, AP

15:30 - 17:45				
Friday 28. 05. 2021. 13:00 - 16:00	E3-9	LE 4h	All(2 groups)	GZ, AP
Monday 31. 05. 2020. 12,30-14,00 14,30-16,00 16,15-17,00	Introduction to organic compounds. Alkanes and cycloalkanes, compositions, constitutions, conformations. Stereoisomers: enantiomers and diastereomers. Alkene, alkynes. Z-E isomerism Aromatic compounds. Seminar.	L4h S1h	All	IO
Tuesday 01. 06. 2020. 09,00-10,30 11,00-12,30 13,00-14,30	Radicals. Alcohols, ethers, thiols, sulfides. Aldehydes and ketones. Amines. Heterocyclic compounds. Seminars.	L2h S4h	All	IO
Wednesday 02. 06. 2020. 09,00-10,30 11,00-12,30 13,00-14,30	Carboxylic acids and derivatives. Seminars. Carbohydrates.	L2h S4h	All	IO
Thursday 03. 06. 2020.	TJELOVO			
Friday 04. 06. 2020. 09,00-10,30 11,00-12,30 13,00-13,30	Amino Acids, Peptides and Proteins Lipids. Seminars.	L2h S3h	All	IO

List of laboratory exercises

LE1	Laboratory equipment and basic laboratory techniques.
LE2	Preparation of the solutions.
LE3	Optical methods
LE4	Osmotic resistance of erythrocytes
LE5	Volummetry: Acid-base titration

LE6	Buffers; The buffer capacity; The influence of the addition of a strong acid / base to buffer pH value
LE7	Colloids
LE8	Classification tests of functional groups
LE9	Synthesis of aspirin

Literature:

K. J. Denniston, J. J. Topping, R. L. Caret, General, Organic, and Biochemistry, 4th Edition, McGraw Hill, New York, 2004.

Additional literature:

D. J. Hart, C. M. Hadad, L. E. Craine, H. Hart, Organic Chemistry – A Short Course, 13th Ed, Brooks/Cole, Cengage Learning, Belmont, 2012.

P. W. Atkins and J. de Paula, Atkins' Physical Chemistry, 9th edition, Oxford University Press, 2010.

P. W. Atkins and J. de Paula, Physical Chemistry For The Life Sciences, 2nd edition, Oxford University Press, 2011.