<table>
<tr><td colspan="2">School of medicine, University of Mostar</td><td colspan="4">MEDICAL STUDIES IN ENGLISH</td></tr>
<tr><td colspan="2">Course:</td><td colspan="4">Medical chemistry</td></tr>
<tr><td colspan="2">Course teacher:</td><td colspan="4">Associate Professor Ivana Martinović, PhD</td></tr>
<tr><td>Godina:</td><td>I</td><td colspan="2">Semestar:</td><td colspan="2">II</td></tr>
<tr><td colspan="2">Razina kolegija:</td><td colspan="2">basic</td><td>ECTS bodovi:</td><td>7,5</td></tr>
<tr><td colspan="2">Status kolegija:</td><td colspan="4">Compulsory</td></tr>
<tr><td colspan="2">Type of instruction</td><td colspan="4" rowspan="2">L + S + LE : 24 + 30 + 26 (80)</td></tr>
<tr><td colspan="2">(lectures + seminars + laboratory exercises; L + S + LE)</td></tr>
<tr><td colspan="2" rowspan="2"></td><td colspan="4">Number of hours</td></tr>
<tr><td>Lectures</td><td>Seminars</td><td colspan="2">Laboratory exercises</td></tr>
<tr><td colspan="2"></td><td>24</td><td>30</td><td colspan="2">26</td></tr>
<tr><td>1.</td><td>Physical chemistry</td><td>17</td><td>15</td><td colspan="2" rowspan="2">26</td></tr>
<tr><td>2.</td><td>Organic chemistry</td><td>15</td><td>7</td></tr>
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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)
Ivona Cvetković, assistant. (IC)

Day / Date / Time	Lecture schedule	Type of teaching	Group	Teacher
Monday **16. 05. 2022.** 8,30-10,00 10,15-11,00	Chemical bonding. Intermolecular forces. Water. Chemical thermodynamics.	L 3h	All	IM
11,30-13,00 13,15-14,00	Seminars	S 3h		GZ
Tuesday **17. 05. 2022.** 8,30-10,00 10,15-11,00	Solutions. Solubility of gases. Colloids. Colligative properties of solutions. Electrolytes.	L 3h	All	IM
11,15 - 12,00 12,15-13,45	Seminars	S 3h		GZ
Wednesday **18. 05. 2022.** 8,30-10,00 10,30-12:00	Chemical equilibrium and the equilibrium constant. Gibbs free energy and chemical equilibrium . Biochemical egzergonic reactions	L 4h	All	IM
12:30 - 14,00	Seminars	S 2h		GZ
Thursday **19. 05. 2022.** 8,30-10,00 10,30-12:00	Acids and bases. pH, buffers.	L 4h	All	IM
12:30 - 14,00 14,15-14,45	Seminars.	S 3h		GZ
Friday **20. 05. 2022.** 8,30-10,00 10,15-11:00	Electrochemical processes. Chemical kinetics. Activation Energy. Reaction Mechanisms. Photochemical processes.	L 3h	All	IM
11:15 - 12,00 12,15-13,45 14,00-14,45	Seminars.	S 4h		GZ
Monday **23. 05. 2022.** 13:00 - 16:00	Exercise 1	LE 4h	All	IC, AP
Tuesday **24. 05. 2022.** 13:00 - 15:15 15:15 - 15:30 15:30 - 17:45	E2: Preparation of the solutions break E3-9	LE 6h	All	IC, AP
Wednesday **25. 05. 2022.** 13:00 - 15:15 15:15 - 15:30	E3-9 break	LE 6h	All	IC, AP

15:30 - 17:45	E3-9			
Thursday **26. 05. 2022.** 13:00 - 15:15 15:15 - 15:30 15:30 - 17:45	 E3-9 break E3-9	LE 6h	All	IC, AP
Friday **27. 05. 2022.** 13:00 - 16:00	 E3-9	LE 4h	All	IC, AP
Monday 12,30-14,00 14,15-15,00 15,30-16,15	 Introduction to organic compounds. Composition, constitution, conformation. Isomerism. Hydrocarbons. Seminar.	 L3h S1h	 All	IO
Tuesday 09,00-10,30 11,00-11,45 12,00-13,30	 Stereochemistry; chirality. Alcohols, ethers, thiols, sulfides. Aldehydes and ketones. Seminars.	 L3h S2h	 All	IO
Wednesday 09,00-10,30 11,00-11,45 12,00-12,45	 Carboxylic acids and derivatives. Seminars.	 L3h S1h	 All	IO
Thursday 09,00-10,30 11,00-12,30 13,00-13,45	 Amines. Heterocycles. Bioorganic molecules. Seminar.	 L4h S1h		
Friday 09,00-10,30 11,00-12,30	 Bioorganic molecules. Seminar.	 L2h S2h	 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, 9t^{h} edition, Oxford University Press, 2010.

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