<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 and biochemistry I</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)

Assistant Professor Gloria Zlatić, PhD (GZ)

Day / Date / Time	Lecture schedule	Type of teaching	Group	Teacher
Thursday **6. 03. 2025.** 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
14:00-15:30	LE1 Laboratory equipment and basic laboratory techniques.	LE 2h	A	GZ
15:30-17:00	LE1 Laboratory equipment and basic laboratory techniques.	LE 2h	B	GZ
Friday **7. 03. 2025.** 8,30-10,00 10,15-11,00	Solutions. Solubility of gases. Colloids. Colligative properties of solutions. Electrolytes.	L 3h	All	IM GZ
11,15 - 12,00 12,15-13,45	Seminars	S 3h		GZ
Monday **10. 03. 2025.** 8,30-10,00 10:15-11:45	Chemical equilibrium and the equilibrium constant. Gibbs free energy and chemical equilibrium . Biochemical egzergonic reactions	L 4h	All	IM
12:00- 13,30	Seminars	S 2h		GZ
14:00-15:30	LE2 Preparation of the solutions.	LE 2h	A	GZ
15:30-17:00	LE2 Preparation of the solutions.	LE 2h	B	GZ
Tuesday **11. 03. 2025.** 8,30-10,00 10,15-11:45	Acids and bases. pH, buffers.	L 4h	All	GZ
12:30 - 14,00 14,15-14,45	Seminars.	S 3h		GZ
Wednesday **12. 03. 2025.** 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

Thursday **13.03.2025.** 09,00-10,30 11,00-11,45 12,00-12,45	Introduction to organic compounds. Composition, constitution, conformation. Isomerism. Hydrocarbons. Seminar.	L3h S1h	All	IO
13:30-15:45	LE3-LE9	LE 3h	B	GZ
16:00-18:15	LE3-LE9	LE 3h	A	GZ
Friday **14.03.2025.** 08,30-10,30 11,00-11,45 12:00-13:00	Stereochemistry; chirality. Alcohols, ethers, thiols, sulfides. Aldehydes and ketones. Seminars.	L3h S2h	All	IO
Monday **17.03.2025.** 09,00-10,30 11,00-11,45 12,00-12,45	Carboxylic acids and derivatives. Seminars.	L3h S1h	All	IO
13:00-15:15	LE3-LE9	LE 3h	B	GZ
15:30-17:45	LE3-LE9	LE 3h	A	GZ
Tuesday **18.03.2025.** 08,30-10,30 11,00-12,30 13,00-13,00	Amines. Heterocycles. Bioorganic molecules. Seminar.	L4h S1h	All	IO
14:00-16:15	LE3-LE9	LE 3h	A	GZ
16:30-18:45	LE3-LE9	LE 3h	B	GZ
Wednesday **19.03.2025.** 09,00-10,30 11,00-12,30	Bioorganic molecules. Seminar.	L2h S2h	All	IO
13:00-15:15	LE3-LE9	LE 3h	B	GZ
15:30-17:45	LE3-LE9	LE 3h	A	GZ

Thursday **20. 03. 2025.** **08:30-12:30**	LE3-LE9	LE 5h	A	GZ
12:30-16:30	LE3-LE9	LE 5h	B	GZ
Friday **21. 03. 2025.** **08:30-12:30**	LE3-LE9	LE 5h	B	GZ
12:30-16:30	LE3-LE9	LE 5h	A	GZ

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.