

Performance plan: academic year 2026./2027.

UNIVERSITY OF MOSTAR SCHOOL OF MEDICINE INTEGRATED UNIVERSITY STUDY

COURSE: Medical Chemistry and Biochemistry II

Head of department: dr.sc.Ivana Carev , associate professor

Year	II	Semester	III
Course Level: Basic		ECTS points	8
Course Status	mandatory		
Class form (Lecture + Seminars + Exercises L + S + E)	L + S + E = 42 + 34 + 34 (110)		

Signature Requirements: Regular attendance of lectures, seminars, exercises

Examination method : written exam

Teahers: Assistant professor Ivana Carev (IC),

Assistant professor : Gloria Zlatić Jelić (GZJ)

Assistant: Martina Vukoja (MV)

Assistant: Ante Pušić (AP)

Assistant: Ivona Cvetković (IC)

Tuesday 29.09.2026.

Time	Theme		Group	Teacher	Classroom
13:30 -15:00	The Conformation and Dynamics of Protein Structure	L	AB	GZJ	
15:15 16:30	Proteins with Special Functions: Hemoglobin, Myoglobin	L	AB		
16:45 -18:15	Seminars	S	AB		

Wednesday 30.09 2026.

13:30 -15:00	Proteins with Special Functions: Collagen, Elastin,Actin, Myosin	L	AB	GZJ	
15:15 -16:00	Plasma Proteins and Immunoglobulins	L	AB		
16:30 -18:00	Seminars	S	AB		

Thursday 01.10.2026.

13:30 -15:00	Vitamins: role and function	L	AB	GZJ	
15:15 -16:00	Coenzyme; Bioenergetics : The role of ATP, Reactive oxygen compounds and antioxidants	L	AB		
16:30 -18:00	Seminars	S	AB		

Friday 02.10.2026.

09:00 -12:15	PROTEIN ELECTROPHORESIS IN SERUM	E	A	MV	CGL
13:30 -15:00	Enzyme	L	AB	GZJ	
15:15 -16:00	Enzyme catalysis	L	AB		
16:30 -18:00	Seminars	S	AB		

Monday 05.10.2026.

9:00-12:15	PROTEIN ELECTROPHORESIS IN SERUM	E	B	MV	CGL
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12:30 - 16:15	DNA ANALYSIS	E	A	MV	CGL
Tuesday 06.10.2026.					
14:00-15:30	Nucleic Acid Structure & Function	L	AB	IC	
15:45-16:30	Metabolism of Nucleotides	L	AB		
16:45-18:15	Seminars	S	AB		
Wednesday 07.10.2026.					
8:00-9:30	DNA Replication, transcription, translation	L	AB	IC	
9:45-10:30	RNA synthesis, protein synthesis genetic code	L	AB		
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Thursday 08.10. 2026.					
8:00-9:30	Regulation of Gene Expression, Molecular diagnostics	L	AB	IC	
9:45-10:30	Metabolism of xenobiotics, pharmacogenetics	L	AB		
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Friday 09.10. 2026.					
10:00-11:30	Glycolysis	L	AB		
10:45-11:30	The Pentose Phosphate Pathway,	L	AB		
11:45-13:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Monday 12.10.2026.					
9:00-12:15	DNA ANALYSIS	E	B	MV	CGL
14:00- 15:30	Citric acid cycle	L	AB	IC	
15:45-16:30	The Respiratory Chain & Oxidative phosphorylation	L	AB		
16:45-18:15	Seminars	S	AB		
Tuesday 13.10.2026.					
8:00-9:30	Glycogen ; Synthesis and degradation	L	AB	IC	
9:45-10:30	Gluconeogenesis, Cori cycle	L	AB		
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Wednesday 14.10.2026.					
8:00-9:30	Lipids of Physiologic Significance; Cholesterol Sythesis, Transport & Excretion	L	AB	IC	
9:45-10:30	Lipid Transport & Storage	L	AB		
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Thursday 15.10.2026.					
14:00- 15:30	Oxidation of Fatty Acids: Ketogenesis	L	AB		
15:45-16:30	The Diversity oft he Endocrine System	L	AB		
16:45-18:15	Seminars	S	AB		
Friday 16.10. 2026.					
14:00- 15:30	Amino acid metabolism,: urea cycle	L	AB		

15:45-16:30	Overview of Metabolism & the Provision of Metabolic Fuels	L	AB	IC	
16:45-18:15	Seminars	S	AB		
Monday 19.10.2026.					
8:30-13:00	Seminars	S	AB	MV	

02.11.2026.Written exam

Biochemistry exercises

Chemistry practicum (CP)

Microbiology practicum (MBP)

Cytogenetic laboratory (CGL)

V9	QUALITATIVE DETECTION OF PROTEIN
V10	PROTEIN ELECTROPHORESIS IN SERUM
V11	IONIZATIONAL PROPERTIES OF POLYPROTIC PARTICLES; AMINOACIDS
V12	ENZYME KINETICS
V14	DETECTING MONOSACCHARIDES AND POLYSACCHARIDES
V 15	LIPIDS DETERMINATION
V16	ACID-BASE AND MINERAL STATUS IN ORGANISM
V17	QUALITATIVE URINE ANALYSIS
V18	QUANTITATIVE ANALYSIS OF URINE
V19	DNA ANALYSIS

*The exact timing of group exercise exercises will be announced immediately before the exercise; the place of maintenance - (CP, MBP, and CGL)

Literature (2026./2027.)

Required literature: For the course Medical Biochemistry is necessary:

Medical chemistry and biochemistry exercises handbook for medical students, I. Mikulić, N. Jelić Knezović, V. Mikulić, K. Landeka, A. Čuk. Medicinski fakultet, Mostar 2014.

Streyer L. Biochemistry, 6th ed. WH Freeman and Company, New York, 2011.

Harper's Illustrated Biochemistry , 31ST EDITION, 2018.

SEMINARS Solving tasks and issues after certain thematic units; individual presentations of the seminar work of the respective subject, of each individual student.

Attending all forms of tuition is REQUIRED.

For passage (on the final exam or the regular exam period) the student must achieve 55% or more points on the written exam. The unique grade of the exam will determine the number of points on a seminar, and activity during all forms of teaching.