Performance plan: academic year 2025./2026.

UNIVERSITY OF MOSTAR SCHOOL OF MEDICINE INTEGRATED UNIVERSITY STUDY			
COURSE: Medical Chemistry and Biochemistry II			
Head of department: dr.sc. Nevenka Jelić-Knezović, associate professor			
Year	II	**Semester**	III
Courrse Level: **Basic**		ECTS points	**8,5**
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: assosiate professor Ivana Carev (IC),

Assistent professor : Gloria Zlatić Jelić (GZJ)
Assistent: Martina Vukoja (MV)
Assistent: Ante Pušić (AP)
Assistent: Ivona Cvetković (IC)

Time	Theme		Group	Teacher	Classroom
Monday 29.09.2025.					
9:00 - 10:30	The Conformation and Dynamics of Protein Structure Proteins with Special Functions: Hemoglobin, Myoglobin	L	AB	GZJ	
11:00 - 12:30	Proteins with Special Functions: Hemoglobin, Myoglobin	L	AB		
12:45-14:15	Seminars	S	AB		
Tuesday 30.09.2025.					
9:00-10:30	Proteins with Special Functions: Collagen, Elastin,Actin, Myosin	L	AB	GZJ	
11:00-11:45	Plasma Proteins and Immunoglobulins	L	AB		
12:00-13:30	Seminars	S	AB		
Wednesday 01.10. 2025.					
9:00-10:30	Vitamins: role and function	L	AB	GZJ	
11:00-11:45	Coenzyme; Bioenergetics : The role of ATP	L	AB		
12:00-13:30	Seminars	S	AB		
Thursday 02.10.2025.					
9:00-10:30	Enzyme	L	AB	GZJ	
11:00-11:45	Enzyme catalysis	L	AB		
12:00-13:30	Seminars	S	AB		
14:00- 17:15	Biochemistry Exercises	E	A	MV	CGL
Friday 03.10.2025.					

9:00-10:30	Reactive oxygen compounds and antioxidants	P	AB	GZJ	
11:00-12:30	Seminars	S	AB		
13:00-16:15	Biochemistry Exercises	E	B	MV	CGL
Monday 06.10.2025.					
9:00-12:15	Biochemistry Exercises	E	A	MV	CGL
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		
Tuesday 07.10.2025.					
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		
Wednesday 08.10.2025.					
8:00-9:30	Regulation of Gene Expression, Molecular diagnostics	L	AB	IC	
15:15-16:00	Metabolism of xenobiotics, pharmacogenetics	L	AB		
16:15-17:45	Seminars	S	AB		
Thursday 09.10. 2025.					
10:00-11:30	Glycolysis	L	AB	IC	
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
Friday 10.10.					
8:00-9:30	Citric acid cycle	L	AB	IC	
9:45-10:30	The Respiratory Chain & Oxidative phosphorylation	L	AB		
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Monday 13.10.2025.					
9:00-12:15	Biochemistry Exercises	E	B	MV	CGL
14:00-15:30	Glycogen ; Synthesis and degradation	L	AB	IC	
15:45-16:30	Gluconeogenesis, Cori cycle	L	AB		
16:45-18:15	Seminars	S	AB		
Tuesday 14.10.2025.					
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
Wednesday 15.10.2025.					
8:00-9:30	Oxidation of Fatty Acids: Ketogenesis	L	AB	IC	
9:45-10:30	The Diversity oft he Endocrine System	L	AB		
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Thursday 16.10.2025.					
8:00-9:30	Amino acid metabolism,: urea cycle	L	AB		

9:45-10:30	Overview of Metabolism & the Provision of Metabolic Fuels	L	AB	IC	
10:45-12:15	Seminars	S	AB		
14:00-17:45	Biochemistry Exercises	E	AB	IC; AP	CP/MBP
Friday 17.10.2025.					
8:30-13:00	Seminars	S	AB	MV	

31.10.2025.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 (2025./2026.)

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.Ćuk. 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.