Course Information Sheet

Higher education institution: Slovak Medical University in Bratislava

Faculty: Faculty of Medicine

Course code: GM 011A	**Course title:** Medical Biochemistry (1)

Type, extent and method of educational activity:
Number of hours per semester: 56
Lectures: 28/2 hours per week
Practices:28/2 hours per week
(Total work load of the student is 125 h)
Method of the education activity: full-time study (distance study)[1]
Form of the study: full-time

Number of credits: 5 credits

Recommended semester study: 2nd semester

Level of higher education study: 1. + 2. Level

Prerequisite courses:

Conditions for passing the course:
The criterion for successful completion of the course is 100% participation in lectures, 100% participation in practical training**.**

Evaluation: CE
Overall evaluation A, B, C, D, E, Fx. Minimum success rate: E.
Rating: A: 95 % -100 %, B: 88 – 94 % C: 8 2% -8 7%, D: 76 % -81 %, E: 70 % -75 %,, Fx: 70 % and less In case of repetition In the final exam, the student is obliged to repeat only the unsuccessful part of the exam.
The student's workload in indirect teaching is 69 hours. It includes preparation for practical teaching and study for the exam

The result of education in medical biochemistry
is the acquisition of the biochemical principles - gaining insight into the functioning of the human body in health and disease - through the perspective of molecules: a view from the molecular level unifies the knowledge gained through the study of anatomy, physiology and histology. Another goal is to develop biochemical thinking - much more than detailed knowledge of formulas and metabolic pathways is important - to learn to think biochemically - to be able to use biochemical principles in a specific clinical or medical practice when you need them at the moment. The syllabus of medical biochemistry is subordinated to this, and is divided into four parts: 1. biochemistry of substances 2. metabolism 3. biochemistry of organs and functions 4. biochemistry of processes

Brief content of the course (syllabus):
1 Molecules
Proteins, Enzymes, Carbohydrates, Cholesterol, DNA, RNA, Hemoglobin, Myoglobin, Lipids and Lipoproteins, Vitamines and Trace Elements, Complex Lipids, Complex Saccharides
2 Metabolism
Glycolysis, Pentose Cycle, Gluconeogenesis, Glycogen Metabolism, Lipolysis, Lipogenesis, Aminoacid Metabolism, Krebs Cycle, Bioenergetics, Metabolic Fuels, Neurotransmission, Nucleotides Metabolism

References
G. Kováč, A. Porubenová, K. Černá, T. Bulíková: Medical Biochemistry for Studenets of General Medicine, Raabe, Bratislava, 2018, 1-206
Florian Horn: Biochemie des Menschen: Das Lehrbuch für das Medizinstudium, Thieme, Stuttgart, 2009
D. Dobrota: Lekárska biochémia, Osveta, Martin 2012

Language requirements: english

Notes:

Course assessment
Assessed students in total: *0*

A	B	C	D	E	FX
0%	0%	0%	0%	0%	0%

Lecturers:
prof. MUDr. RNDr. Gustáv Kováč, CSc., MBA,
Ing. Lucia Hudecova
Doc. PharmDr. Ivan Malik, PhD.

[1] *§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách*

Date of last modification: 8. 11. 2021
Approved by: *person responsible for realization, development and ensuring of the study program quality* *prof. MUDr. Iveta Šimková, CSc.*

[1] *§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách*

Course Information Sheet

Higher education institution: Slovak Medical University in Bratislava

Faculty: Faculty of Medicine

Course code: GM 011B	**Course title:** Medical Biochemistry (2)

Type, extent and method of educational activity:
Number of hours per semester: 56
Lectures: 28/2 hours per week
Practices: 28/2 hours per week
(Total work load of the student is 175 h)
Method of the education activity: full-time study/distance study
Form of the study: full-time

Number of credits: 7 credits

Recommended semester study: 3rd semester

Level of higher education study: 1. + 2. Level

Prerequisite courses: GM 001A Medical biochemistry (1)

Conditions for passing the course:
The criterion for successful completion of the course is 100% participation in lectures, 100% participation in practical training**.**

Oral exam:
Overall evaluation A, B, C, D, E, Fx. Minimum success rate: E.
Rating: A: 95% -100%, B: 88 - 94% C: 82% -87%, D: 76% -81%, E: 70% -75%,, Fx: 70% and less In case of repetition In the final exam, the student is obliged to repeat only the unsuccessful part of the exam.
The student's workload in indirect teaching is 119 hours. It includes preparation for practical teaching and study for the exam

The result of education in medical biochemistry
is the acquisition of the biochemical principles - gaining insight into the functioning of the human body in health and disease - through the perspective of molecules: a view from the molecular level unifies the knowledge gained through the study of anatomy, physiology and histology. Another goal is to develop biochemical thinking - much more than detailed knowledge of formulas and metabolic pathways is important - to learn to think biochemically - to be able to use biochemical principles in a specific clinical or medical practice when you need them at the moment. The syllabus of medical biochemistry is subordinated to this, and is divided into four parts: 1. biochemistry of substances 2. metabolism 3. biochemistry of organs and functions 4. biochemistry of processes

Brief content of the course (syllabus):
3 Organs and Functions
Extracellular Matrix, Membranes, Gastrointenstinal Tract, Blood, Liver, Endocrinne System, Bone, Muscle, Nervous System, Kidney, Water, Electrolytes
4 Processes
Recombinant DNA, Acid Base Balance, Proteosynthesis, Gene Expression, Hemostasis, Thrombosis, Immunity, Biosignalling, Antioxidants, Aging, Cancer

References
G. Kováč, A. Porubenová, K. Černá, T. Bulíková: Medical Biochemistry for Studenets of General Medicine, Raabe, Bratislava, 2018, 1-206
Florian Horn: Biochemie des Menschen: Das Lehrbuch für das Medizinstudium, Thieme, Stuttgart, 2009
D. Dobrota: Lekárska biochémia, Osveta, Martin 2012

Language requirements: english

Notes:

Course assessment
Assessed students in total: *0*

A	B	C	D	E	FX
0%	0%	0%	0%	0%	0%

Lecturers:
prof. MUDr. RNDr. Gustáv Kováč, CSc., MBA,
Ing. Lucia Hudecova

[1] *§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách*

Date of last modification: 8. 11. 2021
Approved by: *person responsible for realization, development and ensuring of the study program quality prof. MUDr. Peter Šimko, CSc.*.

[1] *§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách*