

Biochemistry II Faculty of Pharmacy

Name of the subject: Biochemistry II

Neptun-Code: GYOBIBIKE2A and GYOBIBIKG2A

Credit points: 3

Name of the lecturer: Attila Ambrus, Ph. D., assistant professor

Teaching secretary: Erzsébet Tóth, Pharm. D., associate lecturer

Administrator: Zsolt Ozsváth in EOK room 1.508, tel: +36-1-459-1500, ext. 60061

Prerequisites for registration to Biochemistry I: successful examination from Biochemistry I and Organic Chemistry II.

Lectures

Wednesday 15¹⁰-17¹⁵ in EOK Seminar Room 1 (37-47 Tűzoltó St.)

Lecturers:

István Léránt, Ph. D. (IL)

Pál Bauer, Ph. D. (PB)

Erzsébet Tóth, Pharm. D. (ET)

Prof. László Tretter, Ph.D. (LT)

Beáta Törőcsik, Ph. D. (BT)

Lecture topics / week

week	date	topic	lecturer
1	13 Sept	Hemostasis (IL)	
2	20 Sept	Hemostasis (IL)	
3	27 Sept	Metabolism of xenobiotics and selected endogenous molecules (ET)	
4	4 Oct	Signal transduction (PB)	
5	11 Oct	Neurochemistry (ET)	
6	18 Oct	Neurochemistry (ET)	
7	25 Oct	Neurochemistry (ET)	
8	instead of 1 Nov	in extra time	Metabolic integration (LT)
9	8 Nov	Metabolic integration (LT)	
10	15 Nov	DNA replication and repair (BT)	
11	22 Nov	RNA synthesis, regulation of gene expression (BT)	
12	29 Nov	Protein synthesis (BT)	
13	6 Dec	Cell cycle, cell death (PB)	
14	13 Dec	Tumors (LT)	

Practice

Practice: every other Friday 8-10:30am in EOK Biochemistry Practice Room 1

Instructor: Erzsébet Tóth

Practice topics / week

Week 1:	15 Sept	Safety regulations, Succinate dehydrogenase activity measurement
Week 3:	29 Sept	Blood coagulation
Week 5:	13 Oct	Mitochondrial oxidation
Week 8:	27 Oct	Pyruvate kinase isoenzymes, Midterm I
Week 9:	10 Nov	LDS-PAGE of proteins, retake on Friday
Week 11:	24 Nov	Glutamate dehydrogenase enzyme kinetic characterization
week 12:	1 Dec	Midterm II
Week 13:	8 Dec	Determination of serum cholesterol and TAG, 2 nd midterm retake
week 14:	15 Dec	Retake of both Midterms

Course requirements

Prerequisites: Organic Chemistry II (GYSZKSZKE2A), Biochemistry I (GYOBIBIKE1A)

Students can register to Biochemistry II if they possess successful examinations from **all** the prerequisite subjects. Students transferring from any other University may register, too, if their previous education history qualifies them to do so; the decision is the exclusive right of the Lecturer of Biochemistry. The possibility of acceptance of a previous completion and/or a mark of any Biochemistry courses taken at another University will also be examined by the Lecturer and will be decided on the basis of the student's official credentials (only original and authorized paperwork will be accepted) and the similarities between curricula in question. ERASMUS students may also register if they have completed the prerequisite subjects of Semmelweis University in their home institutions. Both midterms must be passed.

Conditions for acceptance:

Absence note is not required, but a maximum of two absences are permitted from practices due to any reason.

Knowledge testing during the semester: two obligatory written midterm examinations

Requirements of the signature at the end of the semester: successfully completed midterms, meeting attendance requirements

Performance control in the examination period: written final exam

Written semifinal exam: assays, formulae, multiple choice, and sentence completion

Midterm exams

The first obligatory midterm exam: on week 7 during the practice before/after the experiments. Material: 4 questions on the lectures from weeks 1-5, and one question from practice. The Practice Instructor gives and corrects the essay and open questions. Retakes are on weeks 9 and 14 for the students who failed or were absent during the first occasion. Successful midterms can be repeated only once.

The second obligatory midterm: on week 12 in extra time. Type of questions: multiple choices. Materials: lectures from weeks 6-12, plus one essay question on the practice. Retakes are on weeks 13 and 14 for the students who failed or were absent during the first occasion. Successful midterms can be repeated only once.

Passing both midterms is a requirement for the signature of the semester. The grade 4 or 5 from either or both of the Midterms entitles the students for partial exemptions in their final exams (see below).

Evaluation of the midterms:

5 points can be given for each question in Midterm I. In Midterm II 25 points can be collected for the 25 multiple choice questions *plus* 5 points can be gained for the practice question.

0-9: fail

10-13: satisfactory

14-17: fair

18-21: good

22-25 or 30 (in Midterm II): excellent

Final exam

This is a written exam from the materials of the two semesters.

2 blocks from the material of the first semester (multiple choice and open questions) 2 × 10 points (Blocks 1&2)

2 blocks from the material of the second semester (multiple choice and open questions) 2 × 10 points (Blocks 3&4)

Block 5: a question on the theory of one lab practice - 5 points

The last part will ask reactions with formulas and the materials of the last three lectures – 5 points (Block 6).

50 points can be collected in total. Students need to collect a minimum of 40% in each block (Blocks 1-6) to pass this exam. Those students who received the mark 4 for either (or both) of their Midterm I or (and) II will get 8 (or 16) points for Block 3 or (and) 4, respectively; these students still have a choice to complete the respective exam questions to improve their grades, however, in that case these points will be counted for the exam (even if they are less than 8 (or 16)). The same policy applies to the Midterm grades of 5 with 10 (or 20) points. This offer is valid only in the respective examination period and cannot be carried over (e.g. in case of a

repetition of the semester or a CV exam). Students cannot carry over any exemption from Semester I (everybody needs to answer the Biochemistry I questions).

Grades:

0-19 (or <40% from any of the blocks, Block 1-6) Fail
20-27 (and \geq 40% from every single block) Satisfactory
28-35 Fair
36-43 Good
44-50 Excellent

The exam results will be published in the Neptun system on the same or the following day of the exam. Modifying exam dates is free in Neptun, but only up until two days before the exam. In case a student cannot come to the exam, but brings a justification for his/her absence in 3 days, we withdraw the name from the official exam list; otherwise the „absent from the exam” note will be written into the index book. Retake of a failed exam or reparation of a passed exam is possible only 3 days after the previous exam.

Teaching material: Berg-Tymoczko-Stryer: Biochemistry 7th edition

Course material: lecture slides with personal lecture notes