

2023/2024. ACADEMIC YEAR PROGRAM OF STUDY (FOR STUDENTS OF 1ST YEAR)							
Full (Hun) name of the subject: Biofizika II.							
Program: Undivided program (pharmaceutical)							
Schedule: full-time							
Short name of the subject: Biophys. II.							
English name of the subject: Biophysics II.							
German name of the subject: Biophysik II.							
Type of registration: <u>obligatory</u>/obligatory elective/elective/criteria requirement							
Neptun code of the subject: GYKFIZ268E2A							
Responsible Department: Department of Biophysics and Radiation Biology							
Responsible tutor Dr. Levente Herényi Contact information: - phone: +361 459-500/60222 - email: herenyi.levente@med.semmelweis-univ.hu				Title, academic degree: associate professor, Ph.D.			
Name of the persons responsible for the teaching of the subject: Dr. Gergely Agócs Dr. Tamás Bozó Dr. Rita Galántai Dr. Nikoletta Kósa Dr. Ádám Orosz Dr. Gusztáv Schay Dr. László Smeller Dr. István Voszka Dr. Ádám Zolcsák				Title, academic degree: senior lecturer, PhD senior lecturer, PhD teacher, PhD assistant lecturer assistant senior lecturer PhD senior lecturer, PhD professor DSc associate professor, PhD PhD student			
Class per week: 1.5 hours theory, 2.5 hours practice				Credit point(s): 4			
Professional content, intent of acquirement and it's function in order to implement the goals of the program: Our teaching program is evolving continuously. Today's students will be the pharmacists of the oncoming decades. In selecting and highlighting topics of study, the first viewpoint is scientific foresight: the knowledge should be conveyed which must be pertinent to ensure first-class professional competence while keeping abreast of the most recent development in the field of study.							
Short description of the subject: Our aim is not only the teaching of a specific body of knowledge but also the development of the exact scientific method and concrete problem-solving abilities							
Course data							
Recommended term	Contact hours (lecture)	Contact hours (practice)	Contact hours (seminar)	Individual lectures	Total number of contact hours/semester	Normal course offer	Consultations
2.semester	21	35	-	-	56	Spring semester	--
Program of semester**							

Topics of theoretical classes (pro week):

1. week: Basic electronic units and circuits
2. week: Amplifier
3. week: Signal processing, Detectors, Displays
4. week: Sound
5. week: Ultrasound
6. week: Flow of fluids and gases
7. week: Diffusion
8. week: General continuity law, random walk, osmosis
9. week: Thermodynamic aspects of transport processes
10. week: Change of entropy, Thermodynamic potential functions
11. week: Ion transport through the membrane, Resting membrane potential
12. week: Local change of membrane-potential, Laws of sensation
13. week: Optical spectroscopic techniques, Radio spectroscopy methods
14. week: Sedimentation and electrophoretic methods, Mass spectroscopy methods

Topics of practical classes (pro week):

1. week: Dosimetry
2. week: Coulter counter
3. week: Amplifier
4. week: X-ray
5. week: Gamma-energy
6. week: ECG
7. week: Pulse generators
8. week: Audiometry
9. week: Isotope diagnostics
10. week: Diffusion
11. week: Sensor
12. week: Fluid flow
13. week: CAT-scan
14. week: Summary, repetition

Course requirements

Schedule of consultations: every week in the exam period

Prerequisites:

Physical bases of biophysics GYKFIZ267E1A,
Biophysics I. GYKFIZ268E1A

Conditions of attending the classes, amount of acceptable absents, way of presentation of leave, opportunity for makeup: Participation in the practical lessons is compulsory. No more than three absences from practices are allowed for any reason, otherwise the semester will not be credited. Missed sessions must be reported to the teacher the week after. The missed measurements should be done with another group if possible.

The grading method; the conditions for getting the signature; the number, topic(s) and date(s) of the mid-term assessments, (reports, term tests), and the process in which they contribute to the final grade; and the possibility of their retake or their upgrading retake (as provided in §§ 25-28 of the STUDY AND EXAMINATION REGULATIONS):

Number, topics and dates of tests during the semester, opportunities of makeup and improvement of results*:** It will be announced on the homepage of the department during the first week of the semester

Requirements of signature (as provided for in STUDY AND EXAMINATION REGULATIONS § 29):

Participation at least on 75 % of laboratory practices and all the lab reports should be accepted by the teacher of the group

<p>Number and type of projects students have to perform independently during the semester and their deadlines: Lab. report should be written about each measurement. Deadline: one week after the measurement</p>
<p>Type of the semester-end examination: signature*/practical grade*/semi-final*/<u>final*</u> (<i>Please underline</i>)</p>
<p>Examination requirements: as published by the education-research department on the MOODLE interface by the start of the academic term.</p>
<p>Form of the semester-end examination: written*/oral*/<u>combined examination/practical examination/the assessment of completing project work (according to STUDY AND EXAMINATION REGULATIONS 30.5)</u>* (<i>Please underline</i>)</p>
<p>The possibility and conditions for offering grades:</p>
<p>A list of the basic notes, textbooks, resources and literature that can be used to acquire the knowledge necessary to master the curriculum and to complete the assessments, as well as the main technical and other aids and study aids that can be used:</p> <p>Damjanovich-Fidy-Szöllősi (eds): Medical Biophysics (2009) Kellermayer Miklós: Medical biophysics practices (2018)</p>
<p>In the case of a subject lasting more than one semester, the position of the teaching/research department on the possibility of parallel enrolment and the conditions for admission****: yes*/<u>no*</u>/on and individual assesment basis* (<i>Please underline</i>) <i>We do not allow to take biophysics II. without passing biophysics I.</i></p>
<p>The course description was prepared by:</p> <p>Dr. Levente Herényi and Dr. István Voszka</p>