

COURSE DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFChL/07-Bc/22	Course title: Physics for Healthcare Professionals
Educational activities: Type of activities: lecture / laboratory practicals Number of hours: per week: 2 / 3 per level/semester: 28 / 42 Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 1.	
Educational level: I.	
Prerequisites:	
Course requirements: Students are obliged to perform all laboratory experiments prescribed by the teacher and hand in all reports (assessment 0-8 points per report). Students will write at least two tests during semester regarding preparedness to experiment (assessment 0-6 points per test). Problem solving is a part of laboratory practical. Presentation of a problem solving is evaluated by 0-6 points. The final assessment of laboratory practical is the sum of the average value of reports, average value of tests plus average value of problem solving presentation. Laboratory practical is successfully completed when the student achieves at least 10 points, the highest evaluation is 20 points. The examination has a form of a written test. The assessment of this test (max. value is 80 points) is added to the assessment of the laboratory practical and this sum determines the mark. Applications MS Teams and Moodle will be utilized in the case of distance exam. Students will obtain details of the exam during the first week of the semester. The total assessment of the subject: A 92-100 %, B 84-91 %, C 76-83 %, D 68-75, E 60-67, Fx 59% and less. Scale of assessment (preliminary/final): 20/80	
Learning outcomes: By the completion of the subject Physics in Health Care students achieve basic knowledge from these areas of physics that are necessary for understanding logical relationships in other subjects. Students acquire information on physical properties of various materials and knowledge inevitable for understanding principles of diagnostic methods.	
Class syllabus: Lectures: Physical quantities and units. Kinematics and dynamics of mass point. Mechanical work and power. Energy. Solid body mechanics. Hydrostatics and Hydrodynamics. Heat and temperature. Heat and temperature. Electrostatics. Magnetism. Electromagnetic radiation. Acoustics. List of laboratory exercises: Weighing on the analytical balance. Humidity measurement. Density determination by pycnometer. Density determination by densimeter. Polarimetry. Conductometry – determination of the conductivity of acetic acid solutions. Boiling point and melting point. Surface tension of liquids	

measured by stalagmometer. Determination of viscosity using Hóppler viscosimeter. Determination of viscosity using capillary viscosimeter. Calorimetry. Refractometry.

Recommended literature:

Oremusová J., Sárka K., Vojteková M.: FYZIKA. Laboratórne cvičenia pre farmaceutov. Bratislava, Univerzita Komenského, 2009. 102 s. (skriptá)

Videa z laboratórnych cvičení prístupné cez MS Teams

Prednášky prístupné na MS Teams

Kopecký, F.: Prehľad fyziky pre farmaceutov I. (Mechanika, hydromechanika a náuka o teple). 4. vydanie, Bratislava, Univerzita Komenského, 1999. 184 s. (skriptá, <http://www.fpharm.uniba.sk/index.php?id=2665>).

Sárka, K., Kopecký, F.: Prehľad fyziky pre farmaceutov II. (Elektrina, magnetizmus a žiarenie). Bratislava, Univerzita Komenského, 1988. 104 s. (skriptá, <http://www.fpharm.uniba.sk/index.php?id=2665>).

Krempaský, J.: Fyzika. Bratislava, Alfa 1982. 752 s.

Halliday D., Resnick R., Walker J: Fyzika. Prometheus. Praha, 2000

Languages necessary to complete the course:

Slovak language

Notes:

Past grade distribution

Total number of evaluated students: 0

A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0

Lecturers: doc. RNDr. Jana Gallová, CSc., Ing. Jarmila Oremusová, CSc., doc. Mgr. Marcela Chovancová, PhD.

Last change: 31.03.2022

Approved by: doc. RNDr. Jana Gallová, CSc.