

COURSE DESCRIPTION

Academic year: 2023/2024	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KGF/05-Mgr-A/22	Course title: Pharmaceutical Technology (1)
Educational activities: Type of activities: lecture / laboratory practicals Number of hours: per week: 4 / 5 per level/semester: 56 / 70 Form of the course: on-site learning	
Number of credits: 9	
Recommended semester: 6.	
Educational level: I.II.	
Prerequisites:	
Recommended prerequisites: KFCHL/08-Mgr-A/00 Physical Chemistry, KFANF/02-Mgr-A/00 Analytical Chemistry (2) KFB/05-Mgr-A/00 Pharmacognosy (2); KFCH/06-Mgr-A/00 Pharmaceutical Chemistry (2)	
Course requirements: Conditions for Course Completion: Attendance of the lectures and practical exercises is obligatory. On each practical exercise a test is written, at least 60% must be achieved from each test. Course is completed when at least 60% is achieved in final written exam. Assessment: A: 93.00–100.00%, B: 85.00–92.99%, C: 77.00–84.99%, D: 69.00–76.99%, E: 60.00–68.99%, FX: less than 60.00%. Scale of assessment (preliminary/final): 20/80	
Learning outcomes: Pharmaceutical technology deals with the composition, formulation, manufacturing, evaluation and quality of medicines and drug products. It studies the conditions under which drugs and pharmaceutical excipients are transformed into a medicines by technological processes, the relationships of the medicines to the effect and action of the drug. By passing the course, the student will have a complex theoretical knowledge of the drug products and medicines as dispersion and application systems and practical experience in compounding of dosage forms. The students will be able to prepare basic dosage forms (e.g., gels, solutions, ointments, creams, sterile products etc).	
Class syllabus: <ul style="list-style-type: none"> • Introduction to the course, Pharmaceutical Technology (Galenic Pharmacy), Biogalenic Pharmacy, classification of drug products and dosage forms, route of administration. • The drug products as a dispersion and an application system. • Pharmaceutical excipients – constitutive excipients, bases of dosage forms, excipients stabilizing of drug forms compositions, technical excipients, surfactants. • Water in pharmaceutical technology, sterilization, microbiological quality. • Basic operations and general procedures in pharmaceutical technology (particle-size reduction and separation, filtration, centrifugation). • Heat transfer, drying, lyophilization and their quality control. 	

- Pharmaceutical solutions, aromatic spirits, syrups.
- Powders as dosage forms.
- Drug products obtained by extraction methods.
- Semisolid preparation for cutaneous application.
- Emulsions, Suspensions.
- Pulmonary drug delivery.
- Parenteral dosage forms.
- Polymers, colloidal systems.
- Modern colloidal drug delivery systems (microemulsions, liposomes, nanosuspensions).

Recommended literature:

Aulton, M. E.: Aulton´s Pharmaceutics: the design and manufacture of medicines. Edinburgh: Churchill Livingstone,

European Pharmacopoeia 10th Ed. Strasbourg: EDQM, 2022.

Lectures in Pharmaceutical technology

Tichý E., Starýchová L., Čuchorová M.: Solid dosage forms – Laboratory practices, Bratislava UK, 2015

Tichý E., Špaglová M., Bartoníková K.: Liquid dosage forms – Laboratory practices, Bratislava UK, 2016

Tichý E., Šimunková V., Halenárová A.: Emulsions, suspensions, ointments, creams, pastes, suppositories, and pessaries – Laboratory practices, Bratislava UK, 2017

European Pharmacopoeia 10th Ed. Strasbourg: EDQM, 2020.

<https://www.fpharm.uniba.sk/pracoviska/ustredna-kniznica/externe-informacne-zdroje/>

Languages necessary to complete the course:

English

Notes:

Past grade distribution

Total number of evaluated students: 17

A	ABS	B	C	D	E	FX
41,18	0,0	23,53	17,65	5,88	5,88	5,88

Lecturers: PharmDr. Mária Čuchorová, PhD., PharmDr. Alžbeta Lengyelová, PharmDr. Veronika Šimunková, PhD., PharmDr. Desana Matušová, PhD., PharmDr. Veronika Mikušová, PhD., PharmDr. ThLic. Mária Raučinová, PhD., Mgr. Martina Papadacos, PhD., PharmDr. Miroslava Špaglová, PhD., Ing. Michael Kenneth Lawson, PhD., PharmDr. Jarmila Ferková, doc. PharmDr. Juraj Piešťanský, PhD., PharmDr. Miroslava Potúčková, PhD., PharmDr. Dominika Žigrayová

Last change: 17.02.2023

Approved by: