

DEPARTMENT OF GALENIC PHARMACY

Subject:	PHARMACEUTICAL TECHNOLOGY 1
Type of course:	lectures, practical exercises
Year:	3.
Hours per week:	lectures - 4 practical exercises - 5
Number of credits:	10
Lectures:	Monday 9.20 – 12.50

PROGRAMME OF LECTURES, SUMMER TERM 2022/2023

1. Basics of individual formulations. Pharmacist in a galenic laboratory.

PharmDr. Miroslava Potůčková, PhD. 13.2.2023

2. Powders as a starting material and dosage form. Particle-size reduction, particle-size classification. Powders for cutaneous application, powders for oral and parenteral application.

PharmDr. Alžbeta Lengyelová 13.2.2023

3. Technology of dosage forms. Galenic pharmacy. Composition of drug products and importance of dosage form. Classification of drug products and dosage forms according to the Ph.Eur. Latin nomenclature of dosage forms. Drug product as a dispersion system. Routes of drug administration.

PharmDr. ThLic. Mária Raučinová, PhD. 20.2.2023

4. Basic operations and general procedures in pharmaceutical technology. Particle-size reduction, particle-size separation. Mixing. Filtration, centrifugation of liquids. Lyophilization.

Michael Lawson, MSc., PhD. 20.2.2023

5. Pharmaceutical solvents. Solutions. Solubility. Solubilization, solubilizers. Rate of dissolution of solids, relations to bioavailability. Aromatic spirits, syrups.

PharmDr. Veronika Mikušová, PhD. 27.2.2023

- 6. Pharmaceutical excipients – constitutive excipients, bases of liquid, semi-solid and solid dosage forms.**
PharmDr. Alžbeta Lengyelová 27.2.2023

- 7. Pharmaceutical excipients – surfactants. Surface activity, chemical structure, classification, examples of surfactants.**
PharmDr. Veronika Mikušová, PhD. 6.3.2023

- 8. Dispersion systems of solids in liquids. Sedimentation. Wetting of solids. Excipients stabilizing dispersions of solids in liquids. Kinetic and aggregate instability. Suspensions as dosage forms.**
PharmDr. Miroslava Špaglová, PhD. 6.3.2023

- 9. Dispersion systems liquid in liquid. Stability of emulsions, stabilizers of liquid coarse systems. Emulsions as dosage forms.**
PharmDr. Veronika Mikušová, PhD. 13.3.2023

- 10. Pharmaceutical excipients – excipients stabilizing of drug product composition, excipients modifying sensory perception of dosage forms, technical excipients.**
PharmDr. Alžbeta Lengyelová 13.3.2023

- 11. Rectal drug products, constitutive excipients, bioavailability. Suppositories. Production methods, quality control.**
PharmDr. Veronika Mikušová, PhD. 20.3.2023

- 12. Ophthalmic dosage forms. Eye drops and lotions. Physical and microbiological aspects of eye preparations. Bioavailability, excipients, production, quality control.**
PharmDr. Veronika Šimunková, PhD. 20.3.2023

- 13. Vaginal preparations, bioavailability. Pessaries, excipients, preparation, dosing, quality tests. Vaginal preparations with controlled release.**
PharmDr. Veronika Mikušová, PhD. 27.3.2023

14. Nasal dosage forms. Ear dosage forms. Bioavailability from nasal and ear preparations.

PharmDr. Miroslava Špaglová, PhD.

27.3.2023

15. Parenteral dosage forms. Routes of parenteral application. Composition, required properties, bioavailability. Sterility, sterilization, microbiological quality, clean room classification.

Michael Lawson, MSc., PhD.

3.4.2023

16. Production of injections and infusions. Water in pharmaceutical technology. Products based on human blood.

Michael Lawson, MSc., PhD.

3.4.2023

17. The use of intravenous infusions: substitution of water, ions, plasma expanders, artificial feeding. Identification and labelling of parenterals. Parenteral depot products, possibility of their formulation.

Michael Lawson, MSc., PhD

10.4.2023

18. Parenterals with drug targeting – liposomes, niosomes, lipid nanoparticles, protein and polymeric micro- and nanoparticles, erythrocyte carrier .

Michael Lawson, MSc., PhD.

10.4.2023

19. Granules. Formation of granular grains and compacts. Binding forces. Granulation, granulation methods.

Michael Lawson, MSc., PhD.

17.4.2023

20. Solid drugs for oral and peroral use. Tablets.

Michael Lawson, MSc., PhD.

17.4.2023

21. Coated tablets. Coating technologies, excipients.

PharmDr. Alžbeta Lengyelová, PhD.

24.4.2023

22. Capsules for oral administration. Hard capsules, soft capsules.

PharmDr. Veronika Šimunková, PhD.

24.4.2023

23. Oromucosal preparations – solid (pastilles and lozenges, orodispersible films) and liquid (mouthwashes, gargles, drops). Medicated chewing gums.

Mgr. Martina Papadakos, PhD.

1.5.2023

24. Drug products obtained by extraction methods. Physical and chemical aspects of extraction of drugs. Extraction methods. Tinctures, production procedures, properties, quality control. Extracts, production procedures, properties, quality control.

PharmDr. Veronika Mikušová, PhD.

1.5.2023

25. Quality control of pharmaceutical dosage forms.

Doc. PharmDr. Juraj Piešťanský, PhD.

8.5.2023

26. Quality control of biologics.

Doc. PharmDr. Juraj Piešťanský, PhD.

8.5.2023