DEPARTMENT OF GALENIC PHARMACY

Subject:	**PHARMACEUTICAL TECHNOLOGY 2**
Type of course:	lectures, practical exercises
Year:	4.
Hours in week:	lectures - 4 practical exercises - 5
Number of credits:	10
Lectures:	Monday **9.20-11.00**; **11.10-12.50**, classroom O419

PROGRAMME OF LECTURES, **WINTER TERM** 2023/2024

1. **Polymers as pharmaceutical excipients. Gels and gel structure.**

   18.9.2023 PharmDr. Veronika Šimunková, PhD.

2. **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.**

   18.9.2023 PharmDr. Veronika Mikušová, PhD.

3. **Semi-solid preparation for cutaneous application. Skin, its anatomy and physiology. Biogalenical aspects of topical preparations. Liberation, penetration, absorption of drugs from semi-solid preparations.**

   25.9.2023 PharmDr. Alžbeta Lengyelová

4. **Aerodispersions as dosage forms, medicated foams. Liquid preparations for cutaneous application. Medicated tampons, sticks.**

   25.9.2023 PharmDr. Veronika Mikušová, PhD.

5. **Pharmacopoeial methods used for the evaluation of dosage forms.**

   2.10.2023 PharmDr. Miroslava Potúčková, PhD.

6. **Modified release peroral dosage forms – prolonged, sustained, delayed release and controlled release of drugs from peroral dosage forms. Drug targeting.**

2.10.2023 PharmDr. Veronika Šimunková, PhD.

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7. **Pulmonary drug delivery. Therapeutic aerosols. Formulation, devices, production, quality control.**

9.10.2023 PharmDr. Miroslava Špaglová, PhD.

8. **Quality assurance in pharmaceutical production and quality control.**

9.10.2023 PharmDr. Desana Matušová, PhD.

9. **Formulation and production of a dosage form containing very slightly soluble and insoluble drugs. Solid solutions. Polymorphism and its relationship to bioavailability.**

16.10.2023 PharmDr. Veronika Šimunková, PhD.

10. **Nanocarriers as drug delivery systems.**

16.10.2023 Michael Kenneth Lawson, MSc., PhD.

11. **Ointments, creams, pastes. Bases for ointments, creams, pastes. Production of semi-solid preparations (solution, emulsion, suspension systems).**

23.10.2023 PharmDr. Alžbeta Lengyelová

12. **Biologics. Development, formulation and production of biological drugs.**

23.10.2023 PharmDr. ThLic. Mária Raučinová, PhD.

13. **Stability and stabilization of drug products. Stability testing. Prediction of stability.**

30.10.2023 PharmDr. ThLic. Mária Raučinová, PhD.

14. **Viscosity, apparent viscosity, rheology**.

30.10.2023 PharmDr. Alžbeta Lengyelová

15. **Therapeutic systems: peroral, parenteral, ocular, intrauterine. Characterisation, advantages, disadvantages.**

6.11.2023 PharmDr. Miroslava Špaglová, PhD.

16. **Technology of preparation of radiopharmaceuticals**

6.11.2023 PharmDr. Veronika Mikušová, PhD.

17. **Drug availability from the drug product - physical and biological availability (absolute and relative). Kinetics of drug release from the drug. Mechanisms of drug permeation across biological membranes. LADME processes and their parameters.**

13.11.2023 Michael Kenneth Lawson, MSc., PhD.

18. **Microemulsions.**

13.11.2023 PharmDr. Miroslava Špaglová, PhD.

19. **Transdermal therapeutic systems, characterization. Advantages, disadvantages. Enhancers of penetration**.

20.11.2023 PharmDr. Jarmila Ferková

20. **Pharmaceutical packs and packaging – functions, type of packs, primary and secondary packs, packaging material.**

20.11.2023 Michael Kenneth Lawson, MSc., PhD.

21. **Dosage forms of veterinary medicinal products. Application and technology of preparation.**

27.11.2023 PharmDr. Desana Matušová, PhD.

22. Technological aspects of vaccine production.

27.11.2023 Michael Kenneth Lawson, MSc., PhD.

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23. Dosage microforms – pellets, microcapsules, microdragees. Auxilary materials, methods of preparation. PharmDr. Miroslava Špaglová, PhD

4.12.2023 PharmDr. ThLic. Mária Raučinová, PhD.

24. Modern strategies for the evaluation of oligonucleotides

4.12.2023 doc. PharmDr. Juraj Piešťanský, PhD.

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25. Evaluation of drugs based on Critical Quality Attributes (CQAs). Quality-by-design (QbD) approach.

11.12.2023 doc. PharmDr. Juraj Piešťanský, PhD.