ФАРМАЦЕВТИЧЕН ФАКУЛТЕТ
МЕДИЦИНСКИ УНИВЕРСИТЕТ - СОФИЯ
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Approved by the Faculty Council with protocol № 2/ 29.02.2024

Dean:

(Prof. A. Zlatkov, DSc)

SYLLABUS

FOR THE COURSE "PHARMACEUTICAL TECHNOLOGY PART I AND PART II"

DEPARTMENT OF PHARMACEUTICAL TECHNOLOGY AND BIOPHARMACEUTICS

Included in the curriculum of the specialty: **Pharmacy**

Degree of education: **Master**

Credits (ECTS) of "PHARMACEUTICAL TECHNOLOGY PART I": **17**

Credits (ECTS) of "PHARMACEUTICAL TECHNOLOGY PART II": **18**

ANNOTATION

The program is intended for training pharmacy students in the discipline "Pharmaceutical Technology". It consists of two parts, which are studied in the III (V and VI semester) and IV (VII and VIII semester) course, respectively. The program covers the main dosage forms according to the classifications depending on the type of the system and the route of administration. The lectures lay the foundations of theoretical knowledge, whereas during the laboratory practice various methods for preparation and control of dosage forms are studied: liquid dosage forms (molecular solutions, syrups, colloidal solutions, emulsions, suspensions), solid dosage forms (powders, granules, tablets, capsules, suppositories and globules), semi-solid dosage forms for dermal administration, drug dosage forms with modified release, parenteral dosage forms, drug dosage forms for administration in the eye and phytoproducts. For each dosage form, the specific biopharmaceutical factors and their importance for its therapeutic effect, as well as the possibilities for their technological optimization, are considered. Special attention is also given to the different reasons for instability and the corresponding specific approaches for stabilization of drug products. This program provides an opportunity to meet the requirements for obtaining the professional qualification of a master-pharmacist.
Control and evaluation: ongoing control in the form of colloquiums during the semesters, a practical exam (one each in Technology part I and Technology part II) and a theoretical (written and oral) exam at the end of the academic year.

SYLLABUS

PHARMACEUTICAL TECHNOLOGY PART I

1. Pharmaceutical technology – aim, tasks, basic concepts.

2. Technological operations for preparations of drug dosage forms.

3. Solid dosage forms – technology and control tests of powders.

4. Liquid dosage forms – technology and control tests of molecular solutions.

5. Syrups.

6. Methods for increasing drug solubility.

7. Colloidal solutions.

8. Liquid dosage forms – technology and control tests of emulsions and suspensions.

9. Semi-solid dosage forms.

10. Injections.

11. Infusions.

12. Drug dosage forms for eye administration.

13. Solid dosage forms – technology and control tests of suppositories.

14. Solid dosage forms – technology and control tests of pessaries.

15. Pharmaceutical aerosols.

PHARMACEUTICAL TECHNOLOGY PART II

1. Solid dosage forms – technology and control tests of granules.

2. Rheology parameters of powders and granules.

3. Solid dosage forms – preparation of tablets via compaction after granulation.

4. Solid dosage forms – preparation of tablets via direct compaction.

5. Effervescent granules and tablets.

6. Coated tablets.

7.Control test of tablets.

8. Soft and hard gelatine capsules.

9. Physical stability – processes and stabilization.

10. Chemical stability – processes and stabilization.

11. Microbial stability – processes and stabilization.

12. Tests for evaluation of drug stability.

13. Phytoproducts.

14. Methods for extraction.

15. Modified-release dosage forms.

Head of the Department:

(Prof. K. Yoncheva, PhD, DSc)