Ф А Р М А Ц Е В Т И Ч Е Н Ф А К У Л Т Е Т
МЕДИЦИНСКИ УНИВЕРСИТЕТ - СОФИЯ

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Approved from the Faculty council with protokol № 4/16.06.2022

DEAN:

(prof. Al. Zlatkov, DSc)

DEPARTMENT OF PHARMACEUTICAL CHEMISRTY

SYLLABUS

of Bromatology

INCLUDED IN "**PHARMACY**" EDUCATION CURRICULUM.
DEGREE OF EDUCATION: "**MASTER**"
CREDITS (ECTS): **5**

	Semester	**Academic hours /per week**	**Total academic hours /per academic year**
Lectures	IX	2	30
Practicals	IX	1	24
Seminars	IX	1	6
Academic hours	IX	4	60
TYPE OF CONTROL:		**1 colloquium**	**Final semestrial exam**

ANNOTATION:

The program is developed in department of Pharmaceutical chemistry, Medical University – Sofia. The subjects are stipulated for 30 academic hours of auditorial ocupancy. The program is addressed to education of Vth year pharmacy students in Medical University (IX semester).

The Bromatology course provides the students knowledge on the chemical properties, synthesis and analysis of food additives, basic groups of nutrition substances (vitamins,

aminoacids, peptides, proteins, carbohydrates, lipids), as well as on some harmful for human health compounds as pesticides, heavy metals etc. Also the important for every pharmasyst question on food - drug interactions is discussed. The practical utilization of equilibrium vitamin, mineral, etc. regulations is an irreversible part in the development of frame of reference for terapeutic concentration optimum, when deciding the application of the corresponding therapy, effect assessment and toxicity evaluation, etc., as well as to maintain good health.

Divers methods for analysis in biologycal media are also a subject in this course.

Type of control and evaluation: routine control – coloquium and semestrial exam – written and oral.

English language training

SYLLABUS:

I. Nutrients - properties, synthesis and methods of analysis.

1. Amino acids - general characteristics, classification, synthesis and properties.
2. Peptides. Determining the sequence of amino acids. Proteins and proteids
3. Analysis of amino acids and biopolymers - physical methods, chromatographic and electrophoretic methods.
4. Fats - general characteristics, classification, properties.
5. Carbohydrates - general characteristics, classification, properties and analysis.
6. Water-soluble vitamins. Properties, synthesis, methods for isolation and analysis of vitamins C, P, B1 and B2.
7. Water-soluble vitamins. Properties, methods for isolation and analysis of vitamins B5, B6, B12, B13, H, folic acid and PP.
8. Fat-soluble vitamins. Properties, methods for isolation and analysis of vitamins A and E.
9. Fat-soluble vitamins. Properties, methods for isolation and analysis of vitamins D, K and F.

II. Contaminants in food - types, properties, toxic effects and methods of analysis.

1. Heavy metals - properties, distribution, toxic action.
2. Heavy metals - analytical techniques and methods for controlling the content of heavy metals and mineral salts in food, water and biological media. Atomic spectrophotometry.
3. Pesticides - Herbicides, fungicides and repellents.
4. Organophosphorus pesticides.
5. Pesticides - halogen derivatives, nicotinoids and carbamates.
6. Pesticides - synthetic and natural pyrethrins, rotenone.

III. Food additives. Interaction food - medicine.

7. Food additives - general characteristics, classification, composition, tests for purity and determination of biologically active substances in food additives - preservatives, antioxidants and antibiotics.
8. Food additives - composition, properties, synthesis, purity tests and determination of sweeteners.
9. Nutritional supplements - food supplements containing biologically active substances of natural origin - drug interactions.

10. Influence of food on the absorption and distribution of drugs.
11. Influence of foods and their ingredients on drug metabolism.

Date: ..... Program author:

(prof. Al. Zlatkov, DSc)

Head of the Department of Pharmaceutical Chemistry:

(prof. Al. Zlatkov, DSc)