

ANNOTATIONS OF THE STUDENTS ' CHOICE COURSES (ELECTIVE COURSES) WORKING PROGRAMS

1st year (2nd semester)

Each student is required to collect 2 credits (ECTS) during the year

Philosophy and Social Sciences Department

SCC title: Fundamentals of spiritual and moral culture in medicine

Totally: 1 credit

In the modern conditions of our life, the role of morality is of particular importance. Since, unlike all other theoretical forms of knowledge, culture serves as a means of expressing the essence of consciousness and self-consciousness of the epoch. Of course, a change in the nature of social epochs, its historical stage, is a change in the very content of the moral worldview. That is why morality is a specific form of analysis of social processes, their orientation. So, the central point of the moral problem as a whole is the person and his attitude to the world, society and to himself.

Department of Physics, Mathematics, Computer Science and Computer Technology

SCC title: Information and communication technologies in pharmacy

Totally: 1 credit

Formation of students' general ideas about the possibilities of using information and communication technologies that provide extensive processing capabilities for medical and pharmaceutical information, mastering the techniques of working with modern standard application software (program) packages.

Department of Physics, Mathematics, Computer Science and Computer Technology

SCC title: Biophysical foundations of pharmaceutical process modeling

The elective course program contains the following topics: introduction to modeling, modeling as a method of studying pharmaceutical processes, types of models in pharmacy, mathematical modeling, substance growth model, prospects of the modeling method in medicine and pharmacy. Each topic deals with the parameters, phenomena and laws of the relevant parts of physics in the application to the bio system and the features of their manifestations in pharmacy, represented by the mathematical apparatus.

Fundamental and Clinical Physiology Department

SCC title: Nutrition Physiology

Totally: 1 credit

The elective course gives information about main physiological effects, the energy value of nutrients and nutrition standards, the physiological needs of the body in plastic substances and the basics of a balanced, rational diet, as well as the physiological role of vitamins and trace elements.

Kyrgyz Language Department

SCC title «Speech culture"

Totally: 1 credit

Formation of speech culture in teaching the Kyrgyz language, logically consistent speech, vocabulary enrichment, grammatically correct writing, training in proper office work, orientation to deepen the knowledge gained in the specialty

Pharmacognosy and Drug chemistry Department

SCC title: Study of solutions

Totally: 1 credit

The elective course is aimed at studying the basics of modern teaching about solutions, knowledge of which is certainly necessary for a pharmacist, since biochemical processes occur in the body in solutions, and many medicines are solutions. This section is also important for understanding the role of ionic, including acid-base, interactions in the metabolism of drugs, in the analysis of drugs, and in the preparation of dosage forms.

The general provisions of the modern theory of electrolyte solutions serve as the basis for the subsequent study of the electrolyte balance of the body and drugs for the treatment of the consequences of its violation.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Profession of a pharmacist. The modern role of the pharmacist.

Totally: 1 credit

The elective course is aimed at studying the history and formation of pharmacy; the pharmacists contribution in the discovery of many natural science laws; the mission of the modern pharmacist and his role in the life of modern society.

3rd year (5-6 semesters)

Each student is required to collect 2 credits (ECTS) during the semester

Biochemistry and General Inorganic Chemistry Department

SCC title: The role of vitamin-like substances, macro-and microelements in metabolism

Totally: 1 credit

This elective course will allow the student to understand the role of vitamin-like substances, macro-and microelements, to study in detail their mechanisms of metabolic disorders in the human body. This knowledge is important for the future specialist's activity.

Biochemistry and General Inorganic Chemistry Department

SCC title: The role of antioxidants in metabolic disorders in the human body

Totally: 1 credit

This elective course will allow the student to understand the essence of the processes of free radical oxidation in normal and pathological conditions and to open the "door" to the world of antioxidants, which is important for the future pharmacist.

General Hygiene Department**SCC title: Valeology as a health science****Totally: 1 credit**

The goal of the SCC is to learn the basics of a healthy lifestyle and how to model and achieve these basics.

Kyrgyz Language Department**SCC title «Speech culture"****Totally: 1 credit**

Formation of speech culture in teaching the Kyrgyz language, logically consistent speech, vocabulary enrichment, grammatically correct writing, training in proper office work, orientation to deepen the knowledge gained in the specialty.

Microbiology, Virology and Immunology Department**SCC title: Microbiological purity determination of pharmaceutical preparations.****Totally: 1 credit**

The elective course is focused on obtaining knowledge and skills of conducting sanitary and bacteriological control in the work of pharmacies and conducting sanitary and bacteriological research of flushes from pharmacy utensils. It provides study by students the concepts of pharmaceutical products sterility and microbiological purity.

Pharmacognosy and Drug chemistry Department**SCC title: Modern trends in the creation of new medicinal substances of organic nature****Totally: 1 credit**

The elective course is aimed at studying the basics of predicting the biological activity of medicinal substances, the main directions of organic nature new medicines creating.

Management and Pharmacy Economics, and Drug Technology Department**SCC title: Pharmacy in the countries of the world****Totally: 1 credit**

The elective course is aimed at getting acquainted with the organization of drug supply and the role of the pharmacist in various countries.

4th year (7-8 semesters)**Each student is required to collect 6 credits (ECTS) during the semester****Hygiene Disciplines Department****SCC title: Nutritionology****Totally: 1 credit**

The elective course is aimed at studying the medical and biological foundations of human nutrition, the theory of nutrition, the mechanisms of action of micro-and macronutrients on the human body.

Department of Pharmacognosy and Drug Chemistry

SCC title: Modern methods of drug analysis

Totally: 1 credit

The elective course is aimed at getting acquainted with modern physic and chemical methods of drug analysis offered by the world's leading pharmacopoeias.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Drugs based on MPM

Totally: 1 credit

The elective course is aimed at in deep study and instilling practical skills in calculations, technological schemes, collection and operation rules of equipment for the extraction process from medicinal plant raw materials by various methods, evaluation of the quality of the obtained extraction phytopreparations - tinctures, extracts.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Pharmaceutical practices in the field of drug circulation

Totally: 1 credit

The elective course is aimed at studying the concept of practices in pharmacy (GxP-standards); pharmaceutical practices of the Eurasian Economic Union.

Pathological Physiology Department

SCC title: “Pathophysiology of drug addiction and substance abuse”

Totally: 1 credit

Pathophysiology of drug addiction and substance abuse. General etiology of drug and substance abuse. The concept of narcotic drugs. General mechanisms of action of narcotic drugs on the nervous system. Stages of drug addiction. Principles of drug addiction prevention and therapy.

Pharmacognosy and Drug Chemistry Department

SCC title: Measures of medicines falsification counteract

Totally: 1 credit

The elective course allows students to master the methods of identifying counterfeit medicines at different stages of their promotion, work with the population to raise awareness about the problem of counterfeit medicines.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Drug production quality management

Totally: 1 credit

The elective course is aimed at studying the main provisions of the GMP standard – the rules of proper production; GMP requirements for the organization of medicines quality control; the structure of quality assurance at a pharmaceutical enterprise, the official duties of the person authorized for the quality of medicines at a pharmaceutical enterprise.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Biosimilars obtaining technology

Totally: 1 credit

The elective course is aimed at studying the basics of molecular biology and producers genetics, genetic engineering and engineering enzymology used in the production of biotherapeutic drugs and biosimilars, regulatory documents regulating the procedure for the circulation of biosimilars.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Homeopathic, veterinary, medical and cosmetic products

Totally: 1 credit

The elective course is aimed at studying the basics of homeopathy: history, features of treatment type using the homeopathic drugs, homeopathic drugs technology, etc.; with a special branch of pharmaceutical science – veterinary pharmacy; with the basics of modern clinical cosmetology.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Pharmaceutical practices in the field of drug circulation

Totally: 1 credit

The elective course is aimed at studying the concept of practices in pharmacy (GxP-standards); pharmaceutical practices of the Eurasian Economic Union.

Kyrgyz Language Department

SCC title: Office management training

Totally: 1 credit

Since personal, organizational, and administrative documents are mainly used as documents that are actively used in our daily life, in institutions and educational institutions, these types of documents will be considered in this work program.

5th year (9-10 semesters)

Each student is required to collect 4.5 credits (ECTS) during the year

Kyrgyz Language Department

SCC title: Office management training

Totally: 1 credit

Since personal, organizational, and administrative documents are mainly used as documents that are actively used in our daily life, in institutions and educational institutions, these types of documents will be considered in this work program.

Pharmacognosy and Drug Chemistry Department

SCC title: Measures of medicines falsification counteract

Totally: 1 credit

The elective course allows students to master the methods of identifying counterfeit medicines at different stages of their promotion, work with the population to raise awareness about the problem of counterfeit medicines.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Pharmaceutical logistics in accordance with GDP/GSP rules

Totally: 1.5 credits

The elective course is aimed at studying the regulatory requirements of the Kyrgyz Republic, the EAEU, and WHO in relation to the distribution of medicines; acquiring skills in organizing the

main processes of pharmaceutical logistics; activities of logistics process various aspects; theoretical skills in personnel management of wholesale sales of medicines and medical products.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Sales technique. Merchandising in pharmacies.

Totally: 1 credit

The elective course is aimed at studying the methods of establishing effective communication with the pharmacy visitor; the use of modern sales techniques; application of the of merchandising concept main provisions in the work of pharmaceutical organizations.

Department of Pharmacognosy and Drug Chemistry

SCC title: Standardization and quality control of medicinal products and herbal medicines

Totally: 1 credit

The elective course is aimed at studying the rules of production and quality control of herbal medicines based on the requirements of the world's leading pharmacopoeias.

Management and Pharmacy Economics, and Drug Technology Department

SCC title: Pharmacy organizations production activity

Totally: 1 credit

The elective course is aimed at studying the basic requirements for a production pharmacy and the composition of the premises; prescriptions receiving organization and dispensing medicines; conducting calculations, justifying the manufacturing technology depending on the composition of the prescription, maintaining accounting records.