**Kazakh National University named Al-Farabi**

**Department of Chemistry and Chemical Technology**

**Department of Chemistry and Technology of Organic Substances, Natural Compounds and Polymers**

Discipline: « **Fundamentals of Pharmacology - 5 ECTS** »

**Example Tasks for SIW “Pharmacology Nowadays”**  **, Schedule of their implementation, Methodical directions for them**

The topic examples and schedule of implementation of Student Independent Work (SIW) For Pharmacology Topic . Contemporary Medical Treatment approaches to actual diseases.

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| № | Topic “Pharmacology Nowadays”. Contemporary Medical Treatment approaches to actual diseases. | Deadline of SIW\*\*(study week) | Implementation form of SIW | Score (points) |
| 1 | **“Pharmacology nowadays”.**Pharmacological treatment of arterial hypertension in children.Role of angiotensin-converting enzyme (ACE) and calcium channel blockers (CCBs) in pediatric practice.  | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 2 | **“Pharmacology nowadays”.**Implication of antibiotics use during the COVID-19 pandemic. Clinical use of Azitromycine among the Covid-19 patients. | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 3 | **“Pharmacology nowadays”.**Use of non-steroidal anti-inflammatory drugs (NSAIDs) and triptans (serotonin 5HT1B/1D receptor agonists) for managing acute attacks of migraine.  | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 4 | **“Pharmacology nowadays”.**Evaluation of effectiveness supplementary drugs in case of treatment of primary biliary cholangitis (PBC) corresponding to guidelines.  | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 5 | **“Pharmacology nowadays”.**Nutrition Intake of Calcium and Vitamin D and indication of Antiresorptive drugs for patients with osteoporosis.  | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 6 | **“Pharmacology nowadays”.**Role of omalizumab (Xolair) in severe allergic adult asthma. | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 7 | **“Pharmacology nowadays”.**Hemorrhagic stroke and anticoagulation therapy | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 8 | **“Pharmacology nowadays”.**Vitamin D deficiency as a risk factor for severe COVID-19 | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 9 | **“Pharmacology nowadays”.**Evaluation of treatment with monoclonal antibodies  | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 10 | **“Pharmacology nowadays”.**Current situation of treatment of inflammatory arthritis in the Republic of Kazakhstan. | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 11 | **“Pharmacology nowadays”.**Hepatitis C in pregnancy. Direct acting antivirals drug and Ribavirin’s teratogenic effects  | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 12 | **“Pharmacology nowadays”.** Medical treatment of chronic alcoholic Hepatitis in the Republic of Kazakhstan. | 15 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 13 | Regulation of vascular tonus by calcium channels in Arterial Hypertension. | 14 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |
| 14 | Medical treatment and diet relationship in DM | 14 week of the course | Review, PPT format, Analysis of original articles, Comparison of Dari Kz. and FDA. Clinical Protocols | 4 |

Independent work of students (ISW) - educational, methodical and research activities of students, performed by them independently in extracurricular time, according to the program of academic discipline. The ISW not only helps to absorb the educational material, but also generally contributes to the formation of the experience of educational, creative and research activities. For the implementation of the ISW, both the educational literature and sources recommended in the course are used, as well as independently found. ISW is delivered strictly on schedule. In case of good circumstances (if there is documentary evidence), the ISW can be accepted out of schedule.

Steps to do SIW: Students choose one of the subjects and perform it during 15 weeks. First 4 weeks each student chooses the topic, based on the actual problems in medicine by doing research of original papers on the NCBI website. In 5th week students present a topic in the form of 3 pages of PPT, and state the topic of SIW for the group by making a team to work with which consist 3-4 members based on relative subjects. 6th week the members of the team present a document where they show a plan with sharing functions for preparing SIW. week 8-12 groups presenting literature that they find on this subject and present it in the form of a card with main ideas from abstract.12-15 week groups start to write manuskript and present it in front of other mates. After finishing SIW all the members of the groups will take the same grade. Other groups evaluate the work of the team. For presenting, SIW will be given 10 min and 20 min for questions and discussion. The Maximum grade is 4 points for SIW under the name of Contemporary Pharmacology in Silabus. Written reports in the form of Word documents will be downloaded to Google classroom, PPT presentations presented by all members of the group during practical lesson classes.