Study program: Integrated academic studies of Pharmacy

Type and level of the study program: integrated academic studies

Course title: INORGANIC CHEMISTRY (PhI-ICHEM)

Teacher: Nataša B. Milić, Nataša P. Milošević, Maja Milanović

Course status: compulsory

ECTS Credits: 6

Condition: General Chemistry

Course aim

The aim of this course is to present basic chemical principles and laws, chemical reactions, chemical elements and important compounds for pharmacists. It is a basic course necessary for understanding a variety of chemical and pharmaceutical courses.

Expected outcome of the course:

The goal of this course is to offer students applicable practical and theoretical knowledge necessary for successful work in all other chemical and pharmaceutical courses, as well as in the pharmaceutical practice. Independent work in chemical labs.

Course description

Theoretical education

1. Oxido-reduction reaction. 2. Resources and importance of chemical elements in the nature. Metals, general properties and importance. 3. Non-metals, general characteristics. Solid state. Cristal lattice. 4. Hydrogen, the importance and the most important properties of compounds with the special focus on the importance in pharmacy and medicine. 5. Metals, general characteristics and significance. 6. 1. (IA) and 2. (IIA) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 7. Elements of 13 (IIIA) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 8. Elements of 14 (IVA) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 9. Elements of 15 (VA) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 10. Elements of 16 (VIA) group of PT, importance, physicochemical properties, the most important compounds, with emphasis on the importance in pharmacy and medicine. 11. Elements of 17 (VIIA) group of PT, importance, physicochemical properties, the most important compounds, with emphasis on the importance in pharmacy and medicine. 12. Properties of air and noble gases. 13. Transitions elements and common properties. 14. Elements of 11 (IB) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 15. Elements of 12 (IIB) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 16. Elements of 6 (VIB) group of PT, importance, physicochemical properties , the most important compounds, with emphasis on the importance in pharmacy and medicine. 17. Elements of 7 (VIIB) group of PT, importance, physicochemical properties, the most important compounds, with emphasis on the importance in pharmacy and medicine. 18. The iron triad and platinum metals, importance, physicochemical properties, the most important compounds, with emphasis on the importance in pharmacy and medicine.

Practical education: exercises, other forms of education, research related activities

Chosen experimental tasks and calculations in agreement with the theoretical classes.

1. Oxido-reduction reaction and properties. 2. Determination of trace analytes. 3. Hydrogen, metals of IA and IIA group of PSE. 4. A typical stoichometrics tasks for s-elements. 5. Elements of 13 (IIIA) PSE Group. 6. Elements of 14 (IVA) PSE Group. 7. Elements of 15 (VA) PSE Group. 8. Elements of 16 (VIA) PSE Group. 9. Elements of 17 (VIIA) PSE Group. 10. A typical stoichometrics tasks for p-elements. 11. Elements of 11 (IB) PSE Group. 12. Elements of 12 (IIB) PSE Group. 13. Elements of 6 (VIB) group PSE. 14. Elements of 7 (VIIB) PSE Group. 15. The triad of iron. 16. Synthesis of inorganic salts. 17. A typical stoichometrics tasks for d-elements.

Literature

Compulsory

1. Housecroft E. C., Sharpe G. A., Inorganic Chemistry, 2nd Edition, Pearson, Prentice Hall, 2005.
2. Milić N, Milošević N. Practicum of Inorganic chemistry for Pharmacy students (translated from Serbian). Faculty of Medicine, Novi Sad, 2014.

Additional

1. Internal script with the selected practical exercises and stoichiometric tasks.

Number of active classes				Other:
Lectures: 45	Practice: 45	Other types of teaching:	Research related activities:	

Teaching methods

Lectures, experiments, demonstrations, practice and chemical calculations.

Student activity assessment (maximally 100 points)

Pre-exam activities	**points**	**Final exam**	**points**
Lectures		Written	60
Practices	20	Oral	20
Colloquium	2x30*	.....	
Essay			

*Student is obliged to pass a written exam if the colloquiums during the semester are not passed