

Table 5.2 Study program of Doctoral academic studies – semester and year schedule

Code	Course title	Sem	Course status	Active classes				ECTS
				weekly		semesterly		
				L	R	L	R	
First year								
D1M1	Methodology and ethics in scientific research	1.	M	4	4	60	60	10
D1E1	Elective course 1	1.	E	6	6	90	90	15
D1M2	Literature review	2.	M	2	2	30	30	10
D1M3	Statistics in research	2.	M	2	2	30	30	5
D1E2	Elective course 2	2.	E	6	6	90	90	15
	Research	2.						5
Total number in the first year				20	20	300	300	60
Second year								
D2M1	Communication and presentation skills	3.	M	2	4	30	60	5
D2E1	Elective course 3	3.	E	3	4	45	60	7.5
D2E2	Elective course 4	3.	E	3	4	45	60	7.5
	Research	3.						10
D2M2	Preparation of project documentation	4.	M	2	4	30	60	5
D2M3	Defense of doctoral dissertation theme proposal	4.	M	0	14	0	210	5
	Research	4.						20
Total number in the second year				10	30	150	450	60
Third year								
	Research work	5.		0	20	0	300	5
	Research	5.						25
	Research work	6.		0	20	0	300	5
	Research	6.						15
	Writing and defense of doctoral dissertation	6.						10
Total number in the third year				0	40	0	600	60
Total number of active classes							1800	
Total number of lectures							450	
Total number of ECTS							180	
Total number of ECTS for research							80	

Sem-Semester;

Course status: M-Mandatory , E-Elective.

Active classes: L-Lectures, R-Research work.

Elective subject 1 and 2

1. Pharmacokinetics and metabolism during drug development and drug use
2. Principles of modern pharmaceutical analysis
3. Microbiology 1
4. General biochemistry and clinical correlations
5. Selected chapters of pharmacognosy
6. Chemical, biopharmaceutical aspects and computational methods in drug design
7. Cosmetic materials - active and functional ingredients
8. Mechanisms of Toxicity
9. Pharmacology of pain

10. Pharmaceutical practice
11. Research and development of pharmaceutical dosage forms
12. Food Chemistry and Safety
13. Selected chapters of clinical pharmacy
14. Strategy of method development and chemometrical approach in pharmaceutical analysis
15. Microbiology 2
16. Medical biochemistry
17. Plant isolates: preparation, characterization and potentials of use
18. Mechanisms of degradation and biotransformation of biologically active compounds
19. Preformulation and formulation research of colloid systems for cosmetic use
20. Models and Methods in Toxicology
21. Psychopharmacology
22. Social pharmacy
23. Advanced drug delivery systems
24. Dietetics

Elective subjects 3 and 4

1. Methodology in pharmacokinetic studies and pharmacometric approaches to data analysis
2. Methodology in treatment outcomes, adherence, drug interactions and adverse drug reactions
3. Quantitative structure property relationship in pharmaceutical analysis
4. Selected chapters of pharmaceutical and biopharmaceutical analysis
5. Molecular mechanisms of antibacterial resistance
6. Vaccines
7. Modern Methods in Medical Biochemistry
8. Biomarkers in clinical research
9. Structural characterization and chemical properties of plant secondary metabolites
10. Valorization of ethnomedicinal use of plants
11. Selected methods of synthesis and structural analysis
12. Chemical and biological interactions of biomolecules in drug development
13. In silico/in vitro/in vivo investigations of efficacy and safety in cosmetology
14. Sensory assessment of cosmetic products with the applied statistics
15. Toxicology of mixtures
16. Chemical Carcinogens and Endocrine Disrupting Chemicals
17. Experimental techniques in drug discovery
18. Molecular and cellular pharmacology
19. Health system, drug politics and public health
20. Pharmacoepidemiology and pharmacoconomy
21. In silico - in vitro - in vivo methods for drugs/medicinal products characterization
22. Nanotechnology in development of carriers/innovative drugs
23. Biologically Active Food Compounds
24. Food Analysis
25. Immunoregulation and immunomodulation
26. Molecular and cellular physiology
27. Genomic instability research in in vivo and in vitro systems