Course descriptions

TABLE OF CONTENTS

COURSE DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/01-Bc/00	**Course title:** Academic English Language Preparation (1)
Educational activities: **Type of activities:** seminar **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning	
Number of credits: 1	
Recommended semester: 1.	
Educational level: I.	
Prerequisites:	
Recommended prerequisites: intermediate level of English	
Course requirements: - active presence at seminars - final test with evaluation scale – A (100 – 91 %), B (90 – 81 %), C (80 – 73 %), D (72 – 66 %), E (65 – 60 %), FX (59 – 0 %) - To complete the course, the student must achieve at least 60%. Scale of assessment (preliminary/final): 100 %	
Learning outcomes: After completing the courses a student is able to understand professional texts, reproduce their content orally and in writing, using English professional terminology from the field of human body and the profession of a healthcare professional. Thanks to professional texts a student can use English professional terminology in both professional and non-professional environments.	
Class syllabus: The lessons concentrate on the following topics: the human body, the body systems and their functions, pharmaceutical and medical care, the role of a pharmacist and healthcare professional, services available in a pharmacy, laboratory equipment.	
Recommended literature: Hollá, O., Kližanová, D., Žufková,V.: English for Pharmacists I. Bratislava: Vydavateľstvo UK, 2023. Grammar Workbook I	
Languages necessary to complete the course: English language	
Notes: Academic English Language Preparation (1-3) within Bachelor Study Programme is obligatory and is carried out in Slovak study programme in three semesters. The contents of these specialized professional courses closely follow the contents of other professional courses taught	

in the relevant semesters. The courses are held gradually from the 1st to the 3rd semester of the study, i.e., Academic English Language Preparation (1) in the 1st (winter) semester of study.

Past grade distribution
Total number of evaluated students: 387

A	ABS	B	C	D	E	FX
26,61	0,0	18,86	15,25	11,89	21,71	5,68

Lecturers: PaedDr. Viera Žufková, PhD., PhDr. Darina Kližanová

Last change: 18.09.2023

Approved by: PhDr. Darina Kližanová

COURSE DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/02-Bc/00	**Course title:** Academic English Language Preparation (2)
Educational activities: **Type of activities:** seminar **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning	
Number of credits: 1	
Recommended semester: 2.	
Educational level: I.	
Prerequisites:	
Recommended prerequisites: intermediate level of English	
Course requirements: - active presence at seminars - final test with evaluation scale – A (100 – 91 %), B (90 – 81 %), C (80 – 73 %), D (72 – 66 %), E (65 – 60 %), FX (59 – 0 %) - To complete the course, the student must achieve at least 60%. Scale of assessment (preliminary/final): 100 %	
Learning outcomes: After completing the courses a student is able to understand professional texts, reproduce their content orally and in writing, using English professional terminology from the field of factors influencing health condition. Thanks to professional texts a student can use English professional terminology in both professional and non-professional environments.	
Class syllabus: The lessons concentrate on the following topics: factors influencing our health, pollution of environment, drug abuse and drug addiction, health care, disease transmission.	
Recommended literature: Hollá, O., Kližanová, D., Žufková,V.: English for Pharmacists II. Bratislava: Vydavateľstvo UK, 2020. Grammar Workbook II	
Languages necessary to complete the course: English language	
Notes: Academic English Language Preparation (1-3) within Bachelor Study Programme is obligatory and is carried out in Slovak study programme in three semesters. The contents of these specialised professional courses closely follow the contents of other professional courses taught	

in the relevant semesters. The courses are held gradually from the 1st to the 3rd semester of the study, i.e. Academic English Language Preparation (2) in the 2nd (summer) semester of study.

Past grade distribution
Total number of evaluated students: 364

A	ABS	B	C	D	E	FX
25,0	0,0	14,29	15,66	10,71	26,37	7,97

Lecturers: PaedDr. Viera Žufková, PhD., PhDr. Darina Kližanová

Last change: 15.09.2023

Approved by: PhDr. Darina Kližanová

COURSE DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/03-Bc/00	**Course title:** Academic English Language Preparation (3)
Educational activities: **Type of activities:** seminar **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning	
Number of credits: 1	
Recommended semester: 3.	
Educational level: I.	
Prerequisites:	
Recommended prerequisites: intermediate level of English	
Course requirements: - active presence at seminars - final test with evaluation scale – A (100 – 91 %), B (90 – 81 %), C (80 – 73 %), D (72 – 66 %), E (65 – 60 %), FX (59 – 0 %) - To complete the course, the student must achieve at least 60%. Scale of assessment (preliminary/final): 100 %	
Learning outcomes: After completing the courses a student is able to understand professional texts, reproduce their content orally and in writing, using English professional terminology from the field of disease prevention and treatment in emergency situations. Thanks to professional texts a student can use English professional terminology in both professional and non-professional environments.	
Class syllabus: The lessons concentrate on the following topics: disease prevention, healthy lifestyle, balanced diet, cosmetics, medical and diagnostic devices, first aid, treatment in various situations and emergencies, home medicine cabinet.	
Recommended literature: Hollá, O., Jurišová, E., Kližanová, D., Žufková,V.: English for Pharmacists III. Bratislava: Vydavateľstvo UK, 2019. Grammar Workbook III	
Languages necessary to complete the course: English language	
Notes: Academic English Language Preparation (1-3) within Bachelor Study Programme is obligatory and is carried out in Slovak study programme in three semesters. The contents of these specialised professional courses closely follow the contents of other professional courses taught	

in the relevant semesters. The courses are held gradually from the 1st to the 3rd semester of the study, i.e., Academic English Language Preparation (3) in the 3rd (winter) semester of study.

Past grade distribution
Total number of evaluated students: 258

A	ABS	B	C	D	E	FX
23,26	0,0	22,87	13,57	16,28	19,38	4,65

Lecturers: PaedDr. Viera Žufková, PhD., PhDr. Darina Kližanová

Last change: 15.09.2023

Approved by: PhDr. Darina Kližanová

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF/01-Bc/22	Bachelor Thesis Preparation I.

Educational activities:
Type of activities: practicals
Number of hours:
per week: 8 **per level/semester:** 112
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 5.

Educational level: I.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 2

A	ABS	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0	0,0

Lecturers: doc. Mgr. Fils Andriamainty, PhD., doc. PharmDr. Ivan Malík, PhD., doc. PharmDr. Miroslava Sýkorová, PhD., Mgr. Stanislav Bilka, PhD., Mgr. Róbert Šandrik, PhD., Ing. Stanislava Šoralová, PhD., Ing. Jaroslav Galba, PhD., PharmDr. Vladimír Garaj, PhD., PharmDr. Iva Kapustíková, PhD., PharmDr. Matej Maruniak, PhD., PharmDr. Eva Salanci, PhD., PharmDr. Lenka Stopková, PhD., PharmDr. Eva Malíková, PhD., Mgr. Lenka Bies Piváčková, PhD., doc. PharmDr. Marek Máťuš, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD., PharmDr. Gabriel Dóka, PhD., prof. PharmDr. Adriana Duriš Adameová, PhD., PharmDr. Tomáš Rajtík, PhD., doc. PharmDr. Tatiana Foltánová, PhD., PharmDr. Katarína Hadová, PhD., Mgr. Ondrej Sprušanský, PhD., PharmDr. Csaba Horváth, PhD., doc. Mgr. Peter Vavrinec, PhD., PharmDr. Zuzana Kiliánová, PhD., PharmDr. Eva Veľasová, PhD., prof. PharmDr. Ján Klimas, PhD., MPH, doc. PharmDr. Stanislava Kosírová, PhD., PharmDr. Eva Kráľová, PhD., doc. PharmDr. Peter Křenek, PhD., Mgr. Ondrej Ďuriška, PhD., prof. Ing. Miroslav Habán, PhD.

Last change:

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF/02-Bc/22	Bachelor Thesis Preparation II.

Educational activities:
Type of activities: practicals
Number of hours:
per week: 10 **per level/semester:** 140
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 6.

Educational level: I.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 3

A	ABS	B	C	D	E	FX
33,33	0,0	33,33	0,0	0,0	0,0	33,33

Lecturers: doc. Mgr. Fils Andriamainty, PhD., doc. PharmDr. Ivan Malík, PhD., doc. PharmDr. Miroslava Sýkorová, PhD., Mgr. Stanislav Bilka, PhD., Mgr. Róbert Šandrik, PhD., Ing. Stanislava Šoralová, PhD., Ing. Jaroslav Galba, PhD., PharmDr. Vladimír Garaj, PhD., PharmDr. Iva Kapustíková, PhD., PharmDr. Matej Maruniak, PhD., PharmDr. Eva Salanci, PhD., PharmDr. Lenka Stopková, PhD., PharmDr. Eva Malíková, PhD., Mgr. Lenka Bies Piváčková, PhD., doc. PharmDr. Marek Máťuš, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD., PharmDr. Gabriel Dóka, PhD., prof. PharmDr. Adriana Duriš Adameová, PhD., PharmDr. Tomáš Rajtík, PhD., doc. PharmDr. Tatiana Foltánová, PhD., PharmDr. Katarína Hadová, PhD., Mgr. Ondrej Sprušanský, PhD., PharmDr. Csaba Horváth, PhD., doc. Mgr. Diana Vavrincová, PhD., doc. Mgr. Peter Vavrinec, PhD., PharmDr. Zuzana Kiliánová, PhD., prof. PharmDr. Ján Klimas, PhD., MPH, doc. PharmDr. Stanislava Kosírová, PhD., PharmDr. Eva Kráľová, PhD., doc. PharmDr. Peter Křenek, PhD., Mgr. Ondrej Ďuriška, PhD., prof. Ing. Miroslav Habán, PhD.

Last change:

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

STATE EXAM DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF/300-Bc/22	**Course title:** Bachelor's Thesis Defense
Number of credits: 2	
Educational level: I.	
State exam syllabus:	
Last change:	
Approved by:	

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFChL/13-Bc/22	Basics of Applied Statistics

Educational activities:
Type of activities: practicals / lecture
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
The student is obliged to complete all seminars designated by the teacher and submit a written project plan in the middle of the semester (0-6 points). Substitution of non-participation in classes is regulated by the subject syllabi. The topic of the project is in the field of health science and on the basis of consultation and approval by the teacher. There will be at least two continuous readiness checks (0-4 points) during the semester. The final evaluation of the student at the seminars will be determined as the sum of the average evaluation of the interim reviews and the evaluation for the elaboration of the project plan. To successfully complete the seminars, it is necessary to obtain at least 6 points.
The exam of the subject is combined and consists of the elaboration of the project and the presentation of its results in the form of a defense, which the students complete during the examination period. Acceptance of the written elaboration of the project is conditioned by submitting the project plan and obtaining at least 2 points for the plan. The written work of the project must contain, in addition to the formal requirements specified by the teacher, a complete statistical processing of the approved topic: collection of original data, their pre-processing and presentation, calculations of descriptive and survey characteristics and interpretation of these results. Points are awarded for the written work for the topicality of the topic, the scope of the processed data, the adequacy of the methods used, the accuracy of the calculations and the formal processing of the report. Submission of a written project work is a necessary condition for passing the exam. The presentation is evaluated in the categories of readiness of the presenter, comprehensibility of the presentation, ability to argue, ability to respond to questions and graphic design of the presentation. Points in the range of 0-4 are awarded for each of these categories.
The overall evaluation of the student for the subject consists of evaluation at seminars (0-10 points), evaluation of written work (0-20 points) and evaluation of presentation (0-20 points) as a simple sum of points. The maximum point value is 50: A 45-50 points, B 40-44 points, C 36-39 points, D 33-35 points, E 30-32 points.

Learning outcomes:
After completing the course, the student has a basic orientation in applied statistical methods of quality assessment of laboratory and production processes, including evaluation and outputs, in

methods applied in epidemiology and drug policy and finally in applied statistical procedures of health supply and organization management, can design, plan, manage and evaluate basic statistical observation and simple statistical experiment.

Class syllabus:

The curriculum focuses on basic definitions, interpretation of the problem and the most necessary computational relationships, which are explained by a number of practical examples. Students can deepen the theoretical knowledge acquired in lectures at computing seminars, where the solution of model problems occurring is practiced using ICT.

The exam in the subject consists of elaboration and defense of the year's work, according to the interest of the student and in consultation with the teacher, but it must contain a complete statistical processing and interpretation of the selected pharmaceutical problem.

Recommended literature:

Fazekaš, T.: Moderná aplikovaná štatistika pre farmaceutov. 1st edt. Bratislava: UK, 2000.

Hanousek, J., Charazma, P.: Moderní metódy spracování dat : matematická statistika pro každého. Praha: Grada, 1992. 216 p.

Meloun, M., Militký, J.: Statistické zpracování experimentálních dat. Praha: Plus, 1994. 23, 839 p.

Languages necessary to complete the course:

Slovak

Notes:

Past grade distribution

Total number of evaluated students: 8

A	ABS	B	C	D	E	FX
75,0	0,0	0,0	0,0	0,0	0,0	25,0

Lecturers: RNDr. Tomáš Fazekaš, PhD., RNDr. Alexander Búcsi, PhD.

Last change: 15.04.2024

Approved by: RNDr. Tomáš Fazekaš, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KChTL/09-Bc/00	Basics of Chemistry of Materials I.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 2 **per level/semester:** 28 / 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 3.

Educational level: I.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 267

A	ABS	B	C	D	E	FX
4,12	0,0	7,87	17,6	30,71	25,84	13,86

Lecturers: RNDr. Roman Mikláš, PhD., RNDr. Jana Korcová, PhD., Mgr. Anna Miňo, PhD.

Last change: 22.02.2024

Approved by:

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFCh/09-Bc/00	Basics of Chemistry of Materials II.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 4.

Educational level: I.

Prerequisites:

Recommended prerequisites:
Basics of Chemistry of Materials I.

Course requirements:
Completion of lectures and laboratory practices. Ongoing evaluation. During the semester, there will be two written tests of 20 points each. The student must obtain at least 12 points (60%) from each test. The exam will be written form. The test contains 25 questions. The questions concern definitions and divisions of certain pharmacological groups, physicochemical properties, and biotransformation of drugs, a configuration of isomers, receptors, main groups of chemical drugs, and evaluation of "structure-activity" relationships. Each question is evaluated for 2 points. An unlimited number of students can register for the test no later than 2 days before the exam date. The test lasts 2 hours. To obtain a rating A, it is necessary to get at least 47 points, to obtain an evaluation B at least 44 points, for rating C at least 39 points, for rating D at least 35 points, and an E rating of at least 30 points. Credits will not be awarded to a student who gets less than 30 points. Scale of assessment (preliminary/final): 50/50

Learning outcomes:
The course basics of chemistry of materials II. are based on the knowledge taught by the Department of Chemical Theory of Drugs and extends them to the pharmaceutical-chemical aspects of chemical drugs.

Class syllabus:
In this part, the student will learn the theoretical foundations of projection, preparation, and isolation of drugs as they understand the current state of development of pharmaceutical chemistry. Chemical drug development. The subject of study of pharmaceutical chemistry. Development stages. Basics of creating new drugs. Empirical selection of the 1st and 2nd generation drugs. Rational change in the structure of 3rd generation drugs. Computational methods of projection of 4th generation drugs. Hydrophilic and lipophilic factors in drug chemistry. Salt formation. Solubilizers. Derivatives creation. Isosteres, analogs, homologs, isomers. Spatial factors. Biochemical factors. Substrates as medicaments. Drugs as enzyme inducers. Inhibitors as drugs. Receptors. Drugs and their binding to proteins. The main groups of chemical drugs. Evaluation of "structure-activity" relationships of

selected pharmacological groups. Reprofiling of selected chemical drugs. Perspectives of chemical drugs.

Recommended literature:

Andriamainty, F., Malík, I.: Farmaceutická chémia. Vybrané liečivá - ich príprava a štúdium fyzikálno-chemických parametrov. Bratislava, UK 2010. 214 s.
Remko, M., Čižmárik, J.: Vybrané kapitoly z farmaceutickej chémie. Molekulové základy vývoja liečiv. Bratislava, UK 1997. 120 s.
Remko, M., Čižmárik, J., Sivý, J.: Teoretické základy farmaceutickej chémie. Bratislava, UK 1999. 150 s.
Remko, M.: Základy medicínskej a farmaceutickej chémie, 3. Vyd. Remedika, Bratislava, SR 2019, 480 s.

Languages necessary to complete the course:
slovak language

Notes:
the course is taught only in the summer semester

Past grade distribution
Total number of evaluated students: 239

A	ABS	B	C	D	E	FX
54,81	0,0	12,97	15,06	7,95	7,11	2,09

Lecturers: doc. Mgr. Fils Andriamainty, PhD., Mgr. Róbert Šandrik, PhD., PharmDr. Eva Salanci, PhD.

Last change: 21.03.2022

Approved by: doc. Mgr. Fils Andriamainty, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/20-Bc/22	Basics of Computer Data Processing

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:
There are two tests during the semester. At least 60% must be obtained for their successful completion. The exam is a written test.
100 – 95 %: A
94 – 85 %: B
84 – 75 %: C
74 – 65 %: D
64 – 60 %: E
< 59 %: Fx
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student is able to work independently and creatively in the field of data collection, processing and evaluation in electronic form. He / she is independently oriented in this area and can use procedures and techniques of working with data, understands data organization and is able to use current versions of standard application software in their professional activities.

Class syllabus:
The content of the course is an update of the student's abilities and skills to communicate with the means of computer technology at the level of the so-called standard application equipment as a result of intensive development in the technical and program area, which is an organic part of professional pharmaceutical activities in all branches of pharmaceutical sciences and practice.
Course syllabus:
· Qualified communication of the user with the computer, knowledge of working with devices, peripherals and media of computer technology,
· Data organization and its means, work with archive files (zip, rar, etc.) and their current tools,
· Word processing, creation and operations with text files, creation of tables and calculations in them, conversion to rtf, pdf formats,
· Spreadsheet and its user functions, including mathematical and statistical, graphing,
· Creation of presentations as specific document formats.

Recommended literature:
The literature is constantly updated at the exercises in the form of protocols. Due to the need for constant updating, students are provided with study texts on individual issues.

Languages necessary to complete the course:
Slovak language, English language

Notes:
The course is taught only in the summer semester of the academic year. The exercises require individual work of the student at the computer workplace.

Past grade distribution
Total number of evaluated students: 17

A	ABS	B	C	D	E	FX
52,94	0,0	23,53	11,76	0,0	0,0	11,76

Lecturers: doc. PharmDr. Tomáš Tesař, PhD., MBA, PharmDr. Zuzana Koblišková, PhD.

Last change: 31.03.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/16-Bc/22	Basics of Ethics

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 1 / 0 **per level/semester:** 14 / 0
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:
Completion of lectures in the specified extend. The exam performed by the written test with a minimum
success rate of 60%. The assessment: A = 100-93%, B = 92-85%, C = 84-77%, D = 76 -69%, E = 68-60%, FX = less than 60%.
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student will master basic terminology and definitions of philosophy of ethics, morals and morals, acquires a basic overview of the history of medical ethics and its developmental stages, basic knowledge of biomedical ethics and deontology, issues of the Universal Declaration of Human Rights and information on its origin, mission and types of ethics committees and the rights of patients and healthcare professionals. The student will get acquainted with ethical issues in the field of gynecology, paediatrics, geriatrics.

Class syllabus:
- Introduction to ethics - basics terms and definitions
- History of medical ethics
- Universal Declaration of Human Rights
- Biomedical ethics – basic ethical principles in medicine
- Code of ethics - deontology
- Ethical commissions – origin, mission and types of ethical commissions
- Patients and healthcare professionals rights
- Ethical issues in gynecology
- Ethical issues in paediatrics, childrens rights
- Ethical issues in geriatrics

Recommended literature:
1. Munzarová M.: Lékařský výzkum a etika, Praha, Grada 2005, 120 s.
2. Munzarová M.: Zdarvotnícka etika od A do Z, Praha, Grada 2005, 153 s.
3. Šoltés L., Pullmann R. a kol.:Vybrané kapitoly z medicínskej etiky, Martn, Osveta 2008, 257s.

4. Kišš L.: Sociálna etika: Bratislava UK, 2006, 385 s.
5. Šimek, J., Špalek V.: Filozofické základy lékařskéetiky, Praha, Grada 2003, 113 s.
6. Kutnohorská J.: Etika v ošetrovateľství, Praha, Grada 2007, 163

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 18

A	ABS	B	C	D	E	FX
22,22	0,0	5,56	11,11	22,22	5,56	33,33

Lecturers: PharmDr. Ľubica Lehocká, PhD., PharmDr. Lucia Masaryková, PhD.

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/19-Bc/22	Basics of Psychology and Law

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 1 / 2 **per level/semester:** 14 / 28
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 6.

Educational level: I.

Prerequisites:

Course requirements:
Completion of lectures and seminars in the specified extend.
The exam performed by the written test with a minimum success rate of 60%. The assessment: A = 100-93%, B = 92-85%, C = 84-77%, D = 76 -69%, E = 68-60%, FX = less than 60%.
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student will gain a basic overview of patient psychology, diseases and pharmacists, information about basic personality types, assertive behaviour, gain knowledge of how to manage conflict situations, stress, how to properly communicate with the elements of verbal and nonverbal communication, how to prepare for public performance, how to communicate with patients, colleagues, other healthcare professionals, the pharmaceutical industry, insurance companies or the media. Students use various tests to find out information about themselves (what type of personality they have to focus on when dealing with stressful and conflict situations, how they can improve their communication skills).
The student will gain basic information about the legal system, sources of law, the constitution, legislative norms in Slovakia and the EU, will master the handling of legal resources and will gain an overview of (not only) health legislation. He will gain an overview of medical law, legal liability in health care and legal aspects in public health.

Class syllabus:
1. Introduction to health psychology
2. Psychology of the patient and diseases, personality and psychology of the health worker
3. Social interaction and communication
4. Verbal and nonverbal communication in the work of a healthcare professional
5. Stress and how to fight it
6. Conflicts and possible solutions
7. Teamwork in healthcare, team leadership
8. Public speech, job interview, self-presentation
9. Introduction to law in healthcare, basic legal concepts
10. State, state establishment, constitution, legal systems, sources of law

11. Medical law, legal aspects of health care provision
12. Rights and obligations of health professionals and patients
13. Legal liability in healthcare
14. Public administration in the field of healthcare, administrative proceedings in healthcare

Recommended literature:

1. Zacharová, E., a kol.: Zdravotnická psychologie, Praha, Grada 2007, 232 s.
2. Říčan, P.: Psychologie osobnosti. Praha Grada, 2007, 200 s.
3. Kollárik, T.: Sociálna psychológia. Bratislava, UK, 2004, 548 s.
4. Bruno, T., Adamczyk, G.: Řeč těla, Praha, Grada, 2005, 112 s.
5. Morovicsová, E., a kol.: Komunikácia v medicíne, UK Bratislava, 2011, 212 s.
6. Tóth, K., a kol.: Právo a zdravotníctvo, Herba Bratislava, 2008, 388 s.
7. Tóth, K.: Organizácia štátnej správy a správne konanie pre sociálne štúdie. Herba Bratislava, 2011, 80 s.
8. Aktuálna zdravotnícka legislatíva

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 147

A	ABS	B	C	D	E	FX
36,05	0,0	21,09	24,49	10,88	6,12	1,36

Lecturers: PharmDr. Ľubica Lehocká, PhD., Ing. Mgr. Ingrid Slezáková

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/05-Bc/00	Biology

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
Student assessment consists of two written parts.
Control test - exercises - the result is 20% of the total evaluation of the subject.
Exam - written test - the result is 80% of the total evaluation of the course.
In each written part, the student must achieve at least 60% success rate
Grade Rating (%)
A 100.00 - 92.00
B 91.99 - 84.00
C 83.99 - 76.00
D 75.99 - 68.00
E 67.99 - 60.00
FX <60.00

Learning outcomes:
By completing the course the student acquires basic information about the position of molecular and cell biology in the pharmaceutical study and the scientific field of Pharmacy. The acquired knowledge is the basis for related medical disciplines: physiology, pathology, biochemistry, immunology, microbiology, molecular and general pharmacology, clinical disciplines and forms the basis for understanding the effects of biologically active molecules - drugs.

Class syllabus:
- - Chemical composition of living matter, biologically active macromolecules - carbohydrates, lipids, proteins, nucleic acids
- - Basic cell structure, cell theory, phylogeny, origin of cells and multicellular organisms. prokaryotic and eukaryotic cell. Non-membrane cell structures - cytology in terms of cell morphology and structure,
- - Cell membrane, membrane organelles, their structure and function
- - Membrane transport, cell connections.
- - Biocommunication, cellular receptors
- - DNA replication and DNA repair mechanisms
- - Gene expression - basic principles and regulation of transcription and translation.

- - Cell division and cell cycle, cell death
- - Germ cells, sexosomes, insemination. Ontogenesis. Stem cells
- - Chromatin, chromosomes, HUGO project. Introduction to genetics, Mendel's laws, investigative methods in genetics, human genetics, mutations, genetic engineering
- - Cellular and molecular biology of cancer, oncogenes, tumor suppressor genes, metastases

Recommended literature:

- Alberts, Bruce, et al. Essential cell biology. Garland Science, 2015..
- Alberts, Bruce, et al. Molecular biology of the cell. WW Norton & Company, 2017.
- Lodish, Harvey, et al..: Molecular Cell Biology, eight edition, W.H.Freeman and Company, 2016
- Kyselovič, J., Musil, P .: General Biology - Theoretical and Practical Instructions for Exercises: Stimul Bratislava, 2008, 124p.

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 377

A	ABS	B	C	D	E	FX
8,75	0,0	12,73	18,57	26,53	27,32	6,1

Lecturers: Mgr. Ondrej Sprušanský, PhD., Mgr. Lenka Bies Piváčková, PhD., PharmDr. Katarína Hadová, PhD., PharmDr. Csaba Horváth, PhD.

Last change: 13.12.2021

Approved by: Mgr. Ondrej Sprušanský, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFANF/07-Bc/15	Chemical Diagnostic and Health Instruments, their Properties and Standardization

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 2 **per level/semester:** 28 / 28
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 6.

Educational level: I.

Prerequisites:

Course requirements:
Continuous assessment: evaluation of the student's knowledge at the beginning of each laboratory practice in written form, evaluation of the assigned tasks for the exercise and written elaboration of the result of experimental work: a total of 10 points / practice. to successfully complete the exercise, it is necessary to achieve at least 60% of the total number of points
Final assessment after successful completion of the exercise – exam in written and oral form. A minimum of 60% is required to pass the exam.
Scale of assessment (preliminary/final): 50/50

Learning outcomes:
After completing the exercises, the student will gain an overview of the use of analytical chemistry and analytical methods used in quantitative analysis of substances, laboratory skills in quantitative analysis methods with emphasis on instrumental analytical methods. The student will gain theoretical and practical knowledge about materials and devices for analytical sampling, analytical reaction to evaluate the quality of materials used and reaction to evaluate samples of biological origin in vitro, but also in vivo.

Class syllabus:
• Sample preparation for instrumental analysis
• Pre-analytical phase of laboratory diagnostics.
• Chemical and biochemical reactions in diagnostics. Properties of analytical reagents.
• Standardization in chemical diagnostics - statistical evaluation of analytical results.
• Chemical diagnostic tools for the determination of the most common analytes.
• Instrumental analytical methods in diagnostics.
• Electrochemical methods (electrochemical methods of elemental analysis)
• Spectral methods (use of optical methods to evaluate the quality of diagnostic and medical devices)
• Separation methods in the evaluation of chemical and diagnostic devices (chromatographic methods with UV and VIS detection, electromigration methods with spectrometric evaluation)
• Nuclear characteristics of radionuclides. Nuclear analytical methods (determination of basic characteristics of radionuclides, determination and identification of heavy metals by RRFA method)

• Radiopharmaceuticals, their production and properties. Radiopharmaceutical quality evaluation. Use of radionuclides labeled substances in research, diagnostics and therapy.

Recommended literature:

• Mikuš, P., Piešťanský, J., Dokupilová, S.: Kvapalinová chromatografia, hmotnostná spektrometria a ich kombinácie vo farmaceutickej a biomedicínskej analýze, VEDA, Bratislava, 2018. 365s.
• Mikuš, P., Piešťanský, J.: Kapilárna elektroforéza, hmotnostná spektrometria a ich kombinácie vo farmaceutickej a biomedicínskej analýze, Učebnica pre farmaceutické fakulty a fakulty prírodovedného a technického smeru so zameraním na analytickú chémiu a farmaceutickú chémiu, VEDA, Bratislava, 2014. 312s.
• Chromý, V. a kol.: Bioanalytika, Analytická chemie v laboratorní medicíně. Masarykova Univerzita v Brně, 2002, s. 267.
• Králová, B., Fukal, L., Rauch, P.: Bioanalytické metody. Praha : Vysoká škola chemickotechnologická, 2001. S. 254.
• Tekeľ, J., Mikuš, P.: Vybrané kapitoly z analytickej chémie: analýza látok v biologických systémoch. Bratislava, Vydavateľstvo UK 2005, s. 194.
• Mikuš, P., Maráková, K.: Hyphenated electrophoretic techniques in advanced analysis. Bratislava : KARTPRINT, 2012. 217 s. (vedecká monografia)

Languages necessary to complete the course:
slovak language

Notes:

Past grade distribution
Total number of evaluated students: 240

A	ABS	B	C	D	E	FX
13,33	0,0	26,25	22,92	13,33	20,42	3,75

Lecturers: RNDr. Svetlana Dokupilová, PhD., PharmDr. Katarína Maráková, PhD., Ing. Ivan Benkovský, PhD.

Last change: 01.04.2022

Approved by: PharmDr. Katarína Maráková, PhD.

STATE EXAM DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF/100-Bc/22	**Course title:** Diagnostic Devices
Number of credits: 2	
Educational level: I.	

Course requirements:

Conditions for passing the state exam: Successful completion of all compulsory subjects of the recommended Bc. study plan with a minimum number of 174 credits for subjects taken during the study

Scale of assessment (preliminary/final): 0/100

Learning outcomes:

After completing the course, the student gains an overview of the use of analytical chemistry and the analytical methods used in quantitative analysis of substances, laboratory skills in methods of quantitative analysis with an emphasis on instrumental analytical methods. The student gains theoretical and practical knowledge of materials and aids for analytical sampling, has got a know how to carry out analytical reactions allowing evaluation of the quality of the materials used, reactions for the evaluation of samples of biological origin in vitro, as well as in vivo.

Class syllabus:

The content of the state subject Diagnostic Devices includes knowledge and basics in analytical methodology of 17 thematic areas:

1. Analyzed samples in laboratory diagnostics.
2. Preparation of samples for instrumental analysis, their collection, transport, adjustment for analysis, prevention of deterioration of samples, analysis protocol.
3. Pre-analytical phase of laboratory diagnostics and devices in the pre-analytical phase of laboratory diagnostics
4. Types of reactions most often used in diagnosis (chemical, enzymatic, RIA methods). Features of analytical reagents.
5. Standardization in chemical diagnostics, errors of analytical methods, statistical evaluation of the results of analysis.
6. Methods and procedures in diagnosis according to the level of reliability. Definitive methods, reference methods, routine methods. Reference materials used in laboratory diagnostics.
7. Diagnostic kits (one- and two-stage method) and their manufacture. Diagnostic strips, visual evaluation, evaluation by instrumental methods. Automatic analyzers in clinical biochemical laboratories.
8. Chemical diagnostic aids in the determination of the most common analytes.
9. Use of in vitro medical diagnostic devices in clinical biochemistry.
10. Instrumental analytical methods in diagnosis.
11. Electrochemical methods (electrochemical methods of element analysis). Potentiometry, principle. The use of ion-selective electrodes in diagnostics.
12. Spectral methods (use of optical methods to evaluate the quality of diagnostic and medical devices)

13. Instrumental analytical methods of element analysis (RFA, AAS, AES), principle and their application.
14. Separation methods in the evaluation of chemical and diagnostic devices (chromatographic methods with UV and VIS detection, electromigration methods with spectrometric evaluation).
15. Nuclear characteristics of radionuclides. Nuclear analytical methods (determination of the basic characteristics of radionuclides, determination and identification of heavy metals by RRFA).
16. Radiopharmaceuticals, their production and properties. Characteristics and significance of radiopharmaceuticals, quality evaluation of radiopharmaceuticals.
17. Use of radionuclides of labeled substances in research, diagnosis and therapy. Imaging of organs and investigation of organ functions using radiopharmaceuticals (in vivo).

State exam syllabus:

The content of the state exam of the Diagnostic Devices results from the syllabus related to analytical methodology of 17 thematic areas:
1. Analyzed samples in laboratory diagnostics.
2. Preparation of samples for instrumental analysis, their collection, transport, adjustment for analysis, prevention of deterioration of samples, analysis protocol.
3. Pre-analytical phase of laboratory diagnostics and devices in the pre-analytical phase of laboratory diagnostics
4. Types of reactions most often used in diagnosis (chemical, enzymatic, RIA methods). Features of analytical reagents.
5. Standardization in chemical diagnostics, errors of analytical methods, statistical evaluation of the results of analysis.
6. Methods and procedures in diagnosis according to the level of reliability. Definitive methods, reference methods, routine methods. Reference materials used in laboratory diagnostics.
7. Diagnostic kits (one- and two-stage method) and their manufacture. Diagnostic strips, visual evaluation, evaluation by instrumental methods. Automatic analyzers in clinical biochemical laboratories.
8. Chemical diagnostic aids in the determination of the most common analytes.
9. Use of in vitro medical diagnostic devices in clinical biochemistry.
10. Instrumental analytical methods in diagnosis.
11. Electrochemical methods (electrochemical methods of element analysis). Potentiometry, principle. The use of ion-selective electrodes in diagnostics.
12. Spectral methods (use of optical methods to evaluate the quality of diagnostic and medical devices)
13. Instrumental analytical methods of element analysis (RFA, AAS, AES), principle and their application.
14. Separation methods in the evaluation of chemical and diagnostic devices (chromatographic methods with UV and VIS detection, electromigration methods with spectrometric evaluation).
15. Nuclear characteristics of radionuclides. Nuclear analytical methods (determination of the basic characteristics of radionuclides, determination and identification of heavy metals by RRFA).
16. Radiopharmaceuticals, their production and properties. Characteristics and significance of radiopharmaceuticals, quality evaluation of radiopharmaceuticals.
17. Use of radionuclides of labeled substances in research, diagnosis and therapy. Imaging of organs and investigation of organ functions using radiopharmaceuticals (in vivo).

Recommended literature:

• Mikuš, P., Piešťanský, J., Dokupilová, S. 2018. Kvapalinová chromatografia, hmotnostná spektrometria a ich kombinácie vo farmaceutickej a biomedicínskej analýze, VEDA, Bratislava, 2018. 365 s.

• Mikuš, P., Piešťanský, J. 2014. Kapilárna elektroforéza, hmotnostná spektrometria a ich kombinácie vo farmaceutickej a biomedicínskej analýze, Učebnica pre farmaceutické fakulty a fakulty prírodovedného a technického smeru so zameraním na analytickú chémiu a farmaceutickú chémiu, VEDA, Bratislava, 2014. 312 s.
• Chromý, V. a kol. 2002. Bioanalytika, Analytická chemie v laboratorní medicíně. Masarykova Univerzita v Brně, 2002. 267 s.
• Králová, B., Fukal, L., Rauch, P. 2001. Bioanalytické metody. Praha : Vysoká škola chemickotechnologická, 2001. S. 254.
• Tekeľ, J., Mikuš, P. 2005. Vybrané kapitoly z analytickej chémie: analýza látok v biologických systémoch. Bratislava, Vydavateľstvo UK 2005, s. 194.

Last change: 30.08.2022

Approved by:

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KBMBL/10-Bc/22	Diagnostic Immunonology

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 4.

Educational level: I.

Prerequisites:

Course requirements:
During the semester there will be 2 written tests, for successful completion it is necessary to obtain at least 60% of points from each of them. The student can have justified max. 2 exercises, the preparation of which will be tested. The student must submit correctly prepared and evaluated protocols from all completed exercises. The final exam will be in written form and for its successful completion it is necessary to obtain at least 60% of points.

Learning outcomes:
The student will gain knowledge about the function of the immune system and get acquainted with the diagnosis of the human immune profile, diagnostic methods, and preparations for the examination of cellular and humoral immunity. He/She will understand the principles of immunochemical techniques used to isolate and evaluate selected immune factors, procedures used in the preparation and purification of vaccines, immunosera and other immunological diagnostics.

Class syllabus:
The course deals with the immune system and diagnostic methods used to evaluate it. It deals with the preparation and purification of antigens and antibodies for diagnostics, evaluation of cellular and humoral immunity factors and immunochemical techniques. The course deals with the latest modern techniques for the preparation of recombinant and subunit vaccines, monoclonal antibodies, and immunodiagnostic kits. A separate part consists of immunoanalytical techniques used for the detection of antigens and antibodies.

Recommended literature:
Kiňová Sepová H., Bilková A., Hrčka Dubničková M., Dudík B.: Imunologické metódy: princípy a návody na cvičenia. Bratislava: UK, 2021. 147 s.
Buc, M: Základná a klinická imunológia. Bratislava : Veda, 2012. 831 s.
Kolektív autorov: Vyšetrovacie metódy v imunológii. Bratislava: UK 2014. 190 s.

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 2

A	ABS	B	C	D	E	FX
0,0	0,0	0,0	50,0	50,0	0,0	0,0

Lecturers: doc. Mgr. Andrea Bilková, PhD., PharmDr. Hana Kiňová Sepová, PhD., doc. Mgr. Martina Hrčka Dubničková, PhD., Mgr. Jana Hricovíniová, PhD.

Last change: 16.02.2023

Approved by: PharmDr. Hana Kiňová Sepová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/15-Bc/00	First Aid

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:

Learning outcomes:
First aid should be a natural part of general care of persons affected by a sudden damage to their health. Pharmacists as healthcare workers must master the basics of first aid and, if necessary, they must be able to provide expert first aid treatment to an affected person before the arrival of a doctor of medicine.

Class syllabus:
Characteristics of the subject, basic concepts, aims of the subject, legislation. Motivational background of first aid provision (personal and legal). Basic life functions. Respiratory system, heart and blood circulation, relation to first aid. Transport of oxygen. Diagnostics of the basic life functions. Basic life-saving procedures. General principles of first aid provision. Basic support of life functions. Cardiopulmonary resuscitation. Automatic external defibrillation. Acute coronary syndrome - prevention and first aid. Sudden stroke - prevention and first aid. Disturbances of respiration, suffocation, first aid. Convulsive states. Unconsciousness, intoxications. Severe injuries. Injuries, bleeding. Shock - causes, symptoms, first aid. Burns and scalding. Effects of extreme temperatures (hypothermia, overheating, heatstroke). Injury due to electrical current. Accidents with a mass injury of persons. Practice of resuscitation.

Recommended literature:
Kalig K.: Prvá pomoc pre tých, čo ju poskytujú, a pre tých, čo ju potrebujú. Rescue Man, 2008
Van de Velde S et al.: European first aid guidelines, Resuscitation, 2006
Miriana Pištejová, Dušan Kraus: Prvá pomoc v praxi, Rokus 2017
Robin Šin, Petr Štourač a Jana Vidunová: Lékařska první pomoc, Galén 2019
Viliam Dobiaš: Volali ste záchranku? Dixit 2020
Viliam Dobiaš: 5P. Prvá pomoc pre pokročilých poskytovateľov. II. rozšírené vydanie. Dixit 2022
Masár O a kol.: PRVÁ POMOC PRE MEDIKOV. Univerzita Komenského v Bratislave, 2012. ISBN 978-80-223-3257-6. Online https://www.fmed.uniba.sk/fileadmin/lf/sluzby/akademicka_kniznica/PDF/Elektronicke_knihy_LF_UK/Prva_pomoc_pre_medikov.pdf

International First Aid and Resuscitation Guidelines 2020. International Federation of Red Cross and Red Crescent Societies, Geneva, 2020. 1303500 05/2016 E. Online: https://www.ifrc.org/sites/default/files/2022-02/EN_GFARC_GUIDELINES_2020.pdf

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 338

A	ABS	B	C	D	E	FX
49,7	0,0	25,74	10,95	7,99	3,25	2,37

Lecturers: PharmDr. Dominika Dingová, PhD., PharmDr. Tomáš Rajtík, PhD.

Last change: 19.04.2024

Approved by: PharmDr. Tomáš Rajtík, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/27-Bc/22	Fundamentals of Law for Healthcare Professionals

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 1 / 2 **per level/semester:** 14 / 28
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 6.

Educational level: I.

Prerequisites:

Course requirements:
During the semester, two practical cases will be solved using uncommented legislation of 25 points each. Credits will not be awarded to a student who obtains less than 12 points from any written test. The minimum success limit for both written tests is 60 %. Evaluation scale: A: 92-100%, B: 83-91%, C: 76-82%, D: 68-75%, E: 60-67%, Fx: 59% and less.

Learning outcomes:
Student receive an overview and practical skills in those areas of law with which he will come into contact after graduation as an economically active person, especially in the field of liability law, civil, labor and administrative law.

Class syllabus:
1. Introduction to legal disciplines - legal norms, principles, general concepts.
2. Basics of civil law - Act No. 40/1964 Coll. Civil code.
3. Civil, criminal, disciplinary and contractual liability for damage/injury.
4. Introduction to employment law.
5. Employment relationship - pre-contractual relations, commencement and termination of employment.
6. Rights and obligations of the contracting parties.
7. Job description and work discipline.
8. Responsibility in labor law.
9. Decisions, applications.
10. Administrative proceedings - administrative bodies, procedural parties, representation.

Recommended literature:
platné právne normy – najmä zákon č. 40/1964 Zb. občiansky zákonník, zákon č. 71/1967 Zb. správny poriadok a zákon č. 311/2001 Z. z. zákonník práce

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 4

A	ABS	B	C	D	E	FX
75,0	0,0	0,0	0,0	25,0	0,0	0,0

Lecturers: doc. PharmDr. Tomáš Tesař, PhD., MBA, JUDr. PhDr. Lilla Garayová, PhD.

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/20-Bc/00	Fundamentals of Pharmacology (1)

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 3.

Educational level: I.

Prerequisites:

Course requirements:
It is required that the students attend lectures and pass a written exam, with a result of minimum 60%
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
Students shall adopt an overview of pharmacology in general, learn about mechanisms of drug action as well as their fate in the body, learn about therapeutic and adverse effects of drugs and gain a basic overview of drugs acting on central and peripheral nerve systems, skeletomusculst system and smooth muscle.

Class syllabus:
Pharmacology and toxicology, general terms, placement in the system of sciences. Terminology, drug, medicine, nomenclature. Pharmacokinetics. Pharmacodynamics, drug actions and their mechanisms. Development of new drugs and medicines. Risks associated with the use of drugs, interactions. Drugs acting on the nerve systems. Toxicology of drugs. Drug abuse, addiction. Psychoactive drugs. Drugs acting on peripheral nerve systems. Drugs acting on pain. Drugs influencing skeletomuscular system. Drugs acting on smooth muscle.

Recommended literature:
Votava M, Slíva J: Farmakologie v kostce. Triton 2021. ISBN 9788075538932
Mirossay L, Mojžiš J. a kolektív: Základná farmakológia a farmakoterapia, Equilibria s.r.o., Košice 2021

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 254

A	ABS	B	C	D	E	FX
5,12	0,0	14,57	23,62	31,1	22,44	3,15

Lecturers: prof. RNDr. Magdaléna Kuželová, CSc., doc. PharmDr. Peter Křenek, PhD., PharmDr. Elena Ondriašová, CSc., prof. PharmDr. Ján Klimas, PhD., MPH, PharmDr. Gabriel Dóka, PhD., prof. PharmDr. Adriana Duriš Adameová, PhD.
Last change: 19.04.2024
Approved by: doc. PharmDr. Peter Křenek, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/21-Bc/15	Fundamentals of Pharmacology (2)

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 4.

Educational level: I.

Prerequisites:

Course requirements:
The requirement for passing the subject is the presence at lectures and practical exercises, passing a written test at the exercises with a minimum of 60% success rate, passing a written exam during the examination period, with a minimum of 60%.

Learning outcomes:
The students shall adopt an overview of drugs influencing the blood, cardiovascular system, gastrointestinal system, endocrine glands and their diseases, during practical exercises, they shall become acquainted with principles of pharmacodynamics and pharmacokinetics, medical devices used for the therapeutic monitoring of diabetes and hypertension

Class syllabus:
Drugs influencing blood and its functions. Drugs acting on the cardiovascular system. Drugs acting on the gastrointestinal system. Antimicrobial drugs. Pharmacology of hormones. Antihypertensives. Antidiabetic drugs. Anticancer drugs. Biological drugs. Locally acting drugs.

Recommended literature:
Votava M, Slíva J: Farmakologie v kostce. Triton 2021. ISBN 9788075538932
Mirossay L, Mojžiš J. a kolektív: Základná farmakológia a farmakoterapia, Equilibria s.r.o., Košice 2021

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 240

A	ABS	B	C	D	E	FX
7,08	0,0	21,25	22,5	21,67	23,33	4,17

Lecturers: doc. PharmDr. Peter Křenek, PhD., prof. RNDr. Magdaléna Kuželová, CSc., PharmDr. Elena Ondriašová, CSc., prof. PharmDr. Ján Klimas, PhD., MPH, PharmDr. Gabriel Dóka, PhD., prof. PharmDr. Adriana Duriš Adameová, PhD.
Last change: 19.04.2024
Approved by: doc. PharmDr. Peter Křenek, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/05-Bc/22	Health Economics

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 2 / 2 **per level/semester:** 28 / 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 5.

Educational level: I.

Prerequisites:

Course requirements:
1. Obligatory participation in seminars. Absence on the seminar must be proved by the reason for absence and the seminar must be replaced in agreement with the teacher.
2. Continuous test with a minimum success rate of 60%. In the case of 59% and less, the student has one alternative attempt.
3. Only students who have met the above conditions are accepted for the exam (required participation in seminars, continuous test at least 60%). Completion of the course is done by a written exam with a minimum success rate of 60%. Rating: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, FX = 59% and less.

Learning outcomes:
By completing the course, the student will gain basic theoretical knowledge of economics in health care, understand the system of health care financing, the principles of health insurance, pricing, and reimbursement of medical devices.

Class syllabus:
1. Health economics and healthcare. Healthcare delivery systems in Slovakia and the EU.
2. Basic concepts of health systems. Basic models of health systems.
3. Health care reforms in the Slovak Republic. Provision of health care in the Slovak Republic. Management and supervision of health care in the Slovak Republic.
4. Health care financing. Financial flows, sources, and methods of health care financing. Types of financing health care providers in the Slovak Republic.
5. Health insurance in the Slovak Republic. Revenues and redistribution of public health insurance. Health care expenditure.
6. Principles of pricing and reimbursement of medical devices in the Slovak Republic.
7. Pharmacoeconomics as a part of health care cost regulation. Health policy and evaluation of health technologies. Medical and economic analysis of medical devices.
8. Cross-border health care in the Slovak Republic.
9. DRG system and its implementation in Slovakia.
10. Enterprise (dispensary for medical devices) as an economic unit. Principles of financial planning of the organization. Budget. Basics of accounting.

Recommended literature:

1. Ozorovský, V., Vojteková I. a kol. 2016. Zdravotnícky manažment a financovanie. 1. vyd. Bratislava: Wolters Kluwer, 2016, 344 s. ISBN 978-80-8168-522-4.
2. Mináriková, D. a kol. 2015. Zdravotnícke pomôcky – legislatíva a regulácia. Martin: Osveta, 2015, 223 s. ISBN 978-80-8063-418-6.
3. Mináriková, D. a kol. 2018. Zdravotnícke pomôcky - princípy úhradovej kategorizácie. Bratislava: Univerzita Komenského, 2018. Dostupné online, ISBN 978-80-223-4479-1.
4. Foltán, V. 2010. Sociálna farmácia a zdravotníctvo. Martin: Osveta, 2010, 203 s. ISBN 978-80-8063-333-2.
5. Barták, M. 2010. Ekonomika zdraví. 1. vyd. Praha: Wolters Kluwer ČR, 2010. 224 s. ISBN 978-80-7357-503-8.
6. Current legislation.

Languages necessary to complete the course:

Slovak language.

Notes:

Past grade distribution

Total number of evaluated students: 147

A	ABS	B	C	D	E	FX
28,57	0,0	13,61	25,17	12,24	19,73	0,68

Lecturers: doc. PharmDr. Daniela Mináriková, PhD., doc. PharmDr. Tomáš Tesař, PhD., MBA

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/21-Bc/22	Health Informatics

Educational activities:
Type of activities: practicals / lecture
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 4.

Educational level: I.

Prerequisites:

Course requirements:
There are two tests during the semester. At least 60% must be obtained for their successful completion.
100 - 95%: A
94-85%: B
84-75%: C
74-65%: D
64 - 60%: E
<59% FX
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student is able to work independently with information systems of drugs and drugs, interpret data on drugs and drugs in their wide range of pharmaceutical and clinical issues. Upon successful completion of this course, students are qualified to use procedures and techniques of working with pharmaceutical databases and understand the flow of information in the field of drugs and medicines, including the ability to work with bibliographic databases.

Class syllabus:
· Information system as a central concept of pharmacoinformatics,
· Pharmaceutical computing,
· Computer as a means of realizing the pharmacist's professional requirements for handling professional pharmaceutical data and media,
· Current information systems, drug and drug databases,
· Compatibility of pharmaceutical data, their current types and shapes.
· Drugs and medicines, their properties in terms of their IT specificity and with regard to needs formulated by the information process,
· Local and network technologies in the field of medicines and drugs and work with them,
· Seminars are active and individual communication with the computer on workstations computer laboratories in solving pharmacoinformatics problems,
· Creation of abilities, knowledge and skills in solving theoretical and practical information

problems with medicines and drugs,
· Knovel, virtual libraries, bibliographic databases.

Recommended literature:

Languages necessary to complete the course:
Slovak language, English language.

Notes:
The course is taught only in the summer semester.

Past grade distribution
Total number of evaluated students: 162

A	ABS	B	C	D	E	FX
13,58	0,0	7,41	21,6	12,35	45,06	0,0

Lecturers: doc. PharmDr. Tomáš Tesař, PhD., MBA, PharmDr. Zuzana Koblišková, PhD.

Last change: 31.03.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KBMBL/15-Bc/22	Healthcare Hygiene

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 1 / 1 **per level/semester:** 14 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 4.

Educational level: I.

Prerequisites:

Course requirements:
During the semester there will be one written test with the number of points 20, to obtain the final rating A it is necessary to obtain at least 18.5 points, to obtain the rating B at least 17 points, to obtain rating C at least 15 points, to obtain rating D at least 13.5 points and evaluation E at least 12 points. Credits will not be awarded to students who obtain less than 12 points from any written examination. To obtain credit, it is necessary to provide a final exam in writing with a minimum success rate of 60%.

Learning outcomes:
In the first part, Healthcare Hygiene is characterized by the basic components of the environment and their effects on human health. After completing environmental hygiene, the student will be familiar with the possibilities of creating healthy conditions in the environment. The course focuses on explaining the facts that are most important for a healthcare worker, ie the rules for air, water and waste hygiene in medical (laboratory) conditions. The student must also connect with the basic rules of nutrition, food handling and hygienic work. As a health care professional, the student acquires the ability to ensure and evaluate both the hygiene of medical facilities, as well as the handling of medical devices. The graduate of the course will be theoretically and partly also practically prepared to meet the microbiological requirements when working in a medical facility. During the exercise, the primary goal is to gain skills over the checkpoint, which is the technique of each aseptic method (so-called prevention of microbial contamination when handling the sample and laboratory culture).

Class syllabus:
The position of hygiene and its role in the field of health, air, water, waste, nutrition and work, the importance, requirements and requirements of hygiene in medical facilities, working with medical devices and their control, evaluation of microbiological purity of medical devices in terms of requirements for their sterility and non-sterility. The basic content of Medical Hygiene is based on the current state of individual departments concerning the hygiene of a particular environment and the rules or methods used in practice.
Syllabus of lectures:
1. The position of hygiene in the health care system, the role of the hygiene service. Man, and his environment.

2. Air hygiene - the action of physical, chemical, and biological factors on humans. Air quality during product preparation.
3. Water hygiene - properties of water depending on the origin and use. Drinking water supply. Water in medical facilities.
4. Waste-health risks for humans. Provision of solid, liquid and special waste. Wastes from medical facilities.
5. Nutritional hygiene. Rational nutrition, nutritional criteria, nutritional needs.
6. Nutrition-related poisonings and infections. Hygiene of food preparation.
7. Hygienic work. Work environment factors affecting human performance. Work performance, ergonomics, and rest.
8. Hygiene of medical facilities, requirements for the construction of the plant.
9. Environmental contamination of medical facilities and hygiene regime. Personal hygiene of workers in a medical facility.
10. Hygiene of product preparation.
11. Sterile products. Hygiene measures in terms of the good manufacturing practice.
12. Evaluation of sterility and microbiological purity of products.
13. The impact of the environment on the human system
Laboratory practices:
1) The air in the galenical laboratory. Air quality in the preparation of drugs.
2) Water Aqua purificata (Purified water). Water quality requirements for drug preparation.
3) Validation of the hygienic regime. Validation of disinfectants.
4) Microbiological quality of drugs. Requirements for the microbiological purity of pharmaceutical products.
5) Products are required to be sterile preparations.
6) Products are not required with the test for sterility.

Recommended literature:

Dubničková M, Bilková A.: Hygiena pre farmaceutov. Bratislava: UK, 2011, 116 s.
Drobná E., ., Hrčka Dubničková M., Greifová G: Praktické cvičenia z mikrobiológie pre farmaceutov. Bratislava: UK, 2021, 174 s.
Tuček M. a kol.: Hygiena a epidemiologie. Praha: Karolinum 2018, druhé vydaní. 358s
Podstatová H.: Základy epidemiológie a hygieny. Praha: GALÉN 2009. 158s
Ševčíková a kol.: Hygiena. Bratislava: UK, 2006. 328 s.
Gopfertová D. a kol.: Mikrobiológie, imunológie, epidemiológie a hygiena. Praha: TRITON. 2002. 148s.

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 161

A	ABS	B	C	D	E	FX
33,54	0,0	30,43	21,74	6,83	6,83	0,62

Lecturers: doc. Mgr. Martina Hrčka Dubničková, PhD., doc. Mgr. Andrea Bilková, PhD., Mgr. Eva Drobná, PhD., PharmDr. Hana Kiňová Sepová, PhD., PharmDr. Gabriela Greifová, PhD.

Last change: 28.03.2022

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/24-Bc/22	History of Medical Devices

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
The evaluation of students takes place in the form of a written exam (70% of the final evaluation) and mandatory is elaboration of a seminar paper in the form of an essay as well (30% of the final evaluation). Minimum success rate: 60%. Rating: A: 100-92%, B: 91-85%, C: 84-78%, D: 77-70%, E: 69-60%, FX: 59% and less.
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
By completing the study course, the student aquires basic information about the historical development of medical devices in the context of social development, focusing on the territory of Europe and Slovakia. They will get acquainted with changes in the social status of pharmacy, drugs and medicines, medical devices in the perception of health and disease in different times and cultures. Completion of this course also contributes to the formation of professional ethical opinions and professional pride of students.

Class syllabus:
1. History of pharmacy as a scientific field, basic terminology.
2. Periodization of the history of pharmacy.
3. Prehistoric medicine.
4. Medicine in ancient cultures.
5. Separation of pharmaceutical function from medicine.
6. Pharmacy as a relatively separate field. Pre-classical and classical pharmacy.
7. Differentiation of pharmacy – development of pharmaceutical sciences.
8. Differentiation of pharmacy – development of pharmaceutical branches (industry, wholesale distribution, pharmacy, education, research, control).
9. Pharmaceutical associations and organizations - development with a focus on the territory of Slovakia.
10. History of drugs, medicines and medical devices.

Recommended literature:
Rusek, V. – Kučerová, M.: Úvod do studia farmacie a dějiny farmacie. Praha: Avicenum, 1983.

Bartunek, A.: Dejiny slovenského lekárnictva I. (do roku 1918). Prešov: AB Art Gallery, 2012.
Bartunek, A.: Osobnosti slovenského lekárnictva. Martin: Osveta, 2001.
Broncová, D. (ed.): Historie farmacie v českých zemích. Praha: Milpo Media, 2003.
Rusek, V. a kol.: Kapitoly z dějin československé farmacie. Bratislava: SPN, 1970.
Smečka, V. – Rusek, V. – Kolář, J. : Lékarenství I. Vývojové kroky československých lékáren se zřetelem k činnosti výdejní. Brno: VFU, 2008

Languages necessary to complete the course:
Slovak language

Notes:
The course is taught only in the winter semester

Past grade distribution
Total number of evaluated students: 13

A	ABS	B	C	D	E	FX
69,23	0,0	15,38	0,0	0,0	0,0	15,38

Lecturers: doc. PharmDr. Tomáš Tesař, PhD., MBA, Ing. Mgr. Ingrid Slezáková

Last change: 04.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/02-Bc/00	Human Anatomy and Physiology

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 2 **per level/semester:** 28 / 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
1) 100% presence at practical exercises. Justified absence (max 2x) is compensated by:
a) substitute exercise
b) written work
2) sufficiently proven readiness for practical exercises
3) successful passing of the final exam in the form of a written test, with a minimum of 60% success rate

Learning outcomes:
After successfully ending the tuition process, the student should be able to master the basics of human anatomy and physiology. At the same time, the students should know the basic imaging methods, the most commonly determined biochemical parameters of select systems of the human body, the devices most commonly used for the examination of major physiological processes in the human body.

Class syllabus:
- Basic terminology in anatomy and physiology. Anatomy of the nervous system. Protection and nutrition of the CNS.
- physiology of the nervous system (sensory, motor, integration system)
- anatomy and physiology of muscles (smooth, striated and heart muscle; neuromuscular junction)
- anatomy of the cardiovascular system (heart, vessels, systemic and pulmonary circulation)
- physiology of the heart and circulation (cardiac cycle, blood supply of the heart, ECG, blood pressure, arterial and venous hemodynamics, microcirculation, portal circulation)
- blood components, coagulation and immune system (blood cells and their functions, non-cellular components of blood, basics of blood coagulation)
- anatomy and physiology of respiration (respiratory system, mechanics of breathing, transport and exchange of gasses, control of respiration)
- anatomy and physiology of the gastrointestinal system. Basics of digestion, secretory functions, enterohepatic circulation.
- anatomy and physiology of the urological system (anatomy, physiology of the kidneys and urinary tract, urine and basic mechanisms of its formation)

- reproductive system, sex hormones, reproduction and pregnancy (anatomy, physiology of the male and female sex organs, function of sex hormones, fertilization, prenatal development)
- endocrine system and hormonal control of the body (hormones and their feedback systems, hypothalamus-pituitary system, thyroid hormones, homeostasis hormones)
- general osteology (bone tissue, development and growth of bones, bone as an organ. Functions of bone and its relation to bone composition)

Recommended literature:

Andrea Čalkovská: Fyziológia človeka pre nelekárske študijné odbory, Vydavateľstvo Osveta, 2010 Stefan Silbernagl, Agamemnn Despopoulos: Atlas fyziologie člověka, Vydavateľstvo Grada, 2004
Javorka K. a kol.: Lekárska fyziológia. Vydavateľstvo Martin Osveta, 2009

Languages necessary to complete the course:

Slovak language

Notes:

Past grade distribution

Total number of evaluated students: 428

A	ABS	B	C	D	E	FX
14,25	0,0	12,62	20,33	18,22	22,43	12,15

Lecturers: doc. MUDr. Tatiana Stankovičová, CSc., PharmDr. Eva Kráľová, PhD., PharmDr. Tomáš Rajtík, PhD., PharmDr. Zuzana Kiliánová, PhD., PharmDr. Attila Kulcsár, PhD., prof. PharmDr. Ján Klimas, PhD., MPH, doc. PharmDr. Stanislava Kosírová, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD., PharmDr. Csaba Horváth, PhD.

Last change: 09.12.2021

Approved by: doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/11-Bc/15	**Course title:** Internship in Health Institutions
Educational activities: **Type of activities:** practice **Number of hours:** **per week:** **per level/semester:** 2t **Form of the course:** on-site learning	
Number of credits: 4	
Recommended semester: 5.	
Educational level: I.	
Prerequisites:	
Course requirements: The evaluation of students is given according to the number of acquired % at the end of the internship from the responsible professional, the minimum success rate is 60%. Rating: A: 93-100%, B: 85-92%, C: 77-84%, D: 69-76%, E: 60-68%, Fx: 59% and less. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: By completing the course, the student gets acquainted with the environment of a real medical device dispensary (ZP), acquires orientation in the range of ZP dispensary and masters the basic professional activities necessary for work in the ZP dispensary under the guidance of a responsible specialist.	
Class syllabus: 1. Operating rules of the dispensing of medical devices. 2. Form and requisites of medical voucher, validity of medical voucher, control of correctness of expenditure, processing of medical vouchers for health insurance companies, information potential of medical voucher. 3. Expenditure activity: activities within the scope of dispensing medical devices on a medical voucher, storage of medical devices. 4. Overview of the range of medical devices (distribution of medical devices according to the rate of reimbursement, categorization list, prescription and indication restrictions). 5. Working with pharmaceutical software, use in practice. 6. Ordering goods for medical facilities, order requirements. 7. Dispensation: information activity accompanying the expenditure of ZP (optimization of dispensation within the individual patient care), consultations with other health care providers. 8. Information and consulting activities on medical devices, work with information sources, their use and active search, counselling. 9. Control activity, documentation activity in the ZP dispensary. 10. Economics, logistics and marketing in the ZP dispensary: ordering of medical devices, movement of goods within the commercial and warehouse records, accounting and administration, invoicing, documentation kept by the ZP dispensary.	

11. Ethics of professional performance and communication (code of ethics of a healthcare professional, communication with the patient, in the work team and with other healthcare providers).

Recommended literature:

Zákon č. 362/2011 Z. z. o liekoch a zdravotníckych pomôckach a o zmene a doplnení niektorých zákonov
Zákon č. 363/2011 Z. z. o rozsahu a podmienkach úhrady liekov, zdravotníckych pomôcok a dietetických potravín na základe verejného zdravotného poistenia a o zmene a doplnení niektorých zákonov
Zákon č. 576/2004 Z. z. o zdravotnej starostlivosti, službách súvisiacich s poskytovaním zdravotnej starostlivosti a o zmene a doplnení niektorých zákonov
Zákon č. 578/2004 Z. z. o poskytovateľoch zdravotnej starostlivosti, zdravotníckych pracovníkoch, stavovských organizáciách v zdravotníctve a o zmene a doplnení niektorých zákonov
Zákon č. 580/2004 Z. z. o zdravotnom poistení a o zmene a doplnení zákona č. 95/2002 Z. z. o poisťovníctve a o zmene a doplnení niektorých zákonov
Zákon č. 581/2004 Z. z. o zdravotných poisťovniach, dohľade nad zdravotnou starostlivosťou a o zmene a doplnení niektorých zákonov
Zákon č. 147/2001 Z. z. o reklame a o zmene a doplnení niektorých zákonov
Vyhláška č. 129/2012 Z. z. o požiadavkách na správnu lekárenskú prax
Nariadenie vlády SR č. 296/2010 Z. z. o odbornej spôsobilosti na výkon zdravotníckeho povolania, spôsobe ďalšieho vzdelávania zdravotníckych pracovníkov, sústave špecializačných odborov a sústave certifikovaných pracovných činností.

Languages necessary to complete the course:

Slovak language

Notes:

Internship week is a time period characterized by five working days, with a working time of 7,5 hours / day, ie the student must complete 10 days of 7,5 hours of internship. Public holidays are not included in the internship period, the student must work on them.

Past grade distribution

Total number of evaluated students: 247

A	ABS	B	C	D	E	FX
88,26	0,0	9,72	2,02	0,0	0,0	0,0

Lecturers: PharmDr. Ľubica Lehocká, PhD., PharmDr. Miroslava Snopková, PhD.

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFB/09-Bc/22	Introduction to Botany and Pharmacognosy

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 3.

Educational level: I.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 3

A	ABS	B	C	D	E	FX
66,67	0,0	0,0	33,33	0,0	0,0	0,0

Lecturers: prof. PharmDr. Pavel Mučaji, PhD., prof. Ing. Miroslav Habán, PhD., PharmDr. Vladimír Forman, PhD., Mgr. Ondrej Ďuriška, PhD.

Last change: 29.06.2022

Approved by: prof. PharmDr. Pavel Mučaji, PhD., prof. Ing. Milan Nagy, CSc.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KJ/09-Bc/15	Latin Terminology for Healthcare Professional (1)

Educational activities:
Type of activities: seminar
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
Active participation, taking the final test with a success rate of at least 60%.
Grading scale:
100 – 91% = A
90 – 81% = B
80 – 73% = C
72 – 66% = D
65 – 60% = E
59 – 0% = Fx
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After successfully completing the course, the student is able to use medical terminology, especially anatomical and pathological, which is a necessary condition for his or her successful application in various types of medical facilities.

Class syllabus:
1. lesson: Introduction to the study. Nouns of the 1st declension. Verb sum, esse.
2. lesson: Nouns of the 2nd declension – masculines. Verbs of the 1st conjugation.
3. lesson: Nouns of the 2nd declension – neuters. Adjectives of the 1st and 2nd declensions. Verbs of the 2nd conjugation.
4. lesson: Nouns of the 4th declension. Verbs of the 4th conjugation.
5. lesson: Nouns of the 5th declension. Verbs of the 3rd conjugation.
6. lesson: Nouns of the 3rd declension: models pulmo, tumor.
7. lesson: Nouns of the 3rd declension: models paries, pars.
8. lesson: Nouns of the 3rd declension: models corpus, nomen.
9. lesson: Nouns of the 3rd declension: models models pelvis, rete.
10. lesson: Adjectives of the 3rd declension – 1-termination and present participle.
11. lesson: Adjectives of the 3rd declension – 2-termination and 3-termination.
12. lesson: Regular comparison of Adjectives.
13. Overview of grammar.

Recommended literature:
• KÁBRT, Jan. Latinský jazyk. Martin: Osveta, 2010. ISBN 978-80-8063-353-0.
• IVANOVÁ, Alena. Cursus Latinus Medicinalis – Úvod do lekárskej terminológie. Bratislava: Univerzita Komenského, 2013. ISBN 978-80-223-3370-0.
• BUJALKOVÁ, Mária. Medicínska terminológia pre nelekárske zdravotnícke odbory. Bratislava: Univerzita Komenského, 2006. ISBN 80-223-2076-5.
• ŠIMON, František. Latinská lekárska terminológia. Martin: Osveta, 1990. 80-217-0297-4.

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 375

A	ABS	B	C	D	E	FX
28,53	0,0	22,13	23,73	9,87	12,27	3,47

Lecturers: Mgr. Ivan Lábaj, PhD., Mgr. Nicola Sipekiová, PhD.

Last change: 29.02.2024

Approved by: Mgr. Nicola Sipekiová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KJ/10-Bc/15	Latin Terminology for Healthcare Professional (2)

Educational activities:
Type of activities: seminar
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:
Active participation, taking the final test with an overall success rate of at least 60%.
Grading scale:
100 – 91% = A
90 – 81% = B
80 – 73% = C
72 – 66% = D
65 – 60% = E
59 – 0% = Fx
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After successfully completing the course, the student is more competent in using the medical terminology, especially anatomical and clinical-pathological, which is a necessary condition for his or her professional practice in various types of medical facilities.

Class syllabus:
1. Irregular and incomplete comparison of adjectives.
2. Adverbs, comparison of adverbs.
3. Cardinal, ordinal and distributive numerals.
4. Greek nouns of the 1st and 2nd declensions.
5. Greek nouns of the 3rd declension.
6. Grammar overview.
7. Present subjunctive of verbs of the 1.–4. conjugations. Basic terminology of medical prescription.
8. Latin prefixes and suffixes.
9. Latin compound words.
10. Greek prefixes and suffixes.
11. Greek compound words and hybrids.
12. Structure of medical prescription. Basic prescription abbreviations.
13. Final overview of grammar.

Recommended literature:
• KÁBRT, Jan. Latinský jazyk. Martin: Osveta, 2010. ISBN 978-80-8063-353-0.
• IVANOVÁ, Alena. Cursus Latinus Medicinalis – Úvod do lekárskej terminológie. Bratislava: Univerzita Komenského, 2013. ISBN 978-80-223-3370-0.
• BUJALKOVÁ, Mária. Medicínska terminológia pre nelekárske zdravotnícke odbory. Bratislava: Univerzita Komenského, 2006. ISBN 80-223-2076-5.
• ŠIMON, František. Latinská lekárska terminológia. Martin: Osveta, 1990. 80-217-0297-4.

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 349

A	ABS	B	C	D	E	FX
26,07	0,0	24,07	22,35	11,75	12,89	2,87

Lecturers: Mgr. Ivan Lábaj, PhD., Mgr. Nicola Sipekiová, PhD.

Last change: 04.03.2024

Approved by: Mgr. Nicola Sipekiová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/17-Bc/22	**Course title:** Management Basics
Educational activities: **Type of activities:** lecture **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning	
Number of credits: 2	
Recommended semester: 4.	
Educational level: I.	
Prerequisites:	
Course requirements: Completion of the course is done by a written exam with a minimum success rate of 60%. Rating: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, FX = 59% and less.	
Learning outcomes: By completing the course, the student acquires knowledge of the theory of management and marketing with a focus on the specifics of healthcare. The student knows the basic knowledge of general management, managerial functions, and management as a process in the field of healthcare. He gets an overview of strategic, personnel, financial and crisis management and quality management of health care, team leadership and motivation. The student also gains basic knowledge of marketing (market, segmentation, market position, customers, marketing mix - product, price, distribution, marketing communication) in the field of healthcare and pharmacy.	
Class syllabus: The course presents a selection of thematic specific areas from the extensive issues of management and marketing theory with a focus on the specifics of management and marketing in healthcare and pharmacy: - General theory of management, manager's thinking, and directions. - Management as a process. - Managerial functions - management, decision-making, planning, control, leadership. - Strategic management. - Financial management. - Organization, organizational structure - personnel management. - Management and quality control. - Team leadership and motivation. - Specifics of healthcare management and managers. - Crisis management in healthcare. - Specifics of management procedures in pharmacy - patient and medical facility management. - Basics of marketing in pharmacy - market, segmentation, market position, customer, marketing mix (product, price, distribution, marketing communication). Advertising in pharmacy. - Marketing of medical devices.	

- Marketing of medical equipment - pharmacy, dispensary of medical devices.

Recommended literature:

Foltán V. a kol.: Manažment, marketing a lieky, Herba 2010.
Ozorovský V. a kol.: Zdravotnícky manažment a financovanie, Bratislava, Wolters Kluwer 2016
Kotler P.: Marketing a management, Grada, 2001
Jakušová V.: Základy zdravotníckeho manažmentu, Osveta Martin, 2010.
Sedlák M.: Základy manažmentu, IURA Edition 2008.
Karlíček M.: Základy marketingu, Grada 2013
Metyš K., Balog P.: Marketing ve farmácii, Grada 2006
Mináriková D. a kol.: Zdravotnícke pomôcky - legislatíva a regulácia, Osveta 2015
Zákon č. 147/2001 Z.z. o reklame a o zmene a doplnení niektorých zákonov

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 166

A	ABS	B	C	D	E	FX
14,46	0,0	17,47	19,28	23,49	21,69	3,61

Lecturers: doc. PharmDr. Daniela Mináriková, PhD., doc. PharmDr. Tomáš Tesař, PhD., MBA

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

STATE EXAM DESCRIPTION

Academic year: 2022/2023	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF/200-Bc/22	**Course title:** Medical Devices
Number of credits: 2	
Educational level: I.	

Course requirements:

The state examination in the subject Medical Device, part (a) and (b) is carried out orally and in person at the place of residence of the Faculty of Pharmacy of the Comenius University Bratislava. Scale of assessment (preliminary/final): 0/100

Learning outcomes:

By completing the subject, the student has basic theoretical knowledge in the field of financing health care, understands the principles of health insurance, pricing and reimbursement of medical devices. He understands the importance of medical devices (MDs) in healthcare from prevention to monitoring the patient's treatment within different diagnoses. The student gets an overview of a wide range of MDs, she/he can classify and sort them according to the degree of a risk. She/he is familiar with the standards for handling MDs in their entirety, from R&D to clinical trials, placing on the market up to a disposing of them. Based on her/his knowledge of the MDs´materials, functionality and the correct application for patient, she/he can assess their quality and safety and thus ensure their place in the provision of health care at different levels of the health system.

Class syllabus:

a) Medical devices (MDs) in curative-preventive healthcare, definition, classification, standards of preventive and therapeutic procedures, technological aspects (material, manufacturing technology, handling of medical devices throughout the life cycle, including standards for medical devices for clinical investigations, ensuring good manufacturing practice and good distribution practice in MDs, decommissioning and disposal of MDs, including.

b) Regulatory aspects, European and national legislation in the field of medical devices, placing on the market of medical devices, regulation of the price and reimbursement of medical devices, handling, procurement and distribution of medical devices, prescription and dispensing of medical devices, vigilance over the safety of medical devices, health economy, financing of healthcare; health insurance system, position of medical devices in the context of social pharmacy, consumption, cost and pharmacoeconomic evaluation of medical devices, basics of public health, population health – position of medical devices in prevention and health promotion, ethics and legal aspects in the provision of health care and the exercise of the medical profession, health management, marketing in health care.

State exam syllabus:

The student demonstrates a comprehensive knowledge of the importance of medical devices (MDs) as an integral part in prevention and curative health care in association with legislative requirements and resulting regulation. She/he deeply understands the definition and purpose of MDs, she/he can classify them , she/he is familiar with the standards of handling MD within the framework of preventive and therapeutic procedures. She/he bases his knowledge on quality and safety of MDs on technological aspects - material, production technology, MDs´handling throughout the entire life cycle. He/she has learned the basic principles of good clinical practice regarding MDs to be

tested in clinical trials, he/she knows the requirements of good manufacturing practice and good distribution practice of the MDs.

Recommended literature:

•Hegyi L., Bielik I.: Základy verejného zdravotníctva, Herba 2011, s. 288, ISBN 978808917184
•Labudová, M., Puteková, S. 2021. Vybraté kapitoly z vnútorného lekárstva pre nelekárske odbory. Bratislava: Herba, 2021. 142 s. ISBN 978-80-8229-009-0
•Malovecká I., Mináriková D., Foltán V.: Zdravotnícke pomôcky – vybrané úlohy. Výdaj zdravotníckych pomôcok na lekársky poukaz. FaF UK, 2015, on-line katalóg FaF, ISBN 978-80-223-3812-7
•Mináriková, D., et al. 2015. Zdravotnícke pomôcky. Legislatíva a regulácia. Vysokoškolská učebnica. Martin: Osveta, 2015. 1. vyd., 222 s. ISBN 978-80-8063-418-6
•Mináriková, D. a kol. 2018. Zdravotnícke pomôcky - princípy úhradovej kategorizácie. Bratislava: Univerzita Komenského, 2018. Dostupné online, ISBN 978-80-223-4479-1.
- Rosina, J. Vránová, J., Kolářová. 2021. Biofyzika. Pro zdravotnické a biomedicínske obory. 2. doplnené vyd. Praha: Grada, 2021, 296 s. ISBN 978-80-271-2526-5
•Zamborský, R. 2020. problematika úrazov u geriatrického pacienta. Bratislava: Herba, 2020, 56 s. ISBN 978-80-8229-002-1

Last change: 31.08.2022

Approved by:

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KGF/11-Bc/22	Medical Devices I.

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
Attendance at lectures is mandatory.
During the semester, students take 2 intermediate assessment tests, for the recognition of their knowledge by the test to meet 60% at least from the maximum number of points required.
Successful completion of the semester is followed by a comprehensive semester oral exam. Student must demonstrate mastery of at least 60 % of required knowledge. The knowledge assessment is according to a scale: A (92% at least), B (83% at least), C (76% at least), D (68% at least), E (60% at least) and Fx (less than 60% of the maximum number of points).

Learning outcomes:
The subject of Medical Devices I. is an introduction to the field of medical devices and in vitro medical devices. By completing the course, the student acquires basic knowledge of the importance of medical devices (MD) and their place in the health system in prevention, diagnosis, treatment and its tmonitoring. Student further expands her/his knowledge on materials and gets basic knowledge abou the technology of production. Student can classify and sort the MDs according to the degree of risk, she/he learns the role of standards in handling by the MDs up to their discarding and disposal. She/he gets familiar with application of legal norms at national and European level, related to regulation of the MD and its harmonisation in the EU Member States. Students understand an essence of the MDs principles of regulation, and acquire knowledge in technical requirements and conformity assessment procedures, specifically. The aim of the course is to meet student´s understanding about relation between quality and safety of the MD on one side its properties resulting from material, functionality, correctness of handling, clinical trials, etc., on other side. Education is enriched by the use of many examples of the most commonly used MDs in curative-preventive care.

Class syllabus:
• Terminology. Definition and importance of medical devices (MDs) for health and disease prevention.
• Classification, regulations, approval, registration, distribution of MDs to medical facilities, removal, decommissioning and their disposal.

• Overview of materials for MDs production, their properties, requirements, advantages. Proper handling of MDs in medical and preventive health care.
• Standards - disposable and multi-use medical devices and MDs for in vitro diagnostic healthcare.
• Specific topics: Interfaces: MD / drug and MD / protective equipment and electrical products.
• Evaluation of quality and performance of MDs.

Recommended literature:

Legislation
Legal regulations of the Slovak Republic, available online: https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/)
European Commission legislation, available online: https://ec.europa.eu/health/md_sector/current_directives_en
Links to regulators' web sites
State Institute for Drug Control. Medical devices, available online: https://www.sukl.sk/sk/zdravotnicke-pomocky.
Scientific literature
Boroňová, J. a kol. 2021. Vybrané témy z ošetrovateľskej problematiky – II. časť. I. vydanie. Trnava: Typi Universitatis Tyrnaviensis, 2021, 256 s. ISBN 978-80-568-0246-5
Foltán, V. 2010. Sociálna farmácia a zdravotníctvo. Martin: Osveta, 2010. 1. vyd., 203 s. ISBN 978-80-8063-333-2
Ecker, W. 2019. Medical Devices and IVDs. Market Access under the new EU-Regulations. National Library of Germany. Edition by Dr. Wolfgang Ecker, 2nd. edition, Feb 2019. 239 p. ISBN 978-3-7481-3746-7
Ecker, W., Labek, G., Mittermayr, T. et al. 2020. Clinical Evaluation and Investigation of Medica Devices under the new EU-regulation. National Library of Germany. Edition by Michael Ring, 2020. 260 p. ISBN 978-3-7519-3766-5
Kolář, J., Maly, J. 2005. Zdravotnické prostředky 1. Třídení zdravotnických prostredků podle charakteru materiálů. Veterinárna a Farmaceutická Uni-verzita Brno, Farmaceutická Fakulta, 2005. 142 s. ISBN 80- 7305-545-7
Mináriková, D., et al. 2015. Zdravotnícke pomôcky. Legislatíva a regulácia. Vysokoškolská učebnica. Martin: Osveta, 2015. 1. vyd., 222 s. ISBN 978-80-8063-418-6

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 26

A	ABS	B	C	D	E	FX
15,38	0,0	30,77	11,54	15,38	11,54	15,38

Lecturers: PharmDr. Janka Kubíková, PhD., MPH, PharmDr. Milica Molitorisová, PhD., Ing. Silvia Molnárová, PhDr. Eva Nováková

Last change: 17.02.2023

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KGF/12-Bc/22	Medical Devices II.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 1 / 1 **per level/semester:** 14 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 2.

Educational level: I.

Prerequisites:

Recommended prerequisites:
KGF/11-Bc/00 Medical Devices I

Course requirements:
During the semester, students take 2 intermediate assessment tests. For the recognition of passing the test, the minimum level is at 60% of the maximum number of points required.
Successful completion of the semester is followed by a final comprehensive oral exam.
The student must demonstrate her/his mastery of at least at 60% of the required knowledge. Test result is rated on following scale of: A (at least 92%), B (at least 83%), C (at least 76%), D (at least 68%), E (at least 60%) and Fx (less than 60% of the maximum number of points).

Learning outcomes:
The student acquires advanced knowledge about the renovation of medical devices (MDs) designed for re-sterilization. The acquired knowledge can be used especially in medical facilities providing health care, within which it is necessary to ensure decontamination, pre-sterilization preparation and sterilization of MDs, surgical and other underwear, special medical material and medical equipment and its accessories and other medical material used in medical and diagnostic procedures. The teaching is enriched with practical exercises related to sterilization, sterility control and efficiency of sterilization processes. The complexity of the acquired knowledge in the field of medical device (MD) sterilization, in conjunction with education for the responsibility for compliance with the hygienic-epidemiological regime and hygienic requirements, are key prerequisites for the reliable operation of any medical facility.

Class syllabus:
• Safety of MDs
• Definition of sterilization in a medical facility. Decontamination.
• Pre - sterilization preparation of MD and special medical material, technology and other medical material used in medical diagnostic procedures.
• Preparation of dressings of various kinds.
• MD sterilization methods.

• MD sterilization of textiles - surgical and other underwear, glass sterilization, sterilization of special medical material, dressing material.
• Glass containers for pharmaceutical use.
• Quality control of sterilization processes.
• Standard procedures and standard for cleaning and desinfection of MD.

Recommended literature:

Legislation
Decree of the Ministry of Health of the Slovak Republic No. 553/2007 Coll., laying down details of requirements for the operation of medical institutions from the point of view of health protection.
Decree of the Ministry of the Environment of the Slovak Republic No. 284/2001 and Waste Catalogue
Standard procedures:
Böhmová, E., Kubíková, J., Vajnerová, Z. 2021. Štandard čistenia a dezinfekcie zdravotníckej pomôcky. MZ SR Štandardné postupy. 2021, s. 13
Béressová, Y., et al. Štandard kontroly účinku čistenia a dezinfekcie zdravotníckej pomôcky. MZ SR Both Standard Procedures of the Ministry of Health Slovak Republic are available online: https://www.health.gov.sk/?Standardne-Postupy-V-Zdravotnictve
Other sources
Kordošová, M. 2014. Osobné ochranné prostriedky. Wolters Kluwer, 2014, vyd. 1. 300 s. ISBN 978-80-8168-129-5
Melicherčíková, V. 2015. Sterilizace a dezinfekce. Praha: Galén, 2. dopl. a preprac. vyd. 2015, 174 s. ISBN 978-80-7492-139-1
Rosina, J. Vránová, J., Kolářová. 2021. Biofyzika. Pro zdravotnické a biomedicínske obory. 2. doplnené vyd. Praha: Grada, 2021, 296 s. Kapitola 8 na str. 78 - 83ISBN 978-80-271-2526-5

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 11

A	ABS	B	C	D	E	FX
36,36	0,0	18,18	9,09	9,09	9,09	18,18

Lecturers: PharmDr. Milica Molitorisová, PhD., Mgr. Jana Selčanová, PharmDr. Janka Kubíková, PhD., MPH, Ing. Silvia Molnárová, PhDr. Eva Nováková

Last change: 17.02.2023

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KGF/13-Bc/22	Medical Devices III.

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 3.

Educational level: I.

Prerequisites:

Recommended prerequisites:
KGF/11-Bc/00 Medical Devices I, KGF/12-Bc/00 Medical devices II

Course requirements:
Attendance at lectures is mandatory.
During the semester, students take 2 intermediate assessment tests, for the recognition of their knowledge by the test to meet 60% at least from the maximum number of points required.
Successful completion of the semester is followed by a final semester oral exam. Student must demonstrate mastery of at least 60 % of required knowledge. The knowledge assessment is according to a scale: A (92% at least), B (83% at least), C (76% at least), D (68% at least), E (60% at least) and Fx (less than 60% of the maximum number of points).

Learning outcomes:
The student acquires knowledge about the specifics of medical devices made of metal or plastic materials. He/she can characterize the material, its properties, knows the method of production, understands the importance and methodology of use in relevant medical disciplines, e.g., surgery, orthopaedics, internal medicine, dentistry, etc. In addition to traditional materials, he/she is acquainted with new types of materials (e.g., nanomaterials), as well as with the methods of their acquisition or production (natural and synthetic polymers). Can evaluate their quality, safety, and effectiveness of use in medical - preventive health care.

Class syllabus:
• MDs made of metal, classification by material and properties, understanding methods of production and control of their functionality.
• Description and characteristics of basic surgical instruments, special surgical tools, including instruments for mini-invasive procedures and metal implants.
• Other surgical material. Surgical suture material, sewing needles. Absorbable, non-absorbable surgical suture material.
• Sterilization and storage of surgical suture material.
• Method of protection of metallic materials suitable for production - means against corrosion.
• MDs from polymers and plastics. Implants in healthcare. Diagnostic medical devices.

Recommended literature:

Ducháček, D., Hrdlička, Z. 2009. Gumárenské suroviny a jejich zpracování. Praha: VŠCHT skriptá VŠ, 2009. Kapitoly 1., 3., 5., 200 s. EAN: 9788070807132

Beňačka, J., Beňačka, O. 2022. Point of care - urgentná sonografia. Herba, 2022. 128 s. ISBN 978-80-8229-018-2

Czakó, L., Vavro, M., Šimko, K a kol. Orálna a maxilofaciálna chirurgia v kocke - otázky a odpovede. Herba, 2022. 136 s. ISBN 978-80-8229-019-9

P. Ihnát, P. 2017. Základní chirurgické techniky a dovednosti. Grada, 2017, ISBN: 978–80–271–9625–8

Liptáková, T., Alexy, P., Gondár, E., Khunová, V. 2012. Polymérne konštrukčné materiály. EDIS vydavateľstvo SJF vysokoškolská učebnica, 189 s. ISBN 978-80-554-0505-6

Languages necessary to complete the course:

Slovak

Notes:

Past grade distribution

Total number of evaluated students: 4

A	ABS	B	C	D	E	FX
25,0	0,0	25,0	0,0	25,0	0,0	25,0

Lecturers: Mgr. Jana Selčanová, PharmDr. Mária Čuchorová, PhD., Ing. Silvia Molnárová, PhDr. Eva Nováková, PharmDr. Janka Kubíková, PhD., MPH

Last change: 17.02.2023

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KGF/14-Bc/22	Medical Devices IV.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 4.

Educational level: I.

Prerequisites:

Recommended prerequisites:
KGF/11-Bc/00 Medical Devices I, KGF/12-Bc/00 00 Medical Devices II, KGF/13-Bc/00 Medical Devices III

Course requirements:
Participation at lectures and exercises is mandatory. During the semester, students take 2 intermediate assessment tests. For the recognition of passing the test the minimum level is at 60% of the maximum number of points required. Successful completion of the semester is followed by a final comprehensive oral exam. The student must demonstrate mastery of at least 60% of the required knowledge. Test result is rated on a scale of: A (at least 92%), B (at least 83%), C (at least 76%), D (at least 68%), E (at least 60%) and Fx (less than 60% of the maximum number of points).

Learning outcomes:
The student gains an overview of the most used imaging methods, considering the latest innovations in the field of medical technology used in several medical disciplines, such as in oncology, neurology, internal medicine, invasive cardiac surgery, or dental surgery. In the field of dentistry, he/she acquires knowledge about medical devices in dental prosthetics. Practical teaching is another source of knowledge for students, offering clear examples of an application of imaging methods in medical and preventive care.
A special lecture opens for the student an innovative and dynamically developing area of 3D technology used in a manufacturing of MD with the opportunity to apply the acquired knowledge in practice by visiting a specialized health care facility.

Class syllabus:
• MDs from polymers – complex characteristic and applications
• 3D printing for MD production
• Imaging methods: X-ray diagnostics, Magnetic resonance imaging, computed tomography, positron emission tomography, Angiography, Ultrasound.
• Medical devices for protection against the effects of radiation.
• Medical devices in dentistry and dental prosthetics.

Recommended literature:

Ferda, J et al. 2015. Inovativní zobrazovací metody. Galén, 2015, 140 s. ISBN 9788074921865
Rosina, J. Vránová, J., Kolářová. 2021. Biofyzika. Pro zdravotnické a biomedicínske obory. 2. doplnené vyd. Praha: Grada, 2021, 296 s. ISBN 978-80-271-2526-5
Šedý, J. 2020. Somatické vyšetření ve stomatologii. Galén, 2020, 263 s. ISBN 9788074920868
Stanko, P. Dentoalveolárna chirurgia 1. Nástroje používané k extrakcii. Kliešte. Available online: www.portal.fmed.uniba.sk

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 1

A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	100,0	0,0	0,0

Lecturers: Mgr. Jana Selčanová, PharmDr. Janka Kubíková, PhD., MPH, Ing. Silvia Molnárová, PharmDr. Milica Molitorisová, PhD., PhDr. Eva Nováková, PharmDr. ThLic. Mária Raučinová, PhD.

Last change: 17.02.2023

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KGF/15-Bc/22	Medical Devices V.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 5.

Educational level: I.

Prerequisites:

Recommended prerequisites:
KGF/11-Bc/00 Medical Devices I, KGF/12-Bc/00 00 Medical Devices II, KGF/13-Bc/00 Medical Devices III, KGF/14-Bc/00 Medical Devices IV.

Course requirements:
Participation at lectures and exercises is mandatory.
During the semester, students take 2 intermediate assessment tests. For the recognition of passing the test the minimum level is at 60% of the maximum number of points required.
Successful completion of the semester is followed by a final comprehensive oral exam.
The student must demonstrate mastery of at least 60% of the required knowledge. Test result is rated on a scale of: A (at least 92%), B (at least 83%), C (at least 76%), D (at least 68%), E (at least 60%) and Fx (less than 60% of the maximum number of points).

Learning outcomes:
The course is focused on selected medical devices (MD) according to the current List of Categorized Medical Devices of the Ministry of Health of the Slovak Republic (hereinafter Categorization"), which relate to diagnoses where their purpose of use evident in pharmacy practice or in the dispensary of medical devices. Teachers guide students to apply the acquired knowledge in clinical practice (e.g., in diabetology, angiology, prosthetics, rehabilitation and many others). After completing the course, the student acquires competencies, based on which he/she evaluated a relevance of the indicated MD for given therapeutic or preventive purposes in terms of quality, functionality, and safety of MD for each specific patient.

Class syllabus:
Medical Devices (MDs)´areas with reference to examples of the Categorization List MoH SK
• MDs for drug delivery,
• MDs for diabetics,
• MDs for ostomists,
• MDs for the visually and hearing impaired,
• MDs for compression therapy,
• MDs for breast epitheses,

• Orthopaedic and prosthetic devices with accessories,
• Rehabilitation and compensation aids,
• Wheelchairs, prams, beds, jacks for the sick.

Recommended literature:

Legislation:
Current legislation SK and EU legislation on medical devices
Valid list of categorized medical devices, Ministry of Health of the Slovak Republic. Available online: https://www.health.gov.sk/?zoznam-kategorizovanych-zdravotnickych-pomocok
Scientific Literature
Brozmanová, B., Spišáková, J., Kokavec, Milan. 2010. Aktuality z ortopedickej protetiky. Ortotika a kalceotika I. Bratislava: Herba, 2010, 152 s. ISBN 978-80-89171-77-4
Drlíková, K., Zachová,V., Karlovská, M. a kol. 2016. Praktický průvodce stomika, Praha: Grada 2016, 192 s. ISBN 978-80-247-5712-4
Hliníková, E., Nemcová, J., Miertová, M. a kol. 2015. Nehojace sa rany. Martin: Osveta, 2015. 284 s. ISBN 978-80-8063-433-9
Horáková, R. 2012. Sluchové postižení úvod do surdopedie Praha: Portál, 2012, 1. vyd., 159 s. ISBN 978-80-262-0084-0
Hornová, J. 2011. Oční propedeutika. Praha: Grada, 2011, 103 s. ISBN 978-80-247-4087-4
Koreň, J. 2016. Ortopedické pomôcky. Bratislava: Neoprot, 2016, 224 s. ISBN 978-80-972338-0-8
Koutná, M., Ulrych, O. et.al. 2015. Manuál hojení ran v intenzivní péči. Praha: Galén, 2015, 1. vyd., 200 s. ISBN 978-80-7492-190-2.
Rosina, J. Vránová, J., Kolářová. 2021. Biofyzika. Pro zdravotnické a biomedicínske obory. 2. doplnené vyd. Praha: Grada, 2021, 296 s. ISBN 978-80-271-2526-5
Štechová, K. a kol. 2016. Technologie v diabetologii. Praha: Maxdorf Jessenius, 2016, 167 s. ISBN 978-80-7345-479-1
Stryja, J. 2015. Débridement a jeho úloha v managementu ran jak vyčistit ránu rychle a efektívně. Praha: Geum, 2015, 173 s. ISBN 978-80-87969-13-7
Žižka, Z. 2012. Pomůcky pro osoby se zdravotním postižením. Praha: Národní rada osob se zdravotním postižením ČR, 2012, 1. vyd. ISBN 978-80-87181- 07-2

Languages necessary to complete the course:
Slovak

Notes:

Past grade distribution
Total number of evaluated students: 147

A	ABS	B	C	D	E	FX
21,09	0,0	19,73	29,93	14,97	12,93	1,36

Lecturers: PharmDr. Milica Molitorisová, PhD., PharmDr. ThLic. Mária Raučinová, PhD., Mgr. Jana Selčanová, PharmDr. Jarmila Ferková, PharmDr. Miroslava Špaglová, PhD., PharmDr. Janka Kubíková, PhD., MPH, Ing. Silvia Molnárová, PhDr. Eva Nováková

Last change: 17.02.2023

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/23-Bc/22	Medical Devices – Legislation and Regulation

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 1 / 1 **per level/semester:** 14 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 6.

Educational level: I.

Prerequisites:

Course requirements:
Obligatory participation in seminars. Absence on the seminar must be proved by the reason for absence and the seminar must be replaced in agreement with the teacher.
Completion of the course is done by a written exam with a minimum success rate of 60%. Rating: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, FX = 59% and less.

Learning outcomes:
By completing the course, the student will gain knowledge about the health care system and medical devices in terms of their legislation and regulation.

Class syllabus:
Health care system - basic health laws. Legislation and regulation of medical devices. Basic institutions in the health care system, their scope, and tasks - ŠÚKL, MZ SR, NCZI, health care providers, health insurance companies, ÚDZS, professional and patient organizations. Registration of medical devices. Safety and supervision of medical devices. Legislation and regulation of production and distribution of medical devices. Holder of a medical device manufacturing authorization. Holder of a license for the wholesale distribution of medical devices. Prescription and dispensing of medical devices.

Recommended literature:
1. Mináriková D. a kol.: Zdravotnícke pomôcky – legislatíva a regulácia, Osveta Martin, 2015, 223 s. ISBN 978-80-8063-418-6.
2. Malovecká I., Mináriková D., Foltán V.: Zdravotnícke pomôcky – vybrané úlohy. Výdaj zdravotníckych pomôcok na lekársky poukaz. FaF UK, 2015, on-line katalóg FaF, ISBN 978-80-223-3812-7
3. Mináriková, D. a kol. 2018. Zdravotnícke pomôcky - princípy úhradovej kategorizácie. Bratislava: Univerzita Komenského, 2018, on-line katalóg FaF, ISBN 978-80-223-4479-1.
4. Aktuálna legislatíva (zákony, vyhlášky a predpisy pre oblasť zdravotníckych pomôcok).

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 144

A	ABS	B	C	D	E	FX
13,89	0,0	20,83	24,31	22,92	18,06	0,0

Lecturers: doc. PharmDr. Daniela Mináriková, PhD., doc. PharmDr. Tomáš Tesař, PhD., MBA

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KBMBL/16-Bc/22	Medical and Diagnostic Devices and Biological Environment

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 1 / 1 **per level/semester:** 14 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 5.

Educational level: I.

Prerequisites:

Course requirements:
Assessment and completion of the course: written exam
Continuous assessment: the condition of practical exercises is the fulfillment of the assigned tasks of practical exercises and passing a control test. As part of the continuous evaluation, it is necessary to obtain at least 60% of the maximum number of points, which is a requirement for the exam.
Scale of assessment (preliminary/final): Evaluation of written test: Grade A corresponds to obtaining min. 92% of the maximum number of points, B – 84%, C – 76%, D – 68%, E – 60%, Fx less than 60%.

Learning outcomes:
Students obtain information about the metabolic transformations of basic biological substrates and their involvement in cellular metabolism, the principles of enzymology and regulation of biochemical processes, as well as the causes of changes in metabolic processes in pathological conditions. Laboratory practices are focused on the acquirement of basic skills associated with the implementation of biochemical and clinical-biochemical determinations of selected biochemical parameters and the evaluation of pathological status.

Class syllabus:
- Organism and environment, their interactions, the basis of internal balance, basic biological substrates carbohydrates lipids, amino acids and proteins, their structure, properties and significance.
- Hormonal regulation of blood glucose levels, diabetes mellitus, glucose tolerance test.
- Protein digestion, amino acid absorption, digestive and absorption disorders, fate amino acids in the body, degradation of amino acids, formation of ammonia and its detoxification, ornithine cycle.
- Lipid transport forms - lipoproteins, dislipoproteinemia, relation to atherosclerosis.
- Enzymes, catalytic ability, mechanism of action, specificity of enzymes, enzyme complex substrate, Km, Vmax, activation, inhibition, pH effect, temperatures, zymogens. Biological significance. Coenzymes.
- Amino acid metabolism, congenital genetic disorders in amino acid metabolism. Plasma proteins, their importance and function.

- Clinical enzymology, isoenzyme spectra, enzymopathy, molecular diseases.
- Biochemical and molecular aspects of the inflammatory response, cells of the inflammatory process, respiratory burst and formation of reactive oxygen species, mediators of early and delayed inflammatory phases.
- The importance of phospholipids and arachidonic acid in the inflammatory process.

Recommended literature:

Balažová, A., Obložinský, M.: Vybrané kapitoly z patobiochémie, Univerzita Komenského v Bratislave
2019 http://stella.uniba.sk/texty/AB_MO-kpt-patobiochemia.pdf
Bezáková, L. a kol.: Praktické cvičenia z patobiochémie a molekulárnej biológie. Bratislava: UK, 2010.(skriptá)
Štern, P. a kol.: Obecná a klinická biochemie pro bakalářské obory studia, Karolinum, 2011

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 149

A	ABS	B	C	D	E	FX
20,13	0,0	27,52	25,5	18,79	7,38	0,67

Lecturers: doc. PharmDr. Marek Obložinský, PhD., PharmDr. Andrea Balažová, PhD., Mgr. Ivana Holková, PhD., RNDr. František Bilka, PhD., Ing. Ľudmila Pašková, PhD., PharmDr. Renáta Kubíková, PhD.

Last change: 17.02.2023

Approved by: PharmDr. Andrea Balažová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KBMBL/11-Bc/22	Microbiology

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 3.

Educational level: I.

Prerequisites:

Course requirements:
The condition is to obtain 60% of the test points in the continuous evaluation. Completion of all practical exercises, handing over lab reports.
The exam of the subject has an oral form. Rating A: 100-93%, B: 92-85%, C: 84-77%, D: 76-68%, E: 67-60%

Learning outcomes:
The result of the education should be the acquisition of basic knowledge about microorganisms, their positive and negative significance for human health, the control of harmful microorganisms and to get acquainted with the methods of working with microorganisms and microbiological diagnostics in laboratory exercises.

Class syllabus:
Characteristics of microorganisms and their properties, characteristics of bacteria, fungi, protozoa, viruses and prions, basics of biochemistry and genetics of microorganisms, interaction of microorganisms with the environment and host, pathogenicity and virulence, fight against unwanted microorganisms, pharmaceuticals in prophylaxis and therapy of infectious diseases.
LECTURES:
1. Introduction to the subject of microbiology, basic concepts, the occurrence of microorganisms in the environment and the importance of microorganisms for humans.
2. Prokaryotic cell structure and morphology.
3. Genetics and reproduction of microorganisms
4. Relationship between microorganisms and the host. Pathogenicity, infection and virulence of microorganisms.
5. Taxonomy, classification and nomenclature of bacteria. Special bacteriology. Overview of the most pharmaceutically and medically important bacteria: Spirochetes, Chlamydia, Proteobacteria.
6. Characteristics of pharmaceutically and medically important species of gram-positive bacteria.
7. Protozoa and microscopic fungi, characteristics of the most pharmaceutically and medically important genera and species.
8. General virology - structure of the virus particle, replication of viruses, taxonomy of viruses.
9. Characteristics of viruses pathogenic to humans.

10. Antibiotics - the effect of antibiotics and chemotherapeutics on microorganisms.
11. Resistance of microorganisms to antimicrobial drugs, vaccines - active immunization.
12. Sterilization, disinfection and preservation. Physical and chemical methods. Mechanism of induction, influencing factors, control of induction and effectiveness.
13. Contamination of pharmaceutical preparations and medical devices by microorganisms.
PRACTICAL EXERCISES:
1/2: Basics of work in a microbiological laboratory. Work safety in a microbiological laboratory. Isolation of pure culture, bacterial cell shape.
3/4: Preparation of fixed slides, Gram staining. Staphylococci.
5/6: Cultivation of aerobic and anaerobic microorganisms.
7/8: Determination of susceptibility of selected microorganisms to antibiotics and chemotherapeutics.
9/10: Microscopic and macroscopic observation and identification of fungi. CONTROL TEST 1.
11/12: Methods for identification of bacteria from the Enterobacterales family.
13: Corrective tests

Recommended literature:

Mlynarčík, D., Májeková, H., Dubničková, M.: Farmaceutická mikrobiológia, Univerzita Komenského, Bratislava 2017, 422 s., ISBN 978-80-223-4102-8.
Schindler, J.: Mikrobiologie pro studenty zdravotnických oboru. Grada 2009, 223 s., ISBN 978-80-247-3170-4
Štefkovičová M. a kol.: Dezinfekcia a sterilizácia - teória a prax - II, vyd. VRANA, Žilina, 2007,164 s. ISBN 978-80-968248-3-0
Štefanovič J., Hanzen J.: Mikroorganizmy človeka v zdraví a chorobe. HPL Servis s. r. o., Bratislava 2012, 190 s. ISBN 978-80-971151-0-4

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 6

A	ABS	B	C	D	E	FX
0,0	0,0	0,0	16,67	33,33	33,33	16,67

Lecturers: Mgr. Eva Drobná, PhD., doc. Mgr. Martina Hrčka Dubničková, PhD., PharmDr. Hana Kiňová Sepová, PhD., PharmDr. Gabriela Greifová, PhD., Mgr. Jana Hricovíniová, PhD.

Last change: 13.09.2022

Approved by: doc. Mgr. Martina Hrčka Dubničková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/13-Bc/00	Pathology

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 2 **per level/semester:** 28 / 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:
Personal attendance at all lectures and practical classes and sufficiently demonstrated readiness for practical exercises, justified absence (max 2x) is replaced according to the instructions of the teacher (a) replace absence from exercise or b) elaboration of a written work; to pass 3 scheduled pre-tests, each minimally 60% rate. The final exam test is completed by students in computer by written form (distant) of examination. To pass the final exam test by students in minimally 60% rate. Evaluation (mark and score): A 91-100%, B 81-90%, C71-80%, D 66-70%, E 60-65%, FX < 60%. Scale of assessment (preliminary/final): 0/100

Learning outcomes:
The graduate of the course will obtain concise general and transparent knowledge about structural, morphological and functional disorders at the level of cells, tissues, organs and systems of pathologically altered organism, which will allow him to create a comprehensive picture of individual diseases. Understand the causes, pathomechanisms, symptoms of pathological disturbances and subsequent complications. The acquired knowledge about the anatomical and functional changes of the individual's body is a necessary basis for the graduate, who in the future will focus on providing medical devices, medical accessories and home medical devices to the affected individual persons.

Class syllabus:
The graduate of the course will obtain concise general and transparent knowledge about structural, morphological and functional disorders at the level of cells, tissues, organs and systems of pathologically altered organism, which will allow him to create a comprehensive picture of individual diseases. Understand the causes, pathomechanisms, symptoms of pathological disturbances and subsequent complications. The acquired knowledge about the anatomical and functional changes of the individual's body is a necessary basis for the graduate, who in the future will focus on providing medical devices, medical accessories and home medical devices to the affected individual persons.
Course description: Pathology - introduction, basic terminology. Disease – characterization, classification of diseases. Causes and mechanisms of diseases – environmental factors, genetic abnormalities, congenital diseases. Alterations in metabolism and nutrition. Causes and

mechanisms of of cellular injury. Inflammation. Mechanisms of alteration in blood circulation. Pathophysiology of pain. Selected diseases
of nervous system - alterations in blood flow, Disturbances in the sleep, memory disturbances, pathophysiology of ANS. anxiety and personality disorders, depression, bipolar disorder, schizophrenia, Epilepsy, neurodegenerative disorders (Alzheimer Disease, Parkinson Disease). Loss of conscious. Alterations in haemostasis and haemocoagulation. Anemias. Alterations in immune response. Pathophysiologogy of endocrine system. Pathophysiology of vessels - alterations in blood flow and pressure. Shock. Pathophysiology of heart – alterations in coronary circulation, myocardial diseases, congenital defects, complications rhythm disturbances, failure. Pathophysiology of respiratory system – disturbances in ventilation -perfusion relation, respiratory insufficiency. Pathophysiology of gastrointestinal system – basic symptoms of gastrointestinal disturbances. Ulcer disease. Liver diseases.
Pathopysiology of kidney – glomerular disturbances, obstructive disorders, incontinency. Alterations in genital and reprodustive function Disturbances in homeostasis. Alterations in musculoskeletal structure and functions. Infectious diseases – epidemiology, transfer, pathomechanisms, microbial microflora, resistency. Tumors – classification, biology of tumor cells, invasion, metastases, symptoms.
Practical part is focused on basic developmental periods of human life and disorders. Pathological disturbances in histology, alterations in growth, homeostasis, adaptation mechanisms to the influence of various pathogens and changes in the external environment. Selected symptoms of diseases. General symptomatology, symptomatology of individual systems. Seminars about selected disorders. Diets in selected diseases of CVS, GIT, excretory system and selected symptoms and syndromes of individual systems. Alterations in integumentary system. Skin manifestations in diseases of various systems. Disorders of the Sensory System

Recommended literature:

Mohan H: Patológia.·Vydavateľstvo: Balneotherma, Bratislava, 2011. ISBN: 9788097015664
Plank, J. Hanáček J. a kol.: Patologická anatómia a patologická fyziológia. ·Vydavateľstvo: Osveta, Martin, 2007 ISBN: 8080632410
S. Sibernagl, F. Lang: Atlas patofyziologie.: Vydavateľstvo: Grada, Praha 2001.
Lecture and exercise handouts will be available in Moodle's online system 2220,2021.

Languages necessary to complete the course:
Slovak

Notes:
the course is available only in summer semester

Past grade distribution
Total number of evaluated students: 348

A	ABS	B	C	D	E	FX
16,95	0,0	19,25	21,26	11,49	13,51	17,53

Lecturers: doc. MUDr. Tatiana Stankovičová, CSc., doc. PharmDr. Stanislava Kosírová, PhD., doc. PharmDr. Tatiana Foltánová, PhD., PharmDr. Eva Kráľová, PhD., PharmDr. Attila Kulcsár, PhD., PharmDr. Csaba Horváth, PhD.

Last change: 19.04.2024

Approved by: PharmDr. Eva Kráľová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KTV/01-Bc/00	Physical Education and Sport (1)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 0

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
- activity, 100% attendance
- passing physical performance testing
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student has developed motor skills and improved motor skills according to the sport he has chosen.

Class syllabus:
Our aim is an educated student and his active approach to correct and healthy movement. Students can complete the course Physical Education through sports, which they choose from the offer at the department: Aerobic, Step aerobic, Tabata, Fitball, Badminton, Volleyball, BodyArt, Cross fit, Fitness training, Frisbee, collective Sports games, Floorball, Futsal, Table tennis, Water tourism. The best students have the opportunity to participate in the representation of the faculty in the University League in Volleyball, Futsal, Floorball. In the block form of teaching, they can complete the course by active participation in the Ski and Snowboard course and the Tourist (hiking) course. The final evaluation is 100% active participation in classes.

Recommended literature:

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 375

A	ABS	B	C	D	E	FX	NEABS
0,27	93,6	0,8	0,0	0,0	0,53	3,2	1,6

Lecturers: Mgr. Dalibor Ludvig, PhD., PaedDr. Martina Tibenská, PhD., Mgr. Lenka Nagyová, PhD., Mgr. Michal Tokár, PhD.

Last change: 23.11.2021
Approved by: PaedDr. Martina Tibenská, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KTV/02-Bc/00	Physical Education and Sport (2)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 0

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:
- activity, 100% attendance
- passing physical performance testing
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student has developed motor skills and improved motor skills according to the sport he has chosen.

Class syllabus:
Our aim is an educated student and his active approach to correct and healthy movement. Students can complete the course Physical Education through sports, which they choose from the offer at the department: Aerobic, Step aerobic, Tabata, Fitball, Badminton, Volleyball, BodyArt, Cross fit, Fitness training, Frisbee, collective Sports games, Floorball, Futsal, Table tennis, Water tourism. The best students have the opportunity to participate in the representation of the faculty in the University League in Volleyball, Futsal, Floorball. In the block form of teaching, they can complete the course by active participation in the Ski and Snowboard course and the Tourist (hiking) course. The final evaluation is 100% active participation in classes.

Recommended literature:

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 348

A	ABS	B	C	D	E	FX	NEABS
1,15	93,97	0,29	0,0	0,0	0,29	3,45	0,86

Lecturers: PaedDr. Martina Tibenská, PhD., Mgr. Lenka Nagyová, PhD., Mgr. Dalibor Ludvig, PhD., Mgr. Michal Tokár, PhD.

Last change: 23.11.2021
Approved by: PaedDr. Martina Tibenská, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KTV/03-Bc/00	Physical Education and Sport (3)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 0

Recommended semester: 3.

Educational level: I.

Prerequisites:

Course requirements:
- activity, 100% attendance
- passing physical performance testing
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student has developed motor skills and improved motor skills according to the sport he has chosen.

Class syllabus:
Our aim is an educated student and his active approach to correct and healthy movement. Students can complete the course Physical Education through sports, which they choose from the offer at the department: Aerobic, Step aerobic, Tabata, Fitball, Badminton, Volleyball, BodyArt, Cross fit, Fitness training, Frisbee, collective Sports games, Floorball, Futsal, Table tennis, Water tourism. The best students have the opportunity to participate in the representation of the faculty in the University League in Volleyball, Futsal, Floorball. In the block form of teaching, they can complete the course by active participation in the Ski and Snowboard course and the Tourist (hiking) course. The final evaluation is 100% active participation in classes.

Recommended literature:

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 259

A	ABS	B	C	D	E	FX	NEABS
1,54	94,98	0,0	0,0	0,0	0,0	3,09	0,39

Lecturers: Mgr. Dalibor Ludvig, PhD., Mgr. Lenka Nagyová, PhD., PaedDr. Martina Tibenská, PhD., Mgr. Michal Tokár, PhD.

Last change: 23.11.2021
Approved by: PaedDr. Martina Tibenská, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KTV/04-Bc/00	Physical Education and Sport (4)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 0

Recommended semester: 4.

Educational level: I.

Prerequisites:

Course requirements:
- activity, 100% attendance
- passing physical performance testing
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course, the student has developed motor skills and improved motor skills according to the sport he has chosen.

Class syllabus:
Our aim is an educated student and his active approach to correct and healthy movement. Students can complete the course Physical Education through sports, which they choose from the offer at the department: Aerobic, Step aerobic, Tabata, Fitball, Badminton, Volleyball, BodyArt, Cross fit, Fitness training, Frisbee, collective Sports games, Floorball, Futsal, Table tennis, Water tourism. The best students have the opportunity to participate in the representation of the faculty in the University League in Volleyball, Futsal, Floorball. In the block form of teaching, they can complete the course by active participation in the Ski and Snowboard course and the Tourist (hiking) course. The final evaluation is 100% active participation in classes.

Recommended literature:

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 244

A	ABS	B	C	D	E	FX	NEABS
0,82	96,31	0,0	0,0	0,0	0,0	2,87	0,0

Lecturers: PaedDr. Martina Tibenská, PhD., Mgr. Lenka Nagyová, PhD., Mgr. Dalibor Ludvig, PhD., Mgr. Michal Tokár, PhD.

Last change: 23.11.2021
Approved by: PaedDr. Martina Tibenská, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFChL/07-Bc/22	Physics for Healthcare Professionals

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 3 **per level/semester:** 28 / 42
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
Students are obliged to perform all laboratory experiments prescribed by the teacher and hand in all reports (assessment 0-8 points per report). Students will write at least two tests during semester regarding preparedness to experiment (assessment 0-6 points per test). Problem solving is a part of laboratory practical. Presentation of a problem solving is evaluated by 0-6 points.
The final assessment of laboratory practical is the sum of the average value of reports, average value of tests plus average value of problem solving presentation. Laboratory practical is successfully completed when the student achieves at least 10 points, the highest evaluation is 20 points.
The examination has a form of a written test. The assessment of this test (max. value is 80 points) is added to the assessment of the laboratory practical and this sum determines the mark.
Applications MS Teams and Moodle will be utilized in the case of distance exam.
Students will obtain details of the exam during the first week of the semester.
The total assessment of the subject: A 92-100 %, B 84-91 %, C 76-83 %, D 68-75, E 60-67, Fx 59% and less.
Scale of assessment (preliminary/final): 20/80

Learning outcomes:
By the completion of the subject Physics in Health Care students achieve basic knowledge from these areas of physics that are necessary for understanding logical relationships in other subjects. Students acquire information on physical properties of various materials and knowledge inevitable for understanding principles of diagnostic methods.

Class syllabus:
Lectures:
Physical quantities and units. Kinematics and dynamics of mass point. Mechanical work and power. Energy. Solid body mechanics. Hydrostatics and Hydrodynamics. Heat and temperature.
Heat and temperature. Electrostatics. Magnetism. Electromagnetic radiation. Acoustics.
List of laboratory exercises:
Weighing on the analytical balance. Humidity measurement. Density determination by pycnometer. Density determination by densimeter. Polarimetry. Conductometry – determination of the conductivity of acetic acid solutions. Boiling point and melting point. Surface tension of liquids

measured by stalagmometer. Determination of viscosity using Hőppler viscosimeter. Determination of viscosity using capillary viscosimeter. Calorimetry. Refractometry.

Recommended literature:

Oremusová J., Sarka K., Vojteková M.: FYZIKA. Laboratórne cvičenia pre farmaceutov. Bratislava, Univerzita Komenského, 2009. 102 s. (skriptá)
Videá z laboratórnych cvičení prístupné cez MS Teams
Prednášky prístupné na MS Teams
Kopecký, F.: Prehľad fyziky pre farmaceutov I. (Mechanika, hydromechanika a náuka o teple). 4. vydanie, Bratislava, Univerzita Komenského, 1999. 184 s. (skriptá, http://www.fpharm.uniba.sk/index.php?id=2665).
Sarka, K., Kopecký, F.: Prehľad fyziky pre farmaceutov II. (Elektrina, magnetizmus a žiarenie). Bratislava, Univerzita Komenského, 1988. 104 s. (skriptá, http://www.fpharm.uniba.sk/index.php?id=2665).
Krempaský, J.: Fyzika. Bratislava, Alfa 1982. 752 s.
Halliday D., Resnick R., Walker J: Fyzika. Prometheus. Praha, 2000

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 25

A	ABS	B	C	D	E	FX
4,0	0,0	0,0	0,0	24,0	32,0	40,0

Lecturers: doc. RNDr. Jana Gallová, CSc., Ing. Jarmila Oremusová, CSc., doc. Mgr. Marcela Chovancová, PhD.

Last change: 31.03.2022

Approved by: doc. RNDr. Jana Gallová, CSc.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/26-Bc/15	Professional Practice in Medical Devices Dispensary

Educational activities:
Type of activities: practice
Number of hours:
per week: **per level/semester:** 2t
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 4.

Educational level: I.

Prerequisites:

Course requirements:
The evaluation of students is given according to the number of acquired % at the end of the internship from the responsible professional, the minimum success rate is 60%. Rating: A: 93-100%, B: 85-92%, C: 77-84%, D: 69-76%, E: 60-68%, Fx: 59% and less.
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
After completing the course the student will organize and recognize the range of medical devices: group A - Dressing material, patches and medical devices that are used for drug application, group B - Medical devices for incontinence, urinary retention, group D - Medical devices for diabetics, group F - Medical devices for ostomists, group G - Medical stockings, tights, overshoes and other aids for compression treatment, group H - Mass-produced breast epitheses, group J - Mass-produced orthopaedic-prosthetic aids and accessories, group K - Rehabilitation and compensation aids, group L - Wheelchairs and strollers, mobile walkers, jacks for patients, special beds and accessories to them, group N - Aids for the hearing impaired, hearing aids and accessories to them, group O - Goggles and aids for the visually impaired and accessories to them .

Class syllabus:
1. Overview of the range of medical devices
2. Orientation and work with the list of categorized medical devices
3. Recalculations of quantitative and financial limits of selected groups of medical devices
4. Knowledge of prescription restrictions of selected groups of medical devices
5. Knowledge of indication restrictions of selected groups of medical devices
6. Group L medical devices and their classification - basic and extended functional type

Recommended literature:
- Zákon č. 362/2011 Z. z. o liekoch a zdravotníckych pomôckach a o zmene a doplnení niektorých zákonov
- Zákon č. 363/2011 Z. z. o rozsahu a podmienkach úhrady liekov, zdravotníckych pomôcok a dietetických potravín na základe verejného zdravotného poistenia a o zmene a doplnení niektorých zákonov

- Zákon č. 576/2004 Z. z. o zdravotnej starostlivosti, službách súvisiacich s poskytovaním zdravotnej starostlivosti a o zmene a doplnení niektorých zákonov
- Zákon č. 578/2004 Z. z. o poskytovateľoch zdravotnej starostlivosti, zdravotníckych pracovníkoch, stavovských organizáciách v zdravotníctve a o zmene a doplnení niektorých zákonov
- Zákon č. 580/2004 Z. z. o zdravotnom poistení a o zmene a doplnení zákona č. 95/2002 Z. z. o poisťovníctve a o zmene a doplnení niektorých zákonov
- Zákon č. 581/2004 Z. z. o zdravotných poisťovniach, dohľade nad zdravotnou starostlivosťou a o zmene a doplnení niektorých zákonov
- Zákon č. 147/2001 Z. z. o reklame a o zmene a doplnení niektorých zákonov
- Vyhláška č. 129/2012 Z. z. o požiadavkách na správnu lekárenskú prax
- Nariadenie vlády SR č. 296/2010 Z. z. o odbornej spôsobilosti na výkon zdravotníckeho povolania, spôsobe ďalšieho vzdelávania zdravotníckych pracovníkov, sústave špecializačných odborov a sústave certifikovaných pracovných činností

Languages necessary to complete the course:
Slovak language

Notes:
Internship week is a time period characterized by five working days, with a working time of 7,5 hours / day, ie the student must complete 10 days of 7,5 hours of internship. Public holidays are not included in the internship period, the student must work on them.

Past grade distribution
Total number of evaluated students: 80

A	ABS	B	C	D	E	FX
92,5	0,0	1,25	0,0	0,0	0,0	6,25

Lecturers: PharmDr. Miroslava Snopková, PhD., PharmDr. Ľubica Lehocká, PhD.

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/33-Bc/22	Public Health I.

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
Completion of the course is done by a written exam with a minimum success rate of 60%. Rating: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, FX = 59% and less.

Learning outcomes:
By completing the course, the student will gain basic theoretical and practical knowledge about the public health of the population, health determinants, health education and promotion, the prevention of chronic and infectious diseases. The graduate of the course will understand the issues of global disease burden, basic forms of prevention in public health and in the provision of health care, masters the basic principles of epidemiology in public health.

Class syllabus:
Public health - indicators, determinants of health and health status of the population. Basics of epidemiology - methods, studies, indicators. Epidemiology and prevention of infectious diseases - vaccine-preventable diseases, immunization program. Surveillance as a method of work in epidemiology. Epidemiology of non-communicable diseases - risk factors, population impacts, monitoring. Health education and support. Health prevention and protection. Public health programs and interventions - primary prevention, screening. National Health Promotion Program.

Recommended literature:
1. Šulcová M. a kol.: Verejné zdravotníctvo, Veda 2012, s. 651, ISBN 978-80-224-1283-4
2. Rovný I.: Verejné zdravotníctvo, Herba 2009, s. 125, ISBN 978-80-891-7160-6
3. Hegyi L., Bielik I.: Základy verejného zdravotníctva, Herba 2011, s. 288, ISBN 9788089171842
4. Bražinová A.: Epidemiologické metódy a ich uplatnenie v epidemiológii vybraných ochorení, LF UK v Bratislave 2020, s. 70, ISBN 978-80-223-4982-6
5. Bazovská S. a kol. Špeciálna epidemiológia. UK Bratislava, 2017, s. 337, ISBN 978-80-223-2301-7
6. Bašková M. a kol. Výchova k zdraviu. Martin: Osveta, 2009, s. 226, ISBN 978-80-806-3320-2
7. Zákon NR SR č. 355/2007 Z.z. o ochrane, podpore a rozvoji verejného zdravia a o zmene a doplnení niektorých zákonov

8. Zdravie 2020, WHO 2012
9. Aktualizácia Národného programu podpory zdravia v Slovenskej republike, 2014
10. Strategický rámec starostlivosti o zdravie pre roky 2014 – 2030

Languages necessary to complete the course:
Slovak language.

Notes:

Past grade distribution
Total number of evaluated students: 25

A	ABS	B	C	D	E	FX
16,0	0,0	16,0	20,0	24,0	8,0	16,0

Lecturers: doc. PharmDr. Daniela Mináriková, PhD., doc. PharmDr. Tomáš Tesař, PhD., MBA

Last change: 01.04.2022

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KORF/13-Bc/22	Public Health II.

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 2.

Educational level: I.

Prerequisites:

Course requirements:
1. Obligatory participation in seminars. Absence on the seminar must be proved by the reason for absence and the seminar must be replaced in agreement with the teacher.
2. Continuous test without a minimum success rate (2 tests).
3. Completion of the course is done by a written exam with a minimum success rate of 60%. Rating: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, FX = 59% and less.

Learning outcomes:
By completing the course, the student will gain basic theoretical and practical knowledge about the public health system and master the legislation used in public health. Understand the organization and delivery of public health at the national and international levels, including emergencies and specific population groups. He has knowledge of basic protective equipment in the context of medical devices.

Class syllabus:
Public health as a part of health care system - legislation, content, content. Act on the protection, support and development of public health - subject to regulation. Organization and performance of public health. Implementation of the prevention of diseases and other health disorders. Measures of state administration bodies in the field of public health care in case of emergencies. Obligations of natural and legal persons in the protection, promotion and development of public health. Execution of state health supervision, offenses and other administrative offenses in the field of public health. Working conditions and personal protective equipment. Local and global public health issues. WHO, ECDC, state and non-governmental organizations in health prevention, protection and promotion. Public Health Authority of the Slovak Republic, Regional Public Health Offices, health counselling offices. Equality in health. Vulnerable groups - woman and child, seniors, Roma population, people addicted to alcohol, drugs and public health. Minority groups - homeless, unemployed, immigrants and public health.

Recommended literature:
1. Šulcová M. a kol.: Verejné zdravotníctvo, Veda 2012, s. 651, ISBN 978-80-224-1283-4
2. Rovný I.: Verejné zdravotníctvo, Herba 2009, s. 125, ISBN 978-80-891-7160-6

3. Hegyi L., Bielik I.: Základy verejného zdravotníctva, Herba 2011, s. 288, ISBN 9788089171842
4. Zákon NR SR č. 355/2007 Z.z. o ochrane, podpore a rozvoji verejného zdravia a o zmene a doplnení niektorých zákonov
5. Nariadenie vlády č. 392/2006 Z. z. o minimálnych bezpečnostných a zdravotných požiadavkách pri používaní pracovných prostriedkov.
6. Nariadenie vlády č. 395/2006 Z. z. o minimálnych požiadavkách na poskytovanie a používanie osobných ochranných pracovných prostriedkov.

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 11

A	ABS	B	C	D	E	FX
18,18	0,0	18,18	18,18	18,18	9,09	18,18

Lecturers: doc. PharmDr. Daniela Mináriková, PhD., doc. PharmDr. Tomáš Tesař, PhD., MBA

Last change: 15.02.2024

Approved by: doc. PharmDr. Daniela Mináriková, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFANF/06-Bc/15	Quality Control of the Medical Devices I.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 4 **per level/semester:** 28 / 56
Form of the course: on-site learning

Number of credits: 6

Recommended semester: 5.

Educational level: I.

Prerequisites:

Course requirements:
Continuous assessment: checking the readiness of the student at the beginning of each exercise in writing + achieve min. 60% success in the experimental result; 2 tests of 10 points each - 60% of the possible points (10 points/practice) is required to successfully complete the laboratory practical. Final evaluation: after meeting the conditions of the continuous evaluation (achievement of at least 60% of the points obtained for 2 tests) and successful completion of the experimental part (achievement of 60% of the points in practices), exam (achievement of 60% of the points). Credits will not be assigned to a student who obtains less than 6 points from any written examination. Examination: to get an A grade it is necessary to obtain at least 93 %, to get an B grade at least 85 %, to get a C grade at least 77 %, to get a D grade at least 69 % and to get an E grade at least 60%. Scale of assessment (preliminary/final): 50/50

Learning outcomes:
After completing the exercises, the student will gain an overview of the use of analytical chemistry and analytical methods used in qualitative and quantitative analysis of substances, laboratory skills in methods of qualitative and quantitative volumetric analysis. The student will gain theoretical knowledge and practical skills for comprehensive management of analytical chemistry, necessary for choosing the optimal analytical procedure for the detection, separation and determination of elements and identification of organic compounds occurring in various medical materials in high concentrations and in trace amounts.

Class syllabus:
Comprehensive mastery of analytical chemistry, necessary for the choice of the optimal analytical procedure for the detection, separation and determination of elements and identification of organic compounds present in various medical supplies, both in high concentrations and in trace amounts. Representation of individual branches of analytical chemistry is characterized by emphasis on separation methods, trace analysis and microanalysis in terms of safety of medical supplies with regard to the requirements of the Slovak Pharmacopoeia, European Pharmacopoeia, the Medical Devices Act and relevant standards. Analytical chemistry: essence, meaning, distribution (purpose, methods, amount of analyzed component). Requirements for the analytical reaction: sensitivity and selectivity of the analytical reaction, purity of chemical reagents. General procedure of inorganic

and organic qualitative analysis, carrying out the proof. Methods for determination of inorganic and organic substances. Chemical methods of determination - gravimetric analysis, volumetric analysis. Instrumental determination methods - electrochemical methods, separation analytical methods, spectral analytical methods. Good laboratory practice Validation of used analytical methods. Certification of products.
Outline:
• Analytical chemistry - essence, meaning, division.
• Analytical reactions, proteolytic, oxidation-reduction, complexing, precipitation, their use and analytical chemistry. • Group and selective reactions of cations (NH4+, Ag+, Hg22+, Pb2+, Hg2+, Cu2+, Bi3+, Fe2+, Fe3+, Ni2+, Al3+, Zn2+, analysis of samples containing alkaline earth ions Ba2+, Ca2+, Mg2+ besides heavy metals, verification on known samples), proves in unknown samples. Suppression of interfering components in chemical proves of cations
• Group and selective reactions of anions (SO42-, CO32-, AsO33-, AsO43-, PO43-, Cl-, Br-, I-, NO3-) • Quantitative analysis. Volumetric solutions, standardization. Titration curves, indicators.
• Quantitative analysis - Quantitative methods based on proteolytic reactions - alkalimetry, acidimetry.
• Quantitative analysis. Quantitative methods based on redox reactions - manganometry.
• Quantitative analysis. Quantitative methods based on complexing reactions. Chelatometry.
• Quantitative analysis. Quantitative methods based on precipitation reactions.
• Organic analysis - proof and identification of organic substances.
• Organic analysis - qualitative elemental analysis, characterization, classification of substances according to solubility.
• Organic analysis - evidence of functional groups; derivatization; instrumental identification.

Recommended literature:

Majer, J. a kol.: Analytická chémia pre farmaceutov. Martin, Osveta 1989. 363 p.
Pikulíková, A., Dvořáková, E., Riečanská, E.: Laboratórne cvičenia z analytickej chémie I. : chemická analýza. Bratislava: UK, 1999. 273 p.
Křenek, P.: Analýza organických látok. Bratislava: UK, 1997.
Havránek, E. a kol.: Laboratórne cvičenia z analytickej chémie III : fyzikálno-chemické metódy. Bratislava: UK, 1998. 91 p.
Garaj, J., Bustin, D., Hladký, Z.: Analytická chémia. Bratislava: Alfa, 1989. 740 p.
Mikuš, P., Mikušová, V.: Analytical Chemistry: Chemical Analysis. Bratislava : VEDA SAV, 2022. 190 s. (skriptá)
Světlík, J.: Molekulová spektroskopia a optické metódy. Bratislava : UK, 2006. 81 p.

Languages necessary to complete the course:
slovak language

Notes:

Past grade distribution
Total number of evaluated students: 247

A	ABS	B	C	D	E	FX
18,22	0,0	18,62	23,89	18,22	19,03	2,02

Lecturers: RNDr. Svetlana Dokupilová, PhD., Ing. Ivan Benkovský, PhD.

Last change: 16.02.2023

Approved by: RNDr. Svetlana Dokupilová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFCh/07-Bc/15	Quality Control of the Medical Devices II.

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 2 / 4 **per level/semester:** 28 / 56
Form of the course: on-site learning

Number of credits: 6

Recommended semester: 6.

Educational level: I.

Prerequisites:

Recommended prerequisites:
Subject Quality Control of the Health Devices II. builds on and requires knowledge from subjects FaF.KFCh/09-Bc/00 Basics of Chemistry of Materials II. and FaF.KFANF/06-Bc/15 Quality Control of the Health Devices I.

Course requirements:
Compulsory participation in all forms of teaching in full extent. Passing two preliminary tests, which consist of questions from laboratory practicals and lectures, with a minimum success rate of 60 %. Elaboration of protocols "Quality control of health devices, excipients and drugs" according to the principles of good laboratory practice in accordance with applicable regulations. Final written examination. The final written examination consists of quality control issues for health devices, excipients and drugs as parts and accessories of the health device (identification tests, purity tests, determination of content), in accordance with applicable European Union legislation, Slovak Republic and validation of these methods.
Exam evaluation: 100-92,00% evaluation A, 91,99-84,00% evaluation B, 83.99-76.00% evaluation C, 75.99-68.00% evaluation D, 67.99-60.00% evaluation E, less than 60.00% evaluation FX.
Scale of assessment (preliminary/final): 40/60.

Learning outcomes:
Health devices must meet high quality requirements due to their practical use in medical and preventive patient care. At lectures and laboratory practicals, the student will learn the regulations related to the evaluation of the quality of health devices in accordance with Slovak and European legislation. Student will learn theoretically and practically methods and tests for verification of identity, purity tests, he will learn to prove and evaluate the presence of impurities in individual types of health devices and determine the content where the relevant standards prescribe it. At the same time, it will manage the issue of control of drugs that are accessories of a health device, or a fixed part of it, or are listed in categorization lists as health devices.

Class syllabus:
1. Content, mission and importance of the discipline. Quality control and evaluation of helth devicies in the Slovak Republic. European Pharmacopoeia. Technical standards.

2. European Pharmacopoeia test methods for identification and purity tests based on physical and principle - flame tests, solubility, melting point, relative density, freezing point, drop point, boiling point, distillation range, viscosity.
3. European Pharmacopoeia test methods for identification and purity tests based on the physicochemical principle - reaction of solution, pH value, conductivity, optical rotation, refractive index - general pharmacopoeial articles.
4. European Pharmacopoeia test methods for identification tests based on the chemical principle - Ions and groups identification tests.
5. Purity tests - general articles in the valid pharmacopoeia - clarity and degree of opalescence of liquids, degree of coloration of liquids, loss on drying, sulfated ash. Limit tests for impurities.
6. European Pharmacopoeia test methods for identification and purity tests - optical and separation instrumental methods - general pharmacopoeial articles.
7. Determination of content according to valid pharmacopoeia and technical standards.
8. Evaluation of the quality of health devices according to the valid pharmacopoeia and technical standards - surgical sutures, cotton wool, packaging and packaging material.

Recommended literature:

European Pharmacopoeia, Current Edition and Supplements, Strasbourg, Council of Europe, Cedex
Slovenský farmaceutický kódex, aktuálne vydanie.
Slovenský farmaceutický kódex 2015, druhé vydanie.
Aktuálne technické normy pre zdravotnícke pomôcky.
Bezáková, Ž.: Analýza chemických liečiv : stanovenie obsahu liečiv podľa Slovenského liekopisu I. 1. vyd. Nitra: VA PRINT, 2000. 208 s.
Bezáková, Ž., a kol.: Základy farmaceutickej analýzy : kvalitatívne hodnotenie chemických liečiv. 1.vyd. Nitra: VA PRINT, 2002.
Bezáková, Ž.: Kvalita liečiva - zabezpečenie a kontrola. Vydavateľstvo Neografia, Martin, 2007.
Slovenský liekopis 1. (SL 1). Zv.I. - Zv. VII. Bratislava: Herba, 1997 - 2004.

Languages necessary to complete the course:
slovak

Notes:

Past grade distribution
Total number of evaluated students: 101

A	ABS	B	C	D	E	FX
11,88	0,0	20,79	24,75	14,85	20,79	6,93

Lecturers: doc. PharmDr. Miroslava Sýkorová, PhD., PharmDr. Iva Kapustíková, PhD.

Last change: 28.03.2022

Approved by: doc. PharmDr. Miroslava Sýkorová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFChL/10-Bc/22	Selected Topics in Mathematics

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 1 / 2 **per level/semester:** 14 / 28
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: I.

Prerequisites:

Course requirements:
During full-time teaching, students will write 8 to 10 tests for a total of 40 points during the semester and a written test worth of 50 points is written at the exam. Points from tests at seminars and from the current test at the exam are added together. To obtain an A rating, it is necessary to obtain at least 46 points, to obtain an B rating at least 41 points, to obtain a C rating at least 36 points, to obtain a D rating at least 31 points and to obtain an E rating at least 26 points.
Scale of assessment (preliminary/final): 40/50

Learning outcomes:
After completing the course, students will master the basics of mathematical methods in the field of algebra, introduction to mathematical analysis, introduction to differential calculus to the appropriate extent necessary for the study of related specialised subjects.

Class syllabus:
Fundamentals of mathematical logic and introduction to set theory, Linear algebra - expressions, equations and inequalities. Functions - properties of functions, elementary real functions. Sequences and numerical series - limits of sequences, power series, approximation of functions. Differential calculus - limits and con-tinuity of a function, derivation, differential and difference. Mathematical analysis of real functions. Lectures from the subject Selected Chapters on Mathematics are supplemented by a seminar, where students verify their theoretical knowledge and acquire skills in solving examples focused on scientific applications.

Recommended literature:
V. Frecer: Matematika pre farmaceutov, UK, Bratislava, 2014.
M. Šabo: Matematika I, STU, Bratislava, 2009.
M. Jasem, Ľ. Horanská: Matematika I. Zbierka úloh, Bratislava, STU, 2010.

Languages necessary to complete the course:
Slovak language

Notes:

Past grade distribution
Total number of evaluated students: 25

A	ABS	B	C	D	E	FX
36,0	0,0	4,0	0,0	16,0	12,0	32,0

Lecturers: doc. Mgr. Marcela Chovancová, PhD., Mgr. Katarína Želinská, PhD.

Last change: 31.03.2022

Approved by: doc. Mgr. Marcela Chovancová, PhD.

COURSE DESCRIPTION

Academic year: 2022/2023

University: Comenius University Bratislava

Faculty: Faculty of Pharmacy

Course ID:	**Course title:**
FaF.KFT/18-Bc/15	Veterinary Medical Devices

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 1 / 1 **per level/semester:** 14 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 5.

Educational level: I.

Prerequisites:

Course requirements:
To be admitted to the exam, student is required to attend all lectures and seminars. The condition for passing the course is passing the final exam test and the oral exam. The test and the oral exam contribute equally to the overall result of the exam and the student must demonstrate mastery of at least 60% of the required knowledge. The exam test result is evaluated on a scale: A (at least 92%), B (at least 83%), C (at least 76%), D (at least 68%), E (at least 60%) and Fx (less than 60% of the maximum number points).
Scale of assessment (preliminary/final): 0/100

Learning outcomes:
By completing the course, the student will gain an overview of the specifics of veterinary health care. Student will be familiar with veterinary medical devices and basic operations that are part of veterinary medical practice.

Class syllabus:
Specifics of veterinary medicine - differences from human health care. Veterinary drug forms and routes of administration. Zoonoses, the most common animal diseases. Specific veterinary medical devices that are used in selected situations - application of drugs in bulk and individually; euthanasia; controlled reproduction of livestock; GIT diseases and disorders; skin damage; animal poisoning; disinfection. Veterinary diagnostics.

Recommended literature:
Šnirc J., Sokol J., Seginko J., Hera A. a kol.: Klinická veterinárna farmakológia. Martin; Neografia a. s. 2007:1184. První vydání. ISBN 978-80-88892-75-5.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 246

A	ABS	B	C	D	E	FX
32,52	0,0	25,61	21,14	10,98	8,94	0,81

Lecturers: doc. PharmDr. Marek Máťuš, PhD., doc. Mgr. Peter Vavrinec, PhD.

Last change: 29.11.2021

Approved by: doc. PharmDr. Marek Máťuš, PhD.