

Course descriptions

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COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/01-Mgr/25	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: II.	
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 seminars 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 pharmacist. 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 care, the role of a pharmacist, 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 - 5) within Master Study Programme is carried out in Slovak study programme in five semesters. The contents of these specialised professional courses closely follow the contents of other professional courses taught in the relevant semesters. It is	

therefore highly recommended to take the courses gradually from the 2nd to the 6th semester (including) of the study, i.e., Academic English Language Preparation (1) in the 2nd (summer) semester of study.

Past grade distribution

Total number of evaluated students: 5

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

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

Last change: 21.05.2025

Approved by: PaedDr. Viera Žufková, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/02-Mgr/25	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: II.	
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 seminars 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 (1-5) within Master Study Programme is carried out in Slovak study programme in five semesters. The contents of these specialised professional courses closely follow the contents of other professional courses taught in the relevant semesters. It is therefore highly recommended to take the courses gradually from the 2nd to the 6th semester	

(including) of the study, i.e., Academic English Language Preparation (2) in the 3rd (winter) semester of study.

Past grade distribution

Total number of evaluated students: 0

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

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

Last change: 17.11.2024

Approved by: PaedDr. Viera Žufková, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/03-Mgr/25	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: II.	
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 seminars a student is able to understand professional texts, reproduce their content orally and in writing, using English professional terminology from the field of basic chemical terminology and disease prevention. 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 way of life, balanced diet, vitamins, minerals, cosmetics, first aid, treatment in various situations and emergencies.	
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 (1-5) within Master Study Programme is carried out in Slovak study programme in five semesters. The contents of these specialised professional courses closely follow the contents of other professional courses taught in the relevant semesters. It is therefore highly recommended to take the courses gradually from the 2nd to the 6th semester	

(including) of the study, i.e., Academic English Language Preparation (3) in the 4th (summer) semester of study.

Past grade distribution

Total number of evaluated students: 0

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

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

Last change: 17.11.2024

Approved by: PaedDr. Viera Žufková, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KJ/04-Mgr/25	Course title: Academic English Language Preparation (4)
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: 4.	
Educational level: II.	
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 seminars a student is able to understand professional texts, reproduce their content orally and in writing, using English professional terminology from the field of pharmacology. 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: common disorders, home medicine cabinet, drug classification, frequently prescribed drugs, their sources, composition and effects, alternative medicine, healing herbs - their structure and functions.	
Recommended literature: Hollá, O., Kližanová, D., Žufková, V.: English for Pharmacists IV. Bratislava: Vydavateľstvo UK, 2020. Grammar Workbook IV	
Languages necessary to complete the course: English language	
Notes: Academic English Language Preparation (1-5) within Master Study Programme is carried out in Slovak study programme in five semesters. The contents of these specialised professional courses closely follow the contents of other professional courses taught in the relevant semesters. It is	

therefore highly recommended to take the courses gradually from the 2nd to the 6th semester (including) of the study, i.e., Academic English Language Preparation (4) in the 5th (winter) semester of study.

Past grade distribution

Total number of evaluated students: 0

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

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

Last change: 17.11.2024

Approved by: PaedDr. Viera Žufková, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KEF/F297M/25			Course title: Applied Statistics			
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: 1.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 15						
A	ABS	B	C	D	E	FX
26,67	0,0	73,33	0,0	0,0	0,0	0,0
Lecturers: doc. Ing. Mgr. Urban Kováč, PhD.						
Last change: 23.07.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KIS/F380M/25	Course title: Artificial Intelligence, Robotisation and Software – Innovations in Health Technologies
Educational activities: Type of activities: lecture Number of hours: per week: 2 per level/semester: 28 Form of the course: on-site learning	
Type, volume, methods and workload of the student - additional information 2 hours per week, lecture/seminar, face-to-face/combined method	
Number of credits: 2	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: .	
Course requirements: <ul style="list-style-type: none"> • Active participation in lectures, written test in the middle and at the end of the semester. • Achieving a score of at least 60% in each test to obtain a grade. <p>The assessment of the subject is in accordance with the Study Regulations of Comenius University, and the individual grades of the grading scale are awarded based on the applied point system, which reflects the degree of success in completing the subject. To obtain an A grade, it is necessary to obtain at least 91 percent, to obtain a B grade, at least 81 percent, to obtain a C grade, at least 73 percent, to obtain a D grade, at least 66 percent, and to obtain an E grade, at least 60 percent. Credits will not be awarded to a student who obtains less than 60 percent.</p> <p>Scale of assessment (preliminary/final): 100/0</p>	
Learning outcomes: Learning outcomes: By completing the course, the student will gain knowledge on how to provide basic information about artificial intelligence, robotics and software using information and communication technologies through the eyes of a manager and the consequences for management practice with an orientation to the healthcare sector. The aim of the course is to gain knowledge in the following areas: <ul style="list-style-type: none"> • Basics of computing for managers with an orientation to hardware technologies, their history, modern architecture, communication methods, security, cloud services, the Internet of Things and other related technologies. • Overview of information systems and application software, historical development, relationship to information and communication technologies, application software development and ensuring data security. 	

- Analysis, development and implementation focused on a set of technical and business practices that include the management of hardware and software resources within an organization, including tactical and strategic decision-making.
- Overview of artificial intelligence using the most modern information and communication technologies and their high performance.
- Use and application of generative artificial intelligence from the perspective of use in routine activities.
- Use and application of predictive artificial intelligence from the perspective of decision-making based on available data, for example in treatment and prevention.
- Overview of robotics in connection with modern information and communication technologies.
- Use of robotics in connection with information and communication technologies for surgical procedures, support of rehabilitation activities and other activities in patient care.
- Overview of other innovative technologies in healthcare, e.g. 3D printing, etc.
- Analysis of the problems that management struggles with when deploying and using artificial intelligence, robotics and other information and communication technologies in the organization.

Class syllabus:

1. Computer Science for managers.
2. Application software and information systems.
3. Organization of software and hardware resources.
4. Artificial intelligence - overview and basic concepts.
5. Generative artificial intelligence.
6. Mid-term test.
7. Predictive artificial intelligence.
8. Use of artificial intelligence in healthcare.
9. Robotics - overview and basic concepts.
10. Robotics in healthcare.
11. Innovative methods using artificial intelligence and robotics in healthcare.
12. Final test.

Recommended literature:

- [1] Furda, R. – Greguš, M.: Computer Science for Managers. Bratislava : Univerzita Komenského v Bratislave, 2020.
- [2] Furda, R. – Greguš, M.: Information Systems and Application Software. Bratislava : Univerzita Komenského v Bratislave, 2021.
- [3] Furda, R. – Greguš, M.: Organization Strategy in ICT for Managers. Bratislava : Univerzita Komenského v Bratislave, 2023.
- [4] Bohr, A. – Memarzadeh, K.: Artificial Intelligence in Healthcare. Academic Press, 2020.
- [5] Bozovic, V.: Medical Robotics. Vienna : I-Tech Education and Publishing, 2008.
- [6] Website of the Academic Library of Comenius University – external information resources accessible to Comenius University: <http://uniba.sk/o-univerzite/fakulty-a-dalsie-sucasti/akademicka-kniznica-uk/externe-informacne-zdroje/>.
- [7] Other resources will be continuously added and updated (as new and available resources become available).

Languages necessary to complete the course:

English language

Notes:

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Past grade distribution						
Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Ing. Robert Furda, PhD.						
Last change: 24.09.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KIS/F377M/25			Course title: BI Tools for Data Processing			
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: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 15						
A	ABS	B	C	D	E	FX
66,67	0,0	20,0	0,0	0,0	0,0	13,33
Lecturers: RNDr. Zuzana Kovačičová, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFChL/24-Mgr/25	Course title: Biophysics 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	
Type, volume, methods and workload of the student - additional information Form of study: full-time Type of activities: lecture/seminar Number of hours per week: 1 Lecture, 2 Seminars - 1/2/0 Method of teaching: combined (on-site and/or online) Final evaluation: exam	
Number of credits: 3	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: Recommended knowledge: Biology, Human Anatomy and Physiology, Physics for Health Professionals, Selected Chapters in Mathematics.	
Course requirements: Active participation at lectures, engaging in discussion. Preparation of seminar work in a written form using scientific literature, its presentation at the seminar and defence at the oral exam (max 40 points). Active participation at seminars, oral exam from lecture topics (max 20 points). A total of at least 93% (56 points) must be reached to obtain the A rating, at least 85% (51 points) to obtain the B rating, a minimum of 77% (46 points) for the C rating, a minimum of 68% (41 points) for the D rating and a minimum of 60% (36 points) for the E rating. Scale of assessment (preliminary/final): 30/70	
Learning outcomes: Knowledge: biophysical principles of functioning of the human organism, basics of diagnostic and therapeutic methods; Skills: work with professional medical text, preparation and implementation of professional presentations, active participation in professional discussions, ability to think creatively; Competences: designing therapeutic strategies, assessing possible risks and adverse effects; Transferable skills: communication skills, digital skills, analytical skills, reasoning in contexts.	
Class syllabus: Bioenergetics: Body temperature regulation, Thermometry, Thermotherapy;	

Biomechanics: Biomechanical properties of tissues, Biomechanics of blood circulation, Biomechanics of breathing, Effects of mechanical forces on the body, Therapeutic use of mechanical energy;
 Bioelectronics: Electrical manifestations of the organism, Effects of electrical energy on the organism, Diagnostic and therapeutic use of electrical energy;
 Sensory perception: Reception and processing of acoustic stimuli, Reception and processing of optical stimuli, Optical methods and instrumentation;
 Effects of physical factors on living organisms: Ionizing and non-ionizing radiation and their interaction with tissues, Radiotherapy;
 Diagnostic methods and devices: Imaging methods, Laser and its utilization;
 Physical properties of biomaterials: Biodegradable materials, Nanomaterials.

Recommended literature:

Staničová, J.: Biofyzika. Košice: Príroda, 1990. 231 s.
 Rosina J., Vránová J., Kolářová H., Stanek J.: Biofyzika pro zdravotnické a biomedicínské obory. Grada Publishing, 2013. 224 s.
 Navrátil L., Rosina J. a kol.: Medicínska biofyzika. Grada publishing, 2019. 432 s.
 Ďoubal, S., Horáčková, I.: Biofyzika pro studenty farmacie. Praha: Karolinum, 2000
 Kukurová E., Kráľová E.: Lekárska fyzika a biofyzika pre medicínsku prax, Bratislava: Univerzita Komenského, 2004, 263 s.
 Hrazdira I., Mornstein V., Škorpíková J.: Základy biofyziky a zdravotnícké techniky. Neptun, 2006. 309 s.

Languages necessary to complete the course:

Slovak

Notes:

Maximum number of students per course: 30

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: prof. RNDr. Daniela Uhríková, CSc., Mgr. Mária Klacsová, PhD.

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFChL/26-Mgr/25	Course title: Biostatistics in quality management
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	
Type, volume, methods and workload of the student - additional information Form of the study: full-time Type of teaching: lecture/seminar Number of hours per week: 1 hours of lectures and 2 hours of seminars, 1/2/0 Method of study: combined (on-site or hybrid) Requirement: full-time presence	
Number of credits: 3	
Recommended semester: 4.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: Knowledge in applied statistics or Biostatistics for Pharmacists	
Course requirements: The student is obliged to attend all computing seminars designated by the teacher and submit a written project plan (0-6 points) in the middle of the semester. The topic of the project is from the field of health science, preferably from the application practice of using medical aids, diagnostics and medical devices. During the semester, there will be at least two interim readiness checks (0-4 points). The final evaluation of the student at the seminars is determined as the sum of the average evaluation of the interim reviews and the evaluation for the development of the project plan. To complete the seminars, it is necessary to obtain at least 6 points out of a possible 10. The subject exam is combined and consists of the development of a year project and the presentation of its results in the form of a defense, which students complete during the exam period. Acceptance of the written elaboration of the project is conditional on the timely submission of the project plan and obtaining at least 3 points for the written plan. The final written work (annual project) must contain, in addition to the formal requirements specified by the teacher, complete statistical processing of the approved topic: a collection of original data, pre-processing and presentation, calculations of descriptive and survey characteristics and interpretation of these results. Points are awarded for the written work of the project in the following structure: for topicality and appropriateness of the topic (max. 2 points); the range of processed data (max. 2 points); adequacy of the methods used (max. 4 points); correctness of calculations (max. 6 points); appropriate interpretation, discussion and confrontation of the results with current literature (max. 8 points); and formal processing of the report (2 points). Handing over the written work of the project is a necessary condition for passing the exam. The presentation is evaluated in the categories of	

preparedness of the presenter, comprehensibility of the presentation, logic of argumentation and ability to respond to questions. For each of the listed categories in the presentation, points are assigned in the range of 0-4, a total of 16.

The overall assessment consists of an ongoing assessment of the seminars (0-10 points), an assessment of the final written project (0-24 points) and an assessment of the presentation (0-16 points) as a simple sum of points: A: 45-50 points, B: 40-44 points, C: 36-39 points, D: 33-35 points, E: 30-32 points.

Scale of assessment (preliminary/final): As described in the conditions for completing the course.

Learning outcomes:

After completing the subject, the student is oriented in statistical methods of evaluation and management of quality processes, in methods applied in epidemiology and drug policy, as well as in medical devices in the field of clinical studies and studies of the purpose of medical devices, and finally in applied statistical procedures of economic management distribution of medical supplies, diagnostics and medical equipment. The graduate of the course understands the importance of statistical analysis of problems, can formulate solution strategies, including planning the collection of necessary data, can assess and improve the capability of processes and the performance of measurement and evaluation systems; can independently carry out statistically designed experiments, perform analysis of primary data, can present the results of these studies, can document them and subsequently prepare reference reports for the needs of a control, certification or management body.

Class syllabus:

Design of a biostatistical experiment: target population, research sample, sample design, intervened and control sample, role of the gold standard, randomization, longitudinal, retrospective and prospective study, forms of blinding; Requirements for assessment systems: reliability, validity, sensitivity and robustness, signal, noise, bias, sources of uncertainty, error rates of assessment systems, benchmark, certified reference material, standard, internal standard, multicenter study, meta-analysis, umbrella study; Qualitative research: questionnaire, standardized questionnaire, questionnaire validation, inter-rater agreement, internal consistency, constructs and dimensionality analysis, specific sources of bias; Univariate analysis of samples: false positivity and negativity; statistical, clinical and biological significance, diagnostic method parameters, sensitivity and selectivity, risk ratio and odds ratio, interval estimate of odds ratio and risk ratio. Measures of causality: covariance, correlation, association, decomposition of variability into its components, linear additive models, fixed, random and mixed effects and models, the main outcome of the trial, Kaplan-Meier survival curve, Cox regression, descriptor, predictor, regressor, error matrix, prediction models; Statistical evaluation of measurements: simple and compound uncertainty, propagation and compounding of uncertainties, Ishikawa diagram, precision, accuracy, the limit of detection (LOD), the limit of quantification (LOQ), regression diagnostics, matrix, matrix effects, method validation, control standard, ROC curve, AUC and ICC; Statistical process evaluation> X and R type control charts, CUSUM, EWMA, Shewhart diagram, process capability assessment, capability indices, Six Sigma process and DMAIC, time series, cyclical phenomena, seasonality, trend, chaos, VRA; Quality management processes: controlled documentation, standard work procedure, internal quality control, external quality control, interlaboratory tests, accredited examination, certification body, and the relationship between legislation and quality management. Students can deepen the theoretical knowledge acquired in the lectures at computing seminars, where the solution of model problems occurring in pharmaceutical and medical practice is practised with the help of software tools.

Recommended literature:

- Fazekáš, T.: Moderná aplikovaná štatistika pre farmaceutov. Bratislava: UK, 2000. 196 s.

- Hanousek, J., Charazma, P.: Moderní metody spracování dat: matematická statistika pro každého. Praha: Grada, 1992. 216 s.
- Jones, D.: Pharmaceutical Statistics, London: Pharmaceutical Press, 2002. 586 s.

Languages necessary to complete the course:

Slovak language

Notes:

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: RNDr. Tomáš Fazekaš, PhD.

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KEF/F322M/25	Course title: Costs and Calculations in Health Technologies
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	
Type, volume, methods and workload of the student - additional information 4 hours / per week, 48 hours per semester, lecture / seminar, hybrid form	
Number of credits: 3	
Recommended semester: 4.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: –	
Course requirements: Pass a 50-point test (continuous assessment) during the course, which represents 50% of the overall course assessment (with a minimum success rate of 50%, i.e. achieving at least 25 points - the result constitutes bonus points for the exam). Present the knowledge broadly included in the brief course outline. The exam is written, 50 points, which also represents 50% of the overall course assessment. The course assessment is in accordance with the CU Study Regulations and the individual grades of the classification scale are awarded based on the applied point system, which reflects the degree of success in completing the course. To obtain an A grade, it is necessary to obtain at least 91 percent, to obtain a B grade, at least 81 percent, to obtain a C grade, at least 73 percent, to obtain a D grade, at least 66 percent, and to obtain an E grade, at least 60 percent. Credits will not be awarded to a student who obtains less than 60 percent. Scale of assessment (preliminary/final): 50/50	
Learning outcomes: The student is able to explain selected problems of the emergence, course and control of costs in the reproductive process of a company in relation to the management of economy and efficiency, to master the coordination of costs in the corporate management system, with a specific view of health technologies. A separate part is the acquisition of basic types of calculations used in pricing specific products falling under health technologies.	
Class syllabus: 1. Characteristics of costs, their importance and status 2. Costs, expenses, revenues, income. Economy and economic efficiency 3. Classification of costs 4. Use of costs in management. Specifics in health technologies 5. Traditional methods of cost management	

6. Modern methods of cost management
7. Calculations, their importance and status
8. Calculation system. Types of calculations
9. Traditional calculation methods
10. Modern calculation methods. Specific methods for health technologies
11. Costs, calculations and pricing
12. Pricing and budgets in health technologies
13. Current topics in practice

Recommended literature:

- [1] Kajanová, J.: Costs under the pressure of globalization. Praha: Wolters Kluwer, 2017
 [2] Potkány, M. – Krajčírová, L.: Kalkulácie a rozpočty. Zvolen : Technická univerzita vo Zvolene, 2015
 [3] Drury, Colin: Management Accounting for Business 4th edition, a novšie edície
 [4] Teplická, K.: Manažment kalkulácií. VŠB TU Ostrava, 2021
 [5] Webové sídlo Akademickej knižnice UK – externé informačné zdroje prístupné pre UK: <http://uniba.sk/o-univerzite/fakulty-a-dalsie-sucasti/akademicka-kniznica-uk/externe-informacne-zdroje/>.
 [6] Ďalšie zdroje budú priebežne dopĺňané a aktualizované (vzhľadom na nové a dostupné zdroje).

Languages necessary to complete the course:

Slovak, English

Notes:

Notes:

In accordance with the provisions of Internal Regulation No. 32/2022 approved by the Academic Senate of Comenius University in Bratislava Full text of Regulation No. 23/2021 Internal System for Ensuring the Quality of Higher Education of Comenius University in Bratislava as amended by Appendix No. 1, each student during his studies always achieves his study results only in an honest manner; does not cheat and does not use dishonest procedures during any form of verification of his study knowledge and skills. Depending on the severity of the violation of ethical rules, the Dean will decide on further action, in particular by applying the relevant legal consequences at the academic, (..) or disciplinary level.

In accordance with the provisions of Internal Regulation No. 13/2018 approved by the Academic Senate of Comenius University in Bratislava Disciplinary Rules of Comenius University in Bratislava for Students, a disciplinary offense of a student is any form of copying or unauthorized cooperation or suggestion during a written or oral assessment of study results (knowledge assessment) or during preparation for it within a subject, or the use of technical devices or any information carriers in a manner other than permitted during a written or oral assessment of study results (knowledge assessment) or during preparation for it within a subject. For a committed disciplinary offense, a student may be subject to one of the following disciplinary measures: reprimand, conditional expulsion from studies or expulsion from studies.

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: prof. RNDr. Darina Saxunová, PhD., doc. Ing. Jana Kajanová, PhD.

Last change: 19.08.2025

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KIS/F378M/25			Course title: Data Analysis for Management			
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: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Ing. Rastislav Kulhánek, PhD.						
Last change: 15.01.2026						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KIS/F382M/25			Course title: Data, Knowledge and Decision Making			
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: 3						
Recommended semester: 4.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Dr. Mgr. Katarína Uchal', PhD., PhDr. Ing. Monika Dávideková, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KIS/F383M/25		Course title: Databases and Security				
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: 3						
Recommended semester:						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Vincent Karovič, PhD., doc. RNDr. Michal Greguš, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF-FM/11-Mgr/25			Course title: Diploma Project			
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: 12						
Recommended semester: 4.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers:						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF-FM/06-Mgr/25			Course title: Diploma Thesis Preparation I			
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: 4						
Recommended semester: 1.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 15						
A	ABS	B	C	D	E	FX
80,0	0,0	6,67	6,67	0,0	0,0	6,67
Lecturers: doc. Mgr. Martina Hrčka Dubničková, PhD., PharmDr. Milica Molitorisová, PhD., prof. RNDr. Michal Greguš, PhD., PhDr. Matúš Baráth, PhD., doc. RNDr. Michal Greguš, PhD., doc. JUDr. PhDr. Katarína Gubíniová, PhD., Mgr. Silvester Krčméry, PhD., Ing. Žaneta Lacová, PhD., doc. Ing. Gabriela Pajtinková Bartáková, PhD., Mgr. Michaela Poláková, PhD., PharmDr. Zuzana Baťová, PhD., PharmDr. Janka Kubíková, PhD., MPH, M.Sc. Ľudmila Oreská, PhD., PharmDr. Kristína Szmicseková, PhD., PhDr. Ing. Michal Bečka, PhD., Mgr. Ľudmila Mitková, PhD., doc. JUDr. PhDr. Silvia Treľová, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF-FM/09-Mgr/25			Course title: Diploma Thesis Preparation II			
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: 4						
Recommended semester: 2.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: PhDr. Matúš Baráth, PhD., PharmDr. Zuzana Baťová, PhD., prof. RNDr. Michal Greguš, PhD., doc. RNDr. Michal Greguš, PhD., doc. JUDr. PhDr. Katarína Gubíniiová, PhD., doc. Mgr. Martina Hrčka Dubničková, PhD., Mgr. Silvester Krčméry, PhD., PharmDr. Janka Kubíková, PhD., MPH, Ing. Žaneta Lacová, PhD., PharmDr. Milica Molitorisová, PhD., M.Sc. Ludmila Oreská, PhD., doc. Ing. Gabriela Pajtinková Bartáková, PhD., Mgr. Michaela Poláková, PhD., PharmDr. Kristína Szmicseková, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF-FM/10-Mgr/25			Course title: Diploma Thesis Preparation III			
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: 4						
Recommended semester: 3.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: PhDr. Matúš Baráth, PhD., PharmDr. Zuzana Baťová, PhD., prof. RNDr. Michal Greguš, PhD., doc. RNDr. Michal Greguš, PhD., doc. JUDr. PhDr. Katarína Gubíniiová, PhD., doc. Mgr. Martina Hrčka Dubničková, PhD., Mgr. Silvester Krčméry, PhD., PharmDr. Janka Kubíková, PhD., MPH, Ing. Žaneta Lacová, PhD., PharmDr. Milica Molitorisová, PhD., M.Sc. Ludmila Oreská, PhD., doc. Ing. Gabriela Pajtinková Bartáková, PhD., Mgr. Michaela Poláková, PhD., PharmDr. Kristína Szmicseková, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KEF/F323M/25	Course title: Econometrics in Health Service Policy
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: 3	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: There will be two written tests and a final exam during the semester. At the end of the semester, students will present their project. Share in the overall assessment: <ul style="list-style-type: none"> • paper: 25%, • paper: 25%, • project: 50%. The assessment of the subject is in accordance with the Study Regulations of Comenius University and the individual grades of the classification scale are awarded based on the applied point system, which reflects the degree of success in completing the subject. To obtain an A grade, it is necessary to obtain at least 91 percent, to obtain a B grade, at least 81 percent, to obtain a C grade, at least 73 percent, to obtain a D grade, at least 66 percent, and to obtain an E grade, at least 60 percent. Credits will not be awarded to a student who obtains less than 60 percent. Scale of assessment (preliminary/final): 50/50	
Learning outcomes: The course is intended to enable students to develop their econometric skills with an emphasis on the practical application of selected methods and approaches. After completing the course, students should be able to: <ul style="list-style-type: none"> • Understand and apply the econometric methods studied. • Design basic econometric models. • Define an economic problem and propose an analytical method for its investigation. • Interpret the results of the econometric procedures studied. • Use software in estimating econometric models 	
Class syllabus: 1. Linear regression model for one or more independent variables, dummy variables. 2. Nonlinear regression models. 3. Qualitative models. 4. Regression model for panel data. 5. Dynamic econometric model.	

6. Simultaneous equation models. 7. Time series trend analysis. 8. ARIMA methodology. 9. Volatility modeling.						
Recommended literature: [1] Damodar N. Gujarati, Dawn C. Porter: Basic Econometrics. McGraw Hill [2] Elia Kacapyr: Essential Econometric Techniques. A Guide to Concepts and Applications. Routledge Taylor & Francis Group [3] Cipra Tomáš: Finanční ekonometrie. Ekopress. Praha [4] Webové sídlo Akademické knihovny UK – externé informačné zdroje prístupné pre UK: http://uniba.sk/o-univerzite/fakulty-a-dalsie-sucasti/akademicka-kniznica-uk/externe-informacne-zdroje/ .						
Languages necessary to complete the course: Slovak, English						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. RNDr. Mária Bohdalová, PhD., prof. Ing. Vladimír Gazda, PhD.						
Last change: 18.02.2026						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/36-Mgr/25	Course title: Ethical and psychological aspects in healthcare
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	
Type, volume, methods and workload of the student - additional information Form of study: full-time Type of teaching: lecture and seminar: 1/1/0 1 lecture, 1 seminar per week Method of study: full-time presence, combined (on site and/or online)	
Number of credits: 2	
Recommended semester: 1., 3.	
Educational level: II.	
Prerequisites:	
Course requirements: Completion of lectures and seminars in the specified time. The exam is performed by the written test with a minimum success rate of 60%. The assessment is: A: 100-93%, B: 92-85%, C: 84-77%, D: 76 -69%, E: 68-60%, FX: 59,99% and less than. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: After finishing the course students will gain a basic overview of social psychology, psychology of patients, psychology of diseases and psychology of healthcare professionals. They will have gained an understanding of the potential impacts of a fast onset of information technology, digitization, robotics, and artificial intelligence on all people involved in healthcare, including patients and healthcare professionals. The students will expand their knowledge about artificial intelligence in healthcare, which brings new challenges in ethics, philosophy, and law. The students can communicate about this field, develop their curiosity and interest in the ethical aspects and possible impacts on the psyche of patients, health professionals, social groups, etc. They gain knowledge on basic types of personalities, assertive behavior, abilities to handle conflict situations, stress, how to communicate correctly and use verbal and nonverbal communication, how to get ready for public presentations, how to communicate with patients, colleagues, other healthcare professionals, representatives of pharmaceutical industry, insurance companies and/or media. Students through various tests can find out information about themselves (what kind of personalities they are, what should they focus on while solving of stress and conflict situations, and how they can improve their communication abilities).	
Class syllabus: - Introduction to Health Psychology.	

- Psychology in disease. Relationship patient – healthcare professional in psychology.
- Personality, forming of personality and its position in social group.
- Social interaction and communication.
- Verbal communication in the work of pharmacists.
- Non-verbal communication in the work of pharmacists.
- Optimal communication in the work of pharmacists.
- Conflict in community pharmacy and its resolution in a team of co-workers.
- Stress situations in community pharmacy.
- Cooperation within a team of co-workers in healthcare, leadership.
- Public presentation, job interview and presentation of self.

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., Adameczyk, G.: Řeč těla, Praha, Grada, 2005, 112 s.
5. Medzihorský, Š., a kol.: Komunikácia a lekárenská starostlivosť, Bratislava, 2011, Linwe/KRAFT, 94 s.
6. Foltán, V., a kol.: Vybrané aspekty lekárenskej starostlivosti, Bratislava 2012, Linwe/KRAFT, 208 s.
7. Morovicsová, E., a kol.: Komunikácia v medicíne, UK Bratislava, 2011, 212 s.
8. Středa, L., Hána, K.: eHealth a telemedicína. Učebnica pre vysoké školy. Praha Grada Publishing 2016, 1. vydanie, 160 s. ISBN 978-80-247-5764-3 (print), ISBN 978-80-271-9042-3(pdf), ISBN 978-80-271-9043-0 (ePub).

Languages necessary to complete the course:

Slovak

Notes:

Past grade distribution

Total number of evaluated students: 12

A	ABS	B	C	D	E	FX
33,33	0,0	25,0	0,0	16,67	16,67	8,33

Lecturers: PharmDr. Ľubica Lehocká, PhD., doc. PharmDr. Daniela Mináriková, PhD.

Last change: 19.09.2025

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KEF/F275M/25	Course title: Financial Management
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: 4	
Recommended semester: 1.	
Educational level: II.	
Prerequisites:	
Course requirements: Conditions for completing the course are - attendance of lectures, individual works of student during the semester, active participation during seminars, elaboration of continuous and final assessment - processing a presentation in a team - a topic in the field of investment opportunities, financial markets or corporate finance (10%) - elaboration of homework assigned during semester (10%) - continuous assessment and activity during the semester (30%) - final exam (50%) (written test (20%), oral exam (30%)). The condition for passing the course is to obtain at least 60% of the total assessment. The condition for completing the seminars is to obtain at least 30p from the evaluation of the seminars. The condition for successfully passing of the final exam is to obtain at least 30p, whereas it is necessary to obtain the minimum of 10p from the written part of the exam and the minimum of 15p from the oral part of the exam. Scale of assessment (preliminary/final): 50% seminar / 50% final exam (written and oral)	
Learning outcomes: The course covers fundamental and advanced topics in the field of corporate and personal finance. It emphasizes the role of the financial manager in deciding on the creation of the optimal capital structure of the company and the dividend policy, as well as the profitability and risk in capital budgeting, selected problems of management and control of individual sources of long-term financing, short-term financing or current assets management.	
Class syllabus: 1. Financial management, role, position of financial manager in the company, financial analysis. 2. Financial statements, their role and analysis. 3. Analysis of project cash flows and time value of money. 4. Financial investments of the company and evaluation of investment projects. 5. Project risk. 6. Theories of capital structures, optimal capital structure and cost of capital. 7. Securities. 8. Dividend and dividend policy. 9. Sources of long-term financing of the company. 10. Sources of short-term financing of the company.	

11. Management of current assets.

Recommended literature:

1. Smoleň J. - Komorník J.: Finančný manažment, Univerzita Komenského v Bratislave. 2019. ISBN: 978-80-223-4594-1
2. Brigham, E. F. – Ehrhardt, M. C.: Financial Management, 14th Edition, Thomson, South-Western, 2014. ISBN-13: 978-1-111-97221-9.
3. Brealey, R. A. – Myers, S. C. – Allen, F.: Principles of Corporate Finance, 9th Edition, McGrawHill, 2010. ISBN: 978-007-126327-6.
4. Kráľovič, J. - Vlachynský, K. Finančný manažment. 2011. Wolters Kluwer. ISBN978-8078-356-3.

Other sources:

5. www.bloomberg.com
6. www.yahoo.finance.com
7. www.morningstar.com
8. www.gurufocus.com

Languages necessary to complete the course:

Slovak, English

Notes:

Past grade distribution

Total number of evaluated students: 16

A	ABS	B	C	D	E	FX
56,25	0,0	18,75	6,25	0,0	0,0	18,75

Lecturers: Mgr. Magdaléna Musilová, PhD., LL.M.

Last change: 18.08.2025

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KEF/F321M/25	Course title: Health Service Economics and Politics
Educational activities: Type of activities: lecture Number of hours: per week: 2 per level/semester: 28 Form of the course: on-site learning	
Type, volume, methods and workload of the student - additional information 2 hours per week (24 hours per semester), lecture/seminar, face-to-face/combined method	
Number of credits: 2	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: -	
Course requirements: Pass a 50-point test (continuous assessment) during the course, which represents 50% of the overall course assessment (with a minimum success rate of 50%, i.e. achieving at least 25 points - the result constitutes bonus points for the exam). Present the knowledge broadly included in the brief course outline. The exam is written, worth 50 points, which also represents 50% of the overall course assessment. The course assessment is in accordance with the Comenius University Study Regulations and the individual grades of the classification scale are awarded based on the applied point system, which reflects the degree of success in completing the course. To obtain an A grade, it is necessary to obtain at least 91 percent, to obtain a B grade, at least 81 percent, to obtain a C grade, at least 73 percent, to obtain a D grade, at least 66 percent, and to obtain an E grade, at least 60 percent. Credits will not be awarded to a student who obtains less than 60 percent. Scale of assessment (preliminary/final): 50/50	
Learning outcomes: By completing the course, the student will gain basic theoretical knowledge in the field of health economics and policy, understand the health care financing system, the principles of health insurance, pricing and reimbursement of medical devices, and gain insight into current problems in the field.	
Class syllabus: 1. Introduction to health economics and policy 2. Health care provision 3. Basic concepts of health systems. Basic models of health systems. 4. Health care financing 5. Selected topics of health economics	

6. Peculiarities of health as a sector of the economy in Slovakia
7. Pricing in health technologies
8. DRG system and its implementation in the Slovak Republic
9. Health policy, legal aspects of health care, basic health systems and their comparison
10. Management in health care
11. Marketing in health care
12. Current topics of practice

Recommended literature:

- [1] Barták, M. 2010. Ekonomika zdraví. 1. vyd. Praha: Wolters Kluwer ČR, 2010
- [2] Stanek, V. – Pechová, M. – Barkóczyová, M.: Ekonomika zdravotníctva. Bratislava: Ekonóm, 2005
- [3] Lieskovská, V.: Digitálny marketing a jeho využitie v zdravotníctve. In: Trends in Application of Statistical Methods for Quality Improvement X. (2020) : Reviewed Proceeding of Posts from the 10. International Scientific Conference. S. 230-231. - Bratislava : Vydavateľstvo EKONÓM EU v Bratislave, 2020
- [4] Webové sídlo Akademickej knižnice UK – externé informačné zdroje prístupné pre UK: <http://uniba.sk/o-univerzite/fakulty-a-dalsie-sucasti/akademicka-kniznica-uk/externe-informacne-zdroje/>.
- [5] Ďalšie zdroje budú priebežne dopĺňané a aktualizované (vzhľadom na nové a dostupné zdroje).

Languages necessary to complete the course:

Slovak, English

Notes:

In accordance with the provisions of Internal Regulation No. 32/2022 approved by the Academic Senate of Comenius University in Bratislava Full text of Regulation No. 23/2021 Internal System for Ensuring the Quality of Higher Education of Comenius University in Bratislava as amended by Appendix No. 1, each student during his studies always achieves his study results only in an honest manner; does not cheat and does not use dishonest procedures during any form of verification of his study knowledge and skills. Depending on the severity of the violation of ethical rules, the Dean will decide on further action, in particular by applying the relevant legal consequences at the academic, (..) or disciplinary level.

In accordance with the provisions of Internal Regulation No. 13/2018 approved by the Academic Senate of Comenius University in Bratislava Disciplinary Rules of Comenius University in Bratislava for Students, a disciplinary offense of a student is any form of copying or unauthorized cooperation or suggestion during a written or oral assessment of study results (knowledge assessment) or during preparation for it within a subject, or the use of technical devices or any information carriers in a manner other than permitted during a written or oral assessment of study results (knowledge assessment) or during preparation for it within a subject. For a committed disciplinary offense, a student may be subject to one of the following disciplinary measures: reprimand, conditional expulsion from studies or expulsion from studies.

Past grade distribution

Total number of evaluated students: 1

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

Lecturers: doc. Ing. Jana Kajanová, PhD.

Last change: 19.08.2025

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/28-Mgr/25	Course title: Health Technology Assessment
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: 2	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Course requirements: Student #s assessment includes a written test. The minimum success limit is 60 %. The final assessment of the exam is: A = 100 – 85 %, B = 84 – 79 %, C = 78 – 73 %, D = 72 – 66 %, E = 65 – 60 %, FX = less than 59 %.	
Learning outcomes: By completing the study course, the student acquires basic knowledge in the field of the health technology assessment with an emphasis on the evaluation of drugs for the categorization process within the public health insurance system. Health technology assessment is an interdisciplinary process, that summarizes information on health, social, economic and ethical issues related to the use of health technology. For the purposes of Directive 2011/24 /EU, the term „Health technology“ means a medicinal product, medical device or medical and surgical procedures, as well as disease prevention, diagnosis or treatment measures used in healthcare. As part of the course, students will participate in solving case studies from real practice.	
Class syllabus: <ul style="list-style-type: none"> - History of health technology assessment. - The importance of health technology assessment. - Health technology assessment as a strategic tool for decision-making in the health care system. - Directive 2011/24/EU and health technology assessment. - EUnetHTA Project - Procedure of health technology assessment. The HTA Core Model is a methodological framework for production and sharing of HTA information. (The first part characterizes the health problem and the currently used technology, so it contains epidemiological and basic information about the currently available medical intervention to address this medical problem. The second area concerns the description and technical characteristics of the evaluated medical intervention. The third part deals with its clinical effectiveness. The fourth part focuses on the safety of the evaluated medical intervention. The fifth part focuses on financial costs and economic evaluation. Part six contains the ethical aspects of the evaluated medical intervention. Organizational aspects depending on the individual health care systems are part of part seven. Part eight analyzes the social aspects related to putting new	

<p>technology into practice. The last part deals with legal analysis related to new technology in the context of the requirements of applicable legislation).</p> <ul style="list-style-type: none"> - Knowledge transfer in the context of HTA. - Current use of health technology assessment in European countries. - European cooperation in health technology assessment 						
<p>Recommended literature:</p> <p>Tesař, T., Babel'a, R.: Hodnotenie zdravotníckych technológií, Úvod do problematiky. SAP – Slovak Academic Press s.r.o., Bratislava, 2014, 96 s.</p> <p>Zákon č. 363/ 2011 Z.z. o rozsahu a o podmienkach úhrady liekov, zdravotníckych pomôcok a dietetických potravín na základe verejného zdravotného poistenia a o zmene a doplnení niektorých zákonov v znení neskorších predpisov.</p>						
<p>Languages necessary to complete the course:</p> <p>Slovak language.</p>						
<p>Notes:</p>						
<p>Past grade distribution</p> <p>Total number of evaluated students: 0</p>						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
<p>Lecturers: prof. PharmDr. Tomáš Tesař, PhD., MBA, PharmDr. Zuzana Koblišková, PhD.</p>						
<p>Last change: 17.11.2024</p>						
<p>Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.</p>						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KBMBL/26-Mgr/25	Course title: Hygiene of Medical Facilities
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	
Type, volume, methods and workload of the student - additional information Form of study: full-time lecture/ seminar 2 hours lectures and 1 hour seminar, that represents 2/1/0 presence, combined (on-site and/or online)	
Number of credits: 3	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Course requirements: To obtain credits, it is needed to complete one examination during the semester with a minimum success rate of 60%, and after completing the seminars and the semester examination, the course ends with a written exam with a minimum success rate of 60%.	
Learning outcomes: By completing the subject, the student acquires the ability to explain professional terminology related to strategic planning and operational management of securing claims for operation, spatial and technical equipment of medical facilities and medical devices. He knows how to use, apply, formulate, develop, and implement legislative requirements to ensure hygiene standards in medical facilities and facilities of medical devices/products. He/she can independently bear responsibility for communication, management and control of workers, equipment, and products in the given area, and also apply his organizational, managerial and analytical skills after completing the training process in practice.	
Class syllabus: The subject focuses on the graduate's professional and methodological knowledge in the health sciences field in preventive diagnostics, environmental monitoring, and qualified evaluation of products in the field of medical devices. He can monitor and implement legislative changes in the given area due to the development of science and technology, or the introduction of new investigative, diagnostic and preventive procedures. These have not only a positive but also a negative impact on the quality of the health care provided, therefore the graduate will be able to assess the growing range of necessary knowledge and practical skills, which will enable the demands for operation, spatial and technical equipment of medical facilities to increase. The increasing proportion of immunocompromised patients, the increase in the resistance of microorganisms to antimicrobial substances, the appearance of new pathogens, and the return and	

action of some old microorganisms require compliance with regimen measures to avoid damage to the health of patients, medical personnel or medical products. Inadequate, inappropriate or outdated regime measures used can lead to the emergence of nosocomial and professional infections, which are health and socioeconomic problems for our society.

1) The first part of the subject aims to understand the legislative requirements for construction, spatial and microclimate conditions of the indoor environment, which must meet the prescribed quality of the facility/operation. The basic components of the internal environment of a medical facility and their effect on the health of the worker and the product stored in such a facility are the essence of the study of this part of the subject. Emphasis is placed on the hygiene of work, the premises of medical facilities and the rules of hygiene when handling the product.

2) The position of hygiene and its role in the field of healthcare in terms of air, water, and waste is the basic part of the second part of the subject.

3) In the third part of the subject, students become familiar with the basic rules of a specific environment or methods used in practice - requirements for maintaining hygiene in the facility, when working with products and evaluating their microbiological purity. The calculation of preventive interventions and procedures in the current development of medical diagnostics and therapy is not exhaustive and unchanging, while it is constantly supplemented based on practical requirements.

The recommended preventive measures supported by a series of methodological instructions and procedures are helpers in determining standard regimen measures, as well as in developing the operating procedure of any medical facility to protect the health of patients from nosocomial infection, or against damage to the health of the employees of the workplace for professional reasons. When ensuring regime measures, starting from the current Slovak legislation is necessary, which is not sufficient. The change in health laws and the change in the structure of the provision of curative-preventive care make it difficult to navigate legal regulations. The main part of the subject will also be an overview of the legislation used from the point of view of the hygienic-epidemiological regime in medical facilities and medical devices.

Recommended literature:

- Ághová L. and contributors: Hygiene (Environmental medicine), Comenius University, Bratislava 1997 textbook, pp.200
- European Pharmacopeia – current version, selected chapters
- Bencko V. et al.: Hygiene and epidemiology (selected chapters), Prague: The Karolinum Press, 2007, pp. 270
- Riddley R. John and Channing John: Occupational Health and Hygiene, Butterworth-Heinemann Ltd., Oxford, UK, 1999, pp. 241

Languages necessary to complete the course:

Slovak language

Notes:

Course capacity is limited to 20 students

Past grade distribution

Total number of evaluated students: 1

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

Lecturers: doc. Mgr. Andrea Bilková, PhD., doc. Mgr. Martina Hřčka Dubníčková, PhD., PharmDr. Hana Kiňová Sepová, PhD., Mgr. Eva Drobná, PhD., PharmDr. Gabriela Greifová, PhD., Mgr. Jana Hricovíniová, PhD.

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF-FM/12-Mgr/25			Course title: Internship			
Educational activities: Type of activities: practice Number of hours: per week: per level/semester: 6t Form of the course: on-site learning						
Number of credits: 2						
Recommended semester: 4.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers:						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KEF/F324M/25	Course title: Investments in Health Technologies
Educational activities: Type of activities: lecture Number of hours: per week: 2 per level/semester: 28 Form of the course: on-site learning	
Type, volume, methods and workload of the student - additional information 2 hours / week, lecture, onsite / hybrid form	
Number of credits: 3	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: To pass the course, it is necessary to work independently during the semester, actively participate in classes and continuously study the topics covered. This also includes solving assigned tasks related to the content of individual classes. In total, a maximum of 100 points can be obtained for the entire course. The course assessment is divided into 40% active work on assigned tasks during the semester and 60% exam. The course assessment is in accordance with the CU Study Regulations and the individual grades of the classification scale are awarded based on the applied point system, which reflects the degree of success in completing the course. To obtain an A grade, it is necessary to obtain at least 91 percent, to obtain a B grade, at least 81 percent, to obtain a C grade, at least 73 percent, to obtain a D grade, at least 66 percent and to obtain an E grade, at least 60 percent. Credits will not be awarded to a student who obtains less than 60 percent. Scale of assessment (preliminary/final): 40/60	
Learning outcomes: By completing the course, the student gains an overview of standard topics of modern economics, public finance and selected issues of personal investments, including current development trends in these scientific disciplines. The course is focused on understanding the functioning of the economy and public finances in the field of healthcare, budgeting at the state level, but also offers insight into the sphere of personal investments and analysis of factors influencing it. Thanks to this, the student is able to understand selected issues such as public services, public finances, the state budget, personal finances, investing and investment instruments. The course allows understanding how various factors influence selected issues. They are also able to quantify the impacts of changes in selected factors on the analyzed indicators. Students will be able to evaluate, using empirical and quantitative approaches, basic economic and investment phenomena and processes. Students will be able to think abstractly, analytically and economically, with investment potential. Important competencies are the ability to analyze and solve problems, but also the ability to creatively approach solving new situations and tasks. The graduate will acquire the skills to prepare presentations on the development of selected indicators, but also on the impact and	

consequences of selected financial instruments. The graduate will acquire the skills to process the necessary data for the analysis of individual markets, which can then be used in the analysis of the aggregate market. The graduate will acquire the skills to obtain, sort and evaluate economic and investment information necessary for functioning in the health technology environment. Transferable competencies will be analytical skills, the ability to think critically, but also to think in context.

Class syllabus:

1. Basic assumptions of the functioning of the economy
2. Market structures and public policy in conditions of imperfect competition
3. Externalities and public goods in the context of health technologies
4. Measuring economic performance and economic growth
5. Public finances. The essence of budgetary management
6. Consumption, savings, investments. Investments in health technologies
7. The position of the enterprise in a market economy
8. Value processes in a company operating in the field of health technologies
9. Enterprise production factors and value processes in the enterprise
10. Financial markets and financial/investment instruments
11. Collective investment
12. Investment in healthcare and health technologies

Recommended literature:

- [1] Čaplánová, A. a kol. 2022. Ekonomia. Wolters Kluwer, 2022. ISBN 978-80-7676-490-3
- [2] Majdúchová, H. a kolektív. 2020. Podnikové hospodárstvo. Wolters Kluwer, 2020. ISBN 978-80-571-0271-7
- [3] Kajanová, J. – Saxunová, D. 2022. Základy účtovníctva. Wolters Kluwer, 2022. ISBN 978-80-767-6386-9
- [4] Chovancová, B. – Árendáš, P. 2020. Manažment portfólia v kolektívnom investovaní. Wolters Kluwer, 2020. ISBN 978-80-7598-638-2
- [5] Kráľovič, J. – Vlachynský, K. 2011. Finančný manažment. Iura Edition, 2011. ISBN 978-8078-356-3
- [6] Webové sídlo Akademickkej knižnice UK – externé informačné zdroje prístupné pre UK: <http://uniba.sk/o-univerzite/fakulty-a-dalsie-sucasti/akademicka-kniznica-uk/externe-informacne-zdroje/>.
- [7] Ďalšie zdroje budú priebežne dopĺňané a aktualizované (vzhľadom na nové a dostupné zdroje).

Languages necessary to complete the course:

Slovak, English

Notes:

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: Mgr. Katarína Rentková, PhD., doc. Ing. Jana Kajanová, PhD.

Last change: 12.08.2025

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FM.KIS/F381M/25	Course title: Labour Law
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: 3	
Recommended semester: 1.	
Educational level: II.	
Prerequisites:	
Course requirements: - continuous evaluation of the student: a project consisting of two assignments (30 %), written verification of knowledge (70 %) Scale of assessment (preliminary/final): 30 % / 70 %	
Learning outcomes: After completing the course, the student will gain the necessary knowledge in the field of labor law. First of all, the student gets acquainted with pre-contractual relationships, which are the gateway to employment. In connection with the employment relationship, the student will learn what the employment contract should contain, what are the rights and obligations of the parties, what is the employment law and social protection of the employee, how the employee and the employer can terminate the employment. The student will also gain an overview of employment relationships established by agreements on work performed outside of employment. The student will use the acquired knowledge about the legal (illegal) performance of dependent work in everyday practice. The aim of the course is to complete the profile of the graduate and prepare him for the possibility of performing work in the position of a manager with legal knowledge in the field of labour law.	
Class syllabus: The concept of labor law and its subject; sources and scope of labor law; dependent work; types of employment relationships; the status of the employee and the employer and their employment personality; pre-contractual relations and the establishment of an employment relationship; creation, duration and termination of employment; types of employment; working hours and leave of the employee; barriers to work on the part of the employee and the employer; maternity and parental leave; responsibility in labour relations; agreements on work performed outside the employment relationship	
Recommended literature:	
Languages necessary to complete the course: Slovak	
Notes:	

Past grade distribution						
Total number of evaluated students: 12						
A	ABS	B	C	D	E	FX
16,67	0,0	66,67	16,67	0,0	0,0	0,0
Lecturers: doc. JUDr. PhDr. Silvia Treľová, PhD.						
Last change: 11.08.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KMn/F326M/25			Course title: Management and Organizational Behavior			
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: 2.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 1						
A	ABS	B	C	D	E	FX
0,0	0,0	100,0	0,0	0,0	0,0	0,0
Lecturers: doc. PhDr. Lukáš Copuš, PhD., PhDr. Matúš Baráth, PhD.						
Last change: 03.02.2026						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/37-Mgr/25	Course title: Management of medical devices in an inpatient facility
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: 3	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Course requirements: Participation in seminars is mandatory. A maximum of two absences are excused based on a medical certificate. Absences are replaced by the student according to the teacher's instructions. The semester ends with a semester written exam. Rating: A: 93-100%, B 85- 92%, C: 77-84%, D: 69-76%, E: 60.-68%, Fx: less than 60%. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: By completing the subject, student will gain a general overview of management in the field of treatment, or manipulation of medical devices, in vitro medical devices, and special medical materials in institutional health care, both theoretically and practically, of the life cycle of medical devices. The graduate of the subject understands the principle of ordering, purchase, storage, records, renovation process at the central sterilization department and controls the systems and operational processes related to the handling of medical devices up to disposal, considering the ecological requirements of disposal. Student can ensure the conditions of handling medical devices within the relevant part of the life cycle, which is related to its use in the environment of institutional health care. Individual thematic areas that are specific to the medical devices in institutional health care are contained in the subject syllabus. In addition to specific knowledge about the medical devices in institutional health care, the graduate of the study will also acquire the necessary skills, including working with standard operating procedures related to the handling of medical devices to the development of the necessary competencies required by institutional health care.	
Class syllabus: The role of the manager in the field of medical devices within their life cycle - management and control of handling medical devices, in vitro diagnostic medical devices and special medical materials and medical devices intended for clinical studies and purpose studies. Hospital Information System: – ordering to the department, clinic, pharmacy, distribution). Material and technical security system: - warehouse management, limits# Responsibility for order# Public procurement of medical devices, in vitro diagnostic medical devices, and special medical materials. Medical devices removed from use, expiration, sterility. Reporting of accidents, malfunctions, failures and other undesirable impacts, safety notices about withdrawal of medical devices, in vitro	

diagnostic medical devices, and special medical devices. Individual import of medical devices, in vitro medical devices, special medical devices from the point of view of health insurance companies. Pricing / officially determined price, categorization price, maximum price of medical devices, in vitro medical devices and special medical devices, emphasis in finance of medical devices in institutional health care. Individual import of medical devices, in vitro medical devices, and special medical devices. Legal, economic, and ethical impacts of renovation of disposable of medical devices, in vitro medical devices, and special medical devices. Provision of medical devices, in vitro medical devices and special medical devices for personalized medicine.

Recommended literature:

1. Kováč, G. a kol.: Laboratórna medicína. RAABE 2022, ISBN 978-80-81405-18-1
 2. Stephens M.: Hospital Pharmacy, 2. ed, Pharmaceutical Press, ISBN 978- 0 8-5369 9-00- 2, 2011
 3. White, R., Bradnam, V.: Handbook of Drug Administration via Enteral Feeding Tubes, 3. ed, Pharmaceutical Press ISBN 978- 0 8-5711 1-62-3, 2015
 4. Mináriková, D.a kol.: Zdravotnícke pomôcky – legislatíva a regulácia, Osveta Martin, 2015, ISBN 978-80-80634-18-6
 5. Tesař, T., Babeřa, R.: Hodnotenie zdravotníckych technológií. Bratislava: Slovak Academic Press,2014. 978-80-89607-23-5
 6. Tesař, T. a kol.: Lekárstvo a legislatíva. Osveta Martin, 2017, ISBN 978-80-80634-56-8
- Professional periodicals: Monitor medicíny, Lekársky obzor, Farmaceutický obzor.
Current legislation

Languages necessary to complete the course:

Slovak

Notes:

The subject is offered in the winter semester with a minimum of 5 students.

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: prof. PharmDr. Tomáš Tesař, PhD., MBA, PharmDr. Zuzana Koblišková, PhD., PharmDr. Ľubica Lehocká, PhD., doc. PharmDr. Daniela Mináriková, PhD., PharmDr. Janka Kubíková, PhD., MPH

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KSP/F378M/25			Course title: Managerial Economics			
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: 3						
Recommended semester: 1.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 10						
A	ABS	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: prof. Ing. Ján Papula, PhD., doc. Mgr. Lucia Kohnová, PhD.						
Last change: 13.09.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KMk/F143M/25		Course title: Marketing Management and Marketing Applications in Health Service and Pharmacy				
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: 3.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. Ing. Gabriela Pajtinková Bartáková, PhD., doc. JUDr. PhDr. Katarína Gubíniová, PhD., prof. Mgr. Peter Štarchoň, PhD.						
Last change: 03.09.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/34-Mgr/25	Course title: Medical Device Safety
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	
Type, volume, methods and workload of the student - additional information Lecture, Seminar (combined (in-site and/or online)): 1 hour Lecture and 1 hour Seminar weekly: 1/1/0	
Number of credits: 3	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: 1. Attendance at seminars is compulsory. Absence at seminars must be documented with the reason for absence and student must substitute the seminar after agreement with the teacher. 2. Intermediate test with a minimum pass mark of 60%. Grade: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, Fx = 59% or less. In the case of an Fx grade, the student has one retake attempt. 3. Completion of the course is by written final examination. Grades: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, Fx = 59% or less. 4. Only students who have met the above requirements (required attendance on the seminars, Intermediate test minimum 60%) are accepted for the exam. Scale of assessment (preliminary/final): As defined in the Conditions for the Course Completion of this Information Sheet.	
Learning outcomes: The student knows the legislation regulating the safety of medical devices (MD), can describe the system of vigilance of MD and basic obligations of the participants in manipulation with the MD. He/she is familiar with the principles of risk management of the MD, can identify accidents, malfunctions, and failures of the MD and develop measures for their elimination. He/she is capable to apply legislative and managerial knowledge and skills in all processes of safety of MD.	
Class syllabus: Slovak and European legislation in the field of the Medical Device (MD) safety. Classification of the MD according to the level of risk. Technical requirements for the MD, proof, and conformity assessment. The MEDDEV database, the Medical Device Vigilance System, 2.12-1 rev. 8, included. Overview about the MD Vigilance System with regards to accidents, malfunctions and failures of MD. Obligations of manufacturers, importers, distributors, authorised representatives and notified bodies in the field of safety of the MD. Notification process and evaluation of serious incidents	

of in vitro diagnostic medical devices and medical devices. The role of national and European regulatory authorities in the field of safety of the MD. MD with regards to a patient safety. Meeting the MD safe handling in clinical practice, as well as during other critical points of the MD life cycle management. Risk management processes as a part of Good Manufacturing Practice (GMP) (analysis, assessment, risk control).

Recommended literature:

1. Mináriková D. a kol.: Zdravotnícke pomôcky – legislatíva a regulácia, Osveta Martin, 2015, 223 s. ISBN 978-80-8063-418-6.
2. Zákon NR SR č. 362/2011 Z.z. o liekoch a zdravotníckych pomôckach
3. Nariadenie Európskeho parlamentu a Rady (EÚ) 2017/745 (MDR 2017/745)
4. Nariadenie Európskeho parlamentu a Rady (EÚ) 2017/746 (IVDR 2017/746)
5. Guidelines on a medical devices vigilance system - MEDDEV 2.12-1 rev.8

Languages necessary to complete the course:

Slovak, English

Notes:

Past grade distribution

Total number of evaluated students: 0

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

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

Last change: 06.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFT/28-Mgr/25	Course title: Medical Propaedeutics
Educational activities: Type of activities: practicals / lecture Number of hours: per week: 1 / 1 per level/semester: 14 / 14 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: Personal attendance at all lectures and practical classes, justified absence (max 2x) is replaced according to the instructions of the teacher; to pass 1 scheduled pretests, 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%, C 71-80%, D 66-70%, E 60-65%, FX # 60%. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: The subject Medical Propedeutics for Pharmacists is designed for pharmacy students focused on selected knowledge from medical disciplines and reflected the current state of pharmacy practice necessary to increase the quality of basic knowledge of compulsory study and professional qualifications of pharmacists. Subject content familiarises a student with a process of determining diagnosis based on physical examination, using a wide range of currently used laboratory and instrumentation procedures, screening tests and markers of some diseases, facilitates the determination of medication therapy management. An important skill is ability to communicate clearly and effectively with patients. The subject will provide general principles to prevent the emergence and spread of infectious diseases and a brief overview of vaccination and new possibilities for pharmacy-based immunization. The subject also provides space for medical education using pharmacist campaigns.	
Class syllabus: Medical history, physical examination of the patient and diagnosis, documentation of acquired health knowledge. Specifics of health status of children and seniors. Laboratory and instrumental examination methods. Laboratory and instrumentation analytical methods. Laboratory Medicine based on evidence. Implementation of laboratory diagnostics at the place of provision of Health Care Pact (Point of Care Testing PoCT). Overview of instruments analytical methods. Screening tests. Provision of physical and biochemical examinations in pharmacist - legislation, advice, dangerous waste management. Molecular markers of selected diseases. Overview of the paths and methods of drugs administration. Vaccination. The importance and role of disease prevention in society. Donation. Basics of epidemiology - Epidemiological Surveillance (tracking) of Infectious	

Diseases in SR. Epidemiological methods in practice, indicators of occurrence, the result of the disease and health of the population. Pandemics. The importance and role of prevention of disease in society, educational pharmacists campaigns.

In the practical part, students will focus on investigative techniques, will gain an overview of a comprehensive analysis of blood and biochemical tests, PoCT in practice, learn about the use of various tests available in pharmacies intended for preventive diagnosis and monitoring the safety and efficacy of pharmacotherapy. Students will try basic performance and application techniques on the experimental models of skin or anatomical regions as well as how to obtain material for examination, e.g. capillary blood. Virtually try the model situations of communication with clients in a pharmacy and how a pharmaceutical campaign is prepared.

Recommended literature:

Presentations from lectures and seminars (in Moodle)

Dobiáš, V.: Klinická propedeutika v urgentnej medicíne. Praha: Grada, 2013.

Hloch, O. – Online: Propedeutika - <http://new.propedeutika.cz/>

Burkhardtová D. Laboratórne hodnoty ako pochopiť výsledky vyšetrení a zlepšovať ich hodnoty. Univerzita Komenského v Bratislave

Farmaceutická fakulta

Ulica odbojárov 10

832 32 Bratislava

Rada študijného programu

pre viac študijných programov

prof. PharmDr. Ján Klimas, PhD., MPH

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klimas@uniba.sk

www.uniba.sk

Bratislava: Noxi, 2007.

Kovács, L. Očkovanie. Bratislava: Solen, 2012

Rusnák M. a kol. Propedeutika epidemiológie Trnava: Typi Universitatis Tyrnaviensis, 2018.

Snopková M. Lekárska prax. Bratislava: FaF UK, 2017.

Kopecká, K., Korcová, M. a kol. Zdravotnícka etika. Martin: Osveta, 2008.

Morovicsová E. Komunikácia v medicíne. UK v Bratislave. 2014 ISBN 978-80-223-3620-8

Matejka P., Švec P. Metodická príručka pre poskytovanie biochemických vyšetrení v lekárni. Bratislava: FaF UK 2014.

Matejka P., Jeník P., Snopková M., Sukeľ O. Farský Š, Jauschová A: Štandardný postup pre výkon prevencie kardiovaskulárnych ochorení v podmienkach verejných lekární. Vestník Ministerstva zdravotníctva Slovenskej Republiky, Osobitné vydanie, 15.1.2023, ročník 71, strana 394.

Balla J. Laboratórna diagnostika: Čomu je potrebné venovať pozornosť pri zavádzaní laboratórnej diagnostiky na mieste poskytovania zdravotnej starostlivosti. Slovenská spoločnosť klinickej biochémie pre SLS. ISSN 1335-2644

Titze KJ. Clinical skills for Pharmacist. Elsevier. 2020 ISBN 9780323077385

Languages necessary to complete the course:

slovak

Notes:

The capacity of subject is limited to 20 students

Past grade distribution						
Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: prof. PharmDr. Ján Klimas, PhD., MPH, doc. PharmDr. Tomáš Rajtík, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD., PharmDr. Boris Dudík, PhD.						
Last change: 17.11.2024						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KZT/26-Mgr/25	Course title: Medical devices in a specialized inpatient facility
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	
Type, volume, methods and workload of the student - additional information Form of study: full-time Type of teaching activities: lectures, seminar - internship at the inpatient healthcare facility Number of hours: 2 hours of lectures, 2 hours of stay at medical facility per week – teaching in blocks, 2/2/0 Method of teaching: combined (in-site and/or online)	
Number of credits: 3	
Recommended semester: 1., 3.	
Educational level: II.	
Prerequisites:	
Course requirements: Attendance at the lectures is compulsory. A maximum of two times absences are excused based on a medical certificate. Students make up absences by working on the assigned topic according to the teacher's instructions. The semester ends with a semester written examination. Assessment: A 93.00-100.00%, B 85.00- 92.00 %, C: 77,00-84.00%, D: 69.00-76.00%, E: 60:00-68.00%, Fx: 59.99% and less. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: The student will gain knowledge about basic medical devices in inpatient health care, about handling with medical device used for medical procedures, he/she has basic information about electronic health system (NIS), its mission and objectives, he/she becomes familiar with the functioning of the eHealth in inpatient health care facility, student becomes familiar with the prevention of hospital infections while using specific medical devices and special medical supplies, he/she is familiar with the issue of refurbishment of disposable medical devices.	
Class syllabus: <ul style="list-style-type: none"> - Material and technical provision of inpatient health care facility - Basic instrumentation for inpatient health care facility - Instrumentation by medical disciplines (internal medicine, neurology, pneumology and phtisiology, psychiatry, surgery, ophthalmology, cardiology, radiology, cardiac surgery, neonatology and intensive medicine, anaesthesiology, oncology) - Telemedicine in inpatient health care facility 	
Recommended literature:	

Kudlejová M., a kol.: Inštrumentovanie, princípy, techniky, zásady a postupy. Martin 2014, Osveta ISBN 978-80-8063-423-0
 Čižmáriková M. a Takáč P.: Liekové formy a aplikačné cesty podávania liekov so zameraním na ich význam v humánnej medicíne, Košice 2019 Šafárik Press, ISBN 978-80-8152-753-1.
 Kozierova B., a kol.: Ošetrovateľstvo I a II, Martin, Osveta 2004 ISBN 8021705280
 Labudová, M., Puteková, S.: Vybrané kapitoly z vnútorného lekárstva pre nelekárske odbory. Bratislava 2021, Herba. 138 s., ISBN 978-80-8229-009-0
 Legislatíva:
 Zákon NR SR 576/2004 Zb. z. o Zdravotnej starostlivosti
 Vyhláška Ministerstva spravodlivosti Slovenskej republiky 225/2017 Zb. z. o minimálnych požiadavkách na personálne zabezpečenie a materiálno – technické vybavenie zdravotníckych zariadení v pôsobnosti Ministerstva spravodlivosti Slovenskej republiky
 Special medical journals:
 Monitor medicíny SLS ISSN 1338-2551. EV 4135,
 Slovenská chirurgia, ISSN 1336-5975.
 Lekársky obzor, Bratislava HERBA ISSN 0457-4214.

Languages necessary to complete the course:

Slovak

Notes:

The course is provided in the winter semester with a minimum of 5 students.

Past grade distribution

Total number of evaluated students: 4

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

Lecturers: PharmDr. Janka Kubíková, PhD., MPH, Ing. Silvia Molnárová, PharmDr. Milica Molitorisová, PhD., PhDr. Iveta Béressová, M.Sc. Ľudmila Oreská, PhD., PharmDr. Eva Rybárová, PharmDr. Attila Kulcsár, PhD., PharmDr. Kristína Szmicseková, PhD.

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFANF/25-Mgr/25	Course title: New Trends in Analytical Quality Control of Medical Devices
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	
Type, volume, methods and workload of the student - additional information full-time, on-site learning and/or online, lecture / seminar in hours per week: 1 / 2	
Number of credits: 3	
Recommended semester: 1.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: Not available. However, knowledge of chemical diagnostic and medical devices, their properties and standardization is required.	
Course requirements: Continuous assessment: Seminars take place in blocks. Student participation in all forms of teaching is mandatory to the extent set by the study plan. The interim assessment is given by the preparation of a seminar work on the chosen topic. Final assessment: Defense of the prepared seminar work. Grade: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, Fx = 59% and less.	
Learning outcomes: After completing the subject, the student will gain theoretical knowledge and an overview of standard as well as advanced analytical instrumental methods applicable in the quality control of medical devices according to their type and the material from which they are made. Student will acquire knowledge of key parameters related to the rational selection of analytical techniques for quality control of individual types and groups of materials and corresponding medical devices. It focuses on the methods of preparing an analytical sample and the effective implementation of the analysis enabling the evaluation of the quality of the materials used as well as the validation of the analytical methods used in quality control and the relevant validation protocols. The student projects knowledge from the analytical methodology of relevant instrumental techniques into proposals for strategies for choosing optimal analytical methods and procedures and assessing the adequacy of used analytical techniques in the quality control process. Student understands control processes from both a methodological and a legislative point of view, and in this context the student has the ability to apply legislative and theoretical requirements into practice.	
Class syllabus: <ul style="list-style-type: none"> • Management and quality assurance system. Good manufacturing practice, EU directives, ISO 9001 and ISO 13495 standards. 	

- Types of medical devices and materials used in their production, criteria for their classification and characterization.
- Conventional methods and procedures for analytical quality control of medical devices: classification of methods, principles, experimental schemes of methods and procedures, analytical and application potential, advantages and limitations (flame tests, melting point, boiling point, optical methods, chromatographic methods)
- New directions in the analytical evaluation of the quality of medical devices: classification of methods, principles, experimental schemes of methods and procedures, analytical and application potential, advantages and limitations
 - a. Separation methods for evaluating the quality of diagnostic and medical devices (LC, GC, CE).
 - b. Optical and spectral methods for evaluating the quality of diagnostic and medical devices (UV-Vis, IR, Raman spectroscopy, MS)
 - c. Combined methods for evaluating the quality of diagnostic and medical devices (LC-UV-Vis/MS, CE-UV-Vis/MS, GC-MS)
 - d. Advanced approaches in quality assessment of diagnostic and medical devices (automation, miniaturization, 2D, 3D, on-chip analysis)
- Optimization procedures of analytical methods for quality control of medical devices
- Validation protocols and procedures applicable to quality control of medical devices
- Strategies for choosing an analytical method for evaluating the quality of medical devices, evaluation criteria: methodological, practical (quantity and type of sample, required validation parameters, price, throughput of samples, etc.).
- Application areas:
 - a. Analytical methods for checking in vitro diagnostic aids.
 - b. Particularities of peptide and proteomic reagents testing for diagnostic tests.
 - c. Analytical methods for testing polymeric materials and packaging and in vivo medical devices. Degradation and stability studies.

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.
- Mikuš, P., Maráková, K.: Hyphenated electrophoretic techniques in advanced analysis. Bratislava : KARTPRINT, 2012. 217 s. (vedecká monografia)

Languages necessary to complete the course:

slovak

Notes:

Past grade distribution

Total number of evaluated students: 15

A	ABS	B	C	D	E	FX
6,67	0,0	33,33	26,67	26,67	0,0	6,67

Lecturers: prof. RNDr. Peter Mikuš, PhD., doc. PharmDr. Katarína Maráková, PhD.

Last change: 06.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KBMBL/25-Mgr/25	Course title: New Trends in Immunodiagnostics
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	
Type, volume, methods and workload of the student - additional information combined (in-site and/or online), lecture, seminar, 3 hours weekly: 2/1/0	
Number of credits: 3	
Recommended semester: 1.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: knowledge of the basics of immunological diagnostics is essential	
Course requirements: During the semester, the student passes one written test, from which he/she must obtain at least 60% of the points. In addition, at the beginning of the semester, the student receives an assignment of an immunodiagnostic problem, which he/she will elaborate in written form and will present it during the seminar. A minimum success rate of 60% is required for this activity. A student can be excused for max. 2 seminars, the contents of which will be examined. The final exam will take place in a combined form (written and oral part), and to pass it is necessary to get at least 60% in each part. Scale of assessment (preliminary/final): see the conditions for completing the course	
Learning outcomes: The student will gain knowledge about the principles of diagnosis of immunopathological conditions and advanced immunodiagnostic methods currently used in practice. He/She will also acquire deeper knowledge about the factors of cellular and humoral immunity, serological, immunochemical, and molecular-biological techniques used to evaluate the parameters of the immune profile, and their application in the diagnosis of selected diseases. The focus of the subject is to prepare a qualified expert familiar with a wide range of modern immunodiagnostic techniques and medical devices, especially for medical facilities and diagnostic laboratories.	
Class syllabus: The subject builds on the basic knowledge that the student acquired passing the subject of Immunological diagnostics within the bachelor's degree. It deals with immunochemical (ELISA, EIA, RIA, FIA), immunoblotting and molecular-biological techniques (microarrays, methods based on gene analysis) used in diagnostics. It deals in detail with currently used immunodiagnostic preparations, including rapid tests (so-called "Point-Of-Care") available in pharmacies. A separate section is devoted to up to date immunoanalytical and immunohistochemical techniques used for	

the detection of antigens, antibodies and cells, without which current immunodiagnosics is not possible.

Recommended literature:

Kiňová Sepová H., Bilková A., Hrčka Dubničková M., Dudík B.: Imunologické metódy: princípy a návody na cvičenia. Bratislava: UK, 2021. 147 s.

Sapák M. a kol.: Vyšetrovacie metódy v imunológii. Bratislava: UK, 2014. 190 s

Buc M.: Základná a klinická imunológia. Bratislava: UK, 2012. 831 s.

Languages necessary to complete the course:

Slovak language

Notes:

Past grade distribution

Total number of evaluated students: 15

A	ABS	B	C	D	E	FX
6,67	0,0	20,0	26,67	26,67	0,0	20,0

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

Last change: 06.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KChTL/15-Mgr/25	Course title: New materials and nanoparticles in medicinal chemistry
Educational activities: Type of activities: lecture Number of hours: per week: 2 per level/semester: 28 Form of the course: on-site learning	
Type, volume, methods and workload of the student - additional information 2 hours of lessons per week. Combined (in-site and/or online), full-time presence	
Number of credits: 2	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: The condition for completing the course is to obtain at least 60.01% of points from the written exam, which is conducted in full-time form. Assessment scale: A: 90,01% – 100,00%; B: 82,01% – 90,00%; C: 74,01% – 82,00%; D: 66,01% – 74,00 %; E: 60,00% – 66,00%; Fx: ≤ 59,99%. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: The course provides the student with the knowledge of the significance of metals and their compounds in nature, of their chemistry and their role in the living organism. The students will be aware of the current advances in the use of material chemistry in medicinal applications. They will be able to define key notions in this area and explain their potential applications in medicine and pharmacy. They will comprehend recent research trends and will be successful in retrieving relevant information from available sources.	
Class syllabus: The course is oriented towards modern trends in developing new medicines and medical materials using bioinorganic chemistry. In addition to material chemistry and metal complexes the course also deals with the current research topic of nanoparticles with applications in diagnostics and therapy (nanomedicine). Biomaterials are an up-to-date and attractive research subject with broad applicability in medicinal technology. Metal complexes as well as nanoparticles offer new possibilities for the development of bioactive compounds with mechanisms of pharmacological action different from purely organic compounds, thus providing medicines with extended spectrum of activity. After a brief historical introduction, the main features of the current usage of these compounds are presented, especially in antimicrobial and anticancer therapies. Subsequently, new directions and perspectives in the development of metal-based products are outlined. The second part of the course deals with the modern research area of nanomedicine and material chemistry with medicinal applications. Along	

with the basic physico-chemical properties of nanoparticles, fundamental methods of their synthesis and characterization are described. The course concludes with the discussion of various types of bioactivities of nanoparticles and their prospective application in therapy.

Recommended literature:

Krätsmár-Šmogrovič, J. a kol.: Všeobecná a anorganická chémia. Martin : Osveta, 2007. 400 s. (textbook).

Kaim W., Schwederski B., Klein A. Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Chichester: John Wiley & Sons Ltd 2013.

Wagner W.R. et al. Biomaterials Science: An Introduction to Materials in Medicine (4th ed.). Cambridge (MA): Academic Press 2020.

Altavilla C., Ciliberto E. Inorganic Nanoparticles – Synthesis, Applications, and Perspectives. Boca Raton: CRC Press 2011.

Dabrowiak J.C. Metals in Medicine (2nd ed.) Chichester: John Wiley & Sons Ltd 2017.

Lawrance G.A. Introduction to Coordination Chemistry. Chichester: John Wiley & Sons Ltd 2010.

Burgess R. Understanding Nanomedicine – An Introductory Textbook. Boca Raton: CRC Press 2012.

Languages necessary to complete the course:

Slovak and English

Notes:

The course is offered only in Summer Term.

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: doc. Ing. Martin Pisárčik, CSc., Ing. Ladislav Habala, Dr.rer.nat

Last change: 05.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

STATE EXAM DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF-FM/303M/25	Course title: Obhajoba diplomovej práce
Number of credits: 10	
Recommended semester: 3., 4..	
Educational level: II.	
State exam syllabus:	
Last change:	
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.	

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KMn/F327M/25			Course title: Personnel Management			
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: 3						
Recommended semester: 2.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. PhDr. Lukáš Copuš, PhD., Mgr. Michaela Poláková, PhD., Mgr. Juliet Horváthová Suleimanová, PhD., Ing. Veronika Vojtilová, PhD.						
Last change: 05.02.2026						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF.KTV/07-Mgr/25			Course title: Pohyb – Funkčnosť - Zdravie (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: 1						
Recommended semester: 1.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Dalibor Ludvig, PhD., Mgr. Lenka Nagyová, PhD., PaedDr. Martina Tibenská, PhD., Mgr. Michal Tokár, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF.KTV/08-Mgr/25		Course title: Pohyb – Funkčnosť - Zdravie (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: 1						
Recommended semester: 2.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Dalibor Ludvig, PhD., Mgr. Lenka Nagyová, PhD., PaedDr. Martina Tibenská, PhD., Mgr. Michal Tokár, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF.KTV/09-Mgr/25			Course title: Pohyb – Funkčnosť - Zdravie (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: 1						
Recommended semester: 3.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Dalibor Ludvig, PhD., Mgr. Lenka Nagyová, PhD., PaedDr. Martina Tibenská, PhD., Mgr. Michal Tokár, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FaF.KTV/10-Mgr/25			Course title: Pohyb – Funkčnosť - Zdravie (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: 1						
Recommended semester: 4.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Dalibor Ludvig, PhD., Mgr. Lenka Nagyová, PhD., PaedDr. Martina Tibenská, PhD., Mgr. Michal Tokár, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KIS/F379M/25			Course title: Project Management and Solving Real Problems – Case Studies			
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: 4						
Recommended semester: 3.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
Notes:						
Past grade distribution Total number of evaluated students: 0						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. RNDr. Michal Greguš, PhD., prof. Ing. Natalia Kryvinska, PhD., prof. Ing. Ján Papula, PhD.						
Last change:						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KORF/38-Mgr/25	Course title: Public Health
Educational activities: Type of activities: lecture Number of hours: per week: 2 per level/semester: 28 Form of the course: on-site learning	
Type, volume, methods and workload of the student - additional information Form of study: full time Type of teaching: lecture Number of hours: 2 hours weekly - 2/0/0 Method of teaching: combined (in-site and/or online)	
Number of credits: 3	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Course requirements: Completion of the course is done by written final examination. Grades: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, Fx = 59% or less. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: The student can explain the legislation regulating public health, describes public health and the principles of prevention of infectious and non-infectious diseases. The student is familiar with basic epidemiological indicators, methods, and studies. He/she can draw up proposals for the technical provision and use of appropriate medical devices and equipment for the performance of preventive screening examinations. He/she is capable to participate in multidisciplinary teams for disease prevention and technical support.	
Class syllabus: Public health care - legislation, content, application. Public health - national and international strategies, programmes, and institutions to protect and promote the health of society. Public health - determinants of health and health status of the population. Basics of epidemiology - methods, studies, indicators. Epidemiology of infectious and non-infectious diseases. Prevention - screening physical and biochemical examinations in point of care with emphasis on medical devices and other instrumentation.	
Recommended literature: 1. Šulcová M. a kol.: Verejné zdravotníctvo, Veda 2012, s. 651, ISBN 978-80-224-1283-4 2. Hegyi L., Bielik I.: Základy verejného zdravotníctva, Herba 2011, s. 288, ISBN 9788089171842 3. 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. Zákon NR SR č. 355/2007 Z. z. o ochrane, podpore a rozvoji verejného zdravia a o zmene a 7. doplnení niektorých zákonov
8. Matejka P. a kol.: Štandardný postup pre výkon prevencie kardiovaskulárnych ochorení v podmienkach verejných lekární, MZ SR 2022
9. Fábryová Ľ. a kol. Štandardný diagnostický a terapeutický postup na komplexný manažment nadhmotnosti/obezity v dospelom veku, MZ SR 2022

Languages necessary to complete the course:

Notes:

Past grade distribution

Total number of evaluated students: 0

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

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

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFCh/07-Mgr/25	Course title: Quality control of medical devices and medicines
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	
Type, volume, methods and workload of the student - additional information Form of study: full-time Type of teaching: lecture/seminar Number of hours per week: 2 hours of lectures and 2 hours of seminars - 2/2/0 Course conduction: on-site, combined. Extent of course: 24 hours of Lectures, 24 hours of Seminars Requirement: full-time presence	
Number of credits: 4	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Recommended prerequisites: Fundamental knowledge in materials chemistry and quality assessment.	
Course requirements: A prerequisite for passing the course is obtaining at least 60.00% of the continuous assessment awarded for the development of a quality protocol for a selected group of drugs that are categorized as medical devices and 60% of the final assessment carried out by a written examination. The final written examination shall consist of questions on quality control of medical devices, excipients and medicinal products as components and accessories of a medical device, according to the applicable European Union regulations. Grading scale: A: 90,01% - 100,00%; B: 82,01% - 90,00%; C: 74,01% - 82,00%; D: 66,01 % - 74,00%; E: 60,00 % - 66,00%; FX: ≤ 59,99%. Scale of assessment (preliminary/final): 50/50	
Learning outcomes: After completing the course, the student will have gained knowledge about quality control of pharmaceuticals, which are accessories of a medical device or its fixed part or are listed as medical devices in categorization lists. The student will learn the regulations related to the quality assessment of medical devices and pharmaceuticals in accordance with Slovak and European legislation. The student will be able to implement the legislation in laboratory control activities in the field of production, registration, and control of final products. Will be able to draw conclusions from experimental quality control data by rigorous analysis, and process them into final quality assessment documents. Upon completion of the course, the student will be able to define the key	

concepts in this area and explain the possibilities of their application in the fields of medicine, pharmacy, and related disciplines. The student will acquire responsibility for the results of his/her work, develop his/her analytical and decision-making skills. The student will be able to understand the latest trends in research and independently retrieve the necessary information from available sources.

Class syllabus:

The aim of the course Quality control of Medical Devices and Medicines is to teach students the basic principles of methods and tests used in the comprehensive quality control of medical devices and medicines as a condition for ensuring their quality, safety, and efficacy. The content of the course is based on the requirements of the currently valid European Pharmacopoeia for the identification of medicinal products, selected medical devices and materials, for the assessment of their purity and for the determination of the drug content. Students will be introduced to pharmacopoeial procedures for the analysis of medicinal products using chemical methods, volumetric methods, gravimetric methods, spectral, chromatographic, and electroanalytical methods. Theoretical knowledge is developed in seminars where students work with the European Pharmacopoeia and technical standards, learning to navigate quickly and with understanding the wide range of pharmacopoeial procedures by which quality control is carried out. The knowledge and skills acquired in the course can then be applied in practice in hospital departments in the provision of medical supplies, in hospital pharmacies, in control laboratories, in state regulatory authorities for the control of pharmaceuticals and medical devices, in manufacturing and research, and in further postgraduate education.

Course outline

- Content, mission, and importance of quality control of drugs and medical devices; Ph. Eur.; EDQM
- Qualitative analysis: ion and functional group identity tests; selective reactions in pharmacopoeia, physical and physicochemical methods.
- Drug purity and its control: limit tests for inorganic impurities; physical and physicochemical methods.
- Quantitative analysis: gravimetry; volumetric methods; physical and physicochemical methods.
- Quality control of final products.
- Quality control of packaging and materials used for packaging production.
- Stability of drugs and pharmaceuticals.
- Validation of methods in analysis. Good manufacturing practice. Pharmaceutical analysis in the registration of medicinal products and medical devices.

Recommended literature:

European Pharmacopoeia, Current Edition and Supplements, Strasbourg, Council of Europe, Cedex

Current technical standards for medical devices.

Pedersen-Bjergaard, S., Gammelgaard, B., Halvorsen, T.G.: Introduction to Pharmaceutical Analytical chemistry, 2nd Edition. Chichester: John Wiley & Sons, 2019.

Pedersen, O.: Pharmaceutical Chemical Analysis. Methods for Identification and Limit Tests. New York: CRC Press, Taylor & Francis Group, 2006.

Watson, D. G.: Pharmaceutical Analysis. A Textbook for Pharmacy Students and Pharmaceutical Chemists. 4th Ed. Edinburgh: Elsevier, 2017

Kapustíková, I.: Drug Analysis, Laboratory Practicals. Bratislava: Comenius University in Bratislava, 2020

Slovenský farmaceutický kódex, aktuálne vydanie. Slovenský farmaceutický kódex 2015, druhé vydanie.

<p>Bezáková, Ž., a kol.: Základy farmaceutickej analýzy: kvalitatívne hodnotenie chemických liečiv. 1.vyd. Nitra: VA PRINT, 2002.</p> <p>Bezáková, Ž.: Kvalita liečiva - zabezpečenie a kontrola. Vydavateľstvo Neografia, Martin, 2007.</p> <p>Slovenský liekopis 1. (SL 1). Zv.I. - Zv. VII. Bratislava: Herba, 1997 - 2004.</p> <p>Bezáková, Ž.: Analýza chemických liečiv : stanovenie obsahu liečiv podľa Slovenského liekopisu I. 1. vyd. Nitra: VA PRINT, 2000. 208 s.</p>						
<p>Languages necessary to complete the course: Slovak and English</p>						
<p>Notes:</p>						
<p>Past grade distribution Total number of evaluated students: 0</p>						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
<p>Lecturers: doc. PharmDr. Miroslava Sýkorová, PhD., PharmDr. Iva Kapustíková, PhD.</p>						
<p>Last change: 14.11.2024</p>						
<p>Approved by: doc. PharmDr. Miroslava Sýkorová, PhD.</p>						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KMk/F144M/25			Course title: Social Networks and Content Marketing			
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: 3						
Recommended semester: 1.						
Educational level: II.						
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
100,0	0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: PhDr. Ján Ganobčík, PhD., doc. Ing. Andrej Miklošík, PhD., prof. Mgr. Peter Štarchoň, PhD.						
Last change: 23.10.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KZT/22-Mgr/25	Course title: Special Medical Supplies
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	
Type, volume, methods and workload of the student - additional information Form of study: full-time Type of teaching: lecture/seminar – stay in a specialized healthcare facility Number of hours per week: 2 hours of lectures and 1 hour stay in healthcare facility (in blocks): 2/1/0 Method of teaching: lectures combined, internship only by attendance.	
Number of credits: 3	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Course requirements: Conditions for completing the subject: Attendance at the lectures is compulsory. A maximum of two absences are excused based on a medical certificate. Students make up absences by working on the assigned topic according to the teacher's instructions. The semester ends with a semester written examination. Assessment: A: 93.00-100.00%, B: 85.00- 92.00 %, C: 77,00-84.00%, D: 69.00-76.00%, E: 60:00-68.00%, FX: 59.99% and less. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: The student will gain knowledge about special medical material, management of handling special medical material in inpatient health care facility, preparation of documents for procurement, ordering, distribution, use of special medical material for medical performance, as well as the method of recovery and subsequent disposal of special medical material.	
Class syllabus: List of categorised special medical supplies Specialised health care and special medical supplies List of categorised special medical supplies Hydrocephalus therapy systems (XA1 - XA7) Cardiac support systems (XB1 - XB14) Joint replacement components (XC1 - XC5) Internal fixators (XD1 - XD14) Maxillofacial implants (XE) Ocular implants (XF)	

Ear implants (XG)
 Medical devices for minimally invasive procedures (XH)
 Urological implants (XI)
 Gynaecological implants (XJ)
 Mammary implants (XK)
 Pressurised wound healing systems (XL)
 Medico-economic analysis of special medical supplies
 Refurbishment of disposable medical devices (EU Regulation 2017/2002 of the European Parliament and of the Council)

Recommended literature:

Profant M., a kol: Otolaryngológia, Bratislava 2000, AMR333 ISBN 8096794531
 Kudlejová M., a kol.: Inštrumentovanie, princípy, techniky, zásady a postupy Martin 2014, Osveta ISBN 978-80-8063-423-0
 Čižmáriková M. a Takáč P.: Liekové formy a aplikačné cesty podávania liekov so zameraním na ich význam v humánnej medicíne, Košice 2019 Šafárik Press, ISBN 978-80-8152-753-1.
 Special medical journals:
 Monitor medicíny SLS ISSN 1338-2551. EV 4135,
 Slovenská chirurgia, ISSN 1336-5975 .
 Lekársky obzor Bratislava HERBA ISSN 0457-4214.
 Kabátová Z., Hluchota a kochleárny implantát. Bratislava 2007 Via practica roč. 4 ISSN: 1336-4790

Languages necessary to complete the course:

Slovak language

Notes:

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: PharmDr. Janka Kubíková, PhD., MPH, PharmDr. Milica Molitorisová, PhD., Ing. Silvia Molnárová, PharmDr. Zuzana Baťová, PhD., PhDr. Iveta Béressová, M.Sc. Ludmila Oreská, PhD., PharmDr. Eva Rybárová, PharmDr. Kristína Szmicseková, PhD.

Last change: 02.06.2025

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KZT/24-Mgr/25	Course title: Technical standards and principles of quality in the production and distribution of medical devices
Educational activities: Type of activities: practicals / lecture / seminar Number of hours: per week: 1 / 2 / 1 per level/semester: 14 / 28 / 14 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: Obligatory attendance Assessment by e-test (Moodle). Assumption for successful completion is at 60% at least. Assessment scale: A = 100-95%, B = 94-85%, C = 84-75%, D = 74-65%, E = 64-60%, Fx = 59% or less.	
Learning outcomes: Learning outcomes: By completing the subject, the student acquires a basic overview of production processes in industrial production, quality management - from the research and development phase to the final products. It also obtains an overview of the conditions of proper distribution in compliance with the proper distribution resp. correct wholesale distribution practice within the applicable legislation. The student will apply the acquired skills not only in thematic seminar work but also in practice. The acquired knowledge in this area will enable students to understand the importance of following good practices in the field of healthcare and pharmacy, as these ensure the protection of the patient's health in a wider context.	
Class syllabus: Course content: Research and development of products, transfer to production, key aspects of production technology. Principles of Quality by Design, optimization of the production process, quality assurance during the product life cycle. Legislation in the field of healthcare, control bodies, registration processes, structure of registration documentation, placing medical devices on the market. Quality assurance, principles of ensuring Good Manufacturing Practice (GMP) and other practices, dismissal system, role of QA and QC, position of qualified person. Product distribution - principles, organization, storage, monitoring, technical support systems, record archiving, validation. Quality control, PAT and RTRT systems. Risk management. Importance of inspection. Self-inspection.	

Recommended literature:

Recommended literature:

1. Valid legislation following the Medicines and Medical Devices Act.
2. European Pharmacopoeia, Council of Europe, Brussel, current edition
3. Eudralex – Volume 4, European Commission. Dostupné online: https://ec.europa.eu/health/documents/eudralex/vol-4_en
4. European Medicines Agency. Good manufacturing practice (GMP). online: <https://www.ema.europa.eu/en/human-regulatory/research-development/compliance/good-manufacturing-practice>.
5. Matušová, D., Bauerová, K., Tomasch, J.: Postupy a správna prax pri výskume, vývoji a výrobe liekov. Dostupné online: http://stella.uniba.sk/texty/FAF_DMKBJT_vyvoj_vyroba_liekov.pdf

Languages necessary to complete the course:

Slovak language

Notes:

The course is open for 5 students at least

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: PharmDr. Milica Molitorisová, PhD., PharmDr. Zuzana Baťová, PhD., PharmDr. Janka Kubíková, PhD., MPH**Last change:** 19.01.2026**Approved by:** prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KZT/23-Mgr/25	Course title: Technological innovations of medical devices in practice
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: 3	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: Attendance at the lectures is compulsory. A maximum of two absences are excused based on a medical certificate. Students make up absences by working on the assigned topic according to the teacher's instructions. The semester ends with a semester examination. Participation in internships is compulsory. Assessment: A: 93.00-100.00%, B: 85.00- 92.00%, C: 77,00-84.00%, D: 69.00-76.00%, E: 60:00-68.00%,- FX: less than 59.99%.	
Learning outcomes: The student will gain knowledge on technological innovations in Medical Devices (MD). She/ He will be capable of applying the acquired knowledge in the context of scientific research and collaboration. The student is skilled in communication with healthcare professionals about trends in the field of Special Medical Devices (SMD) and their use in medical procedures. The student understands the management of handling and manipulation of SMD in inpatient healthcare and is able to apply her/his knowledge, e.g. in the preparation of documents for the development of software, and software upgrades for special medical material used for diagnosis and treatment. She/He participates in the preparation of documents for public procurement, contributes to the development of medico-economic analysis for a specific National Health System (NHS). She/He is able to evaluate the material ordering documents, is able to meet compliance with the principles for Good Distribution Practice of the ordered and subsequently delivered SMD.	
Class syllabus: Syllabus: Medical devices (MD) - terms and definitions Overview of the Medical Device by purpose Innovative Medical Devices in outpatient healthcare (ECG, EEG, EMG computer system) Innovative Medical Devices in inpatient healthcare (digital innovations, artificial intelligence) Information and communication technologies (ICT) in healthcare (benefits, risks) Biotechnology and therapies based on biological principles Nanotechnology (in imaging, surgery, chips for DNA analysis) Telemedicine (telemonitoring, teleconsultation, teleconsultation)	

<p>Robotics (daVinci surgical system, whole human DNA scanning and mapping, robotic surgical assistant, Pepper robot, nursing robot, surgical knife, medication robot) Interoperability Use of the innovative technologies in selected medical fields, e.g., neurosurgery and spondylsurgery</p>						
<p>Recommended literature: Kudlejová M., a kol.: Inštrumentovanie, princípy, techniky, zásady a postupy Martin 2014, Osveta ISBN 978-80-8063-423-0 Čižmáriková M. a Takáč P.: Liekové formy a aplikačné cesty podávania liekov so zameraním na ich význam v humánnej medicíne, Košice 2019 Šafárik Press, ISBN 978-80-8152-753-1. Medical journals: Monitor medicíny SLS ISSN 1338-2551. EV 4135, Slovenská chirurgia, ISSN 1336-5975</p>						
<p>Languages necessary to complete the course: Slovak</p>						
<p>Notes:</p>						
<p>Past grade distribution Total number of evaluated students: 0</p>						
A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0
<p>Lecturers: PharmDr. Zuzana Baťová, PhD., PhDr. Iveta Béressová, PharmDr. Janka Kubíková, PhD., MPH, PharmDr. Attila Kulcsár, PhD., PharmDr. Milica Molitorisová, PhD., M.Sc. Ludmila Oreská, PhD., PharmDr. Eva Rybárová, Ing. Silvia Molnárová, PharmDr. Kristína Szmiecseková, PhD., Mgr. Emil Babiak</p>						
<p>Last change: 30.05.2025</p>						
<p>Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.</p>						

COURSE DESCRIPTION

Academic year: 2025/2026						
University: Comenius University Bratislava						
Faculty: Faculty of Pharmacy						
Course ID: FM.KSP/F377M/25			Course title: Value Based Management and Risks in Entrepreneurship			
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: 3.						
Educational level: II.						
Prerequisites:						
Course requirements:						
Learning outcomes:						
Class syllabus:						
Recommended literature:						
Languages necessary to complete the course:						
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	0,0	0,0	100,0
Lecturers: Mgr. Juraj Mikuš, PhD., prof. Ing. Anna Pilková, PhD., MBA, doc. PhDr. Marian Holienka, PhD.						
Last change: 14.08.2025						
Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.						

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KZT/25-Mgr/25	Course title: Zdravotnícke pomôcky v ambulatnej zdravotnej starostlivosti
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	
Type, volume, methods and workload of the student - additional information Form of Study: full-time Type of teaching activities: lectures/ Internship in blocks (seminars): 2/1/0 Number of hours: 3 hours weekly Method of teaching: combined (in-site and/or online)	
Number of credits: 3	
Recommended semester: 2.	
Educational level: II.	
Prerequisites:	
Course requirements: Attendance at the lectures is compulsory. Maximum of two absences are excused based on a medical certificate. Students make up absences by working on the assigned topic according to the teacher's instructions. The semester ends with a semester written examination. Evaluation: A: 93.00-100.00%, B 85.00- 92.00%, C: 77,00-84.00%, D: 69.00-76.00%, E: 60:00-68.00%, Fx: 59.99% and less. Scale of assessment (preliminary/final): 0/100	
Learning outcomes: Solid knowledge about medical devices, material composition, production, use in medical-preventive healthcare for diagnostic, preventive, therapeutic and nursing medical procedures.	
Class syllabus: Biological material sampling kits Resuscitation set Infusion set Injection set Dressing medical devices Basic surgical instrumentation Instrument for determination of C-reactive protein (CRP) Instruments for ear-nose-throat examination (otoscope or frontal reflector with specula) Neurological hammer Indicator papers for urine examination Medical devices in specialised outpatient care Medical devices for joint investigation and treatment facilities	

Medical diagnostic devices in-vitro
Telemedicine in outpatient healthcare

Recommended literature:

Kudlejová M., a kol.: Inštrumentovanie, princípy, techniky, zásady a postupy Martin 2014, Osveta ISBN 978-80-8063-423-0
Čižmáriková M. a Takáč P.: Liekové formy a aplikačné cesty podávania liekov so zameraním na ich význam v humánnej medicíne, Košice 2019 Šafárik Press, ISBN 978-80-8152-753-1
Kozierova B., a kol.: Ošetrovateľstvo I a II, Martin, Osveta 2004 ISBN 8021705280
Kateřina Drlíková, Veronika Zachová, Milada Karlovská a kol.: Praktický průvodce stomika, Vydavatelství Grada, Praha 2016
Edita Hliníková, Jana Nemcová, Michaela Miertová a kol. : Nehojace sa rany, vysokoškolská učebnica, Vydavateľstvo Osveta, Martin 2015
Radka Horáková: Oční propedeutika, Vydavatelství Grada, Praha 2011
Jozef Kolář, Jozef Malý: Veterinárná a Farmaceutická Univerzita Brno, Farmaceutická Fakulta, Zdravotnícké prostriedky
Třídění zdravotnických prostředků podle charakteru materiálu, Brno 2005
Miroslava Kordošová: Osobné ochranné prostriedky, Wolters Kluwer 2014
Markéta Koutná, Ondřej Ulrych et.al: Manuál hojení ran v intenzivní péči, vydavatelství Galem 2015
Věra Melicherčíková: Sterilizace a dezinfekce, druhé doplnené a přepracované vydání, Vydavatelství Golem 2015
Jiří Páral: Malý atlas obvazových technik, vydavatelství Grada, Praha 2008
Andrea Pokorná Ph.D, RNDr. Romana Mrázová, Ph.D : Kompendium hojení ran pro sestry, vydavatelství Grada 2012
Jan Stryja: Débriment a jeho úloha v managementu rány. Jak vyčistit ranu rychle a efektivně, vydavatelství Geum 2015
Zdeněk Žižka: Pomůcky pro osoby se zdravotním postižením, Praha 2012
Blažena Brozmanová, Jana Soišiaková, Milan Kokavec: Aktuality ortopedickej protetiky, vydavateľstvo Herba, Bratislava 2010, 152 s.
Legislatíva:
Zákon NR SR 576/2004 Zb. z. o Zdravotnej starostlivosti
Vyhláška Ministerstva spravodlivosti Slovenskej republiky 225/2017 Zb. z. o minimálnych požiadavkách na personálne zabezpečenie a materiálno – technické vybavenie zdravotníckych zariadení v pôsobnosti Ministerstva spravodlivosti Slovenskej republiky
Odborné periodiká:
Monitor medicíny SLS ISSN 1338-2551. EV 4135,
Slovenská chirurgia, ISSN 1336-5975 .
Lekársky obzor Bratislava HERBA ISSN 0457-4214.

Languages necessary to complete the course:

Slovak

Notes:

The course is provided in the winter semester with a minimum of 5 students.

Past grade distribution

Total number of evaluated students: 0

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

Lecturers: PharmDr. Janka Kubíková, PhD., MPH, PharmDr. Eva Rybárová, PharmDr. Attila Kulcsár, PhD., Ing. Silvia Molnárová, PharmDr. Milica Molitorisová, PhD.

Last change: 16.11.2024

Approved by: prof. Mgr. Anna Lašáková, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.