Study programme description

Name of the higher education institution: Comenius University Bratislava
Address of the higher education institution: Šafárikovo námestie 6, 814 99 Bratislava
Identification number of the higher education institution: 00397865
Name of the faculty: Faculty of Pharmacy
Address of the faculty: Odbojárov 10, 841 02 Bratislava

University body for the approval of the study programme: Accreditation board of the Faculty of Pharmacy, Comenius University Bratislava and Accreditation Board of the Comenius University Bratislava.
Date of Approval of the study programme or adjustment of the study programme: 9.8.2017
The date of last change in the study programme description: 6/2022
Reference to the results of the last periodic assessment of the study programme by the university: Zápis z 11. zasadnutia AR UK 24. 6. 2022
Reference to assessment report to the application for accreditation of the study programme under section 30 of the law No 269/2018 Coll:
The internal assessment report of the study programme is part of the application - as an annex to the application

1. Study programme basic data

a) *Title of the study programme and the number according to the register of the study programmes:*
Pharmacognosy, code 9914

b) *The degree of the university studies and ISCED-F code of the education*
The third grade, ISCED-F code 864

c) *Place/s of realisation of the study programme:*
The Faculty of Pharmacy, CU in Bratislava and its parts seat, including retail pharmacy "Univerzitná lekáreň", retail pharmacy "Fakultná lekáreň" and Medicinal plants garden.

d) *Name and number of the field of study in which higher education is obtained by completing the study programme, or a combination of two fields of study in which higher education is obtained by completing the study programme, ISCED-F codes of the field/fields:*
10 Pharmacy, ISCED-F code of the field of the study 0916 Pharmacy

e) *Type of the study programme: academically oriented, professionally oriented; translation, translation combination study programme (listing the specialisations); teaching, teaching combination study programme (listing the specialisations); artistic, engineering, doctoral, preparation for the regulated profession, joint study programme, interdisciplinary studies:*
Academically oriented, preparation for the performance of the regulated profession

f) *Awarded academic degree*
doctor ("Philosophiae Doctor", in short, "PhD. ")

g) *Form of study:*
full-time (internal)

h) *In joint study programmes, cooperating institutions and the range of study obligations the student fulfils at each of the given institutions (§ 54a of the Act on Higher Education Institutions).*
A study programme is not a joint study programme

i) *The language in which the programme is organised*
Slovak

j) *The standard length of study in academic years*
four years

k) *Capacity of the study programme (planned number of students), the actual number of applicants and students.*
Planned number of admitted students to the 1st year is 5
Number of students studying in the field of study: https://uniba.sk/studium/statistiky-uk

Number of applicants and accepted students in individual academic years

Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Applicants	2	2	3	2	3	2	0	3	1	0
Female	1	2	1	2	3	2	0	3	1	0
Accepted	2	2	2	2	3	2	0	2	1	0
Female	1	2	1	2	3	2	0	2	1	0

2. Graduate profile and learning objectives

a) The institution defines the study programme's learning objectives, such as students' abilities when completing the programme and the primary learning outcomes.
During the doctoral studies in this study programme, the student acquires knowledge in the field of pharmacognosy, focusing on the isolation, identification and evaluation of biologically active compounds of natural origin. In the course of studies, the student learns to formulate a scientific problem independently, to formulate a scientific hypothesis, to prepare and carry out a scientific experiment. The main objective of these activities is theoretical as well as practical mastery of methods used in pharmacognostic study of biologically active compounds of natural origin. The student's abilities upon completion of the study programme will be based on the following framework topics: Search for new natural sources of biologically active compounds, isolation of biologically active natural compounds, analytical evaluation of natural sources, search for chemotaxonomic relationships, study of plant biosynthetic processes,

determination of the structure of isolated natural compounds, study of physicochemical properties of isolated natural compounds, optimization of extraction of natural sources in the isolation of content compounds, standardization of prepared extracts, evaluation of biological activities of biologically active natural compounds in vitro, ex vivo and in vivo, study of interactions between isolates of natural origin in the evaluation of their biological activities, study of interactions between isolates of natural origin and (semi)synthetic drugs in the evaluation of their biological activities, interpretation of bioassay results by molecular docking methods, evaluation of the toxicological effect of natural isolates on model organisms in relation to their impact on the human organism and the environment. In order to achieve the results of research during the study, students are required to acquire not only theoretical knowledge, but also skills in modern experimental methods used by pharmacognosy.

Graduates of the Pharmacognosy, 3rd cycle of the degree programme will be proficient in the principles and methodology of scientific work and will be able to carry out professional and scientific activities in the field of pharmacy, pharmacognosy and pharmaceutical research. The theoretical knowledge and practical skills they will acquire through their studies will also enable them to pursue a career as a scientist in related pharmaceutical disciplines, such as galenic pharmacy and pharmacology. Graduates have the ability to work independently as scientists and to provide their own solutions in these fields.

The requirement for graduation is the knowledge and development of new methods of research and development of natural pharmaceuticals focused on their discovery, isolation, analysis and biological evaluation. A successful PhD graduate must demonstrate that he/she has not only theoretical knowledge in the field, but also practical skills in pharmaceutical research and is able to work independently in a scientific manner. At the same time, he/she must be able to present his/her own research results to the professional public at conferences and scientific events and by publishing articles in professional journals.

b) *The institution indicates the professions for which the graduate is prepared at the time of completion and the study programme's potential from the graduate's employability point of view.*

Doctoral studies focus on a narrower specialization and deepening the theoretical and scientific knowledge of professional training in the field of pharmacognosy. Graduates of the study programme find employment at all universities where pharmacognosy, pharmaceutical biology, analysis and evaluation of biologically active compounds are taught, either as a university lecturer or as a scientific researcher. Thanks to the exposure to a wide range of knowledge and practical laboratory skills, the graduate finds employment in the workplaces of the Ministry of Health (State institute for drug control, and so on.) and in research laboratories of the Slovak Academy of Sciences. A graduate may also find an employment as researchers, developmental, and professional workers in the private sector's pharmaceutical industry which are associated in Asociácia inovatívneho farmaceutického priemyslu or in Asociácia pre generické a biosimilárne lieky GENAS, Národné poľnohospodárske a potravinárske centrum – Výskumný ústav rastlinnej výroby, VILORA, FYTOPHARMA, a. s., CALENDULA, a. s.

c) *Relevant external stakeholders who have provided the statement or a favourable opinion on the acquired qualification's compliance with the profession's sector-specific requirements.*

As pharmacy is a study programme whose content definition is related to the preparation of experts for some from regulated occupations with coordination of education in appendix No. 2 MSVVS SR no 16/2016 No 16/2016 Coll. and results from study branches assigned to regulated professions according to the Government Regulation No.296/2010 Coll. on 29 March 2021, we asked the Ministry of Healthcare SR for the positive opinion to the concord of acquired qualification with sectoral specific requirements for the performance of the occupation.

3. 3. Employability

a) *Evaluation of the study programme graduates employability.*

Graduates of doctoral studies can be employed within the Department of Education as university lecturers or scientific researchers at universities with a focus on pharmacy, medicine, health sciences and chemistry. Graduates are also currently in demand in the workplaces of the Ministry of Health, such as the State Institute for Drug Control, which provides supervision over the quality, efficacy and safety of herbal medicines and medical devices. Graduates of the study programme are also employed by pharmaceutical companies involved in the development and analysis of herbal medicines, as well as by companies that carry out custom analysis of natural pharmaceuticals and biologically active compounds.

Graduates of the Pharmacognosy study programme at the Faculty of Pharmacy of Comenius University Bratislava will be proficient in the principles and methodology of scientific work and will be able to carry out professional and scientific activities in the field of pharmacognosy, pharmacy and pharmaceutical research. The theoretical knowledge and practical skills they will acquire through their studies will also enable them to pursue a scientific profession in related pharmaceutical fields, such as galenic pharmacy and pharmacology. Graduates of the course will have the ability to work independently as a scientist, to bring their own solutions and thus contribute to the development of scientific knowledge in these fields. They will have the prerequisites for successful employment in the management of teams in a wide range of scientific and research institutions focused on pharmaceutical and medical sciences, they will be professionally prepared to work creatively in scientific institutes of the Slovak Academy of Sciences at various levels of research.

b) *If applicable, indicate the successful graduates of the study programme*

Number of graduates of the study programme in last 10 years:

Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Graduates	2	0	4	2	0	2	0	2	3	0
Female	2	0	2	1	0	2	0	2	3	0

Overview of successful graduates of study programs/field of Pharmacognosy: https://absolventi.uniba.sk/index.do

List of some successful graduates of study programs/field of Pharmacognosy:

Name and titles of graduate	Year of graduation
doc. PharmDr. Silvia Bittner Fialová, PhD.	2010
doc. PharmDr. Szilvia Czigle, PhD.	2004
prof. PharmDr. Pavel Mučaji, PhD.	1997
prof. Ing. Milan Nagy, CSc.	1988
doc. PharmDr. Marek Obložinský, PhD.	2003

PharmDr. Miroslava Snopková, PhD.	2011
Mgr. Jaroslav Tóth, PhD.	2007

c) Evaluation of the study programme quality by employers (feedback).

To assess the quality of the submitted study programme, a request was sent to selected employers to express their opinion on the need for the doctoral study programme Pharmacognosy. Delivered letters are available at the Office of Science and Research and Foreign Relations of the Faculty of Pharmacy, Comenius University Bratislava. Relevant external stakeholders who have provided the statement or a favourable opinion on the acquired qualification's compliance with the profession's sector-specific requirements are from:

Asociácia inovatívneho farmaceutického priemyslu (associating 26 pharmaceutical companies), State Institute for Drug Control, GENAS Asociácia pre generické a biosimilárne lieky (associating 15 pharmaceutical companies), Národné poľnohospodárske a potravinárske centrum – Výskumný ústav rastlinnej výroby, VILORA, FYTOPHARMA, a. s., CALENDULA, a. s.

4. Structure and content of the study programme

a) The institution describes the rules for the design of study plans within the study programme.

The study programme considers the mission and aims determined by the Faculty of Pharmacy Comenius University Bratislava in the document 'Long-term objectives of the Faculty of Pharmacy, Comenius University Bratislava' in research and education. The study programme was created or innovated in terms of trends of development of such created programmes in Europe and worldwide with consideration of attractiveness for graduates in the joint grade of the first and second grade of the study in the programme Pharmacy and also for graduates from the second grade of the study with focusing on chemistry graduated from the universities of science resp. technical focus. The study programme was created in concord with the needs of the practice. Therefore, one of its main viewpoints at outlining the subjects is the applicability of the actual practice's knowledge and competencies. The study programme and its study plan are designed so that students interested in this study programme might undergo part of the study abroad. The faculty has rich experience and a wide net of partner universities with similar study programmes to the submitted study programme.

In compliance with Dublin descriptors and at the same time in the sense of the national qualification frame, the graduates of the study programme will acquire the 8th level of qualification.

The study programme's profile subjects are (compulsory or compulsory elective subjects) determined to acquire the knowledge and skills necessary for completing the study programme. Profile subjects present theoretical and methodological base in the given field of education. They are a substantial part of the thematic group of state examinations. Together with other educational activities offered to a student in the form of elective subjects, allow the student to have an approach to knowledge and skills necessary to achieve educational outcomes in the student's profile and his/her personal and professional development.

Reasons for the origination of the study programme Pharmacognosy:

Pharmacognosy, the 3rd cycle of undergraduate studies, is a standard field of study at all major world universities with faculties of pharmacy, including universities in European Union countries (in some under the name of Pharmaceutical Biology). The study of pharmacognosy in these faculties or universities is one of the priority subjects of instruction, enabling the acquisition of knowledge and skills in the search for natural resources, the isolation and identification of biologically active natural compounds, as well as the evaluation of the quality of herbal medicines.

Pharmacognosy is a core subject in pharmaceutical studies. It is a modern and constantly developing interdisciplinary field that studies the methods of obtaining, preparing and evaluating herbal medicines, the physicochemical properties of biologically active natural compounds, their chemical structure and action on the organism, as well as the methods of quality control of herbal medicines and the changes occurring during their storage. Pharmacognosy is a multidisciplinary discipline that requires knowledge and skills from many areas of scientific investigation. It applies knowledge from botany, plant physiology, plant biochemistry. Isolation of biologically active natural compounds requires knowledge and experience in analytical chemistry. In the context of pharmacognosy, it is important not only to prepare natural compounds but also to learn about their properties, whether physical or chemical. The study of the biological activities of natural compounds at the subcellular, cellular or organ level also plays an important role in pharmacognosy. Pharmacognosy is now a rapidly developing field and its future lies in the search for new sources and the discovery of new natural substances. From this perspective, our economy will be able to absorb a large number of graduates in pharmacognosy. This field of study integrates, on a common platform, graduates from pharmaceutical, science and technical faculties. The development of the field of study is very closely linked to sectors that are of primary interest to the scientific and technological development of modern society, such as the health sector, the pharmaceutical industry and the development and analysis of pharmaceuticals.

b) The institution compiles the recommended study plans for individual study paths:

The study programme recommended study plan and standard length of study are regulated in the Act on Higher Education. In compliance with the faculty's study rules, the study programme follows the European transfer system and collects credits and workload of a student in the academic year. It follows the stated workload expressed in hours of contact tuition and all activities needed to prepare and complete the subject. The numbers of credits for particular subjects were determined to consider the subject's demandingness from the view of a specific field of the curriculum and way of subject completion. The subjects in the recommended study plan's frame allow achieving the determined outcomes of the education. Compulsory and compulsory elective subjects do not exceed 75% of the number of credits stated to complete the study in the study programme related to the 3rd grade of the study.

c) The study programme generally states:

Outcomes of the education and related criteria and rules of their assessment defined to fulfil all educational aims of the study programme are stated in the subjects' Information Sheets.

Educational activities (lecture, seminar, exercise, state examination) suitable to achieve education outcomes are defined for each educational part of the study, plan/subject and are given in the subjects' information sheets.

Methods by which the educational activity is delivered – in person, distant, combined, curriculum/syllabus of a student's subject and workload ('scope' for particular subjects and educational activities separately) follow the subjects' Course information sheets.

Study section

Compulsory courses and exams

Subject title	Teacher	Semester	Number of credits
Completing Prescribed Doctoral Lectures and Seminars 1[a]	provided by teachers referred to in point 7 and prominent researchers in the case of invited / habilitation / inauguration lectures	1	10
English Language and Foreign Language Exam[b]	Dr. Kližanová, Dr. Žufková	1	10
Completing Prescribed Doctoral Lectures and Seminars 2[a]	provided by teachers referred to in point 7 and prominent researchers in the case of invited / habilitation / inauguration lectures	2	10

[a]In the conservative trajectory of study, the courses *Completing Prescribed Doctoral Lectures and Seminars 1* and *Completing Prescribed Doctoral Lectures and Seminars 2* represent compulsory elective courses and can be considered completed if the student has completed courses *Passing Prescribed Doctoral Lectures and Seminars* or *Passing the Dissertation Exam*.
[b]In the conservative trajectory of study, the course *English Language and Foreign Language Exam* can be considered completed if the student has completed the course *Foreign Language Exam*.

Compulsory elective courses

Subject title	Teacher	Semester	Number of credits
Introduction to Scientific Research	guarantor and vice-dean responsible for postgraduate studies	1	4
Introduction to Scientific Writing in English Language	Dr. Žufková	2	4
Passing Selected Doctoral Lectures and Seminars	provided by teachers referred to in point 7 and prominent researchers in the case of invited / habilitation / inauguration lectures	3	10
Completing Other Subject of the Offer of Other University Faculties	provided by the dissertation supervisor / guarantor	1-4	according to the specific credit evaluation of the subject at the faculty

Offer of compulsory subjects and compulsory elective subjects within subjects:
- Completing Prescribed Doctoral Lectures and Seminars 1
- Completing Prescribed Doctoral Lectures and Seminars 2
- Passing selected doctoral lecture and seminars
- Passing the Dissertation Exam

Compulsory subject

Subject title	Teachers
Pharmacognosy	prof. Mučaji, prof. Nagy, assoc. prof. Szilvia Czigle

Compulsory elective subjects

Subject title	Teacher
Analytical Chemistry	prof. Mikuš, Dr. Piešťanský, prof. Havránek, Dr. Maráková
Biochemistry	assoc. prof. Obložinský, assoc. prof. Hrčka Dubničková, assoc. prof. Bilková, Dr. Bilka, Dr. Pašková
Pharmaceutical Botany	assoc. prof. Habán
Pharmaceutical Chemistry	prof. Mikuš, prof. Frecer, assoc. prof. Malík, assoc. prof. Andriamainty, prof. Čižmárik, assoc. prof. Sýkorová, Dr. Garaj
Pharmacology	prof. Duriš Adameová, prof. Klimas, assoc. prof. Paul Hrabovská, Dr. Dóka, Dr. Vavrinec, Dr. Vavrincová, assoc prof. Křenek, assoc. prof. Máťuš
Pharmaceutical Technology	Dr. Mikušová, Dr. Piešťanský, assoc. prof. Šupolíková
Clinical Pharmacy	prof. Klimas, prof. Kuželová, assoc. prof. Paul Hrabovská, Dr. Dóka, Dr. Kosírová
Plants Molecular Biology	assoc. prof. Obložinský
Current Trends in Preparations of Natural Origin	assoc. prof. Bittner Fialová

Compulsory choice of at least two compulsory elective subjects depending on the flexibility of the learning trajectories and the achievement of learning outcomes.

Research section

Compulsory research activities

Subject title	Teacher	Semester	Number of credits
Elaboration of a Manuscript of a Scientific Publication in a Foreign Language as the first Author[c]	provided by the dissertation supervisor / guarantor	5-6	10
Active Participation in the Scientific Events 1[d]	provided by the dissertation supervisor / guarantor	1-8	4
Active Participation in the Scientific Events 2[e]	provided by the dissertation supervisor / guarantor	1-8	4
Completion of a Defined Stage of the PhD Scientific Program	provided by the dissertation supervisor / guarantor	7-8	5

[c]In a conservative study trajectory, the course *Elaboration of a Manuscript of a Scientific Publication in a Foreign Language as the first Author* is a compulsory elective course and can be considered completed if the student has completed the courses *The*

***Original Publication in a Peer-reviewed International Journals* or *The Original Publication in a Peer-reviewed Domestic Journal* or *The Original Publication in a non Current Contents International Journals or Conference Proceedings* or *The Original Publication in a non Current Contents Domestic Journals or Conference Proceedings*.**

[d]In the conservative trajectory of study, the course *Active Participation in the Scientific Events 1* is a compulsory elective course and can be considered completed if the student has completed the courses *Active Participation at the International Scientific Events* or *Active Participation at the Domestic Scientific Events*.

[e]In the conservative trajectory of study, the course *Active Participation in the Scientific Events 2* is a compulsory elective course and can be considered completed if the student has completed the courses *Active Participation at the International Scientific Events* or *Active Participation at the Domestic Scientific Events*.

Compulsory elective research activities and selected research activities

Subject title	Teacher	Semester	Number of credits
The Original Publication in Current Contents Journal – First Author*[f]	provided by the dissertation supervisor / guarantor	1-8	40
The Original Publication in Current Contents Journal*[f]	provided by the dissertation supervisor / guarantor	1-8	35
The Original Publication in non-Current Contents Journal with IF (Impact Factor) - First Author*[f]	provided by the dissertation supervisor / guarantor	1-8	30
The Original Publication in non-Current Contents Journal with IF (Impact Factor)*[f]	provided by the dissertation supervisor / guarantor	1-8	25
The Original Publication in non-Current Contents International or Domestic Journal Indexed in the SCOPUS Database (European Pharmaceutical Journal is Recommended)	provided by the dissertation supervisor / guarantor	1-8	10
The Original Scientific Publication in non-Current Contents and non-Indexed International or Domestic Journal or Conference Proceeding	provided by the dissertation supervisor / guarantor	1-8	7
Professional Publications in International or Domestic Journal	provided by the dissertation supervisor / guarantor	1-8	4
Published Abstract in English from a Scientific Event	provided by the dissertation supervisor / guarantor	1-8	3
Reviewing the Manuscript of an Article Submitted to an Indexed Scientific Journal (Scopus, Wos)	provided by the dissertation supervisor / guarantor	1-8	5
Active Participation in the Scientific Events 3	provided by the dissertation supervisor / guarantor	1-8	4
Active Participation in the Scientific Events 4	provided by the dissertation supervisor / guarantor	1-8	4
Individual Study of the Scientific Literature	provided by the dissertation supervisor / guarantor	1-8	2
Obtaining the „University Grant for Young Researchers“ (Principal Investigator)	provided by the dissertation supervisor / guarantor	1-8	20
Obtaining the „University Grant for Young Researchers“ (Co-investigator of Grant)	provided by the dissertation supervisor / guarantor	1-8	10
Obtaining the „Grant FaF UK for Young Scientists“ (Principal Investigator)	provided by the dissertation supervisor / guarantor	1-8	15
Obtaining the „Grant FaF UK for Young Scientists“ (Co-investigator of Grant)	provided by the dissertation supervisor / guarantor	1-8	10
Participation in the Implementation of Another Research Project	provided by the dissertation supervisor / guarantor	1-8	3
Other Activities (eg. a Member of the Organizing Committee of the Conference)	provided by the dissertation supervisor / guarantor	1-8	3
Citation SCI, SSCI	provided by the dissertation supervisor / guarantor	1-8	5
Citation Other	provided by the dissertation supervisor / guarantor	1-8	3
Presentation at the Conference of Young Scientists	provided by the dissertation supervisor / guarantor	1-8	5

***During the study, the doctoral student must be the author / co-author of two publications with an impact factor**

[f]In a conservative study trajectory, the courses *The Original Publication in Current Contents Journal – First Author* or *The Original Publication in Current Contents Journal* or *The Original Publication in non-Current Contents Journal with IF (Impact Factor) - First Author* or *The Original Publication in non-Current Contents Journal with IF (Impact Factor)* are compulsory elective courses and can be considered completed if the student has completed the courses *The Original Publication in a Peer-reviewed International Journals* or *The Original Publication in a Peer-reviewed Domestic Journal* or *The Original Publication in a non Current Contents International Journals or Conference Proceedings* or *The Original Publication in a non Current Contents Domestic Journals or Conference Proceedings* only if the publication is published in a journal with IF (impact factor).

Other activities

Teaching Activities

Subject title	Teacher	Semester	Number of credits
Authorship of Teaching Aids and Texts	provided by the dissertation supervisor / guarantor	1-8	20
Co-authorship of Teaching Aids and Texts	provided by the dissertation supervisor / guarantor	1-8	10
Participation in the Management of the Thesis	provided by the dissertation supervisor / guarantor	1-8	7

in Master's Degree			
Management of Student Scientific Activities (SCA)	provided by the dissertation supervisor / guarantor	1-8	5
Pedagogical Activities - Exercises	provided by the dissertation supervisor / guarantor	1-8	5
Pedagogical Activities - Seminars	provided by the dissertation supervisor / guarantor	1-8	7
Supervison of the Final Bachelor's Thesis	provided by the dissertation supervisor / guarantor	1-8	5
Reviewing a Bachelor Thesis	provided by the dissertation supervisor / guarantor	1-8	5

State exams

Dissertation exam and dissertation thesis

Subject title	**Teacher**	**Number of credits**
Passing the Dissertation Exam*	dissertation supervisor / opponent / guarantor / members of members of the examination board	20
Dissertation Thesis and its Defence*	dissertation supervisor / opponent / guarantor / members of members of the examination board	30

***The doctoral student may submit an application for a state examination permit after fulfilling all the requirements specified in the Study regulation of the Faculty of Pharmacy Comenius University Bratislava** (The internal regulation No. 1/2020, https://www.fpharm.uniba.sk/fileadmin/faf/Legislativa_a_dokumenty/Studijny_poriadok_FaF_UK/VP_2020_1_FaFUK_StudijnyPoriadok_SPrilohami_schvalenyASUK.pdf).

d) *The institution states the number of credits, the achievement of which is a condition for proper completion of studies and other requirements that the student must meet within the study programme and for its proper completion, including the requirements for state examinations, rules for re-study and rules for the extension, interruption of study.*

The minimum sum of credits for the whole study, which a student must acquire for its successful completion, is 240 credits given by the Act No 131/2002 Coll. on Higher Education and Changes and Supplements to Some Laws, § 54 Postgraduate (PhD.) study programme. The precise allocation of credits is issued in the part 4c.

State examinations of the doctoral study consist of Dissertation Examination (20 credits), divided into Debate on the written thesis to the dissertation examination and the examination subjects, which do not have assigned separate credits. The doctoral student is assigned 30 credits for the Dissertation Thesis and its Defence. The subjects of the state examinations are part of the study programme. Detailed conditions for regular completion of the study and other conditions which the student must fulfil within the study of the study programme and for its regular completion are in the Study Regulations of the Faculty of Pharmacy Comenius University Bratislava (Internal Regulation No. 1/2020), which contains parts:

- Article 27 Individual Study Plan and the Evaluation of the Study Results
- Article 28 Yearly Evaluation of the Doctoral Study
- Article 29 Dissertation Examination
- Article 30 Request for permission to defend the dissertation thesis
- Article 31 Defence of the Dissertation Thesis Requirements:
- Article 32 Preparation of Defence of the Dissertation Thesis
- Article 33 Opponents of the Dissertation Thesis and their Opinions
- Article 34 Defence of the Dissertation Thesis
- Article 35 Discontinuance of the Doctoral Study

Basic requirements of the final thesis, way of its submission, check of originality, archiving, and accessibility is regulated by the Internal Regulation No. 12/2013 Guideline of Rector CU on essential requirements of the final thesis, rigorous thesis and habilitation thesis, control of their originality, archiving and accessibility at CU as amended.

Conditions for regular completion of the doctoral study at the Faculty of Pharmacy CU in Bratislava

1 Realisation of the examination in the English language

2 Successful completed dissertation examination

3 A doctoral student in the full-time and external form must be an author of a minimum of 2 scientific works in the journal with the impact factor. In the frame of FPHARM CU, the only credible IF value we consider just the date, which comes from the Journal Citation Reports (JCR), which as the only one the database Web of Science recognises.

4 Only those papers that have already been published in scientific journals are taken into account. In justified cases, it is possible to recognize one publication on the basis of the publisher's acceptance letter, or a publication that is already listed in the PubMed or Scopus databases with the designation "Epub ahead of print" and is assigned a Digital Object Identifier (DOI).

5 The doctoral student, both full-time and external form, must have an active participation in at least two scientific conferences.

6 Acquiring a minimum of 210 credits.

7 Successful Defence of the Dissertation Thesis 30 credits.

e) *For individual study plans, the institution states the requirements for completing the individual parts of the study programme and the student's progress within the study programme in the given structure:*

- the number of credits for compulsory courses needed for proper completion of the study are: credits for *English Language and Foreign Language Exam* (10 credits), *Completing Prescribed Doctoral Lectures and Seminars 1* (10 credits), *Completing Prescribed Doctoral Lectures and Seminars 2* (10 credits), 20 credits for *Passing the Dissertation Exam* and 30 credits for *Dissertation Thesis and its Defence*, in the conservative trajectory of study, the courses *Completing Prescribed Doctoral Lectures and Seminars 1* and *Completing Prescribed Doctoral Lectures and Seminars 2* represent compulsory elective courses and can be considered completed if the student has completed courses *Passing Prescribed Doctoral Lectures and Seminars* or *Passing the Dissertation Exam*, in the conservative trajectory of study, the course *English Language and Foreign Language Exam* can be considered completed if the student has completed the course *Foreign Language Exam*.

- The doctoral students can obtain credits for courses *Passing Selected Doctoral Lectures and Seminars* (10 credits), *Introduction to Scientific Research* (4 credits), *Introduction to Scientific Writing in English Language* (4 credits), *Completing Other Subject of the Offer of Other University Faculties* (according to the specific credit evaluation of the subject at the faculty).
- The doctoral student might also gain credits for teaching activity, i.e., the direct tuition or other professional activity related to teaching activity in the scope of maximum 4 hours weekly for the academic year in which the tuition runs.
- The doctoral students in the frame of the scientific part of the doctoral study get credits for publication activities of scientific articles, writing textbooks, for submitting or gaining the Grant of Comenius University Bratislava (it is intended just for PhD. Students in the daily form), the Grant of Faculty of Pharmacy Comenius University Bratislava, for participation in the solving the grants, for lectures at congresses or their workplace and so on. The detailed list of credits, which the doctoral students may gain is given in the part 4c.
- The doctoral student with his/her supervisor each year submit a yearly assessment of the doctoral student, which at the enrolment to the higher year of study a vice-dean of the faculty responsible for the Doctoral Study checks. The doctoral student in the daily form is advised to gain 60 credits, in the external form 48 credits.
- The doctoral student who wants to undergo the dissertation examination must passed the examination in the English language and must have obtained at least 60 credits.
- The doctoral student in the full-time form of the doctoral study registers for the dissertation examination no later than 18 months from the beginning of the study, the doctoral student in the external form no later than 24 months from the beginning of the study.
- To advance to the next year of doctoral studies, it is necessary that the doctoral student in the given academic year obtains at least 40 credits in the given academic year and at least 30 credits in external study (Internal regulation of FPHARM CU Bratislava).

f) *The institution describes the rules for verification of learning outcomes, students' assessment and the possibilities of appealing against the assessment:*

All types of assessment of study results are designed to determine unambiguously required conditions for completing the subject. The student is early enough informed with regular and resit possibilities of continual assessment and regular and resit term examinations. Each student has the right to be informed on all parts of continuous assessment and examination. The student has the right not to accept the exam term's evaluation and take part in the exam's resit term. Suppose the student was at the regular term of the examination evaluated by the mark Fx, or he/she did not register for any of the regular examination terms, in that case, he/she has the right to two resit terms. The student has the right to ask for the last resit examination as a board examination. The Dean, on the suggestion of a person bearing the primary responsibility for performance, development, and provision of the study programme's quality, will assign a minimum three-member examination committee. The chairman of the committee is usually a teacher of the given subject. The board examination form might also be performed without applying a student if a subject teacher applies for it. The Study Regulations of the faculty arrange details.

The student can submit a written application for reviewing the decision on expelling from the study. The Dean might comply with the request. Otherwise, the entire application shall be passed within 15 days from the day of delivery with the attached entire file and written standpoint to the applicant's statements and objection to the Rector. Based on the written student's application, the Dean might grant an exception from the terms of the faculty schedule of the study, control Stages of Study, the maximum length of the study interruption in case the student has not fulfilled conditions of the control Stages of Study or to excuse the missed term. The Study Regulations of the faculty arrange details.

g) *Conditions for recognition of studies or a part of studies.*

The study programmes are designed following ECTS transfers and recognition of credits. The priority is the graduates of the study programmes acquired knowledge and new skills via mobilities at domestic and foreign institutions. Specific requirements for completion of mobilities are adjusted by an individual study plan of a PhD. student. Mobilities are organised in the frame of a broad scope of offered publicly available schemes (Erasmus+, SAIA).

The recognition of the subject's completion is the granting of the subject evaluation and subsequent gaining of the particular number of credit points assigned to the subject, based on the part of the study completed in the past. The student who in the past studied at a university and his/her study was not regularly completed, the student applying for transfer and the student applying for the change of the study programme in the frame of the study branch might ask for recognition of completed subjects if he/she fulfils the conditions given in the Study Regulations of the FPHARM CU. The student might apply in writing to recognise subject completion before the beginning of the teaching part of the semester of the academic year in which the subject is taught. The Dean decides on recognising the completed subjects after the teachers' opinion of the subjects, recognising which the student requires. The transfer of the credit points is the process of inclusion of credit points gained in the frame of the part of the study at another university in the Slovak Republic or at the university abroad into the number of counted credit points of the student according to Art. 4 Sec. 3 of the Decree on the Credit System of the Study. Academic mobility is formally conditioned with the study's agreement between the student, CU, and the receiving university. The study's agreement contains a suggested study plan of the receiving university and the adequate study at the sending university. The students' subjects should complete at the receiving university based on the study's agreement to become the valid part of the student's study plan. The subjects completed at the receiving university in the frame of academic mobility the faculty recognises based on the record of the study results which the receiving university issues at the end of his/her study. The record of study results becomes part of the student's study documentation kept by the faculty. The details on the recognition of academic mobility subjects are stated in the Study Regulations of FPHARM CU.

h) *The institution states the topics of the study programme's final theses (or a link to the list).*

Final theses are regularly updated and published on the faculty website (https://www.fpharm.uniba.sk/en/education/phd-study/phd-topics/) and in the Academic Information System AIS.

i) *The institution describes or refers to:*

- The rules at entering, elaboration, reviewing, defence and assessment of the final theses in the study programme are stated in the Study Regulations of the Faculty of Pharmacy, Comenius University Bratislava (Internal Regulation No. 1/2020) and are freely available on the address: https://www.fpharm.uniba.sk/fileadmin/faf/Legislativa_a_dokumenty/Studijny_poriadok_FaF_UK/VP_2020_1_FaFUK_Studijny_Poriadok_SPrilohami_schvalenyASUK.pdf

- Possibilities and procedures of participation in student mobilities are published on the faculty's website seat in part international relationships on the address: https://www.fpharm.uniba.sk/en/relations/

- Rules of complying with the academic ethic and concluding of consequences are adjusted by the Disciplinary Board of the Faculty of Medicine, Ethical Codex and Ethical Board, while more detailed information is freely available on the websites:

  Disciplinary Regulations CU in Bratislava for students (the Internal Regulation No 13/2018)
  https://uniba.sk/fileadmin/ruk/legislativa/2018/Vp_2018_13.pdf

  The Disciplinary Board CU - Disciplinary Regulations CU in Bratislava for students (the Internal Regulation No 14/2018)
  https://uniba.sk/fileadmin/ruk/legislativa/2018/Vp_2018_14.pdf

  The disciplinary committee for students
  https://www.fpharm.uniba.sk/en/about-the-faculty/disciplinary-commission/

  Ethical Codex of Comenius University Bratislava (the Internal Regulation No. 23/2021, part No. 8)
  https://uniba.sk/fileadmin/ruk/legislativa/2021/Vp_2021_23.pdf

  Ethical Board CU
  https://uniba.sk/o-univerzite/organy-uk/eticka-rada-uk/

  The Rules of Procedures of the Ethical Board CU (the Internal Regulation No 24/2016)
  https://uniba.sk/fileadmin/ruk/legislativa/2016/Vp_2016_24.pdf

- Procedures applied to students with specific needs:
  The Centre for Support for Students with specific Needs acts at Comenius University Bratislava. The centre provides information, advisory, supportive services and educational activities for applicants and students with specific needs, teachers and the wider public. A coordinator for the support for students with specific needs acts at the faculty level and assesses the possibilities/restrictions/risks of studying a particular study programme for students with specific needs. He/she suggests concrete, adequate adjustments and supportive services determined for a student with specific needs and performs advisory and mediatorial activities. He/she contributes to creating a specific hybrid education system and support for students with specific needs.

  Support Centre for Students with Specific Needs
  https://uniba.sk/o-univerzite/rektorat-uk/oddelenie-socialnych-sluzieb-a-poradenstva-ossp/centrum-podpory-studentov-so-specifickymi-potrebami-cps/

  The present coordinator for students with specific needs in the frame of the Faculty of Pharmacy CU Bratislava is:
  doc. PharmDr. Szilvia Czigle, PhD. from Department Farmacognosy and Botany FPHARM CU
  tel. number: +421 2 501 17 209, e-mail: czigle@fpharm.uniba.sk

- Procedures of submission of impulses and appeals from the side of students are adjusted in the Study Regulations of the Faculty Pharmacy, Comenius University Bratislava (the Internal regulation No. 10/2020), which is freely available at the address:
  https://www.fpharm.uniba.sk/fileadmin/faf/Legislativa_a_dokumenty/Studijny_poriadok_FaF_UK/VP_2020_1_FaFUK_Studijny_Poriadok_SPrilohami_schvalenyASUK.pdf

5. Course information sheets of the study programme
In the structure according to Decree no. 614/2002 Coll.
The course information sheets of the study programme subjects are freely available at the address:
https://www.fpharm.uniba.sk/studium/doktorandske-studium/

6. Current academic year plan and current schedule (or hyperlink)
The current schedule of the current academic year is available on the website seat of the faculty:
https://www.fpharm.uniba.sk/en/education/phd-study/

7. Persons responsible for the study programme

a) *A person responsible for the delivery, development, and quality of the study programme (indicating the position and contact details).*
prof. PharmDr. Pavel Mučaji, PhD., a university teacher – professor, in the function of professor. Contact: Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, Odbojárov 10, 841 02 Bratislava, tel.: +421 2 501 17 204, e-mail: mucaji@fpharm.uniba.sk

b) *List of persons responsible for the study programme's profile courses with the assignment to the course and link to the central register of university staff and contact details (they may also be listed in the study plan).*

The teacher of the profile subject/ Contact (workplace, email, telephone number)	**Reference to the Register of the University Employees**	**Title the profile subject**
prof. PharmDr. Pavel Mučaji, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 204,	https://www.portalvs.sk/regzam/detail/3753	Pharmacognosy

mucaji@fpharm.uniba.sk		
prof. Ing. Milan Nagy, CSc. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 201, nagy@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3755	Pharmacognosy
doc. PharmDr. Szilvia Czigle, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 209, czigle@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3700	Pharmacognosy
doc. PharmDr. Silvia Bittner Fialová, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 206, silvia.bittner.fialová@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3705	Current Trends in Preparations of Natural Origin
doc. Ing. Miroslav Habán, PhD. Department of Languages, Faculty of Pharmacy, Comenius University Bratislava haban@fpharm.uniba.sk; +421 2 501 17 213	https://www.portalvs.sk/regzam/detail/7215	Pharmaceutical Botany

c) *Reference to the research/art/teacher profiles of persons responsible for the study programme's profile courses.*
The research/art/teacher profiles of persons responsible for the study programme's profile courses are in a separate attachment.

d) *List of teachers in the study programme with the assignment to the subject and provided with a link to the central Register of University staff, with contact details:*

The teacher of the obligatory subject/ Contact (workplace, email, telephone number)	**Reference to the Register of the University Employees**	**Course ID:**
prof. PharmDr. Pavel Mučaji, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 204, mucaji@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3753	Pharmacognosy Introduction to Scientific Research Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
prof. Ing. Milan Nagy, CSc. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 201, nagy@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3755	Pharmacognosy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Szilvia Czigle, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 209, czigle@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3700	Pharmacognosy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Silvia Bittner Fialová, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 206, @fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3705	Current Trends in Preparations of Natural Origin Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
PhDr. Darina Kližanová Department of Languages, Faculty of Pharmacy, Comenius University Bratislava	www.portalvs.sk/regzam/detail/3725	English Language and Foreign Language Exam

klizanova@fpharm.uniba.sk; +421 2 501 17 210		
PeadDr. Viera Žufková, PhD. Department of Languages, Faculty of Pharmacy, Comenius University Bratislava zufkova@fpharm.uniba.sk; +421 2 501 17 210	www.portalvs.sk/regzam/detail/18138	English Language and Foreign Language Exam Introduction to Scientific Writing in English language
doc. Ing. Miroslav Habán, PhD. Department of Languages, Faculty of Pharmacy, Comenius University Bratislava haban@fpharm.uniba.sk; +421 2 501 17 213	https://www.portalvs.sk/regzam/detail/7215	Pharmaceutical Botany Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
prof. RNDr. Peter Mikuš, PhD. Department of Pharmaceutical Analysis and Nuclear Pharmacy, Faculty of Pharmacy, Comenius University Bratislava mikus@fpharm.uniba.sk; +421 2 501 17 243	www.portalvs.sk/regzam/detail/3749	Analytical chemistry Pharmaceutical chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
prof. PharmDr. Ján Klimas, PhD., MPH Department of Pharmacology and Toxicology, Faculty of Pharmacy, Comenius University Bratislava klimas@fpharm.uniba.sk; +421 2 501 17 150	https://www.portalvs.sk/regzam/detail/3726	Pharmacology, Clinical Pharmacy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Marek Obložinský, PhD. Department of Cell and Molecular Biology of Drugs, Faculty of Pharmacy, Comenius University Bratislava oblozinsky@fpharm.uniba.sk; +421 2 501 17 130	https://www.portalvs.sk/regzam/detail/3756	Biochemistry Molecular biology of plants Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Ivan Malík, PhD. Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Comenius University Bratislava malik@fpharm.uniba.sk; +421 2 501 17 222	www.portalvs.sk/regzam/detail/3745	Pharmaceutical chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
Mgr. Peter Vavrinec, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, vavrinec@fpharm.uniba.sk; +421 2 501 17 379	www.portalvs.sk/regzam/detail/19202	Pharmacology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
Mgr. Diana Vavrincová, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, vavrincova@fpharm.uniba.sk; +421 2 501 17 379	www.portalvs.sk/regzam/detail/19082	Pharmacology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Marek Máťuš, PhD.	www.portalvs.sk/regzam/detail/5581	Pharmacology

The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, máťuš@fpharm.uniba.sk +421 2 501 17 374		Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr.Peter Křenek, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, krenek@fpharm.uniba.sk +421 2 501 17 392	www.portalvs.sk/regzam/detail/3734	Pharmacology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Anna Paul Hrabovská, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, anna.paul.hrabovska@uniba.sk; +421 2 501 17 377	www.portalvs.sk/regzam/detail/3719	Pharmacology, Clinical Pharmacy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
Mgr. Gabriel Dóka, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, doka@fpharm.uniba.sk; +421 2 501 17 387	www.portalvs.sk/regzam/detail/23053	Pharmacology Clinical pharmacy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
prof. PharmDr. Adriana Duriš Adameová, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, adriana.duris.adameova@uniba.sk; +421 2 501 17 366	www.portalvs.sk/regzam/detail/3686	Pharmacology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
PharmDr. Stanislava Kosírová, PhD. The Department of Pharmacology and Toxicology of the Faculty of Pharmacy Comenius University Bratislava, stanislava.kosirova@uniba.sk; +421 2 501 17 364	www.portalvs.sk/regzam/detail/3721	Clinical pharmacy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. RNDr. Miroslava Šupolíková, PhD. The Department of Galenic Pharmacy of the Faculty of Pharmacy Comenius University Bratislava miroslava.supolikova@uniba.sk ; +421 2 501 17 266	www.portalvs.sk/regzam/detail/4438	Pharmaceutical Technology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
PharmDr. Juraj Piešťanský, PhD. The Department of Pharmaceutical Analysis and Nuclear Pharmacy of the Faculty of Pharmacy Comenius University Bratislava, piestansky@fpharm.uniba.sk; +421 2 501 17 250	www.portalvs.sk/regzam/detail/23111	Analytical chemistry Pharmaceutical Technology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars

prof. RNDr. Emil Havránek, CSc. The Department of Pharmaceutical Analysis and Nuclear Pharmacy of the Faculty of Pharmacy Comenius University Bratislava, havranek@fpharm.uniba.sk; +421 2 501 17 245	www.portalvs.sk/regzam/detail/3714	Analytical chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
PharmDr. Katarína Maráková, PhD. The Department of Pharmaceutical Analysis and Nuclear Pharmacy of the Faculty of Pharmacy Comenius University Bratislava, marakova@fpharm.uniba.sk; +421 2 501 17 248	www.portalvs.sk/regzam/detail/5274	Analytical Chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
Ing. Ľudmila Pašková, PhD. The Department of Cellular and Molecular Biology of Drugs of the Faculty of Pharmacy Comenius University Bratislava paskova@fpharm.uniba.sk; +421 2 501 17 305	www.portalvs.sk/regzam/detail/15992	Biochemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
RNDr. František Bilka, PhD. The Department of Cellular and Molecular Biology of Drugs of the Faculty of Pharmacy Comenius University Bratislava bilka@fpharm.uniba.sk; +421 2 501 17 316	www.portalvs.sk/regzam/detail/3693	Biochemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. Mgr. Andrea Bilková, PhD. The Department of Cellular and Molecular Biology of Drugs of the Faculty of Pharmacy Comenius University Bratislava bilková@fpharm.uniba.sk; +421 2 501 17 316	www.portalvs.sk/regzam/detail/3694	Biochemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. Mgr. Martina Hrčka Dubničková, PhD. Katedra bunkovej a molekulárnej biológie liečiv, Farmaceutickej fakulty UK v Bratislave dubnickova@fpharm.uniba.sk; martina.hrcka.dubnickova@uniba.sk; +421 2 501 17 312	www.portalvs.sk/regzam/detail/3703	Biochémia Absolvovanie predpísaných doktorandských prednášok a seminárov (1) Absolvovanie predpísaných doktorandských prednášok a seminárov (2) Absolvovanie vybraných doktorandských prednášok a seminárov
doc. Mgr. Fils. M. J. Andriamainty, PhD. The Department of Pharmaceutical Chemistry of the Faculty of Pharmacy Comenius University Bratislava, andriamainty@fpharm.uniba.sk; +421 2 501 17 229	www.portalvs.sk/regzam/detail/3687	Pharmaceutical Chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
Dr.h.c. prof. RNDr. Jozef Čižmárik, PhD. The Department of Pharmaceutical Chemistry of the Faculty of Pharmacy Comenius University Bratislava, čižmárik@fpharm.uniba.sk; +421 2 501 17 229	www.portalvs.sk/regzam/detail/3697	Pharmaceutical Chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral

		Lectures and Seminars
prof. RNDr. Magdaléna Kuželová, CSc. Department of Pharmacology and Toxicology, Faculty of Pharmacy, Comenius University Bratislava kuzelova@fpharm.uniba.sk; +421 2 501 17 367	https://www.portalvs.sk/regzam/detail/3737	Clinical pharmacy Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. Ing. Vladimír Frecer, DrSc. The Department of Physical Chemistry of Drugs of the Faculty of Pharmacy Comenius University Bratislava, frecer@fpharm.uniba.sk; +421 2 501 17 281	www.portalvs.sk/regzam/detail/5749	Pharmaceutical chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
PharmDr. Vladimír Garaj, PhD. The Department of Pharmaceutical Chemistry of the Faculty of Pharmacy Comenius University Bratislava, garaj1@uniba.sk; +421 2 501 17 223	www.portalvs.sk/regzam/detail/3711	Pharmaceutical Chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
PharmDr. Veronika Mikušová, PhD. The Department of Galenic Pharmacy of the Faculty of Pharmacy Comenius University Bratislava mikusova@fpharm.uniba.sk; +421 2 501 17 265	www.portalvs.sk/regzam/detail/3722	Pharmaceutical Technology Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars
doc. PharmDr. Miroslava Sýkorová, PhD. The Department of Pharmaceutical Chemistry of the Faculty of Pharmacy Comenius University Bratislava, sykorova1@uniba.sk; +421 2 501 17 222	www.portalvs.sk/regzam/detail/3779	Pharmaceutical Chemistry Completing Prescribed Doctoral Lectures and Seminars 1 Completing Prescribed Doctoral Lectures and Seminars 2 Passing Selected Doctoral Lectures and Seminars

e) *List of the supervisors of final theses with the assignment to topics (indicating the contact details).*

The supervisor of final theses/ Contact (workplace, email, telephone number)	**Reference to the Register of the University Employees**	**Topics of the dissertation theses**
prof. PharmDr. Pavel Mučaji, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 204, mucaji@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3753	**1. Microparticles and pellets in multiple dosage form containing synthetic and natural excipients** 2. Synthetic and natural polymers as control membranes in solid dosage form
prof. Ing. Milan Nagy, CSc. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 201, nagy@fpharm.uniba.sk	www.portalvs.sk/regzam/detail/3755	1. To study the interactions of quercetin with albumin in the presence of antihypertensives used during the treatment of diabetes mellitus 2. Study of the interactions of quercetin with gliclazide in the presence of human albumin
doc. PharmDr. Szilvia Czigle, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 209, czigle@fpharm.uniba.sk	https://www.portalvs.sk/regzam/detail/3700	1. Pharmacognostic survey of selected taxa of the family Cactaceae 2. *Pharmacognostic analysis of selected taxa of the family Cactaceae*
doc. PharmDr. Silvia Bittner Fialová, PhD. Department of Pharmacognosy and	https://www.portalvs.sk/regzam/detail/3705	**1. Study of the antimicrobial activity of natural substances**

Botany, Faculty of Pharmacy, Comenius University Bratislava, tel.: +421 2 501 17 206, @fpharm.uniba.sk		2. *The jasmonate signaling pathway and its involvement in the biosynthesis of secondary metabolites*
RNDr. Peter Gál, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava gal@fpharm.uniba.sk; +421 2 501 17 208	https://www.portalvs.sk/regzam/detail/22316	1. Effect of (phyto)estrogens on biological processes involved in wound healing and tumor growth
Mgr. Jaroslav Tóth, PhD. Department of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University Bratislava jaroslav.toth@uniba.sk; +421 2 501 17 209	https://www.portalvs.sk/regzam/detail/3782	1. Phytochemical analysis of selected Mediterranean medicinal plants
doc. Mgr. Andrea Bilková, PhD. Department of Cell and Molecular Biology of Drugs, Faculty of Pharmacy, Comenius University Bratislava bilkova@fpharm.uniba.sk; +421 2 501 17 316	https://www.portalvs.sk/regzam/detail/3694	
doc. PharmDr. Marek Obložinský, PhD. Department of Cell and Molecular Biology of Drugs, Faculty of Pharmacy, Comenius University Bratislava oblozinsky@fpharm.uniba.sk; +421 2 501 17 130	https://www.portalvs.sk/regzam/detail/3756	1. Factors affecting enzymes of secondary metabolism and signalling processes in plants 2. Enzymes of signaling systems in relation to plant secondary metabolism
RNDr. František Bilka, PhD. Department of Cell and Molecular Biology of Drugs, Faculty of Pharmacy, Comenius University Bratislava bilkova@fpharm.uniba.sk; +421 2 501 17 316	https://www.portalvs.sk/regzam/detail/3693	
Mgr. Ivana Holková, PhD. Department of Cell and Molecular Biology of Drugs, Faculty of Pharmacy, Comenius University Bratislava bilkova@fpharm.uniba.sk; +421 2 501 17 313	https://www.portalvs.sk/regzam/detail/3717	1. *The jasmonate signaling pathway and its involvement in the biosynthesis of secondary metabolites*

* **Topics of dissertations of currently trained doctoral students (bold)**, topics of dissertations successfully defended, *topics of dissertations listed (italics)*

f) *Reference to scientific/artistic-pedagogical characteristics of the supervisor of final theses:*
Scientific-pedagogical characteristic of supervisors are available on the faculty.

g) *Students' representatives who represent the interests of students of the study programme (name and contact):*
Students' chamber of the Academic Senate of the Faculty of Pharmacy, Comenius University Bratislava (https://www.fpharm.uniba.sk/en/about-the-faculty/academic-senate/senate-members/). The chairman is the student Mgr. Emil Babiak (emil.babiak@uniba.sk; skas@fpharm.uniba.sk).

h) *Study advisor of the study programme (indicating contact details and information on the access to counselling and consultations schedule).*
prof. PharmDr. Pavel Mučaji, PhD.: individually, by agreement via e-mail: mucaji@fpharm.uniba.sk

i) *Other supporting staff of the study programme – assigned study officer, career counsellor, administration, accommodation department, etc. (with contact details).*
The Office of Science and Research and Foreign Relations acts as part of the Dean's Office of the Faculty of Pharmacy, Comenius University Bratislava, responsible for students' complex care in the doctoral study programmes. The department is adequately personally, professionally and financially funded. The supportive professional staff at this department provides a tutorial, advisory, administrative and other supportive services and related activities for students in the doctoral study programmes. It also provides administrative support for international mobilities of doctoral students. The contact of the employees of the department are on the websites: https://www.fpharm.uniba.sk/en/about-the-faculty/deans-office-and-service-departments/ and on https://www.fpharm.uniba.sk/en/education/phd-study/.

At Comenius University Bratislava, the doctoral students in the full-time form can apply each year for **Grants of Comenius University** CU grants to support doctoral students' scientific and pedagogical projects in the full-time for at the faculties of CU. Details are on the website: https://uniba.sk/veda/vedecke-projekty-a-granty/granty-uk/.

At Faculty of Pharmacy Comenius University Bratislava, the doctoral students can apply each year for **Grants of Faculty of Pharmacy Comenius University** FPHARM CU grants to support doctoral students' scientific projects at the Faculty of Pharmacy CU. Details are on the website: https://www.fpharm.uniba.sk/veda-a-vyskum/projekty-a-granty/granty-faf-uk/.

At the Faculty of Pharmacy of Comenius University Bratislava, PhD. students and young researchers and pedagogical staff of FPHARM CU up to 35 years of age can apply for Grants of the Scientific Board of the Faculty of Pharmacy of Comenius University every 2 years.

Grants of Scientific Board of Faculty of Pharmacy Comenius University Bratislava are aimed at supporting scientific projects of doctoral students and young researchers from several departments of FPHARM CU in order to support research activities of beginning researchers, motivate them to cooperate, prepare scientific projects and apply in national grant schemes. Details are available on the website: https://www.fpharm.uniba.sk/veda-a-vyskum/projekty-a-granty/

Career counselling is provided in cooperation of the Slovak Pharmaceutical Students' Association and the Faculty of Pharmacy, Comenius University Bratislava. The biggest career counselling activity is the **Week of Pharmaceutical Education and Career** (TyFaVKa; https://sssf.sk/tyfavka). It is the largest job fair of the pharmaceutical environment in Slovakia. The event includes the **Career Days of Pharmacists** (KDF; https://sssf.sk/kdf). The aim of the project is to provide comprehensive information about the possibilities and to mediate direct contact between the employer and a potential future employee.

For the activities in the programme **Erasmus+,** there is the department for European programmes an Erasmus+ at the Rector's Office of the Comenius University Bratislava, which manages all activities of the programme at Comenius University and is the scope of the vice-rector CU for International relations (contacts on https://uniba.sk/o-univerzite/rektorat-uk/oddelenie-pre-europske-projekty-a-erasmus-oep/). At the Faculty of Pharmacy CU, Erasmus + activities are covered by the Office for International Relations and Mobilities (contact on https://www.fpharm.uniba.sk/en/about-the-faculty/deans-office-and-service-departments/).

The students in the full-time doctoral study programmes utilise the **accommodation facilities of the Comenius University Bratislava** with the supportive administrative and technical personnel (https://uniba.sk/sluzby/ubytovanie/).

8. Spatial, material, and technical provision of the study programme and support

a) List and characteristics of the study programme classrooms and their technical equipment with the assignment to learning outcomes and courses (laboratories, design and art studios, studios, workshops, interpreting booths, clinics, priest seminaries, science and technology parks, technology incubators, school enterprises, practice centres, training schools, classroom-training facilities, sports halls, swimming pools, sports grounds).

The faculty equipment is sufficient for the quality tuition of the subject in the study programme. Regarding the present number of students, the faculty has a sufficient number of reconstructed classrooms with quality technical infrastructure, including classrooms for interactive teaching. The study programme the Pharmacognosy will be realised mainly at the departments of Faculty of Pharmacy Comenius University Bratislava. The place of tuition will depend on the dissertation thesis's thesis, the department where the doctoral student's supervisor works, as well as the year of study in which the postgradual student is.

The teaching bases for theoretical tuition presents 9 departments and 5 purpose-built facilities, which are on the premises of FPHARM CU in the buildings of Odbojárov street 10, Kalinčiakova street 8, Ružinovská street 12A and Nové Záhrady I, č. 21 Bratislava. Theoretical institutes are equipped with specialised classrooms, seminar rooms, computer rooms and dissection rooms with necessary audio-visual techniques and instrumental equipment for students, libraries with particular librarian funds for employees and students' needs, laboratories with technical equipment for needs of tuition and reteach activities besides libraries and seminar rooms of particular institutes, meeting room of the Scientific Board of FPHARM CU. PhD. students can also utilise common study space and auditories. The assembly hall with the capacity of 292 students with the area of 272,0 m^2 with direct stepped sitting, lecture room No. 102 with the capacity of 198 students with the area of 142,0 m^2 with direct stepped sitting, lecture room No. 151 with the capacity of 99 students with the area of 85,0 m^2 with direct stepped sitting and lecture room 418 with the capacity of 96 students with the area of 87 m^2. Laboratories of Department of Pharmaceutical Analysis and Nuclear Pharmacy, Department of Chemical Theory of Drugs, Department of Cell and Molecular Biology of Drugs, Department of Pharmacognosy, Department of Pharmacognosy and Botany, Department of Physical Chemistry of Drugs, Central NMR laboratory and laboratories of Toxicologic and Antidoping Centre as well as the Garden of Medicinal Plants provide a teaching base for practical teaching.

The scientific part of the PhD thesis in the study programme Pharmacognosy will be carried out mainly at the Department of Pharmacognosy and Botany, in case of interdisciplinary approach also at the Department of Pharmaceutical Analysis and Nuclear Pharmacy, at the Department of Chemical Theory of Medicines, the Department of Cellular and Molecular Biology of Drugs, the Department of Pharmaceutical Chemistry, the Department of Physical Chemistry of Drugs, the Department of Pharmacology and Toxicology and the Department of Galenic Pharmacy, as well as the Central NMR Laboratory and the Toxicology and Anti-Doping Centre of the Faculty of Pharmacy of Comenius University. The scientific part of the "teaching" of PhD students depends on the topic of the dissertation. The existing infrastructure of the workplaces corresponds to the requirements for well-functioning pharmaceutical chemistry workplaces as well as for the solution of scientific projects. The technical conditions also correspond to the methodological procedures enabling the implementation of the scientific part of the PhD study programme.

The Department of Pharmaceutical Analysis and Nuclear Pharmacy has essential equipment technique as rotary vacuum evaporators EV400H, VC1000, electromagnetic stirers with heating plate Heidolph MR Hei-Tec, pH meter, analytical scales Mettler Toledo, lyophylisator FreeZone 2.5 Liter Benchtop, microplate reader Epoch 2 Reader + softvér GEN5. Isolation of prepared compounds can be realised by semipreparative LC system, which contains pumps LC-20AP, autosampler SIL-10AP, termostat of column CTO-20A, PDA detector SPD-M20A, fraction collector FRC-10A, + LabSolutions Software. Preapred compounds are possible analysed by UV-VIS spectrometers UV-2700 a UVmini 1240, FT-IR spectrometer UATR Spectrum Two + The Spectrum 10TM software a fluorimetr Cary Eclipse Fluorescence Spectrophotometer. Modular potentiostat Metrohm Autolab PGSTAT12 is used in electrochemical analysis of drugs. The apparatus is equipped with FRA modul for electrochemical impedance spectroscopy. Electrochemical analysis is also performed by compact potenciostat Metrohm Autolab PGSTAT204. TLC skener miniGITA + Gina Star TLC software is intended for analysis of radionuclides. Electrochemical analytical methods is possible realised by capillary electrophoresis - Agilent 7100 Capillary Electrophoresis, one column or two column closed system of Isotachophoresis EA102 with conductivity and UV-VIS detector (ECOM ECD2000). The device also includes a TIDAS IV highly sensitive photomultiplier with fiber optics for LIF (laser-induced fluorescence) applications and a DAD detector.
Three student laboratories in which the subjects Analytical Chemistry I and Analytical Chemistry II are taught: 1 - laboratory of chemical analytical methods (qualitative and quantitative chemical analysis), 2 - laboratory of instrumental analytical methods (electrochemical, optical and separation methods), 3 - laboratory of computer simulations (HPLC, GC, CE simulations, spectrum databases).

The five research laboratories where the primarily research takes place, staff: teachers, researchers, doctoral students and graduates, or technicians: 1 - laboratory of electromigration separation methods (CE-UV / DAD / LIF, CZE, ITP, EKC, etc., 1D, 2D) and electron microscopy, 2 - laboratory of electrochemical methods (CV, SWV, DPV, etc.) and microwave synthesis (with Raman spectroscopy), 3 - laboratory of optical methods (UV, fluorescence spectroscopy, IR), 4 - laboratory of liquid chromatography, synthesis and isolation techniques (lyophilization, semi-preparative LC), 5 - laboratory of organic synthesis and preparation of complexes.

The Department of Chemical Theory of Drugs has essential equipment technique used in the synthesis of inorganic and organic bioactive compounds: analytical scales (Kern, Sartorius), thermostats (Memmert), magnetic stirrers, ultrasonic baths (Fischerbrand), pH meters, high pressure hydrogenation autoclave AMAR, rotary evaporators (Heidolph) Rodem 6 deionized water generator, SANYO low temperature freezer (-75 ° C), ECOCELL / DUROCELL drying box, melting temperature measuring device - Buchy B450.
The department has modern instrumentation for chemical and physical characterization of chemical compounds: FLASH2000 instrument for elemental analysis (CHNS), FT-IR spectrometer NICOLET 6700, UV-VIS spectrophotometer GENESYS 10S, centrifuges SIGMA 3-16K, refrigerated centrifuge Sigma 3-30K, UV-VIS GENESYS 10S spectrophotometer, JASCO J-815 CD spectrometer, BioTek Synergy HT microplate reader, ZetaPlus zeta potential analyser (Brookhaven), fluorimeter for measuring dynamic (time-resolving) fluorescence LifeSpec, FS 5 spectrofluorometer (Edinbur Instruments), polarimeter Jasco 1010, device for measuring diameters of colloidal particles by the method of dynamic light scattering Brookhaven BI9000AT, computer-controlled tensiometer Kruss K100MK2 for measuring the surface tension of solutions of amphiphilic compounds, computer-controlled electrical conductivity meter WTW for measuring the critical micelle concentration of amphiphilic compounds, FL2002 fluorescence microscope, Dosimat 765 titrator, Biosan Microspin 12 microcentrifuge, Icanclave sterilizer, Benchmark incubator.
The department has modern instrumental analytical technology for identification and determination of chemical compounds and also used in the evaluation of biological activities in vitro: Liquid chromatography-HPLC systems (Agilent), liquid and gas chromatography system combined with mass detection - LC-MS / MS, GC-MS (Thermo Scientific), ORBITRAP LTQ XL high resolution mass spectrometer.
The department has two student laboratories for teaching general and inorganic chemistry and organic chemistry (for 42 students), three synthetic laboratories, a laboratory of liquid chromatography, a laboratory of liquid and gas chromatography and mass spectrometry, a laboratory of physico-chemical methods, a laboratory of spectral methods.

The Department of Cell and Mollecular Biology of Drugs has essential euipment technique as scales and analytical scales (HZY P2003, HZY A2000, HZY A200, KERN), laboratory shakers BioSan MR-1 shaker, and Mini Rocker-Shaker MR-1, pH-meters (Cyber Scan, JENWAY, MERCK, BioSan, Toledo), water bath and shaker with water bath (MEMMERT, Water Bath EL-20R), magnetic stirer (HANNA, MMS 300, MSH 300-BioSan), termoblock TS-100 W-OUT s cooling (BioSaN), orbital shaker on cell cultures (BioSan), centrifuges (MPW 341, BioSan LHC-3000, Sigma 3-30K, MLW-S70, MLW-K23 (Janetzki), HETTICH, microcentrifuges MPW 50/MPW 130, ALC 4214 (Jouan), Hettich 200 R, Hettich EBA 20, Benchmark fuge, Eppendorf, My Fuga Mini), apparatus for preparation of ultrapure water (Watrex, Water Quality), incubators (MEMMERT, BINDER, ICN 120), drying boxs MEMMERT, Beckman Coulter SC100 autosampler, autoclaves on decontamination and sterilisation of equipment (IcanClave, Witeg), desintegrator of biological materials SONIPRET 150 and cryogenne Dewar flask.
The department has also special quipment technique as microscopes for observation of cells (ZEISS, Primostar, Leica) and invert microscope (Bresser), instrumentation for photometric and spectrofluorimetric analysis (UV-VIS (Jenway 6305, 7305), SPEKOL 11 (Zeiss, Jena), SPEKOL 220 (Zeiss, Jena), SFM 25 (Perkin Elmer), spektrophotometer (Hitachi)). Ultracentifuge (BECKMAN Avanti J301) is also located at department, it enable fractionation of biological materials. Electroforetic apparatus (FE20-ATC Five Easy In.) for saparations of DNA, RNA or proteins are deposited at department. Mastercycler X 50 (Eppendorf), ECT–UVC reader VILBER LOVRMAT, qPCR (RT-PCR system 7300 Aplied Biosystem, BioRad, QuamtStudio 3 RT PCR system) is used for research of genetic materials coded in DNA or RNA. Using the Millicell ERS-2 Voltohmmeter, it is possible to measure membrane potential and epithelial cell resistance at the cell culture level in the workplace. For the area of immunochemical examinations, the department has the equipment of ELISA readers (DYNATECH MR 5000, EPPOCH BioTek). The department has a UVITEC imager playing an important role in the evaluation of molecular biological techniques through innovative camera technology, optical solutions and hardware / software integration, which is key in Life Science research (high sensitivity and performance in imaging processes in the cell).
The department has two student laboratories (for 40 students) and one seminar room (for 25 students) for teaching compulsory subjects. The scientific and research background of the department consists of: 2 microbiological laboratories, 1 immunological laboratory, 2 molecular biology laboratories, 4 laboratories for biochemistry, 1 laboratory for work with plant cell cultures, 1 laboratory for work with cell cultures (GMO risk class 2), 1 laboratory for basic biological procedures, 1 decontamination room.

The Department of Pharmaceutical Chemistry has essential equipment techniques as water bath Memmert, drying chamber UN30, drying chamber MEMMERT UN55M, analytical scales PM480 DeltaRange Mettler, analytical scales Kern ABT 220-4NM, scales KERN PCB 3500-2, electromagnetic stirrers with heating plate Heidolph Hei-Tec s Pt 1000, electromagnetic stirrer BIOSAN MSH-300, shaker IKA Vortex Genius 3, shaker MEDFORM LT3, heaters, UV lamps, rotary vacuum evaporator KNF RC600 with pump KNF SC 920G, rotary vacuum evaporator Heidolph Hei-VAP Ultimate Control ML/G3B XL with pump Heidolph Rotavac Valve Control, distillation apparatus Bűchi B-585 Glass Oven Kugelrohr with pump EDWARDS nXDS15iC, vacuum pump KNF LABOPORT® Vacuum system SH 820, several Kofler melting point apparatus, spectrophotometer ELISA reader Epoch 2 NSC (BioTek), Muffle furnance HT60B, sonicator SONOREX DIGITEC (BANDELIN) several refrigerators and freezers for storage of material at -20°C.
The workplace is also equipped with pH meters, conductometer COND8 (XS INSRUMENTS), polarimeter Polatronic E, refractometer RL 3008. Preparation of new bioactive compounds can be carried out in microwave reactor Discover SP CEM and purification of compounds can be realized by flash chromatography on apparatus PURIFLASH 5.020 Interchim. Spectrophotometer UV-1800 Shimadzu, UV–VIS spectrophotometer Spekol 1300, UV spectrophotometer Milton Roy Spectronic 20d, IR spectrometer Agilent Cary 630 FTIR Instrument Bundle, includes KBr engine and Single Reflection, diamond ATR, HPLC apparatus Delta chrom and Thermo Scientific Utimate 3000 UHPLC can be used for the analysis of prepared compounds and medicines.
The department has two student laboratories (for 48-50 students). The scientific and research background of the department consists of: 2 synthetic laboratories and 4 analytical laboratories.

The Department of Pharmacognosy and Botany has the following instruments: qPCR (RT-PCR, BioRad), NIKON ECLIPSE Ni-E fluorescence microscope, Tuttnauer 3150 EL autoclave, BIAffinity system for analysis of interactions between molecules (Zeiss Jena Optik), Airstream Biohazard Box Class II, centrifuge Hettich Universal 320, flash chromatograph CombiFlash Rf 4X (Teledyne Isco), fast centrifugal partition chromatograph FCPC Kromaton A200 with ELSD and DAD detectors and fraction collector Kromaton), incubator Panasonic 19AIC, cryotome Cryostat SleeMEV, lyophilizer SCANVACvertX microscope C, NIKON ECLIPSE Ni-U, counter freezing box ULT

C75, Vacuubrand Biochem-VacuuCenter BVC Control, Direct-Q8 UV for deionized ultrapure water (Millipore, Corporation), calScreener ™ Label-Free Cell Based Assays (SymCel), microplate reader Tecan M200 infinite with dispenser, thermoshaker Biosan CH-100, analytical balances Kern ABJ 220-4NM, UV-VIS spectrometer Genesys 6 (The rmo Eelctro Corp.).
The biological laboratory is GMO 2 certified. Other laboratories of the department: student microscopic laboratory (2x), student chemical laboratory, doctoral laboratory (2x), graduate laboratory (4x).

The Departments of Physical Chemistry of Drugs has essential equipment technique as analytical ascale (0,0001 g, Kern), several laboratory scales (0,001 g), Koflerov melting point apparatus (Electrothermal), conductometers (Phenomenal CO; VWR), UV-VIS spectrophotometer (Avantor V-1200), polarimeter P-1000-LED (Krüss Optronic), refractometer A4 with thermostat PT 31 (Krüss Optronic), several pH meters with equipments (Eutech Instrument, Mettler Toledo, Metrohm), thermostatic bath (Julabo), electromagnetic stirrers Hei-Mix S (Heidolph), electromagnetic stirrers with heating plate (IKA), laboratory shakers GFL 3006 (Helago), incubated shakers (TS100; BioSan) apparatus for preparation of distiled water GFL 2008 (Unimed Pharma), ultrasanic baths (Sonorex (Bandelin)a K5-LE (Kraintek)), Hand Held homogenizer (VWR), vortex mixers VV3 (VWR) a IKA Vortex3 (Sigma-Aldrich), Digital dry bath NDK200 (MiuLab), oil vacuum pumps V-i220-R32 (Value) with vacuum meter DCP3000 (Fisher Scientific). The deparment is also equipped with Ultra Low Temperature Upright Freezer VWR 24086V (VWR Avantor), laboratory refrigerators Mediline (Liebherr) and drying box WS30 (MLW).
The department is equipped with a special technique for the preparation of liposomes. Extruders Liposofast Basic (Avestin) Luvet (Avanti Polar Lipids) and LiposoFast LF-50 (Avestin) are used for this purpose. The laboratories are equipped with Minispin (Eppendorf), EBA 20 (Hettich) and Rotofix 32A (Hettich) centrifuges. There is a single-beam UV-VIS spectrophotometer 8453 with a temperable holder (Agilent), a Fluoromax-4 spectrofluorimeter (Horiba Jobin Yvon) with accessories for stopped flow measurement and a DMA 4500M vibrating densitometer (Anton Paar). The microscopic laboratory is equipped with a polarizing microscope LAB.A1, ZEISS AXIO (Carl Zeiss), a polarizing microscope Eclipse LV100N POL (Nikon) with a temperable stage (Lincam) and a fluorescence microscope Eclipse Ts2R-FL (Nikon). The latest equipment of the department includes a DSC calorimeter Nano DSC with platinum cappilary cells (TA Instrument), a particle size and zeta potential measuring instrument Litesizer 500 (Anton Paar) and a two-beam spectrophotometer with a temperable holder for 8 samples UV -VIS Specord 200 PLUS (AnalyticJena). The SuperMicro graphics GPU Server (located in the CIT server room at Faculty of Mathematics, Physics, and Informatics of CU) and the Lenovo ThinkStation P910 workstation are used for computer chemistry and the design of bioactive substances and drugs.
The department has one student laboratory with a capacity of 22-25 students, 2 larger instrument laboratories, a sample preparation laboratory, 2 smaller laboratories, and a microscopy laboratory.

The Toxicology and Anti-Doping Centre (TAC) conducts analytical studies of the profiles of pharmaceutical, plant and biomedical samples to determine the chemical structure and concentration of known and unknown biologically active substances in these samples. For this purpose, the TAC is equipped with an liquid chromatograph with electrospray ionisation (ESI) in conjunction with a time-of-flight (TOF, time – of – flight) – Agilent Technologies 6520 Accurate – Mass Q-TOF LC/MS, liquid chromatograph with ESI in conjunction with a triple quadrupole (QQQ) detector – Agilent Technologies 6410 Triple Quad LC/MS, Capillary Electrophoresis Analytical Apparatus - Agilent 7100 Capillary Electrophoresis, which is connected to a triple quadrupole detector (QQQ). The determination of volatile substances, essential oils, short-chain carboxylic acids is performed by a gas chromatograph with a flame ionization detector (FID) - Thermo Finnigan TRACE GC. Single-column resp. The two-column closed system Isotachophoresis EA102 is used for the analysis of ionic substances. A triple quadrupole (QQQ) detector is used to detect the separated components. NEYA and EBA 12 - Hettich Zentrifugen centrifuges are used to prepare samples during the preparation phase. The Forma 88000 series Thermo Scientific deep-freezing box is used to store biological samples at -80 °C. Net resp. ultrapure water is obtained via the Direct-Q 3 UV-R Water Treatment System from Merck.

The Central Laboratory for Nuclear Magnetic Resonance is a special service and research workplace of the faculty, whose activities are focused on providing NMR spectra measurements for the needs of FPHARM CU departments, focusing on confirmation of structure and purity of newly synthesized compounds, determination of physicochemical properties by NMR, identification and structure determination of substances isolated from plant materials. The department has a Varian MR400 spectrometer (Agilent Technologies, CA, USA) with two probes: Varian 400 MHz 5 mm AUTOX PFG and Varian 400 MHz 5 mm AUTOX / ID PFG.

b) Characteristics of the study programme information management (access to study literature according to Course information sheets, access to information databases and other information sources, information technologies, etc.).
Library services are provided by **the Central Library of the Faculty of Pharmacy, Comenius University Bratislava** (further just CL FPHARM CU), which is an educational and information workplace and at the same time part of the scientific and research base of the faculty. Main activities of CL FPHARM CU are predominantly oriented to activities, the prevailing part of which, has a long-term or permanent character:

- Supplementing of library fund focused on the coverage of obligatory and obligatory elective subjects – purchase, with a donation, possibly in exchange
- Name and factual processing of all types of documents in the comprehensive online catalog of the CU in the library information system VTLS/Virtua,
- Revision of the librarian fund, elimination of outdated, worn off and multiplicity literature, physical protection of the librarian fund,
- In-person and absent borrowing of the literature,
- Inter librarian borrowing service: borrowing of literature from other libraries users, arrangement of request for borrowing from other libraries, acquiring of article copies from scientific journals,
- Consultation activity – professional help of users at searching for information,
- Provision of study rooms,
- Registration of public activities and citations of the FPHARM CU employees, building a database of publishing activities of EviPub UK in maximum completeness, support of publishing using evaluation systems (use of quantitative and qualitative indicators such as journal indexation in scientometric and other international databases, monitoring of impact factor, quartile and journal validity, calculation of Hirsch index of publishing employees, notification of so-called predatory practices, etc.).
- Research service – overview of the literature on required themes (selective until the level of full texts), overviews of publication activities, citation research,
- Online access to electronic information sources – bibliographic, citation and full-text databases, e-print of journals,

- Information education of users – lectures and courses for the student focused on searching for information, creation of citations in writing school theses, work with electronic information sources, lectures within the University of the Third Age,
- ensuring the operation of the study literature store
- Solving of own projects oriented to grant schemes especially of the Art Support Fund or of the Ministry of Education, Science and Research of the SR.

Statistical indicators of the Central Library of the Faculty of Pharmacy, Comenius University Bratislava
The status of the librarian fund – 58 304 library units.
The number of registered users as of 31. December 2020 – 867, out of it 737 students.
Approximated number of borrowings realised in one year before the pandemic COVID-19 – 16 988 in 2019; 15 436 in 2020.

Since In 2018, the library processes bibliographic records on publications of pedagogical and scientific research staff and postgraduate students of the full-time and external form of FPHARM CU directly in the database Central Registry of Publishing Activities (hereinafter CRPA) (http://www.crepc.sk/). The information value of the database is also increased by the record of responses to publications. Outputs from the CRPA database are one of the bases for the distribution of state subsidies to public universities.

Availability of electronic information sources of the Central Library of the Faculty of Pharmacy, Comenius University Bratislava
AL FPHARM CU in the frame of NIZPEZ projects (National Information System for Support of Science and Development – access to electronic information sources: EBSCOhost, Knovel Library, ProQuest Central, Science Direct, SCOPUS, SpringerLink, Wiley Online Library, Web of Science (Web of Science Core Collection, Current Contents Connect, Essential Science Indicators, Journal Citation Reports, MEDLINE). CL FPHARM CU ensures the acquisition and access to licensed specialized information resources in the field of pharmaceutical sciences: Lexicomp, European Pharmacopoeia online, The Merck Index, the American Chemical Society e-journal collection and selected book titles within platforms: ProQuest Ebook Central Academic Complete.

WWW website and propagation of the Central Library of the Faculty of Pharmacy
The library website (https://www.fpharm.uniba.sk/en/divisions/central-library/) is available in Slovak, and the English language. It is regularly updated and allows for optimal services via the internet.

The Faculty of Pharmacy CU's information systems are an inseparable part of CU's information systems in Bratislava. They aim to collect data, process, assess, store, and publish relevant information for the PhD. study programmes' needs. The unified authentication system has a unique role in the information systems of the faculty and university, which provides and significantly facilitates the access to critical information sources of the faculty and university from the academic environment, but also from the domestic environment or from abroad in case of participation at international conferences or study stays. The AIS is another essential information system, which is the central university system for the complete administration of the study agenda.

The hardware equipment of Faculty of Pharmacy, Comenius University Bratislava and connection to the internet
Each teacher of the faculty has at disposal his/her personal computer with unlimited access to the internet sources of information, which is at disposal also for students. The domain environment of the faculty allows for each PhD. Student to use any computer at the institutes of the faculty. Access is possible after the authentication with the unique domain login. This feature of the IT environment of the faculty offers to teachers and PhD. students the possibility of constant availability of a functional computer also during a possible malfunction of the own computer.
The faculty has more than 550 computers, notebooks, and tablets connected to its pedagogical and scientific and research processes. They are placed in the departments of the FP. Out of the number of computers, 150 computers are available directly for students and PhD. Students in the computer rooms and study rooms of the Central Library of the Faculty of Pharmacy. All desktop computers and mobile equipment can provide unlimited connection to the internet with structured cabling o the LAN net or wifi net of the faculty. The skeleton of the net is realised on an optical basis, allowing for the fitting of new technologies acquiring high-speed connection into the internet.
The high-speed internet provided by the academic net SANET provides teachers and students with the possibility of access to various online information sources. The faculty's premises are covered with WIFI signal of the international net EDUROAM (EDUcation ROAming), which the university maintains. The net EDUROAM is supported by many other significant European and world universities and provides a possibility of trouble-free and instant connection to the internet at the visit of such a university.
WiFi covers faculty premises and provides for students and PhD. students free connection to the internet and access to the internet's information sources via their own IT equipment such as notebooks, tablets, and smartphones. At present, the faculty's WiFi covering provides 13 connection points placed in auditories, in the library, in the departments and free premises of the FP with students' high movement.
The faculty equipped eight computer rooms. There are 12 computers and a video projector in the computer room at the Department of Chemical Theory of Drugs. All PCs are equipped with the operating system Windows 8.1 in the Slovak Language to switch into the English language. There are 11 computers with the Windows 10 operating system in the computer room of the Department of Pharmacognosy located in the TAC. There are 23 Lenovo V13015IKB laptops in two computer rooms at the Department of Pharmacology and Toxicology.
The Department of Organisation and Management of Pharmacy (DOMP) has three computer classrooms:
The first classroom of DOMP is equipped with HP ProBook notebooks with an AMD Ryzen 5 microprocessor of 21 pieces and with the Windows 10 Pro Education operating system installed, with an access to the Internet and the internal faculty computer network. They include MS Office 365 office application software and the latest version of Adobe Acrobat Reader. They allow you to set up the Windows environment, as well as the mentioned applications in Slovak and English language for teaching foreign students in the English program. A BENQ data projector is connected to the teacher's computer, which projects the image onto a projection screen and a Canon LaserBase MF 5730 scanner printer. There is also an HP ProLiant ML 110 G6 learning file server located in this room, providing 400 GB of file storage for this classroom, as well as other computer classrooms as well as all computers within the department's rooms.
The second classroom of DOMP contains 20 ASUS 1stCOOL STEP Series desktop PCs with Intel Pentium Gold G6400 4GHz microprocessor and Windows 10 Home operating system installed, with Internet access and an internal faculty computer network. They contain the office application software MS Office 2016 and the latest version of Adobe Acrobat Reader. They allow you to set up the Windows environment, as well as the mentioned applications in Slovak and English language for teaching foreign students in the English program. A SONY data projector is connected to the teacher's computer, which projects the image onto a projection screen.

The third classroom of DOMP contains 21 pieces of desktop personal computers. Of which 19 pieces with Intel Pentium D 3.40GHz microprocessors, respectively Intel Pentium 4 3.20GHz and with Windows 7 Enterprise operating system installed. 2 pieces with Intel Pentium G4400 3.30GHz microprocessors have Windows 10 Home operating system installed. All include MS Office 2007 office application software and the latest version of Adobe Acrobat Reader. They allow you to set up the Windows environment, as well as the mentioned applications in Slovak and English language for teaching foreign students in the English program. An Acer data projector is connected to the teacher's computer, which projects the image onto a projection screen. All computers in this classroom have the WinLSS pharmacy management system installed, so each of them works in virtual mode as a separate point of sale. 7 computers also have modern Dell S224OT touch screens with a diagonal of 21.5 ", thanks to which they perfectly simulate a work in real pharmacy conditions. A cash register with a cash register printer is installed for one of these computers.
Besides stated, the faculty has at disposal five large auditories, fully equipped with the audio-visual technique consisting of a notebook, video projector, projection screen and PA equipment system. This equipment allows for presenting the materials containing the elements of the multimedia character.
Besides the computer rooms and auditories, the tuition also runs at computers in libraries and practical rooms of departments of FP. The presentation technique is fixed in the majority and consists of a computer or a notebook, a video projector, and the presentation screen. In the rooms that do not have a fixed installed presentation technique, there is the possibility to use a mobile presentation technique at disposal in six sets at request.
Part of the computer equipment is connected to various special diagnostic and assessment equipment, microscope, and simulators. There is installed control software delivered with the device.

<u>Possibilities of the hardware and software equipment of the faculty and its utilisation in the tuition of the subjects of the study programme:</u>

- the faculty operates the website as part of the university website, which allows publishing relevant information concerning the study programmes on the address www.fpharm.uniba.sk in the Slovak and English mutation.
- Possibility to use the university Moodle environment (moodle.uniba.sk) for E-learning education. E-learning is an innovative form of education and offers possibilities for utilising multimedia educational elements, and new information-communication means to upgrade and better the educational process's attractiveness.
- Computers and notebooks of the faculty are equipped with MS Win 7 and 10, version Professional.
- Possibility to use the programmes of the package MS Office 2016 Professional (Word, Excel, PowerPoint, Outlook, Publisher, Access, InfoPath) according to requirements – for preparation of educational materials and in the process of tuition, for the administration of the study and study results.
- Possibility to utilise the licensed software.
- Possibility to utilise freely available software.

The faculty's whole computer net under the Department of the Integrated Information and Communication System of FPHARM CU management, which administers the faculty's server equipment, provides the computer network's basic working and other network services. The essential services provided for the user are timely unlimited connectivity into the internet provided with the firewall's administration, email service with the address @fpharm.uniba.sk, presentation of the faculty in the form of the website and provided date warehouse with guaranteed renewability in case of breakdowns. Teachers and PhD. students can utilise free access to external paid online information sources, paid full-text journals and other library databases run by the Academic Library of CU from the faculty's environment. The teachers and PhD. students have this service also available from the home environments via remote access. But the inevitable condition is the affiliation to the academia of CU. This service is part of the information system the university provides centrally and maintains for all its employees and students

c) *Characteristics and extent of distance education applied in the study programme with the assignment to courses. Procedures for the transition from contact teaching to distance learning. Access, manuals of e-learning portals. Procedures at the transition from the in-person to distant education:*
Distant education is provided with the help of the platform MS Teams, to which all students and employees of Comenius University Bratislava have free access. With the help of MS Teams lectures, seminars, and selected exercises might run. All study materials are available for students also in electronic form. MS Forms is used for testing. Alternatively, Moodle is used for distant teaching.
Thanks to the package MS Office 365, which uses the whole university, sharing the large files is allowed, online teaching and testing in a very reliable regimen with the fluent transfer of significant data volumes simultaneously. Part of this package is also modules as, e.g., MS Teams and Forms, which can also be used in online teaching and online testing. In case of transition of the whole faculty from in-person study to distant education, the Dean's board of the Faculty of Pharmacy Comenius University Bratislava informs the students via electronic post. At short-time transition in the frame of a particular subject, the teacher responsible for the subject informs the students in advance.
The standard part of the educational process is the provision of study materials to students. Several approaches are used for this purpose. The basic information on the subject's content published in the subject information sheet is also the description of the relevant literature sources inevitable for the acquiring of knowledge determined by the subject's content. The faculty tries to provide the needed study literature via its Academic Library. Another way is to publish the presentations and other study materials on the faculty's website on relevant subjects in particular departments following the author law. The newest, more sophisticated approach is the publishing of the study materials via the system Moodle and other means of e-learning, which allows the students based on the university personal access to use the study material like presentations, videos, tests and provide direct communication with the teacher with lectures, seminars, exercises and consultations on the subject.
The realisation of the scientific/practical part of the study programme Pharmacognosy in the third grade of education exclusively via the distant method would be likely an exception. In practice, the most used method is the combined method, where part of in-person theoretical education is replaced with the distant method with electronic support.

d) *Institution partners in providing educational activities for the study programme and the characteristics of their participation.*
The Faculty of Pharmacy Comenius University Bratislava, based on the concluded contracts on practical teaching, cooperates with almost 500 public teaching pharmacies and hospital teaching pharmacies. The pharmacies are in all regions of Slovakia.
In the education in the third grade of the study at the Faculty of Pharmacy Comenius University Bratislava, the faculty also cooperates with some workplaces of other faculties Comenius University – the Faculty of Natural Sciences, Faculty of Mathematics, Physics and Informatics, Faculty of Medicine, Jessenius Faculty of Medicine, and partner institutions of the Slovak Academy of Sciences: Institute of Neuroimmunology (Dr. A. Kováč, MSc. D. Olešová) and Slovak University of Technology in Bratislava: Institute of Physical Chemistry

and Chemical Physics (Assoc. prof. J. Kožíšek). Cooperation in providing doctoral studies is not limited to universities and research institutes allocated in Bratislava, at the seat of the Faculty of Pharmacy. Provision of education, especially the scientific part, also takes place in cooperation with non-Bratislava workplaces: Department of Pharmacology, Faculty of Medicine, University of Pavol Jozef Šafárik in Košice (prof. J. Mojžiš), Saneca Pharmaceuticals a.s., Hlohovec (Dr. B. Vladovičová, Dr. A. Bednárová).

The Faculty of Pharmacy, Comenius University Bratislava, cooperates with many international universities and scientific-research institutions where our student can acquire knowledge and perform part of their research in specialised laboratories of complementary modern equipment. At the realisation of the study in the third grade in the study programme Pharmacognosy, there is a plan to cooperate with the following international workplaces: Masarykova univerzita, Farmaceutická fakulta a Lekárska fakulta, Brno, Česká republika, Univerzita Karlova, Farmaceutická fakulta v Hradci Králové, Česká republika, University of Szeged, Faculty of Pharmacy, Institute of Pharmacognosy, Semmelweis University of Budapest, Faculty of Pharmacy, Institute of Pharmacognosy, University of Pécs, Medical School, Pharmacy Program, Department of Pharmacognosy, Hungary, Cracow University of Technology, Faculty of Analytical Chemistry, Institute C-1, Department of Chemical Engineering and Technology, Poland, Institut für Pharmakognosie, Universität Wien, Institut fur Biophysik, Institut of biological inspired materials, Institut fur Biochemie Universität fur Bodenkultur Wien, Rakúsko.

e) Characteristics of the possibilities for social, sports, cultural, spiritual and social activities.

The Faculty of Pharmacy premises, Comenius University Bratislava (buildings in Odbojárov street and Kalinčiakova street), provide equipment for the work. They relax in the corridors, buffet, where the students in their free time meet, discuss or possible study. The faculty provides a connection to the internet for every student/ employee after entering the identification data. In Kalinčiakova street's outer premises, there is a **newly created park with banks**, where the students might relax. There is a fitness center on the premises of the Faculty of Pharmacy of Comenius University Bratislava on Odbojárov Street, which can be used by students and faculty staff. Doctoral students also have at their disposal the Botanical Garden of Comenius University and the Garden of Medicinal Plants of the Faculty of Pharmacy of Comenius University. Especially in the summer months, they can prepare for the examinations or attend the events organised there.

The Department of Physical Education and Sports workplace is also part of the Faculty of Pharmacy Cu in Bratislava. The Department of Physical Education and sports' primary mission is to provide the obligatory teaching of physical education for the Faculty of Pharmacy students. The department regularly organizes and pedagogically provides sports activities (16 types of physical activities) and educational workshops focused on the implementation of a healthy lifestyle in the daily routine of students and faculty staff. Every year, it carries out winter and summer sports camps, which are part of the block form of teaching the subject "Physical Education". It operates a large sports hall on Odbojárov Street, a small sports hall and a gym, which consists of four zones on Kalinčiakova Street, as well as a shipyard in Karlova Ves, which provides opportunities for physical activities and relaxation. The Department of Physical Education and Sports provides the following sports activities for students of the second and third grade of the study, as well for its employees: tourism, ski trips, rafting on the Small Danube and March rivers. Within the university league, the faculty is involved in the women's and men's volleyball, men's floorball and men's futsal tournaments. The Faculty of Pharmacy of Comenius University also covers the physical education unit **TJ Slávia Farmaceut**, which, in addition to the orienteering club, also has its own tourist club. It has a total of about 60 adults and 40 children. During its existence, the club has educated several students, junior, academic and senior representatives who have successfully represented Slovakia at world and European championships, world cups, youth meetings and many other international events.

In the frame of the university, there is a concert ensemble and choir. The university and the faculty provide for workers and PhD. students possibility to buy a reduced price ticket for various cultural events.

University Pastoral centre of Jozef Freinademetz of Comenius University (www.upc.uniba.sk/) provides possibilities for spiritual activities during the study. Also, directly in the building of the Dean's Office of the Faculty of Medicine Comenius University, a chapel in which the church service is occasionally organised.

f) Possibilities and conditions for the study programme students' participation in mobilities and internships (indicating contact details), application instructions, and rules to recognise this education.

The students can participate in the international **mobility programmes of the European Union** as CEEPUS and ERASMUS+, where the application and rules of this education follow the rules of relevant study programmes. The list of participating institutions is regularly updated. The instructions are published on the website of the Faculty of Pharmacy and university (Erasmus + program) and the Slovak Academic Information Agency - SAIA - the headquarters of the CEEPUS National Office as part of a network of National Agencies located in each Member State of the Program. In scientific work on their projects, possible on the supervisor's projects, they are sent to partner universities and research institutions in Europe and worldwide, for example, through the National Scholarship Program of the Slovak Republic, which administratively covers SAIA, as well as other bilateral international mobility projects of the Ministry of Education, Science, Research and Sport of the Slovak Republic (eg the Austria-Slovakia Action, the Visegrad Fund and others).

Comenius University can send students abroad to study or internship in its partners' frame (Utrecht Network, SYLFF, some bilateral agreements) to 63 international universities in almost 40 countries in Europe and outside of it.

New possibilities of mobilities in the broader frame of the programme Erasmus+ the university alliance ENLIGHT, in the frame of which Comenius University Bratislava established cooperation in the year 2020 in the field of education with eight European Universities: University in Bordeaux, University in Gent, University in Groningene, University in Göttingen, University in Uppsala, University in Tart, the Irish National University in Galway and Basque University. The universities undertook to offer their students various educational formats from short-time physical and virtual mobilities in the form of summer schools or so-called live laboratories up to common study programmes, following the accredited SP in the particular countries and to recognise mutually completed subjects.

The binding contractual partnerships allow the participation of interested parties and their representatives at the proposal, approval, performance and assessment of the study programme. The agreements with partners to specify the conditions of the partner's employees' participation in the provision of the study programme and conditions for the provision of space, material and information sources and provision of the study's quality realised in a partner's premises, including the final thesis.

However, during the present pandemic COVID-19, it plans and realises international mobility to be careful, especially considering the benefits versus risks, especially regarding the receiving country's epidemiological situation.
The coordinators of Erasmus+ acting at the faculty help to comply with the applicant's precise study plan at the international university, which creates a precondition for recognition of the study completed abroad at CU. Detailed information on students' participation in the international mobilities for particular academic years provides the faculty's annual reports. Thanks to the **Office of Science and Research and Foreign Relations** and **Office for International Relations and Mobilities,** each employee or student must get sufficient information on mobilities' possibilities and has administrative support for international mobility. The department of foreign relationships of FPHARM CU aims to improve students and employees' provision of information and help plan their studies and research abroad. The contact to the mentioned workplace is:

Office for International Relations and Mobilities

doc. Ing. Vladimír Frecer, DrSc. – Faculty Coordinator for Erasmus+ / frecer@fpharm.uniba.sk / +421 2 50 117 281

Mgr. Kristína Piatničková, PhD. – Faculty Administrator for Erasmus+ / erasmus@fpharm.uniba.sk / +421 2 50 117 132

Office of Science and Research and Foreign Relations

Mgr. Adriana Lendvayová - ov@fpharm.uniba.sk / lendvayova@fpharm.uniba.sk / +421 2 50 117 107

9. Required abilities and admission requirements for the study programme applicants

a) Required abilities and necessary admission requirements.

Required abilities and necessary admission requirements for the study's admission follow the regularly updated conditions for the study's relevant grade and are published on the faculty's website seat. The admission conditions are usually yearly discussed at the Scientific Board of the Faculty of Pharmacy CU and are approved by the Academic Senate of the Faculty of Pharmacy CU in Bratislava. The conditions are published at least two months before the last day determined for submitting the application form. There are adjusted the primary conditions for applying and admission to the study programme in the material, term of the application forms, term and scope of the entrance examination. Details are on the website: https://www.fpharm.uniba.sk/en/education/phd-study/.
The main subject of the entrance examination: Pharmacognosy
In addition to questions in the main subject of the study program the entrance examination shall include as well:

- questions selected from among two other subjects of the study programme (as listed above), determined by the admission commission appointed by the dean – the focus of the topics shall be related to the dissertation,
- test of English language

Other subjects of the entrance examination: Pharmaceutical Botany, Biochemistry, Analytical Chemistry, Pharmacology, Clinical Pharmacy, Molecular Plant Biology, Pharmaceutical Chemistry, Galenic Pharmacy.
The condition for admission is completed combined 1st and 2nd cycle of higher education studies in the study programme Pharmacy in the field of study Pharmacy (or its equivalent abroad), or completed 2nd cycle of higher education studies in the single-discipline study programme Genetics and Molecular Cytology or in the single-discipline study programme Molecular Biology or in the single-discipline study programme Genetics, always in the field of study Biology, or in the single-discipline study programme Biochemistry in the field of study Chemistry (or their equivalent abroad) and successful passing of the admission exam.

b) Admission procedures

The study's admission procedures comply with the Admission Rules at the Comenius University Bratislava (the Internal Regulation No. 4/2021, approved according to Art. 27 Sect. 1(a) of Act No. 131/2002 Coll. on Higher Education and on changing and amending certain acts by the Scientific Board of the Comenius University). The Admission Rules of CU are freely available on the website https://uniba.sk/fileadmin/ruk/legislativa/2021/Vp_2021_04.pdf.
At the Dean's suggestion, the Academic Senate FPHARM CU in Bratislava each year discusses and approves the document with the title: Admission procedure and conditions for admission for the PhD. Study at the Faculty of Pharmacy CU in Bratislava. It is a freely available minimum two months before the last day determined for the submission of the application form on the website of the faculty: https://www.fpharm.uniba.sk/en/education/phd-study/. Cited document contains the term for submitting the application form also with attachments, determines obligatory attachments to the Application form, dates of entrance examinations, conditions for admitting and the way of admission to the study. The attachments usually contain:

- Curriculum Vitae,
- certified copies of education certificate(s) (diplomas) and of a citizenship certificate,
- a complete list of their scientific publications or results of other professional activities, or reviews of these works and activities,
- a personal questionnaire (form available on request),
- an academic letter of recommendation,
- other relevant certificate(s), if applicable, e.g., a marriage certificate to document a change of surname after graduation from university,
- applicants for study in part-time form: a confirmation of an employer on the employment or service relationship at the time of study application,
- a copy of proof of payment of the application fee (e.g., money order, account listing)

c) Results of the admission process over the last period.

An overview of recent admission procedures:

Number of applicants and accepted students in individual academic years

Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Applicants	2	2	3	2	3	2	0	3	1	0
Female	1	2	1	2	3	2	0	3	1	0
Accepted	2	2	2	2	3	2	0	2	1	0

Female	1	2	1	2	3	2	0	2	1	0

The university archives the documentation of the admission procedure, enrolment for the study and enrolment into another part of the study, a record of study results, copies of documents on completion of the study, and other documentation for at least 25 years the day of study completion.

10. Feedback on the quality of provided education

a) Procedures for monitoring and evaluating students' opinions on the study programme quality.

Students can present their feedback in a student survey, which is available after the end of each semester. The survey provides an opportunity to constructively evaluate various aspects of the faculty and the quality of education provided. This data will serve both future students, who will be able to get an idea of individual subjects based on comments and evaluations, but also the lecturers and instructors themselves have the opportunity to find out what students think about the subjects. Last but not least, the survey is an incentive for the management of individual departments to improve the level of teaching or to adjust study programs. The Faculty has the organizational support, course and evaluation of the survey processed in the internal Directive of the Dean of FP UK (https://www.fpharm.uniba.sk/o-fakulte/legislativa-a-dokumenty/vnutorne-predpisy-faf-uk/). This ensures that feedback from students is actually used in the design and future maintenance of the quality of the study program. Among other things, the faculty management discusses the results of the surveys, and teachers are advised to respond directly to the evaluation and write comments on the evaluation, which deepens the feedback. In cooperation with the student chamber of the Academic Senate, the popularization of the survey among students is ensured so that the participation is as high as possible.

b) Results of student feedback and related measures to improve the study programme quality:

The evaluation of the results of the FaF UK student survey is governed by the Internal Directive of the Dean of FaF UK (https://www.fpharm.uniba.sk/o-fakulte/legislativa-a-dokumenty/vnutorne-predpisy-faf-uk/). It defines, among other things, that the dean, in cooperation with the Management of FaF UK, will prepare a written opinion on the results of the survey, on the comments of students and on the comments of evaluated employees, guarantors of study programs and heads of workplaces. The written opinion is published on the faculty's website in the form of a text document.

c) Results of absolvent feedback and related measures to improve the study programme quality:

The opinions and employment of faculty graduates are monitored mainly through communication between teachers (tutors) and their former students. Feedback from the employers of individual faculty graduates is provided mainly by communication between the guarantors of study programs and employers. This communication is natural, as many employers are also partners in the implementation of study programs.

11. References to other relevant internal regulations and information concerning the study or the study programme student (e.g., study guide, accommodation regulations, fee directive, guidelines for student loans, etc.).

Students Accommodation
https://uniba.sk/sluzby/ubytovanie/
https://ubytovanie.uniba.sk/ - electronic accommodation system
Guide for the accommodation process for students of Comenius University Bratislava
https://uniba.sk/fileadmin/ruk/as/2020/Ubytovanie/Sprievodca/Sprievodca_ubytovacim_procesom.pdf
Slovak Pharmaceutical Students' Association
https://sssf.sk/
Accommodation Rules
University town of Ľ. Štúr - Mlyny CU - https://mlyny.uniba.sk/ubytovanie/internatny-poriadok/
University Hostel Družba CU - https://druzba.uniba.sk/fileadmin/mlyny/2022/Dokumenty/Internatny_poriadok_SD_Druzba_2022.pdf
Current information on PhD. study
https://www.fpharm.uniba.sk/en/education/phd-study/
Guidelines for Students Loans
https://uniba.sk/detail-aktuality/browse/22/back_to_page/aktuality-1/article/pozicka-pre-pedagogov-a-studentov/
Psychological counselling for students
https://uniba.sk/sluzby/psychologicka-poradna/
Students Scientific Conference of the Faculty of Pharmacy CU
https://www.fpharm.uniba.sk/veda-a-vyskum/svc/svk/
Academic Information System AIS>guides and manuals for students
https://uniba.sk/o-univerzite/fakulty-a-dalsie-sucasti/cit/citps/ais/prirucky-a-navody/
University email and Office
https://uniba.sk/office365/
Comenius University Journal 'Naša univerzita"
https://uniba.sk/nu/