

**INTERNAL ASSESSMENT REPORT OF THE DOCTORAL UNIVERSITY
STUDIES, THE FIELD OF PHARMACY
FOR A.R.A.C.I.S. ACCREDITATION**

June 2021



UNIVERSITATEA
DE MEDICINĂ ȘI FARMACIE
VICTOR BABEȘ | TIMIȘOARA

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Foreword

The current internal evaluation report of the "Victor Babeș" University of Medicine and Pharmacy Timisoara, Doctoral School, Field of Pharmacy has been conceived in accordance with the National Education Law No. 1 from 2011, as well as the updated Government Decision No. 681 from 2011 regarding the approval of the University Doctoral Studies Code, with subsequent changes. The methodology applied for the evaluation was the one specified in Order No. 3651 from the 12th of April 2021 of the Minister of National Education regarding the establishment of the *Methodology for the evaluation of doctoral university studies and the systems of criteria, standards and performance indicators used in the evaluation*, which was published in the Official Journal No. 414 from the 20th of April 2021.

The current internal evaluation report has been conceived between May-June 2021 under the coordination of the Head of The Council for Academic Doctoral Studies, Prof. univ. Dr. Dehelean Cristina Adriana.

The current report was presented and voted in the Doctoral School Council meeting from 02.06.2021 and also authorized and voted by the The Council for Academic Doctoral Studies by the Decision of 03.06. 2021.



1. General information

1.1 Presentation of the Doctoral School of Medicine-Pharmacy that manages the field of Pharmacy doctoral studies within the UMFVBT

1.1.1. Establishment, structure, evolution

The “Victor Babeș” University of Medicine and Pharmacy from Timișoara is a state educational institution, under the direct jurisdiction of the Ministry of National Education and Scientific Research and, by its specificity, linked to the Ministry of Health, carrying out a complex activity of higher education and research for over six decades, and being part of the elite universities. “Victor Babeș” University of Medicine and Pharmacy Timișoara has begun its activity on the 18th of July 1945 as a Faculty of General Medicine established by the Royal Decree No. 660 from the 22nd of December 1944 and the law No. 361 from 1945 published in the Official Journal No. 102 from 4th of June 1945, signed by Prof. Dr. Dumitru Bagdazar, the Minister of Health at that time. By Decree – law No. 175 from 1948, the Faculty of Medicine from Timișoara is transformed into an Institute of Medicine with 3 specializations: General Medicine, Pediatrics, and Hygiene, the last specialization being abolished after several years (1954). In 1963, within the Institute of Medicine from Timișoara, the Faculty of Dentistry started its activity, which according to Government Decision No. 1082 from 2003 published in the Official Journal No. 687 from 30th of September 2003 becomes the Faculty of Dental Medicine. In 1992 the Institute of Medicine from Timișoara is converted into the University of Medicine and Pharmacy Timișoara by the Government Decision No. 812 from 1992, published in the Official Journal No. 337 from the 29th of December 1992.

The pharmaceutical education from Timișoara was established on the 1st of October 1991 as a section within the Faculty of General Medicine of the University. By the Government Decision No. 294 from the 16th of June 1997 regarding the functioning of higher education institutions, in accordance with the provisions of the law No. 88 from 1993 on the accreditation of higher education institutions and the recognition of diplomas, published in the Official Journal No. 130 from the 25th of June 1997, the provisional functioning within the “Victor Babeș” UMF Timișoara of the “Pharmacy” specialization, full-time attendance (day) form of education, 5 years duration of studies has been approved (**Annex 1**). According to Art. 3 of the law 88 from 1993 on the accreditation of higher education institutions and the recognition of diplomas, the Government of Romania decides by the Government Decision No. 535 from the 1st of July 1999, published in the Official Journal No. 324 from the 7th of July 1999, the final accreditation of the Faculty of Pharmacy from UMF “Victor Babeș” Timișoara, as a full-time attendance (day) form of education, 5 years duration of studies (**Annex 2**).

In 1998, by the Order of the Ministry of National Education No. 31037 from the 10th of July 1998, studies with English, French and German as languages of instruction were established within UMF Timișoara. By the Government Decision No. 635 from the 11th of



June 2008 published in the Official Journal No. 834 from the 11th of December 2008 on the structures of higher education institutions and university study programs licensed or authorized to operate provisionally, the specialization of “Pharmacy Assistance”, full-time attendance (day) form of education, 180 number of credits, has been approved to function within the Faculty of Pharmacy of UMF “Victor Babeș” Timisoara (**Annex 3**). According to the Government Decision No. 23 from 2001 published in the Official Journal from 11th of January 2001, our University changes its name into “Victor Babeș” University of Medicine and Pharmacy from Timișoara and operates as a state institution with legal personality based on the Romanian Constitution, the Education Law, the Law on the Statute of professors and the University Charter (**Annex 4**).

Currently, the majority of pharmacists working in the open and closed circuit pharmacies from Timisoara are UMFVBT graduates. Moreover, most of the professors of the Faculty of Pharmacy are former faculty graduates. Through their effort, experience and work, they constantly ensure the established prestige of the Faculty of Pharmacy from Timisoara.

“Victor Babeș” University of Medicine and Pharmacy in Timișoara is accredited as an Organizing Institution for University Doctoral Studies (IOSUD). The Doctoral School within the “Victor Babeș” University of Medicine and Pharmacy from Timișoara was established in the autumn of 2005, based on the provisions of the Government Decision No. 567 from the 15th of June 2005 (**Annex 5**), and the university scientific doctoral studies are organized in accordance with the same legislative act. The Doctoral School of Medicine-Pharmacy is organized and carries out its activity in accordance with the *National Education Law* No. 1 from 2011, Government Decision No. 681 from 2011 regarding the approval of the *Code of Doctoral University Studies* and the *Institutional Regulation for the organization and development of doctoral university studies*.

The Doctoral School of Medicine-Pharmacy was organized starting with the academic year 2018-2019, by annexing the doctoral field of Pharmacy to the one of Medicine within the Doctoral School of Medicine after its confirmation by the Ministry of National Education. The doctoral field of Pharmacy was confirmed by the Ministerial Order No. 4209 from the 31st of July 2018 published in the Official Journal of Romania, part I (**Annex 6**), order which has been issued based on the validation of the doctoral field of Pharmacy by the General Council of CNATDCU in the meeting from the 18th of July 2018, as well as the ARACIS proposals. The Pharmacy field is a part of the Doctoral School organized within UMFVBT according to the Senate Decision No. 23/5968 from the 24th of May 2018 (**Annex 7**).

The Doctoral School of Medicine-Pharmacy, as a component in the organizational structure of the Doctoral School within UMFVBT, consists of all professors, doctoral supervisors, and doctoral students. The Doctoral School of Medicine-Pharmacy has been entrusted with the responsibility to organize and ensure the development in the best conditions of the university doctoral studies in the fields of Medicine and Pharmacy, as well as to contribute to the implementation of the UMFVBT doctorate strategy. At the level of the Doctoral School of Medicine-Pharmacy, scientific doctoral programs are carried out, with a duration of 4 years in the forms of education with frequency and reduced frequency,



according to the law. At the end of the university doctoral studies within the Doctoral School of Medicine-Pharmacy and after the issuance of the order by the Minister of Education and Research (following the validation of the doctoral theses by the General Council of CNATDCU), it is conferred by IOSUD UMF “Victor Babeș” from Timiș oara, the diploma and the title of Doctor of Science in the fields of Medicine and Pharmacy.

The Doctoral School of Medicine-Pharmacy affiliated to IOSUD is run by the Head of the Doctoral School and the Council of the Doctoral School (CSD). The Head of the Doctoral School is assimilated to the Department Director, and the Council of the Doctoral School is assimilated to the Department Council. The Council of the Doctoral School is chaired by the Head of the Doctoral School, who is appointed by the CSUD from among the doctoral supervisors (leaders) within the doctoral school, being a full member of the doctoral school council. In 2016, in the position of Interim Director of the Doctoral School of Medicine within the Organizing Institution of Doctoral Studies (IOSUD) was appointed, by the UMFVBT Senate Decision No. 4/2957 from 15th of March 2016 (**Annex 8**), Mrs. Prof. Univ. Dr. Tomescu Mirela Cleopatra. Subsequently, UMFBT as an institution organizing doctoral studies, established several rounds of elections for the positions in the CSUD and the doctoral school council.

Following the elections for representatives in the Doctoral School Council from the doctoral supervisors (according to the report from the 15th of February 2018) (**Annex 9**) and from the students (according to the report from the 18th of January 2018) (**Annex 10**), as well as based on the UMFVBT Senate Decision No. 40/5968 from the 24th of May 2018 (**Annex 11**), the composition of the Doctoral School Council within IOSUD-UMFVBT for the 2016-2020 legislature was approved:

Prof. Univ. Dr. Tomescu Mirela Cleopatra – CSD Director (Head)

Prof. Univ. Dr. Munteanu Mihnea - member

Prof. Univ. Dr. Boia Marioara - member

Prof. Univ. Dr. Puiu Maria - member

Tudor Pîrvănescu – doctoral student, member

With the approval of the new Methodology regarding the election of the directors of the Doctoral School councils within the “Victor Babeș” University of Medicine and Pharmacy from Timișoara (<https://www.umft.ro/reglementari-interne-csud/>) and wishing to include in the respective structures personalities from outside the university, at the end of year of 2020, based on the UMFVBT Senate Decision No. 207/18470 from the 18th of December 2020 (**Annex 12**) the composition of the Interim Council of the Doctoral School of Medicine - Pharmacy (CSD M-F) was approved, as follows:

Prof. Univ. Dr. Tomescu Mirela Cleopatra – CSD Director (Head)

Prof. Univ. Dr. Munteanu Mihnea - member

Prof. Univ. Dr. Puiu Maria – member

Conf. Univ. Dr. Vlaia Lavinia - member

Prof. Univ. Dr. Alexa Ersilia Calina - member

Prof. Univ. Dr. Mușuroi Sorin - member

Tudor Pîrvănescu – doctoral student, member



The elections for the positions of members in the Council of the Doctoral School of Medicine-Pharmacy from the doctoral supervisors took place on April 2021. During the first election round that was organized on the 16th of April 2021, following the voting process, it was found that it did not meet the quorum, according to the report from the 16th of April 2021 (**Annex 13**). Consequently, on the 20th of April 2021, the second ballot took place, according to the report from the 20th of April 2021 (**Annex 14**). Also, the elections of the doctoral students representatives in the Council of the Doctoral School of Medicine-Pharmacy were organized in April 2021. Due to the lack of quorum on the election's day of 16.04.2021, according to the report from the 16th of April (**Annex 15**), a new ballot was held on the 20th of April 2021, according to the report from the 20th of April 2021 (**Annex 16**).

Currently, the Council of the Doctoral School of Medicine-Pharmacy has the following composition (**Annex 17**):

Prof. Univ. Dr. Tomescu Mirela Cleopatra – CSD Director (Head)

Prof. Univ. Dr. Puiu Maria – member

Prof. Univ. Dr. Vlad Daliborca Cristina - member

Prof. Univ. Dr. Munteanu Mihnea - member

Prof. Univ. Dr. Vlaia Lavinia - member

Prof. Univ. Dr. Alexa Ersilia Calina - member

Prof. Univ. Dr. Mușuroi Sorin - member

Zbîrcea Elena – doctoral student, member

Huț Alexandru Romulus – doctoral student, member

On the occasion of the election organized on the 17th of May 2021 for the election of the Director of the Council of the Doctoral School of Medicine-Pharmacy (report No. 9678 from the 17th of May 2021, **Annex 18**), the members of the Council of the Doctoral School of Medicine-Pharmacy unanimously agreed for Prof. Univ. Dr. Tomescu Mirela Cleopatra to be elected as the Director of the Council of the Doctoral School of Medicine-Pharmacy within IOSUD - UMFVBT.

All members of the Doctoral School Council were elected by vote, according to the Methodology on the appointment and election of the Council for Academic Doctoral Studies and the Council of the Doctoral School within the “Victor Babeș” University of Medicine and Pharmacy from Timiș oara and the legislation in force.

<https://www.umft.ro/reglementari-interne-csud/>

Within the structure of the Doctoral School of Medicine-Pharmacy, 83 doctoral supervisors in the field of Medicine and 5 doctoral supervisors in the field of Pharmacy carry out their activity. Within the field of Medicine of the Doctoral School of Medicine - Pharmacy, there are 505 enrolled doctoral students, out of which 112 extended, while 28 interrupted the university doctoral studies. Currently, a number of 25 doctoral students are enrolled within the field of Pharmacy of the University Doctoral Studies.

1.1.2. Research mission

The mission of the "Victor Babeș" University of Medicine and Pharmacy from Timisoara is to train specialized, highly qualified personnel in the field of medical-pharmaceutical and specialized care. The University ensures the theoretical and practical



training of students which are adequate to the current and perspective needs of the national health system, as well as in accordance with European and international standards.

The mission of the University of Medicine and Pharmacy "Victor Babeș" from Timișoara is presented in the University Charter, *Chapter II - The mission and objectives of UMF Victor Babeș*: (<https://www.umft.ro/?s=carta>). The research mission of the Doctoral School of Medicine-Pharmacy is:

- to train doctoral students in order to acquire the knowledge and skills necessary for carrying out medical-pharmaceutical research activities of high scientific level;
- to contribute, together with the Doctoral School of Dentistry, to the establishment of the medium and long term UMFVBT strategy regarding the development of medical-pharmaceutical scientific studies and research through doctorate.

1.1.3. Level of quality certification

Previous evaluations

The UMF "Victor Babeș" from Timișoara was evaluated twice by ARACIS (in 2007 and 2014). Following both visits, the "Victor Babeș" University of Medicine and Pharmacy from Timișoara received a high confidence rating, according to the reports of the ARACIS Council from the 29th of July 2007 (**Annex 19**) and 30th of April 2014 (**Annex 20**).

The Pharmacy field of the Doctoral School of Medicine-Pharmacy within IOSUD UMFVBT has not been evaluated by ARACIS so far, because IOSUD UMFVBT has not been evaluated since the establishment of this doctoral field.

Classification of universities

The University develops activities to establish qualitative and quantitative benchmarks compared to other universities in the country and abroad for quality assessment and monitoring through the following actions: evaluation of our University by EUA (European University Association), according to ENQA (The European Association for Quality Assurance) in Higher Education).

1.1.4. Specific quality management measures

The quality of the university study programs within the Doctoral School is based on scientific content, level and update, being coherently constituted and compatible with similar programs from Romania and the European Union. In accordance with the Code of University Doctoral Studies (GD 681 from the 29th of June 2011) the doctoral program is carried out only within the Doctoral School under the coordination of a doctoral supervisor and includes:

- a training program based on advanced university studies (year I);
- an individual program of scientific research (years II, III and IV), according to LEN 1/2011.



The doctoral research topics approached within the Doctoral School of Medicine-Pharmacy are updated, of great interest within the medical-pharmaceutical field, diversified, dynamic, and in connection with the latest approaches in the field.

The doctoral theses elaborated in the fields of Medicine and Pharmacy are evaluated by an internal commission appointed by the Doctoral School of Medicine-Pharmacy, at the request of the Council for Quality Assurance in Doctoral Research within IOSUD-UMFVBT. The list of evaluators is made public each academic year. The evaluation of these theses aims at ensuring the observance of the quality standards in the pharmaceutical scientific research at doctoral level and of the norms of writing the doctoral theses. It should be mentioned that the composition of the Council for Quality Assurance in Doctoral Research within IOSUD-UMFVBT also includes Prof. univ. Dr. Farm. Dehelean Cristina Adriana, member of the Doctoral School of Medicine-Pharmacy, qualified in the field of Pharmacy (Senate Decision No. 205/18470 from the 18th of December 2020, **Annex 21**; https://www.umft.ro/factii/csud/csud_componenta-csud-si-description/).

1.1.5. Specific measures to promote ethics and deontology implemented at the level of the doctoral school

At the level of the Doctoral School of Medicine-Pharmacy, the principles of professional ethics, deontology, and research are mandatory for all its members. The conduct of the members of the academic community from the Doctoral School of Medicine-Pharmacy within IOSUD-UMFVBT is regulated by the *Code of Ethics and University Ethics* (**Annex 22**) and the *Code of Ethics of Scientific Research within UMFVBT* (**Annex 23**), aiming at a series of universal ethical principles, as well as ethical principles that value the research results (e.g., personal autonomy, professional freedom, justice and fairness, non-discrimination and equal opportunities, honesty and intellectual fairness, elimination of conflicts of interest, professionalism, transparency, responsibility, respect and tolerance).

The admission of doctoral students to the Doctoral School of Medicine-Pharmacy is regulated by the Methodology regarding the organization of admission to doctoral university studies within the “Victor Babeș” University of Medicine and Pharmacy from Timisoara. (<https://www.umft.ro/admitere-doctorat-2021/>).

The Doctoral students are enrolled in the doctoral program Medicine-Pharmacy on the basis of a standard contract (Contract for doctoral studies) which is public on the university website, depending on the field of study and approved by the Board of Directors and the University Senate for each year of study. (https://www.umft.ro/category/csud/informatii_doctoranzi/).

1.1.6. Human resources and existing research infrastructure at the level of the doctoral school

At the level of the Doctoral School of Medicine-Pharmacy, the administrative activity is ensured by the Secretary Office of the Doctoral School and of CSUD, a structure that currently has two persons with individual attributions and tasks: secretarial activities,



correspondence, updating the database with doctoral students and supervisors and other activities in accordance with the job description.

Referring to the current situation of the scientific research at national level, UMF “Victor Babeș” from Timișoara aims to excel in at least two fields of research on a national scale (fundamental and translational research), to increase the number of postgraduate researchers to work in the research centers of the university, to develop the infrastructure for carrying out scientific research activities and to increase annually the revenues for research.

The technical and material base provided by IOSUD-UMFVBT / Doctoral School of Medicine-Pharmacy consists of modern equipment and facilities and ensures the needs of organizing the educational process and scientific research at standards recognized by the competent bodies. The doctoral students of IOSUD-UMFVBT within the Doctoral School of Medicine-Pharmacy can carry out their scientific research activity in advanced research centers and existing methodological research centers within UMFVBT.

1.2. The Pharmacy Field of Doctoral Studies

The establishment of the doctoral field Pharmacy within the Doctoral School organized in UMFVBT was approved by the Ministry of National Education by OM No. 4209 from the 31st of July 2018 published in the Official Journal of Romania, part I (**Annex 6**), order issued based on the validation of the doctoral field Pharmacy by the General Council of CNATDCU in the meeting from the 18th of July 2018, as well as the ARACIS proposals. The Pharmacy field is part of the Doctoral School organized in UMFVBT according to H.S. no. 23/5968 from the 24th of May 2018 (**Annex 7**).

Mission and objectives

The student-focused pharmaceutical education system from the Faculty of Pharmacy provides knowledge, skills and attitudes that enable to exercise the profession based on the values taken over and transmitted by the Timisoara pharmaceutical school, and to make personal contribution to increasing community health. The professionalism, skills acquired, and the human quality that the professors of the Faculty of Pharmacy want to develop, aim to bring the graduates trust, appreciation and respect for patients, allowing them to contribute to the progress of pharmaceutical science. Continuing their undergraduate studies, graduates have the opportunity to complete their pharmaceutical training following the master's degrees that operate within the Faculty of Pharmacy but also to complete a doctorate in the field of Pharmacy.

The mission of the field of doctoral studies Pharmacy within IOSUD UMF "Victor Babes" Timisoara is:

- The training of young graduates in order to obtain the skills necessary to conduct scientific research at high quality standards;
- The substantiation of the university's medium and long term strategy regarding the development of studies and research through doctorate.



The objectives of the university are:

- initial and continuous medical-pharmaceutical training;
- scientific research meant to ensure progress in the field of medical sciences;
- dissemination of knowledge and culture in society;
- national and international cooperation for fulfilling the mission;
- the insertion and professional success of the graduates.
- creation of centers, institutes and / or university hospitals to promote excellence in the field of Health.

In correlation with the objectives of the university, the objectives of the field of Pharmacy are:

- promoting academic and educational performance in the training of doctors in the field of Pharmacy who can integrate into the labor market in health systems;
- developing additional skills in the field of scientific research;
- knowledge and application of state-of-the-art techniques specific to pharmaceutical research;
- developing the capacities to communicate the research results;
- taking responsibility for developing and completing a research program;
- training of leaders in the field of scientific research and pharmaceutical education;
- organizing and developing a specific and quality training process, dedicated to the accumulation of knowledge and practical attitudes indispensable for carrying out high-performance scientific research;
- the formation of the analytical and critical spirit that would allow the objective evaluation of the own researches or carried out by other researchers;
- training and supporting doctoral students for research conducted in order to complete a doctoral thesis.

Education plans

The advanced university training program is carried out on the basis of the education plan, with a duration of 2 semesters for the Pharmacy field.

The education plan for doctoral university studies is in accordance with national and European standards and ensures the acquisition of the defining knowledge of the field of study.

The education plan for doctoral studies includes mandatory subjects, optional subjects and the advanced scientific research project.

- The mandatory disciplines are necessary to acquire the knowledge of the elementary notions for the conception, elaboration and implementation of a scientific research project.

- The optional disciplines allow the deepening of some particular subjects, in accordance with the scientific interests of the doctoral student.



At the end of the year of advanced university training, doctoral students in the field of Pharmacy must complete the total number of credits provided in the curriculum.

All specific documents for conducting doctoral studies in the field of Pharmacy are public on the university website. IOSUD UMF "Victor Babeș" from Timișoara and provides through the secretariat of the Doctoral School and the university website, complete information on the doctoral study programs to the candidates for these programs, the university community and other interested individuals or legal entities.

The mechanisms by which decisions are made regarding the opportunity, structure and content of the training program based on advanced university studies are mentioned in the Regulation of Doctoral Schools within the University of Medicine and Pharmacy "Victor Babeș" in Timisoara. (https://www.umft.ro/category/csud/reglemenetari_csud/)

The modifications of the content of the doctoral study program in the field of Pharmacy are made at the proposal of CSD with the approval of CSUD.

The quality of the university study programs within the doctoral school is based on content, scientific level and update, being coherently constituted, compatible with similar programs from Romania and the European Union. In accordance with the *Code of University Doctoral Studies* (Government Decision No. 681 from the 29th of June 2011) the doctoral program is carried out only within the Doctoral School under the coordination of a doctoral supervisor and includes:

- a training program based on advanced university studies (year I);
 - an individual program of scientific research (years II, III and IV), according to LEN 1/2011.
- Within the training program based on advanced university studies from the first year, academic year 2020 - 2021 of the doctoral cycle are included mandatory fundamental disciplines and optional complementary disciplines:
1. Mandatory fundamental disciplines
 2. Optional complementary disciplines
 3. The scientific research project

Mandatory subjects

Scientific research methodology - 6 credits

Ethics of scientific research, European legislation in research - 6 credits

Communication and oral presentation, biostatistics - 6 credits

Documentation, writing and publication of scientific articles - 6 credits

Grant design and management - 6 credits

Ethics and academic integrity - 6 credits

Optional subjects

Experimental models in translational research - 4 credits

Medical biotechnologies - 4 credits

Modern techniques in medical and pharmaceutical research - 4 credits



Bioinformatics and applied genomics in research - 4 credits

Medicine and evidence-based research - 4 credits

Nanomaterials and nanomedicine - 4 credits

Scientific research project - 20 credits

The organization of the doctoral research comprises: the objectives, methods and working techniques pursued and used, the way of selection of the work groups, inclusion/exclusion criteria, statistical processing methods. The detailing of the work stages followed in the development of the doctoral research includes: the definition of concrete activities in relation to the established objectives, in correspondence with a calendar that would make possible the framing in the time allocated to the scientific research program. Measures provided for the observance of bioethics norms in doctoral research.

The valorization of the results includes estimating the accessible level for disseminating the results and identifying the potential journals from the main flow of publications.

In order to ensure a coherent scientific path in the Pharmacy field of doctoral studies, the doctoral student gives presentations of the progress of his scientific research program to the steering committee and the doctoral supervisor, whose role is to guide, correct and support the scientific path of the doctoral student. The minutes accompanied by the stage report/ the presented report will be submitted to the personal file of the doctoral student.

The scientific research program is considered to be concluded only after the submission of at least 2 or 3 reports on the progress of the doctoral student's scientific research.

The scientific research program is carried out under the guidance of the doctoral supervisor and the guidance team.

The intermediate results of the research program are presented by the doctoral student for evaluation by the doctoral supervisor and the guidance team in the form of reports/ essays on the scientific research progress of the doctoral student.

The doctoral school offers to the doctoral students from the first year of training, a number of 5 optional subjects, the students being able to select by free choice one of them, in accordance with the curriculum.

The examination at the end of the didactic activity related to each semester, according to the curriculum, is done in written form or projects, as well as other ways of verifying the knowledge, the doctoral student acquiring a grade. In order to pass, the student must obtain a minimum (satisfactory) grade.

The education plan for the field of Pharmacy, approved by the UMFVBT University Senate for the period 2018-2021 are the following:



**EDUCATION PLAN - 1st YEAR
DOCTORAL SCHOOL 2018-2019**

UNIVERSITY	"VICTOR BABEȘ" UNIVERSITY OF MEDICINE AND PHARMACY FROM TIMISOARA		
FUNDAMENTAL FIELD HIERARCHY	BIOLOGICAL AND BIOMEDICAL SCIENCES	STUDY PERIOD	1 st Year
SCIENCE BRANCH	MEDICINE / DENTAL MEDICINE	THE FIELD OF HIERARCHY	MEDICINE / DENTAL MEDICINE/ PHARMACY
FIELD OF UNIVERSITY DOCTORAL STUDIES	MEDICINE/ DENTAL MEDICINE	TRANSFERABLE STUDY CREDITS	60 (MANDATORY)

No.	Educational activities Subjects	Type	1 st Semester				2 nd Semester				University total (28 weeks)			
			Cs.	P.W.	TSC	Examination form	Cs.	P.W.	TSC	Examination form	Cs.	P.W.	Sem.	TS C
1.	Scientific research methodology	FD	1	1	5	E	-	-	-	-	14	14	-	5
2.	Ethics of scientific research	FD	1	1	5	E	-	-	-	-	14	14	-	5
3.	Biostatistics	FD	1	1	4	E	-	-	-	-	14	14	-	4
4.	Methodology for writing and publishing scientific articles	FD	-	-	-	-	1	1	5	E	14	14	-	5
5.	Grant design and management	FD	-	-	-	-	1	1	4	E	14	14	-	4
6.	Ethics and academic integrity	FD	-	-	-	-	1	1	4	E	14	14	-	4
<i>D.C. Optional subjects (at choice 1 out of 5)</i>														
7.	Experimental models in translational research	CD	-	-	-	-	1	1	3	E	14	14	-	3
8.	Writing the doctoral thesis. Intellectual property	CD	-	-	-	-	1	1	3	E	14	14	-	3
9.	Modern techniques in medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
10.	Bioinformatics and genomics applied in medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
11.	News in national and international medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
			3	3		3E	4	4		4E	98	98		
	General Total		6				8				196			
	Total of mandatory hours/credits semester/year				14				16					30

SCIENTIFIC RESEARCH PROJECT (mandatory): 30 credits **TOTAL OF MANDATORY CREDITS / YEAR = 60 credits**

Note: **FD**-fundamental discipline; **CD**-complementary discipline; **E**-exam; **C**-colloquium; **Cs**-course; **P.W.**-practical work; **Sem**-seminar; **TSC**-transferable study credits

http://old.umft.ro/data_files/documente-atasate-sectiuni/4334/plan_20de_20invatamant_202018-2019.pdf



**EDUCATION PLAN - 1st YEAR
DOCTORAL SCHOOL 2019-2020**

UNIVERSITY	"VICTOR BABEȘ" UNIVERSITY OF MEDICINE AND PHARMACY FROM TIMISOARA		
FUNDAMENTAL FIELD HIERARCHY	BIOLOGICAL AND BIOMEDICAL SCIENCES	STUDY PERIOD	1 st Year
SCIENCE BRANCH	MEDICINE / DENTAL MEDICINE	THE FIELD OF HIERARCHY	MEDICINE / DENTAL MEDICINE/ PHARMACY
FIELD OF UNIVERSITY DOCTORAL STUDIES	MEDICINE/ DENTAL MEDICINE	TRANSFERABLE STUDY CREDITS	60 (MANDATORY)

Nr. crt.	Educational activities Subjects	Type	1 st Semester				2 nd Semester				University total (28 weeks)			
	<i>D.F. Mandatory subjects</i>		Cs.	P.W.	TSC	Examination form	Cs.	P.W.	TSC	Examination form	Cs.	P.W.	Sem.	TSC
1.	Scientific research methodology	FD	1	1	5	E	-	-	-	-	14	14	-	5
2.	Ethics of scientific research	FD	1	1	5	E	-	-	-	-	14	14	-	5
3.	Biostatistics	FD	1	1	4	E	-	-	-	-	14	14	-	4
4.	Methodology for writing and publishing scientific articles	FD	-	-	-	-	1	1	5	E	14	14	-	5
5.	Grant design and management	FD	-	-	-	-	1	1	4	E	14	14	-	4
6.	Ethics and academic integrity	FD	-	-	-	-	1	1	4	E	14	14	-	4
<i>D.C. Optional subjects (at choice 1 out of 5)</i>														
7.	Experimental models in translational research	CD	-	-	-	-	1	1	3	E	14	14	-	3
8.	Writing the doctoral thesis. Intellectual property	CD	-	-	-	-	1	1	3	E	14	14	-	3
9.	Modern techniques in medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
10.	Bioinformatics and genomics applied in medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
11.	News in national and international medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
			3	3		3E	4	4		4E	98	98		
	General Total		6				8				196			
	Total of mandatory hours/credits semester/year				14				16					30

SCIENTIFIC RESEARCH PROJECT (mandatory): 30 credits **TOTAL OF MANDATORY CREDITS / YEAR = 60 credits**

Note: **FD**-fundamental discipline; **CD**-complementary discipline; **E**-exam; **C**- colloquium; **Cs**-course; **P.W.**-practical work; **Sem**-seminar; **TSC**-transferable study credits

http://old.umft.ro/data_files/documente-atasate-sectiuni/5824/plan_20de_20invatamant_202019-2020_20.pdf



**EDUCATION PLAN – 1st YEAR
DOCTORAL SCHOOL 2020-2021**

UNIVERSITY	"VICTOR BABEȘ" UNIVERSITY OF MEDICINE AND PHARMACY FROM TIMISOARA		
FUNDAMENTAL FIELD HIERARCHY	BIOLOGICAL AND BIOMEDICAL SCIENCES	STUDY PERIOD	1 st Year
SCIENCE BRANCH	MEDICINE/ DENTAL MEDICINE/ PHARMACY	THE FIELD OF HIERARCHY	MEDICINE/ DENTAL MEDICINE/ PHARMACY
FIELD OF UNIVERSITY DOCTORAL STUDIES	MEDICINE/ DENTAL MEDICINE/ PHARMACY	TRANSFERABLE STUDY CREDITS	60 (MANDATORY)

No .	Educational activities Subjects	Type	1 st Semester				2 nd Semester				University total (28 weeks)			
	<i>D.F. Mandatory subjects</i>		Cs.	P.W.	TSC	Examination form	Cs.	P.W.	TSC	Examination form	Cs.	P.W.	Sem.	TSC
1.	Scientific research methodology	FD	1	1	5	E	-	-	-	-	14	14	-	5
2.	Ethics of scientific research	FD	1	1	5	E	-	-	-	-	14	14	-	5
3.	Biostatistics	FD	1	1	4	E	-	-	-	-	14	14	-	4
4.	Documentation, writing and publication of scientific articles	FD	-	-	-	-	1	1	5	E	14	14	-	5
5.	Grant design and management	FD	-	-	-	-	1	1	4	E	14	14	-	4
6.	Ethics and academic integrity	FD	-	-	-	-	1	1	4	E	14	14	-	4
<i>D.C. Optional subjects (at choice 1 out of 5)</i>														
7.	Experimental models in translational research	CD	-	-	-	-	1	1	3	E	14	14	-	3
8.	Communication, oral presentation and poster	CD	-	-	-	-	1	1	3	E	14	14	-	3
9.	Modern techniques in medical and pharmaceutical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
10.	Bioinformatics and applied genomics in medical research	CD	-	-	-	-	1	1	3	E	14	14	-	3
11.	Evidence-based medicine	CD	-	-	-	-	1	1	3	E	14	14	-	3
			3	3		3E	4	4		4E	98	98		
	General Total		6				8				196			
	Total of mandatory hours/credits semester/year				14				16					30

SCIENTIFIC RESEARCH PROJECT (mandatory): 30 credits **TOTAL OF MANDATORY CREDITS / YEAR = 60 credits**

Note: **FD**-fundamental discipline; **CD**-complementary discipline; **E**-exam; **C**- colloquium; **Cs**-course; **P.W.**-practical work; **Sem**-seminar; **TSC**-transferable study credits

http://old.umft.ro/data_files/documente-atasate-sectiuni/7046/plan_20de_20_c3_aenv_c4_83_c5_a3_c4_83m_c3_a2nt_202020-2021.pdf



Within the doctoral field of Pharmacy, 5 doctoral supervisors carry out their activity (quality obtained according to the law). Their evolution during the evaluated period (2018-2020) can be found in Table 1.

Within the Pharmacy Domain, the 5 doctoral supervisors are affiliated to the Doctoral School of Medicine-Pharmacy. Of the 5 PhD supervisors affiliated to the Pharmacy Domain, 5 (100%) of them obtained the Enabling Certificates based on the fulfillment of the minimum CNATDCU standards in force (Table 2).

There are currently no doctoral supervisors in the field of Pharmacy who are not accepted as members of the Doctoral School of Medicine-Pharmacy.

Table. 1 Distribution of the doctoral supervisors during the 2018-2020 period,
the field of Pharmacy

Year	2018	2019	2020
Number of doctoral supervisors	3	4	5
Doctoral supervisors with habilitation thesis	3	4	5

https://www.umft.ro/facultati/csud/csud_componenta-csud-si-descriere/

Table 2. Fulfilling of the minimum and obligatory CNATDCU standards for obtaining the qualification certificate of the doctoral supervisors in the field of Pharmacy, within the Doctoral School of Medicine-Pharmacy UMFVBT

No.	Teaching/ research function	Name and surname of the scientific doctoral supervisor	OM No. by which the certificate of empowerment is granted	Field	Meets the CNATDCU minimum standards YES/NO
1	Prof. Univ. Dr.	Antal Diana Simona	3829/04.06.2018	Pharmacy	YES
2	Prof. Univ. Dr.	Danciu Corina	3412/22.03.2018	Pharmacy	YES
3	Prof. Univ. Dr.	Dehelean Cristina	4209/10.06.2015	Pharmacy	YES
4	Prof. Univ. Dr.	Șoica Codruța Marinela	4032/07.06.2016	Pharmacy	YES
5	Prof. Univ. Dr	Vlaia Lavinia	5486/14.11.2018	Pharmacy	YES

Out of the total number of doctoral supervisors in the field of Pharmacy, 5 (100%) are holders within IOSUD-UMF from “VICTOR BABEȘ” Timișoara.



The evolution of the number of PhD students enrolled in the Doctoral School, Pharmacy, is presented in Table 3.

Table 3. Doctoral students enrolled in the period 2018-2020, Pharmacy

Year	2018	2019	2020
The Field of Pharmacy	14	21	25

The detailed situation per academic year of the admission and enrollment of doctoral students in the first year, Pharmacy, is as follows (Tables 4-6):

Table 4. The situation of admission and enrollment of doctoral students in the first year - academic year 2018 - 2019

DOCTORATE					
The Field of Pharmacy	IF with scholarship	IF without scholarship	IFR without scholarship	Scholar of the Romanian State	With frequency: with fee
	0	0	0	1	13

Table 5. The situation of admission and enrollment of doctoral students in the first year - academic year 2019 - 2020

DOCTORATE			
The Field of Pharmacy	IF with scholarship	IF without scholarship	With frequency: with fee
	2	0	6

Table 6. The situation of admission and enrollment of doctoral students in the first year - academic year 2020 - 2021

DOCTORATE			
The Field of Pharmacy	IF with scholarship	IF without scholarship	With frequency: with fee
	1	1	5

For the academic year 2019-2020, according to the Activity Report of CSD Medicine-Pharmacy regarding the cycle of doctoral studies for the academic year October 1, 2019 - October 1, 2020 (**Annex 24**), the following scientific results of doctoral students were obtained, Pharmacy (Table 7)



Table 7. Scientific activity of doctoral students - Pharmacy
(source: Activity report of CSD Medicine-Pharmacy regarding the cycle of doctoral studies for the academic year October 1, 2019 - October 1, 2020)

Scientific activity	Doctoral students in the field of Pharmacy	
	Number	Cumulative FI
1. Articles published in extenso in ISI-rated journals with impact factor		
First-author	18 (36%)	74.782
Co-author	32	94.075
2. Articles published in extenso in ISI-rated journals without impact factor	2	
First-author	2 (100%)	
Co-author	-	
3. Articles published in extenso in BDI listed journals	2	
First-author	2 (100%)	
Co-author	-	
4. Abstracts in the abstract book of conferences	29	
First-author	3 (6%)	
Co-author	26	
5. Oral communications	12	
5.1. National with national participation	7	
First-author	7 (100%)	
Co-author	-	
5.1. National with international participation	0	
First-author	-	
Co-author	-	
5.3. International	5	
First-author	4 (80%)	
Co-author	1	
6. Research activity		
6.1. Research projects	12	
Director	1	
Member	11	
6.2. Inventions, innovations - Patents published	2	
6.3. Inventions, Innovations - Patent applications	2	
7. Awards	27 (20 articles, 7 inventions)	
8. Taken courses	3	
9. Organized courses	5	
10. Teaching activity	5	
10.1. Hourly payment	-	
10.1. Fixed-term university assistants	1	
10.2. University assistants for an indefinite period	1	
10.3. Lecturers	2	
10.4. Associate professors	1	
11. Editorial activity	3	
11.1 Co-author book	3	
11.2. Co-author book chapter	0	
12. Peer Reviewer activity at ISI listed journals	10	
13. Exchanges of professional experience, scholarships	0	



The interest of doctoral students for the didactic activity is also noticed, 5 of them also carrying out a didactic activity at the level of the disciplines of the Faculty of Pharmacy within UMFVBT.

The number of doctoral theses defended within UMFVBT, in the period 2018-2020, corresponding to the field of Pharmacy, can be found in Table 8, finding a constant evolution of their number.

Table 8. Distribution by years of the number of doctoral theses, Pharmacy field.

Year	2018	2019	2020
Number of presented doctoral theses	-	1	1

The doctoral students carry out their scientific activity in research centers and laboratories, which are equipped with computer technology with internet access, access to databases (Information, WoS), as well as special equipment, specific to each area of interest.

Currently, there are resources for the financial support of doctoral students by annually awarding 10 scholarships of at least 6 months worth 5 000 euros each.

In addition to these amounts allocated from the IOSUD budget, by the Decision of the Board of Directors of the 4th of December 2018 it was decided to grant internal research grants, namely: 5 doctoral scholarships of 30,000 Euros each and 5 post-doctoral scholarships of 50,000 Euros each. These scholarships will be awarded through competition with external evaluation from the UMFVBT budget (**Annex 25**).

The doctoral students of the Doctoral School of Pharmacy can carry out their scientific research activity in the following advanced research centers and methodological research centers (Table 9) <https://www.umft.ro/cercetare/centre-de-cercetare/>. Doctoral students in the field of Pharmacy can work in these centers, based on a pre-established protocol (**Annex 26**).

Table 9. Research centers within the Faculty of Pharmacy, to which doctoral students enrolled in the field of Pharmacy have access

Advanced research centers
1. Research Center for Pharmaco-Toxicological Evaluations (FARMTOX), Center director Prof. Dr. Cristina Dehelean At this center are affiliated: Prof.univ. Dehelean Cristina, Prof.univ. Șoica Codruța, Prof.univ. Danciu Corina, Prof.univ. Antal Diana
2. Advanced Instrumental Screening Center (AISC), Center director Prof. Dr. Adriana Ledeti
Methodological research centers
1. Drug Formulation and Technology Research Center, Center director Prof. Dr. Vlaia Lavinia



The university has a website (www.umft.ro) in Romanian, English and French, which includes all the information on university management, a brief history of the university, the locations of disciplines and clinics where teaching and practical activities take place. Also from the university website, visitors can find information about the Doctoral School such as research activity, scientific events of major interest, international cooperation programs, exchange of students and teachers, all with the aim of increasing the quality of the educational process. The structure of the website is made in clearly delimited chapters, in order to allow the user quick access to the desired information. We consider of special importance the offer of permanently updated information for visitors and potential future students, that is why the text is accessible and to the point.

In order to be awarded the doctoral degree, the articles published in extenso, must be included in the research topic of the doctoral thesis. The doctoral student has the obligation to declare his affiliation to UMFVBT in all papers published during his doctoral studies. To date, two PhD students in the field of Pharmacy have presented their theses during the reporting period (Table 10).

Table 10. Doctoral theses presented during the reporting period, Pharmacy field

No.	Name and surname of the doctoral student	Name and surname of the doctoral supervisor	The title of the doctoral thesis	Presentation date
1	Cîrcioban Denisa Laura	Prof. Univ. Dr. Dehelean Cristina Adriana	Biological and physico-chemical complex screening of several derivatives with sesquiterpenic Structure Mark EXCELENT OMEN CONFIRMED no. 5644 from the 30 th of December 2019	30.09.2019
2	Drăghici George Andrei	Prof. univ. dr. Dehelean Cristina Adriana	Toxic effects and observational aspects relating to cadmium and copper on experimental models Mark EXCELENT OMEN CONFIRMED no. 5748 from the 13 th of October 2020	15.07.2020



1.3. Internal quality assurance system in the field of Pharmacy

The institutional framework for quality monitoring is provided through several structures, policies and concrete strategies for quality management of teaching - learning, research, administrative and auxiliary activities. Within the university, the Vice-rectorate for Quality Assurance and International Relations is the main structure responsible for the elaboration and implementation of the quality evaluation and assurance system. Within it, the Quality Assurance Department operates, whose attributions include the elaboration of specific instruments for evaluating the didactic activity, the application of these tools, the analysis of the results and the drafting of the internal evaluation reports of the didactic activity within the university.

The evaluation of the quality of doctoral theses, both from the point of view of observing the quality standards in scientific research, and of the drafting norms, is ensured at the level of the Doctoral School, Medicine by the **Council for quality assurance in doctoral research**. Its composition is established by the Senate of the University of Medicine and Pharmacy Victor Babeș, through the Senate Decision No. 205/18470 from the 18th of December 2020 (**Annex 21**), as follows:

Prof. Univ. Dr. Dehelean Cristina Adriana

Prof. Univ. Dr. Muntean Mirela - Danina

Prof. Univ. Dr. Tomescu Mirela Cleopatra

Prof. Univ. Dr. Sinescu Cosmin

Dr. Țogoe Marius Mihai – doctoral student

https://www.umft.ro/facultati/csud/csud_componenta-csud-si-descriere/

The Council for Quality Assurance in Doctoral Research proposes solutions and strategies to improve the quality of doctoral research and closely monitors quality standards and transinstitutional performance indicators in the medical-pharmaceutical field in Romania and Europe. The operational structures mentioned above, through the specifics of the activities carried out, contribute to the promotion of a pro-quality culture in the university.

For each verified work, a similarity report is generated in the sistemantiplagiat.ro platform. The system operator must examine the similarity ratio in terms of the occurrence of unauthorized loans at work, in particular consisting of the following:

- a. similarity coefficient 1 does not exceed 50%
- b. similarity coefficient 2 does not exceed 5%
- c. presence of unauthorized similarities ("alert")

Based on the analysis of the similarity report, the system operator will prepare the "report checking the originality of the work". The verification period cannot exceed 30 days from the date of submitting the doctoral thesis to the Secretary's Office of the Doctoral School. The doctoral school may additionally request the use of a nationally developed program for the detection of similarities.



Another factor for promoting the culture of quality is the active involvement in the process of ensuring the quality of the activity carried out by IOSUD of doctoral supervisors, lecturers of doctoral courses and doctoral students. In this way, the awareness of the consequences of one's own actions and the feeling of responsibility are outlined among those mentioned. In this sense, the Quality Assurance Department has implemented since 2013 the evaluation of the Doctoral School courses, to which were later added the evaluations from the doctoral supervisors and the lecturers of the doctoral courses. In this way, a multidimensional evaluation of the Doctoral School has been consolidated, which is carried out annually and represents the foundation for the permanent improvement of the IOSUD activity.

The evaluation of the doctoral courses aims to measure the degree of satisfaction of the doctoral students regarding the quality of the courses offered by the Doctoral School in the first year of study. At the same time, the evaluation makes it possible to identify ways in which the Doctoral School curriculum could be improved, in accordance with the training needs of doctoral students. In this sense, a questionnaire was built that measures the following aspects: the quality of the courses, the contribution of the courses to the development of the research skills of the doctoral students, the time allocated to the courses and the changes that should be made to them in the opinion of the doctoral students. In the last part of the questionnaire, doctoral students are asked to assess the extent to which the Doctoral School's course offer has met their training needs and to specify which courses or other types of educational activities could be useful for their training.

The evaluation of the Doctoral School by the course holders is part of this ample process of evaluating the quality of the Doctoral School within the "Victor Babeș" University of Medicine and Pharmacy Timișoara. This procedure for internal evaluation of the activity of coordinating doctoral studies is due to the university's desire to position itself as high as possible in the scale of medical and pharmaceutical universities in Romania.

The approach started from the premise according to which the Doctoral School must permanently bring an added value to achieve this desideratum, and the periodic evaluation of the specific activities is very important. The questionnaire used for the evaluation of the Doctoral School by the lecturers is built on two dimensions - the performance of the doctoral students and the difficulties encountered in carrying out the didactic activities within the Doctoral School.

In relation to the performance of doctoral students, the holders of doctoral courses appreciate the students' activity under the following aspects: interest in the subjects taught, attendance at courses, active involvement in courses and the level of preparation at the end of courses.

The evaluation of the Doctoral School by the doctoral supervisors is complementary with the evaluation of the Doctoral School courses by the doctoral students and with the evaluation of the Doctoral School by the holders of the doctoral courses. This aims to



evaluate the perception of doctoral supervisors on the following aspects: the performance of doctoral students, the offer of courses of the Doctoral School, the quality of doctoral theses and the relationship between doctoral supervisor and doctoral student.

The election of doctoral students in CSUD and CSD is made whenever a place is vacated which is assigned to doctoral students, by universal, direct and secret ballot, all doctoral students having the right to choose and be elected. The elections are organized by the student associations or by the students' representatives, with the support of the Doctoral School secretariat, without the involvement of the teachers and are publicly promoted and brought to the attention of the doctoral students. Doctoral students are informed about the meetings of CSUD and the doctoral school council, receive their convocation, have the right to vote in them, sign the minutes of the meetings, participate in the meetings, have interventions, proposals, amendments during the meetings.

All specific documents for conducting doctoral studies are public on the university website. The Doctoral School, with the logistical support of IOSUD, ensures the publication on the Internet of all the necessary information regarding the doctoral study programs, aiming mainly at the following categories:

- doctoral school regulations;
- admission regulations;
- the regulation for completing the studies, which should also include the procedure for public defense of the thesis;
- information on the organization and development of doctoral programs;
- information on the content of doctoral university study programs;
- information on how to finance the studies, as well as the costs incurred by the doctoral student;
- the model of the doctoral studies framework contract;
- information on doctoral theses, respectively elaboration standards, procedures and criteria for their evaluation;
- the summaries of the doctoral theses to be defended publicly, as well as the date, time and location related to the public defenses, at least 20 days before their defense;
- information on receiving doctoral studies for EU third-country nationals and how to equate studies for EU candidates;
- other information of interest for doctoral students and doctoral supervisors, as support for the development of research and elaboration of doctoral thesis, career perspective counseling, research specific legislation.

Both the University and the Doctoral School respect the dignity of each of its members and promote academic integrity. The members undertake to contribute to the democratic development and prosperity of society, in compliance with the University Charter



and the laws in force. "Victor Babeș" University of Medicine and Pharmacy in Timișoara and the Doctoral School, through its members, cultivates and enriches its formative tradition of qualities and values indispensable for the exercise of professions.

The code of ethics functions as a moral contract between members of the university community and the university community as a whole, thus contributing to the cohesion of members, to the formation of a climate based on unity, cooperation and collegial competition and to the increase of university prestige (http://www.umft.ro/data_files/documents-attached-sections/2550/hca_2024.05.2016.pdf)

The Code is not a substitute for internal laws and regulations, nor can it contravene them. It completes the University Charter of the University of Medicine and Pharmacy "Victor Babeș" from Timișoara and the observance of its provisions is obligatory for all the members of the university community.

The members and doctoral students of the university community are obliged to respect the deontological code, the patient's law, the labor code and all the other provisions that regulate the professional educational and research activity.

The Code regulates and promotes moral values, such as: academic freedom, personal autonomy, justice and fairness, merit, professionalism, honesty and intellectual fairness, transparency, accountability, respect and tolerance.

The privileges and rights of the members of the university community are based on the relationship of mutual support between the special professional competence of the staff, the academic freedom and the main functions of the university, taking care to avoid abuses of any kind.

The entire teaching staff, the technical, auxiliary and specialized staff, ensures everyone equal opportunities and optimal conditions for professional training.

The "Victor Babeș" University of Medicine and Pharmacy in Timișoara provides a large space free from interference, pressure and political, religious and economic power constraints, except for scientific, legal and ethical constraints. The members of the university are protected from censorship, manipulation, persecution, in compliance with scientific standards and professional responsibilities.

Academic freedom can only be restricted under the law. It is forbidden to manipulate, indoctrinate, dogmatic education and, thus, violate the right of students, teachers or researchers to freedom of thought and scientific training. Academic freedom will be maintained even if the financing of certain activities comes from extra-budgetary or private funds.



The "Victor Babeș" University of Medicine and Pharmacy in Timișoara, together with the Doctoral School, promotes an environment conducive to the exercise of professional autonomy. The exercise of the right to design, modify, extend or improve study and research programs is ensured. Every member of the university community is guaranteed the right to make and apply decisions regarding their own academic and professional career.

University staff members who have access to documents and information must maintain the confidential, private nature of such information and protect persons who do not wish this information to become public. Violation of confidentiality is sanctioned.

The entire teaching and administrative staff has the obligation to respect the confidentiality in matters related to the privacy of students.

The Doctoral School of the "Victor Babeș" University of Medicine and Pharmacy in Timișoara respects the principle of transparency of all categories of information that interest members of the university community, potential candidates, graduates, institutions with which it collaborates and the general public, ensuring consistent and accurate information. This facilitates equal opportunities in competition and ensures equitable access to university resources. It is forbidden to hide, falsify or distort the information to which the members of the university community and the general public are entitled.

2. Information for the assessment of the degree of fulfillment of the criteria, standards and performance indicators, provided in annex no. 4 to the guide, accompanied by proving documents accessible in electronic format

The self-assessment was performed based on the information and documents provided by the university structures that are related to the doctoral research. For each indicator the information sources are specified. The report evaluates the development of the field of doctoral studies of Pharmacy within the Doctoral School Medicine-Pharmacy, UMF "Victor Babeș" from Timișoara and contains quantifiable data on the main fields of the institution's activity, but also the interpretation of the dynamics of some criteria and performance indicators. The criteria, standards and performance indicators used in self-assessment are those specified in Annex 2 on "The system of criteria, standards and performance indicators used in the accreditation and periodic evaluation of doctoral university fields" of Order no. 3651/2021 of April 12, 2021 of the Minister of Education on the Methodology for evaluating doctoral studies and the systems of criteria, standards and performance indicators used in evaluation, published in the Official Gazette no. 414 from the 20th of April 2021.

This self-assessment report refers to the activity within the field of doctoral studies Pharmacy, from the establishment in 2018 by OM 4209 from the 31st of July 2018 and until now (2018-2021).



A. INSTITUTIONAL CAPACITY

A.1.1.1 The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain.

The activity of the Pharmacy Domain within the Doctoral School of Medicine-Pharmacy of IOSUD UMFVBT is regulated according to the Aracis indicators, as follows:

a) The regulations of the Doctoral School are the subject of the following documents (**Annex 27**):

- *The Institutional Regulation for the organization and functioning of the doctoral university studies within the “Victor Babeș” University of Medicine and Pharmacy from Timișoara* <https://www.umft.ro/reglementari-interne-csud/>

- *Regulations of the Doctoral School within IOSUD “Victor Babeș” University of Medicine and Pharmacy from Timișoara, fields of Medicine and Pharmacy* <https://www.umft.ro/reglementari-interne-csud/>

b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct are subject to the documents cited below, and included in **Annex 28** of this report.

- *The methodology regarding the appointment and election of the council for doctoral university studies and of the Council of the Doctoral School in the “Victor Babeș” University of Medicine and Pharmacy from Timișoara*

https://www.umft.ro/wp-content/uploads/2021/03/Metodologia-alegeri-CSUD_aprobat-Senat_18.12.2020.pdf

http://old.umft.ro/data_files/documente-atasate-sectioniuni/199/metodologia_20alegeri_20csud_20si_20csd-_2022.02.2018.pdf

- *Evidence of the CSUD / CSD elections:*

http://old.umft.ro/concurs-director-csud-2020_853

<https://www.umft.ro/alegeri-csd-2021/>

http://old.umft.ro/alegeri-csud-2020_915

- *The methodology regarding the election of the directors of the doctoral school councils in the “Victor Babeș” University of Medicine and Pharmacy from Timișoara.*

<https://www.umft.ro/reglementari-interne-csud/>

<https://www.umft.ro/alegeri-csd-2021/>

c) The methodologies for organizing and conducting doctoral studies (for admitting doctoral students, for completing doctoral studies) are the subject of the documents cited below, being included in **Annex 29** of this report.

- *The methodology regarding the organization of the admission in the cycles of doctoral university studies within the “Victor Babeș” University of Medicine and Pharmacy from Timișoara 2021-2022*



<https://www.umft.ro/wp-content/uploads/2021/04/1.-Metodologia-privind-organizazione-admiterii-in-ciclurile-universitare-de-doctorat.pdf>

- *Methodology for evaluating projects for obtaining a doctoral grant*

http://admitere-doctorat.umft.ro/data_files/sesiuni-documente-atasate/245/metodologia_20de_20evaluare_20grant_20doctoral.pdf

- *Methodology for completing doctoral studies at the "Victor Babeș" University of Medicine and Pharmacy in Timișoara* <https://www.umft.ro/reglementari-interne-csud/>

d) the existence of mechanisms for the recognition of the quality of doctoral supervisor and for the equivalence of doctorates obtained in other states are the subject of the documents cited below, being included in **Annex 30** of this report

- *Procedure regarding the recognition of the doctoral degree and the doctoral degree in sciences obtained abroad by the "Victor Babeș" University of Medicine and Pharmacy from Timișoara* <https://www.umft.ro/reglementari-interne-csud/>

- *The procedure regarding the automatic recognition of the quality of doctoral supervisor / habilitation obtained in university educational institutions accredited from abroad by the "Victor Babeș" University of Medicine and Pharmacy from Timișoara* <https://www.umft.ro/reglementari-interne-csud/> / http://old.umft.ro/proceduri-pcue_877

e) functional management structures (Doctoral School Council), proving also the regularity of convening the meetings - are included in **Annex 31** of this report

f) the doctoral university studies contract - the contracts of the doctoral students in the Pharmacy field are included in **Annex 32** of the present report and can be viewed through the link http://old.umft.ro/reglementari-cu-privire-la-studiile-doctorale_120
Contract for Doctoral Studies (2018, 2019, 2020)

g) internal procedures for analysis and approval of proposals on the subject of the training program based on advanced university studies. These procedures are included in **Annex 33**.

- *The procedure for elaborating the doctoral study programs and the curriculum within the "Victor Babeș" University of Medicine and Pharmacy from Timișoara* <https://www.umft.ro/reglementari-interne-csud/>

A.1.1.2. The regulations of the doctoral school include criteria, procedures and mandatory standards for the aspects specified in art. 17 para. (5) of the Code of doctoral studies, approved by Government Decision no. 681/2011, with subsequent amendments and completions

The Regulation of the Doctoral Schools within IOSUD UMF "Victor Babeș" from Timișoara, includes criteria, procedures and obligatory standards for the aspects specified in art. 17, para. 5 of Government Decision 681 from 2011 (**Annex 27**):

- in Chapter IV, art. 6 (1), respectively in Chapter IV, art. 11 of the doctoral school.
- in Chapter VI, art.23 (1,2,3) respectively art.24 references to the mechanisms through which decisions are taken regarding the opportunity, structure and content of the training program based on advanced university studies.



- In Chapter IV, art. 8 (1,2,3) references to the procedures for changing the doctoral supervisor of a certain doctoral student and the procedures for mediating conflicts.
- Chapter II, art. 4 (9) references to the conditions under which the doctoral program may be interrupted.
- Chapter VI, art. 36 (1,2) references to fraud prevention methods in scientific research including plagiarism.
- In Chapter V, art. 25 (1,2,3,4) references to the provision of research resources.
- In Chapter VI, art. 19 references to the attendance obligations of doctoral students according to a methodology developed by the Ministry of Education, Research, Youth and Sports.

Considering that within the regulation of the analyzed doctoral school are found the obligatory aspects mentioned above, the indicator is considered fulfilled.

A.1.2.1. The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.

Currently, within the Doctoral School of Medicine - Pharmacy, the record of doctoral students and their academic path is made through the excel database available at the level of the secretariat of the Doctoral School. By acquiring the Admissions Computer Program, this record is improved (**Annex 34**). Currently, the Pharmacy field counts 25 doctoral students, enrolled in the period 2018-2020.

A.1.2.2. The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.

To ensure quality scientific research, the university has purchased software for the detection of plagiarism (www.sistemantiplagiat.ro), made available to the entire academic community. All doctoral theses defended within IOSUD - UMFVBT, Pharmacy are subject to anti-plagiarism evaluation. For each verified paper, the software generates a Similarity Report that indicates the values of coefficients 1 and 2, being then analyzed by the doctoral supervisor, who prepares the resolution on the acceptance for the presentation of the doctoral thesis before the guidance committee. For the use of the internet service Sistemantiplagiat.ro, the "Victor Babeș" University of Medicine and Pharmacy from Timișoara, renewed the contract with Nr. 1017 of 30.03.2021 (**Annex 35**).

A.1.3.1. Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students

At the level of the Doctoral School, Field of Pharmacy, a rich research activity is carried out, attested by numerous grants with relevance in the field. Of these, two grants (one for research and one for institutional development) with doctoral supervisors in the field of Pharmacy as project directors are being implemented at the time of submitting the self-assessment file (Table 11). Given these grants, the indicator is considered fulfilled.



Table 11. Research and institutional development grants in implementation at the time of submitting the self-assessment file (field of doctoral studies - Pharmacy)

Research and institutional development grants in implementation at the time of submitting the self-assessment file (minimum requirement: 1 grant)	
Grants having as project directors doctoral supervisors in the field of Pharmacy	1. CNFIS-FDI-2021-0498: Development of the practice base in the field of medicinal plants of the Victor Babeș University of Medicine and Pharmacy Timișoara Grant director: Prof.univ.dr. Dehelean Cristina
	2. Project PN-III-P2-2.1-PED2019-3067 Innovative nanobiostructures based on cyclodextrin-conjugated ferromagnetic nanoparticles to increase efficacy and reduce toxicity in cancer therapy by SP-magnetic hyperthermia; Period: 2020-2023 Grant director: Prof.univ.dr. Șoica Codruța Marinela
Grants in which the doctoral supervisors in the field of Pharmacy are members	1. Project PN-III-P1-1.1-TE-2019-2134, BAPRONIO, Delivery to the dermocosmetic market of a modern topical formulation with betulinic acid incorporated in proniozomes; Project coordinator: "Victor Babeș" University of Medicine and Pharmacy Timiș oara; Period: 2.11.2020 – 31.10.2022 Project Director: Conf. Univ. Dr. Dorina Coricovac Member: Prof.univ.dr. Dehelean Cristina
	2. Project PN-III-P1-1.1-TE2019-0130 Innovative hydrogels based on polymeric micelles as release systems for oregano essential oil: an advanced pharmaceutical approach for the management of skin papillomas; Period: 2020-2023 Project director: Prof. Univ. Dr. Danciu Corina Member: Prof.univ.dr. Dehelean Cristina

Regarding the second part of the indicator, to have at least 2 research or institutional development grants/ human resources obtained by doctoral supervisors in the field of Pharmacy in the last 5 years, a consistent number of projects won by them support the fulfillment indicator (Table 12).

Table 12. Research and institutional development grants in the field of Pharmacy studies obtained by doctoral supervisors in the field evaluated in the last 5 years

Research and institutional development grants obtained by PhD supervisors in the field of Pharmacy in the last 5 years (minimum requirement: 2 grants)		
No.	Doctoral supervisor	Projects
1.	Prof. Univ. Dr. Danciu Corina	<p>Research project director</p> <p>1. Innovative hydrogels based on polymeric micelles as release systems for oregano essential oil: an advanced pharmaceutical approach for the management of skin papillomas”- PN-III-P1-1.1-TE-2019-0130, Acronym OEOPMS, Affiliation UMFVBT</p> <p>2. Populi gemmae - a double gain for the pharmaceutical field: therapeutic potential and bio-source for green synthesis of silver nanoparticles”- 3POSTDOC/1238/2020, Acronym POPGREEN, Affiliation UMFVBT</p> <p>Project member</p> <p>1. Formulations based on betulin and gold nanoparticles in combating the aging process of the skin”, PN-III-P2-2.1-BG-2016-0354, Financing contract</p>



		<p>115/2016, Acronym BETGOSKIN, Affiliation UMFVBT</p> <p>2. "New pharmaceutical approaches to modulate the bioavailability of flavonoids with chemopreventive potential for malignant melanoma"- Partnerships in innovative fundamental research-PIII-C2-PCFI-2015/2016, Acronym FLAVOFORM, Affiliation UMFVBT</p> <p>3. The anti-inflammatory, chemopreventive and antitumor potential in breast cancer of standardized plant extracts of Melissa officinalis L. in cyclodextrin nanoformulations"- III-C5-PCFI-2017/2018-04, Acronym ROINEXTRAMAM, Affiliation UMFVBT</p> <p>4. "Lupeol as bioactive natural compound in the local treatment of wounds and inflammation from mild to severe pathologies: experimental evaluations and market pre-proposal"-1EXP-1233/ 30.01.2020, Acronym LUPSKINPATH, Affiliation UMFVBT</p> <p>5. „A comprehensive in vitro and in vivo evaluation of Aronia melanocarpa (Michx.) Elliott standardised bio juice on blood pressure levels and endothelial damage. A prospective study"- 5DOC/1425/03.02.2020, Acronym AROBLEND0, Affiliation UMFVBT Project director: Conf.univ.dr.Buda Valentina, Mentor: Prof.univ.dr.Danciu Corina</p>
2.	Prof. Univ. Dr. Dehelean Cristina-Adriana	<p>Director / mentor / scientific manager of the research project</p> <p>1. Project PN-III-P1-1.1-PD-2016-1982, 2017-2019, Postdoctoral Research Projects, 2016 competition - New perspectives on the mechanism of action of betulinic acid as an antimelanoma agent; Project coordinator: Victor Babeș University of Medicine and Pharmacy Timișoara; Project director: Conf. Univ. Dr. Coricovac Dorina; Mentor: Prof. Univ. Dr. Dehelean Cristina</p> <p>2. Doctoral Internal Grant, TRITERPENS@MNP, contract. no. 4DOC/1276/30.01.2020 - Magnetic nanoparticles as a support for active antitumor principles of triterpene type; Project coordinator: Victor Babeș University of Medicine and Pharmacy Timișoara; Period: 30.01.2020 – 30.01.2022; Project director: ȘL. Dr. Alina Moacă; Mentor: Prof. Univ. Dr. Dehelean Cristina</p> <p>3. Project PN-III-P1-1.1- PD-2019-1231 New perspectives on skin cancer chemoprevention: evaluation of maslinic acid and a maslinic acid derivative incorporated in nanoemulsions; Project coordinator: Victor Babeș University of Medicine and Pharmacy Timișoara; Project director: ȘL. Dr. Ioana Zinuca Pavel; Mentor: Prof. Univ. Dr. Dehelean Cristina</p> <p>4. Axis 1 of POC – ANCS/ POC-A1- A1.1.4 – E-2015 "The use of nutrigenomic models for personalization of dietetic treatments in obesity" (NUTRIGEN); Period: 2016-2019; Scientific manager: Prof. Univ. Dr. Dehelean Cristina</p> <p>Institutional development project director</p> <p>5. CNFIS-FDI-2021-0498: Development of the practice base in the field of medicinal plants of the Victor Babeș University of Medicine and Pharmacy Timișoara</p> <p>6. CNFIS-FDI-2019-0393 "Center for professional development in the field of dermato-cosmetic products based on medicinal plants"</p> <p>7. CNFIS-FDI-2018-0159: Center for development of practical abilities in the field of medicinal plants</p> <p>Research project member</p> <p>1. Project PN-III-P2-2.1-BG-2016-0354, ctr. nr. 115/2016 - Formulations based on betulin and gold nanoparticles in combating the aging process of the skin; Project coordinator: Victor Babeș University of Medicine and Pharmacy Timișoara; Project director: Prof.univ.dr.farm. Șoica Codruța Marinela; Period: 2016-2018</p> <p>2. Project PN-II-RU-TE-2014-4-2842 - In vitro and in vivo pharmacokinetic and pharmacodynamic profile of nanoformulations with triterpene compounds with</p>



		<p>antitumor effect; Project coordinator: Victor Babeș University of Medicine and Pharmacy Timișoara; Project director: Conf.univ.dr.farm. Coricovac Dorina Elena; Period: 2014-2016</p> <p>3. Project PN-III-P4-ID-PCE-2016-0765, contract no.169/01.08.2017 - Advanced materials based on magnetic nanoparticles of iron oxides obtained by combustion and their cytotoxicity used in cancer therapy – MagNanoCytoTox; Project coordinator: Politehnica University of Timisoara; Project director: Prof.univ.dr.ing. Cornelia Păcurariu; Period: 2017-2019</p> <p>4. Project PN-III-P1-1.1-TE-2019-2134, BAPRONIO, - Offer to the dermocosmetic market of a modern topical formulation with betulinic acid incorporated in proniozomes; Project coordinator: Victor Babeș University of Medicine and Pharmacy Timișoara; Project director: Conf. Univ. Dr. Dorina Coricovac; Period: 2.11.2020 – 31.10.2022</p> <p>5. Project PN-III-P1-1.1-TE2019-0130 Innovative hydrogels based on polymeric micelles as release systems for oregano essential oil: an advanced pharmaceutical approach for the management of skin papillomas; Period: 2020-2023</p> <p>6. Project PN-III-P2-2.1-PED2019-3067 Innovative nanobiostructures based on cyclodextrin-conjugated ferromagnetic nanoparticles to increase efficacy and reduce toxicity in cancer therapy by SP-magnetic hyperthermia; Period: 2020-2023</p> <p>7. Project PN-III-P2-2.1-BG-2016- 0455, Funding contract 122/2016 - Avant-garde formulations based on eugenol nanocapsules addressable in dentistry; Period: 2016 – 2018</p>
3.	Prof. Univ. Dr. Șoica Codruța Marinela	<p>Research project director</p> <p>1. Formulations based on betulin and gold nanoparticles in combating the aging process of the skin, BETGOSKIN, UMFVBT, PN-III-P2-2.1-BG-2016-0354</p> <p>2. Innovative hybrid nanostructures, based on im-cyclodextrin bioconjugated ferromagnetic nanoparticles, to increase efficacy and reduce toxicity in alternative cancer therapy by superparamagnetic hyperthermia (Responsible UMFVBT), BIO-SPION, UMFVBT, 2020</p> <p>Project member</p> <p>1. PN-III-P2-2.1-BG-2016-0455, Contract 122/2016, Advanced formulations based on nanocapsulated eugenol with adresability in dental medicine, UMFVBT</p> <p>2. PN-II-PT-PCCA, contract 110/2014, Advanced recovery of useful products from used catalysts waste (REMACAT), 2014-2017, UMFVBT</p>

The grants address issues relevant to the field of Pharmacy, such as: finding innovative formulations to improve the efficacy and pharmacokinetic profile of drugs, but also to reduce toxicity, investigating the bioactivity of natural compounds in medicinal plants, identifying substances with antitumor effect. Through the institutional development projects, the development of the practice base in the field of medicinal plants of the Victor Babeș University of Medicine and Pharmacy Timișoara is aimed at, as well as an improvement of the practical skills in the field of their study. Numerous doctoral students participate in grants by conducting research and presenting papers in scientific events organized within FDI projects (Table 13), **Annex 36.**



Table 13. Involvement of doctoral students in the development of institutional development grants, Pharmacy field

Institutional development grant	Involved doctoral students
CNFIS-FDI-2018-0159: Center for the development of practical skills in the field of medicinal plants Coordinator: Prof.univ.dr. Dehelean Cristina	Participation of doctoral students in the event: SAFETY OF MEDICINAL PLANTS PRODUCTS within the project CNFIS-FDI-2018-0159 Volume of abstracts with editors: Prof. Cristina A. Dehelean, Conf. Iulia Pînzaru, Conf. Dorina Coricovac
CNFIS-FDI-2019-0393 “ Center for professional development in the field of dermato-cosmetic products based on medicinal plants”	Participation of doctoral students in the event: DERMO-COSMETIC PRODUCTS AS FORMULATION. COSMETIC SAFETY TESTING - Volume of abstracts edited during the Scientific events carried out based on the project CNFIS-FDI-2019-0393 Editors: Prof. Cristina A. Dehelean, Conf. Iulia Pînzaru, Conf. Dorina Coricovac Participation of doctoral students in the event: APPLICATIONS OF EXPERIMENTAL METHODS IN ANALYSIS PRODUSELOR COSMETICE CU PRINCIPII ACTIVE - Volume of abstracts edited during the Scientific events carried out based on the project CNFIS-FDI-2019-0393 Editors: Prof. Cristina A. Dehelean, Conf. Iulia Pînzaru, Prof. Codruta Soica, Conf. Dorina Coricovac Doctoral students in the field of Pharmacy who presented papers: Marius Mioc, Roxana Ghiulai, Alexandra Ghițu, Kis Brigitta, Alexandra Denisa Scurtu, Gabriela Nistor, Iren Moza (Alexoi), Crina Petean, Alina Dolghi, George Drăghici, Iasmina Marcovici, Valentina Buda, Alexandra Ulici, Andreea Milan, Adelina Lombrea, Denisa Circioban
CNFIS-FDI-2021-0498: Development of the practice base in the field of medicinal plants of the Victor Babeș University of Medicine and Pharmacy Timișoara	Involved doctoral students: Marcovici Iasmina – The Field of Pharmacy (Doctoral supervisor Prof. Dehelean Cristina) Morariu-Briciu Diana Maria – The Field of Medicine (Doctoral supervisor Prof. Vlad Daliborca) Moldovan Mădălina – The Field of Dental Medicine (Doctoral supervisor Prof. Szuhaneck Camelia)

A.1.3.2. The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%

C.S.U.D. grants scholarships of excellence to doctoral students with special merits in scientific research (publications in extenso in journals rated ISI with an impact factor over 1, oral presentations or posters at the Scientific Sessions of the Doctoral School).



The expenses for the travel and accommodation of the referents from the doctoral / habilitation theses commissions are settled according to the law, based on the proving documents.

Payment of the fee for the publication of scientific articles is made on the basis of the approval of the Vice-Rectorate for Scientific Research on the report of necessity. In order to settle the participation, travel and accommodation fees for scientific events, doctoral students must present proof of acceptance of the abstract of the paper presented orally or in the form of a poster.

The Scientific Council attached to the Rectorate of UMFVBT organized during 2019 three grant competitions, addressed as well to doctoral students. The submission of project proposals was done online on a specialized platform, at: <https://umft.grantplatform.com/>.

Sixteen applications were submitted for the doctoral students competition, of which 25% were in the field of Pharmacy (**Annex 37a**). Following the evaluation by experts from outside Romania, 6 projects for doctoral students were financed, two of them being for doctoral students in the field of Pharmacy.

Within the Pharmacy field, three doctoral students benefit from financial support from research projects as project directors (Table 14), and another six doctoral students are members of research projects (Table 15). A doctoral student has, in different projects, the position of director and grant member (**Annex 37b**).

According to the data, **9 out of 29 (31%) doctoral students** have benefited / benefit, in the period 2018-present, from financial support through research or institutional development grants. In conclusion, the indicator is considered fulfilled.

Table 14. PhD students in the field of Pharmacy who benefit from funded projects

Doctoral student	Project name	Project value
Buda Valentina	„A comprehensive in vitro and in vivo evaluation of <i>Aronia melanocarpa</i> (Michx.) Elliott standardised bio juice on blood pressure levels and endothelial damage. A prospective study” - AROBLEND0 Internal grant competition, session 2019/2020 5DOC/1425/03.02.2020, Period: 3.02.2020-2.02.2023	30 000 Euro
Tăculescu (married Moacă) Elena-Alina	Magnetic nanoparticles as a support for active antitumor principles of triterpene type - TRITERPENS@MNP; Internal grant competition, session 2019/2020 4DOC/1276/30.01.2020 Period: 02.02.2020 – 02.02.2022	20 000 Euro
Mioc Marius	Synthesis and evaluation of novel bioconjugates of gold-triazole-triterpene nanoparticles, used as active agents in malignant melanoma Project financed from the national fund PN-III-P1-1.1-PD-2019-1078	246 948 lei



Table 15. Doctoral students in the field of Pharmacy, members in research projects

Doctoral student, member of the research team	Project name
Borcan Florin	„Study on Molecular Docking, Synthesis and Characterization of a Polyurethane Biomaterial used as a DNA Carrier”, 2020-2023, Experienced researchers grant 5EXP/1244/ 30.01.2020
Avramescu (married Pînzaru) Iulia	CNFIS-FDI-2018-0159 Title: Center for the development of practical skills in the field of medicinal plants CNFIS-FDI-2019-0393 Title: Center for professional development in the field of dermato-cosmetic products based on medicinal plants ERASMUS project 2019-1-RO01-KA203-063499 Title: Cooperation on innovation and exchange of good practice in the hypoglycemia diet for people with diabetes *1EXP/1233/30.01.2020 Title: Lupeol as bioactive natural compound in the local treatment of wounds and inflammation from mild to severe pathologies: experimental evaluations and market pre-proposal PN-III-P1-1.1-TE-2019-2134, acronym BAPRONIO. Title: Offer to the dermocosmetic market of a modern topical formulation with betulinic acid incorporated in proniozomes CNFIS-FDI-2021-0498 Title: Development of the practice base in the field of medicinal plants of UMF Victor Babeș Timișoara
Cîrcioban Denisa	<i>Hyphenated and complementary instrumental techniques for the analysis, control and recovery of bioactive compounds used in hormone therapies</i> (PN-III-P1-1.1-TE-2016-1165), Project director – Conf. Univ. Dr. Ledeti Ionuț-Valentin; Funding period: 2018-2020, Buget: 450.000 RON; <i>Formulations based on betulin and gold nanoparticles in combating the aging process of the skin</i> (PN III-P2-2.1-BG-2016-0354), Project director – Prof. Univ. Dr. Codruța Șoica; Funding period: 2016-2018;
Tăculescu (married Moacă) Elena-Alina	Project CNFIS-FDI-2018-0159, contract. no. 35/16.05.2018 Center for the development of practical skills in the field of medicinal plants Project coordinator: „Victor Babeș” University of Medicine and Pharmacy Timișoara Project director: Prof.univ.dr.farm. Cristina Dehelean Period: 16.05.2018 - 15.12.2018 Project CNFIS-FDI-2019-0393, contract. no. 104/21.05.2019 Center for professional development in the field of dermato-cosmetic products based on medicinal plants Project coordinator: „Victor Babeș” University of Medicine and Pharmacy Timișoara Project director: Prof.univ.dr.farm. Cristina Dehelean Period: 21.05.2019 - 15.12.2019 Project PN-III-P1-1.1-TE-2019-2134, BAPRONIO, contract no. 79/30.10.2020 Offer to the dermocosmetic market of a modern topical formulation with betulinic acid incorporated in proniozomes Project coordinator: "Victor Babeș" University of Medicine and Pharmacy Timișoara, Project director: Conf. Univ. Dr. Dorina Coricovac Period: 2.11.2020 – 31.10.2022
Ghiulai Roxana	Project UMFVBT 1EXP/1233/30.01.2020 LUPSKINPATH “Lupeol as bioactive natural compound in the local treatment of wounds and inflammation from mild to severe pathologies: experimental evaluations and market pre-proposal”. Project



	director: Prof. Univ. Dr. Codruța Soica
Mioc Marius	Project UMFVBT IEXP/1233/30.01.2020 LUPSKINPATH “Lupeol as bioactive natural compound in the local treatment of wounds and inflammation from mild to severe pathologies: experimental evaluations and market pre-proposal”. Project director: Prof. Univ. Dr. Codruța Soica Project PED PN-III-P2-2.1-PED-2019-3067 „Innovative nanobiostructures, based on cyclodextrin-conjugated ferromagnetic nanoparticles, to increase efficacy and reduce toxicity in cancer therapy by SP-magnetic hyperthermia”. Project responsible UMFVBT : Prof. Univ. Dr. Codruța Soica
Roșca Oana-Janina	PN-III-P2-2.1-PED-2019-3067 Project title: Innovative nanobiostructures, based on cyclodextrin-conjugated ferromagnetic nanoparticles, to increase efficacy and reduce toxicity in cancer therapy by SP-magnetic hyperthermia (BIO-SPION). Project director/UMFT : Prof. Dr. Farm. Șoica Codruța Date of subcontracting: 2020

A.1.3.3. At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.)

In accordance with HCA 15/6903 / 19.06.2020 (**Annex 38**), the settlement of publication fees is made on the following levels of ISI impact factors:

FI 0.5-0.99: maximum 500 Euro

FI 1-1.99: maximum 1500 Euro

FI 2-2.99: maximum 2000 Euro

FI 3-3.99: maximum 2500 Euro

FI 4-5.99: maximum 3000 Euro

FI 6-7.99: maximum 4000 Euro

FI 8-10: maximum 5000 Euro

FI > 10: up to 8000 Euro

The provisions also apply to doctoral students who do not have an employment contract with the university, but the head is from UMFVBT, with the mention that the statement is made from the CSUD budget.

According to HCA of 13.03.2020, a percentage of 90% of the revenues collected from doctoral students with the fee is allocated for the organization and functioning of CSUD (**Annex 38**), a budget from which the professional training expenses of doctoral students are financed. Thus the indicator is considered fulfilled.

A.2.1.1. The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific



platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly.

Within the Faculty of Pharmacy, two advanced research centers and a methodological research center are organized, which can function as income and expenditure units within the “Victor Babeș” University of Medicine and Pharmacy in Timișoara. <https://www.umft.ro/cercetare/centre-de-cercetare/>. The doctoral supervisors of the Pharmacy field are affiliated to these centers, and the doctoral students can carry out their activity in any of these centers. At the Research Center for Pharmacotoxicological Evaluations (FARMTOX), director of the center Prof. Dr. Cristina Dehelean, are affiliated: Prof.univ. Dehelean Cristina, Prof.univ. Șoica Codruța, Prof.univ. Danciu Corina, Prof.univ. Antal Diana, and the Drug Formulation and Technology Research Center is coordinated by Prof. Dr. Vlaia Lavinia. At the Center for Advanced Instrumental Screening (AISC), director of the center Prof. Dr. Adriana Ledeți, PhD students in the field of Pharmacy have access based on a protocol. The spaces and material endowment of the PhD students in the field of Pharmacy is specified in **Annex 39**

The research infrastructure and the offer of research services are presented publicly through the ERRIS profile platform <https://erris.gov.ro/PHARMACOTOXICOLOGICAL-EVALUA>, <https://eeris.eu/ERIF-2000-000G-1793>. The research infrastructure is constantly being developed, as evidenced by the investment lists but also by the data on the EERIS platform. (**Annex 39**) but also by the data on the EERIS platform.

Within IOSUD - UMFVBT, through the project “Center for the development of practical skills in the field of medicinal plants”, the FITOSCIENCE platform was established and aims to provide information for those interested in scientific observation on plant products. The platform is supported by researchers in the fields of toxicology and medicinal plants. In the project we mention the international collaboration with the University of Szeged (Hungary), Wright State University, Dayton (USA), University of Lorraine (France), Institute of Pharmacology and Clinical Toxicology of the Goethe University Frankfurt Main (Germany), and at national level with Banat’s University of Agricultural Sciences and Veterinary Medicine from Timisoara.

The biobank is a special establishment intended for the storage in specific conditions of human and animal cells and tissues that can be used for research purposes, including for young doctoral students. The objective is to reduce intra- and inter-experimental variability, optimize traceability and promote interoperability of data between different research projects, archiving and use of biological samples for scientific purposes. <https://www.umft.ro/cercetare/biobanca/>.

Following the signature by the UMFVBT of a contract aimed at implementing the project "National electronic access to scientific literature to support the research and education system in Romania - Anelis Plus 2020", students and teachers have access to a variety of databases relevant to pharmaceutical field (**Annex 39**). The doctoral students have access to the UMFVBT library with access to international databases. <https://www.umft.ro/biblioteca/accesul-la-biblioteca/>, <http://anelisplus2020.anelisplus.ro/>. Teachers and doctoral students have the opportunity to participate in online training sessions



and various regular webinars that provide training on electronic access to scientific literature to support and promote the research and education system in Romania. The participation, through the Enformation site, is supported by the collaboration of the Research and Grants Management Department of UMFVBT.

A.3.1.1. Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.

Five doctoral supervisors carry out their activity within the doctoral field Pharmacy - IOSUD UMFVBT. All of them (100%) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time of evaluation, necessary and mandatory for obtaining the authorization certificate (Table 16, **Annex 40**).

Table 16. Fulfillment of the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) by 100% of the doctoral supervisors of the doctoral field Pharmacy

Name and surname of the scientific doctoral supervisor	The order of the minister by which it was confirmed and the doctoral field in which it was confirmed	Habilitation field	Number of articles published in ISI-rated journals as first author	Number of articles published in ISI-listed journals as a co-author	Cumulative impact factor main author	Hirsch Index	Meets CNATDCU minimum standards YES/NO
Prof. Univ. Dr. Antal Diana Simona	3829/04.06.2018	Pharmacy	18	17	25,836	10	YES
Prof. Univ. Dr. Danciu Corina	3412/22.03.2018	Pharmacy	44	33	99,768	16	YES
Prof. Univ. Dr. Dehelean Cristina Adriana	4209/10.06.2015	Pharmacy	69	72	149,789	23	YES
Prof. Univ. Dr. Șoica Codruța Marinela	4032/07.06.2016	Pharmacy	47	114	98,309	21	YES
Prof. Univ. Dr. Vlaia Lavinia	5486/14.11.2018	Pharmacy	21	15	24,593	8	YES



A.3.1.2. At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.

According to art. 166 paragraph (3) of Law 1/2011, in order to conduct doctorates, teachers and researchers who have acquired this right must have an employment contract with an IOSUD or an institution that is a member of an IOSUD and be a member of a doctoral school. Qualified teachers and qualified scientific researchers become doctoral supervisors following the habilitation.

Within the doctoral field Pharmacy - IOSUD UMFVBT, 5 of the 5 doctoral supervisors (100%) are holders of a full-time employment contract with the IOSUD (**Annex 41**).

A.3.1.3. The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.

The disciplines in the training program based on advanced university studies related to Pharmacy - IOSUD UMFVBT are supported by habilitated doctoral supervisors, as well as by, professors or associate professors with proven expertise in the field of the taught subjects, as shown by their CVs. (**Annex 42**).

***A.3.1.4. The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs¹ does not exceed 20%**

Within the doctoral field Pharmacy - IOSUD UMFVBT, the percentage of doctoral supervisors who coordinate more than 8 doctoral students at the same time is 0% (**Annex 43**).



Table 17. The number of doctoral students enrolled per doctoral supervisor, in the field of Pharmacy, the academic year 2020-2021

No.	Name and surname of the scientific doctoral supervisor	The order of the minister by which it was confirmed and the doctoral field in which it was confirmed	Number of doctoral students
1.	Prof. Univ. Dr. Antal Diana Simona	3829/04.06.2018 Farmacie	2
2.	Prof. Univ. Dr. Danciu Corina	3412/22.03.2018 Farmacie	6
3.	Prof. Univ. Dr. Dehelean Cristina Adriana	4209/10.06.2015 Farmacie	7
4.	Prof. Univ. Dr. Șoica Codruța Marinela	4032/07.06.2016 Farmacie	8
5.	Prof. Univ. Dr. Vlaia Lavinia	5486/14.11.2018 Farmacie	2

A.3.2.1. At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science - or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.

All doctoral supervisors in the field of Pharmacy carry out an internationally visible scientific activity: they are authors of publications with significant relevance for the field of Pharmacy, indexed in the Web of Science, in journals with ISI impact factors. Their activity has an international visibility and development in the last five years. (**Annex 44**).

***A.3.2.2. At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years.**

Four of the five PhD supervisors in the Pharmacy field have obtained habilitation in the last five years, and one earlier (Table 16). Each of these coordinators has a continuous scientific



activity that leads to an increase of all scores required by the minimum CNATDCU standards (works as main authors, works as co-authors, Hirsch index, FCIAP) (**Annex 45**).

B. EDUCATIONAL EFFECTIVENESS

B.1.1.1. The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1.2.

The ratio between the number of master's degree graduates of other higher education institutions than UMFVBT who have entered the competition for admission to doctoral studies in the last five years and the number of places financed from the state budget in the field of Pharmacy is $6 / 3 = 2$ (**Annex 46a**). This value is higher than the minimum of 0.2, as such that the indicator is fulfilled.

Table 18. Doctoral students in the field of Pharmacy, holding master's degrees from other higher education institutions than the UMFVBT

Academic years	Doctoral students enrolled in the first year, Pharmacy				
	IF with scholarship	IF without scholarship	Scholar of the Romanian State	With fee	Enrollment of graduates of master studies conducted in other higher education institutions than UMFVBT
2018 - 2019	0	0	1	13	4
2019 - 2020	2	0	0	6	1
2020 - 2021	1	1	0	5	1
Total	3	1	1	24	6

The ratio between the number of candidates in the last 5 years and the number of places financed from the state budget in the field of Pharmacy is:

$$(14 + 8) / 2 = 22/2 = 11 \text{ (for the years 2018-2019 / 2019-2020)}$$

$$(14 + 8 + 7) / 3 = 29/3 = 9.66 \text{ (for the years 2018-2019 / 2019-2020 and 2020/2021)}$$

The value of the ratio is higher than the minimum indicated (0.2), so that the indicator can be considered fulfilled. (**Annex 46b**).

B.1.2.1. Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific



or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.

In the time frame 2018-2020, the admission to doctoral university studies was organized in accordance with the admission regulations approved by the University Senate, in accordance with the laws in force (**Annex 29**, http://old.umft.ro/admitere-2020_815).

Currently, the admission to doctoral university studies is made in accordance with the *Methodology regarding the organization of admission in the cycles of doctoral university studies within the University of Medicine and Pharmacy "Victor Babeș" from Timișoara 2021-2022* <https://www.umft.ro/admitere-doctorat-2021/>

Methodology regarding the project evaluation for obtaining the doctoral grant program GD 2021 „Victor Babeș” University of Medicine and Pharmacy from Timișoara <https://www.umft.ro/admitere-doctorat-2021/>

Admission to doctoral studies consists of: an examination of linguistic competence, the submission of projects for obtaining doctoral grants and an interview with the doctoral supervisor and a committee that mainly aims at the following:

1. The level of the candidate's knowledge based on the specialized scientific bibliography, on issues of the respective field, on recent research regarding the candidate's preoccupations in relation to his orientation towards the chosen topic;
2. The research activity carried out by the candidate, the research topics addressed to be reflected in scientific research papers as the first or co-author;
3. Publishing activity: scientific papers published in specialized journals indexed by the Web of Science, Pubmed / Medline, other internationally recognized databases;
4. Papers presented at international and national conferences and published in abstracts in journals with ISSN or ISBN;
5. Ability to analyze, synthesize and design, to undertake creative activities, to structure and to interpret results; formulating and arguing personal opinions.

The committee for the interview consists of a chairperson (doctoral supervisor) and 3 members who can be part of the research team of the doctoral supervisor. These can be teachers affiliated to the doctoral school or teachers and researchers not affiliated to it.

B.1.2.2. The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission² does not exceed 30%.

Within the doctoral field of Pharmacy, two doctoral students have dropped out from PhD studies since the establishment of the field and until now. The situation by academic years is detailed in table 19. According to the calculated dropout rates, the indicator is met (**Annex 47**).



Table 19. The dropout rate for doctoral students in the field of Pharmacy

The withdrawal/ abandonment rate for doctoral students on 30.09.2019	Number of doctoral students date of registration: 01.10.2018	14
	Number of doctoral students withdrawal / abandonment on 30.09.2019	1 (7,14 % <30%)
The withdrawal/ abandonment rate for doctoral students on 30.09.2020	Number of doctoral students date of registration: 01.10.2019	21
	Number of doctoral students withdrawal / abandonment on 30.09.2020	1 (4,76 % <30%)
Rata de renunțare/abandon a studentilor doctoranzi la data de 30.09.2021	Number of doctoral students date of registration: 01.10.2020	25
	Number of doctoral students withdrawal / abandonment	0

B.2.1.1. The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing

According to the Curriculum of the Doctoral School of Medicine-Pharmacy, doctoral students in the field of Pharmacy follow a series of relevant disciplines for training in scientific research. These include, according to ARACIS specifications, the disciplines of Scientific Research Methodology; Biostatistics; Documentation, writing and publication of scientific articles; Grant design and management; Modern techniques in medical and pharmaceutical research, etc.

The teaching of the subjects is carried out also by qualified teachers in the field of Pharmacy: Prof.univ. Dehelean Cristina - Scientific research methodology, Prof. univ. Antal Diana - Modern techniques in medical and pharmaceutical research (**Annex 48**).

Curriculum 2020-2021

Mandatory disciplines

Scientific research methodology

Ethics of scientific research

Biostatistics

Documentation, writing and publication of scientific articles



Grant design and management
Ethics and academic integrity

Optional disciplines

Experimental models in translational research
Communication, oral presentation and poster
Modern techniques in medical and pharmaceutical research
Bioinformatics and applied genomics in medical research
Evidence-based medicine and research
Evidence-based medicine

B.2.1.2. At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.

In the training program for doctoral students there are two compulsory disciplines dedicated to ethics in scientific research: Ethics of scientific research, respectively Ethics and academic integrity (**Annex 48**, http://old.umft.ro/oferta-educationala_117).

B.2.1.3. The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities.

The activity of each discipline taught within the Doctoral School is based on the Discipline Syllabus that stipulate the objectives, knowledge and skills that doctoral students should acquire after completing each discipline or through research activities. Also, the objectives refer to the responsibility and autonomy that doctoral students are going to acquire. The elaboration of the study programs is carried out according to the *Procedure for the elaboration of the doctoral study programs and of the curriculum within the “Victor Babeș” University of Medicine and Pharmacy from Timișoara* and the *Regulation for examination and grading of doctoral students within the University of Medicine and “Victor Babeș” Pharmacy from Timișoara*, <https://www.umft.ro/reglementari-interne-csud/>.

The most important knowledge and skills acquired by doctoral students after completing the advanced training within the Doctoral School are quoted below (**Annex 48**):

After completing the course, *Scientific Research Methodology*, doctoral students will acquire professional skills and transversal skills:

Professional skills:

- Ability to select professional medical and pharmaceutical information of high scientific quality from the printed bibliography and from internet sources.
- Ability to detect the main sources of systematic and random errors that may occur in a clinical study / scientific experiment.



- Ability to correctly select a certain statistical protocol / statistical test according to the design of the study / experimental research.
- Ability to correctly integrate a statistical protocol in the context of a scientific paper in the biomedical field.

Transversal skills:

- Improving the analysis capacity of the doctoral student regarding the information sources in the medical and pharmaceutical field.
- Finding effective solutions of problems with medium degree of difficulty, respecting the principles and norms of professional ethics, respectively promoting a responsible attitude towards university training.
- Effective application of communication and relationship techniques at organizational and disciplinary level.
- Development of acquired skills and adaptation to the requirements of a dynamic society.

Within the Discipline *Ethics of scientific research*, doctoral students acquire the following:

Professional skills:

- Understanding and applying ethical principles in medical - pharmaceutical research
- Establishing ethical standards within the research project, adequacy with ethical requirements in research on human subjects, in experimental research on animals or in fundamental research (for the individual doctoral research project)
- Deepening the ethical evaluation of the types of medical-pharmaceutical research and adapting it to one's own research
- Identify ethical requirements and minimum moral standards in biomedical research

Transversal skills:

- Awareness of the roles in a medical scientific research team, as well as of interpersonal relationships, based on the principles, norms and values of the research ethics code.
- Skills in implementing and monitoring ethical requirements in research projects
- Identifying responsibilities in a team and applying effective relationship and work techniques within it
- Critical reflection and adaptation in the researcher-subject of the research relationship

Following the mandatory course of *Biostatistics* and the practical works within the Doctoral School, the participants are supposed to acquire the following competencies and skills:

- Understanding the notions of statistical processing of biomedical data (data types, data description, estimation intervals, statistical tests, linear correlation and regression analysis, risk analysis) at a professional level.
- Ability to adequately understand and be able to critically interpret the reports of clinical or observational studies and statistical information in the medical literature.
- Practical skills needed to analyze medical data with statistical packages (MS Excel, EpiInfo, PSPP) and interpret the results from a statistical point of view
- Developing the ability to integrate information gathered from different sources of information.

Communication and efficient transfer of knowledge between specialists belonging to different fields, medical and non-medical.

- Identifying the role of an interdisciplinary team and taking over the responsibilities corresponding to the professional and personal profile.



- Knowledge and understanding of basic concepts in biostatistics and quantitative and qualitative methods applied in the processing of bio-medical data.
- Introduction of the concepts of statistical analysis of data and its connection with medical science. Development of knowledge on inferential statistics and its application in observational or clinical studies. Development of practical skills for statistical data processing and communication of results.

After completing the course *Documentation, writing and publishing scientific articles*, doctoral students will have the following skills:

- Knowledge of platforms and documentation sources
- Ability to analyze and synthesize research results
- The principles of elaborating a scientific paper
- Capitalizing on the results of scientific research by publishing in specialized journals
- Concern for professional development by training critical thinking skills demonstrated through active participation in the course and laboratory / seminar / project.
- Learning the methods of systematization and presentation of the studied information.
- Involvement in scientific research activities by participating in the elaboration of scientific articles.
- Efficient use of information sources and communication resources and assisted professional training (Internet, specialized software applications, databases, online courses, etc.)

Within the course of *Ethics and academic integrity*, the specific competencies acquired and the professional competencies are:

- Proven ability to select, combine and use appropriately knowledge, skills and other values and attitudes, in order to successfully solve a certain category of work or learning situations, limited to the medical profession, in terms of effectiveness and efficiency.
- Knowledge, understanding and use of specific language;
- Explaining and interpreting the differences between explicit norms and implicit norms that regulate intellectual work;
- Applying, transferring and solving problems in specific intellectual activities;
- Critical and constructive reflection;
- Creativity and innovation in the academic field, developing a culture of responsibility in intellectual work.

Transversal skills

- Autonomy and responsibility in a multidisciplinary team;
- Social interaction (application of relationship techniques and efficient work in a multidisciplinary team and in relation to the patient);
- Personal and professional development (efficient use of information sources, communication resources and professional training both in Romanian and in a language of international circulation; identification of objectives to be achieved, work stages, deadlines, available resources, risks and conditions for completion of projects under coordination.)

The course *Experimental models in translational research* aims to acquire in-depth knowledge on some classical experimental models with a role in translational research that can be practiced later by doctoral students.

Professional skills

- Knowledge of the terminology related to the concept of translational research.



- Ability to list and explain the principle and usefulness for translational research of the experimental models presented.
- Formulation of research hypotheses based on knowledge and interpretation of the current state of knowledge on the chosen doctoral topic.
- Proposing a scientific research activity on an experimental model relevant for conducting doctoral studies on the chosen topic.

Transversal skills

- Ability to work in a team, identify roles and responsibilities in a multidisciplinary team and apply effective relationship techniques and teamwork.
- Efficient use of information sources and resources of communication and assisted training (Internet portals, ex PubMed, databases, online courses, specialized software applications - eg Mendeley, EndNote, etc.) both in Romanian and in English.
- Identifying the objectives to be achieved, the available resources, the conditions for their completion, the working stages, the working times, the related deadlines and the related risks.

After completing the course *Writing the doctoral thesis. Intellectual property*, doctoral students will be able to:

- Cite the sources correctly
- Avoid plagiarism
- To request the anti-plagiarism verification of the doctoral thesis at UMF "Victor Babeș" Timișoara and to understand the results of the similarity report obtained
- To know the standards for the elaboration of the doctoral thesis within UMF "Victor Babeș" Timișoara
- To demonstrate in the doctoral thesis the advancement of scientific knowledge of the researched field, to emphasize the elements of originality in the development of the research topic, as well as the ways to scientifically validate one's own results

Following the course of *Bioinformatics and applied genomics in medical research*, doctoral students will acquire the following knowledge:

General knowledge: knowledge of genome study methods (genomics), computer technologies that can be applied in doctoral studies in the fields of medicine, biology, computer science and mathematics.

Specific knowledge: knowledge of fundamental concepts (phenotype-genotype), practical methods for obtaining genetic information (genotyping, classical and modern sequencing), theoretical methods for studying genetic information (chain analysis, association studies), extraction methods of the biological-clinical relevance starting from the results of the study of the genetic material (annotation, elucidation of the concept of the causal variant).

Following the course *Communication, oral presentation and poster*, doctoral students will acquire the following:

Knowledge and understanding (knowledge and appropriate use of discipline-specific notions)

- Identifying and using the language and specialized knowledge in the field of medicine, especially regarding the elaboration of scientific texts.
- Use of methods and techniques of data collection and processing from different sources. Making specific graphic materials.
- Elaboration of specialized studies and projects.
- Valorization of the results obtained from analysis studies and geographical projects.



Explanation and interpretation (explanation and interpretation of ideas, projects, processes, as well as the theoretical and practical contents of the discipline)

- Applying efficient and responsible work strategies, based on the principles, norms and values of the code of professional ethics.
- Applying efficient work techniques in a multidisciplinary team, ethical attitude towards the group, respect for diversity and multiculturalism, acceptance of diversity of opinion

The general objective of the discipline aims both to identify and use specialized medical language and to apply writing techniques in different contexts of doctoral studies.

Deepening some notions of the theoretical and practical structuring of the medical text. Knowledge of the typology of medical scientific works. Forming the skills of elaborating some medical scientific texts and assimilating the general principles of their writing.

Following the course *Modern techniques in medical and pharmaceutical research*, doctoral students will acquire the following:

- Presentation, explanation and acquisition of fundamental notions regarding molecular processes related to nucleic acid biology
- Presentation, explanation and acquisition of the basic principles of DNA / RNA molecular tests useful in clinical medical practice and research
- Presentation and explanation of the main categories of DNA / RNA molecular tests used in clinical medical practice and research
- Knowledge of the main stages and techniques used in plant research as sources of new drugs.

Knowledge of the main methods and techniques used in quality control of preparations from plants;

- Knowledge, understanding of theoretical notions on modern technologies in dentistry.
- Learning specific skills involved in experimental studies.
- Professional development by training the skills of critical thinking regarding the molecular processes/techniques of analysis of nucleic acids presented.
- Efficient use of information and training resources (internet, software applications, analysis of online databases, online courses, etc.)
- Abilities to select the most representative bibliographic sources; the ability to distinguish high-quality professional bibliographic sources.
- Identifying the objectives, the available resources, the conditions for their completion, the work stages, the deadlines related to each work stage and the risks related to the research activities.

After completing the *Grant design and management course*, doctoral students will acquire the following specific skills:

- Acquisition of appropriate medical and scientific language.
- Knowledge of the forms for a series of funding sources/research grants.
- Getting used to filling in the competition forms.
- Learning critical reasoning regarding research grant competitions.
- Concern for professional development by training critical thinking skills demonstrated through active participation in the course and laboratory/seminar/project;
- Forming an ethical attitude towards grant grants.
- Involvement in scientific research activities by participating in the elaboration of papers, studies, specialized articles;
- Efficient use of information sources and communication resources and assisted professional



training (Internet portals, specialized software applications, databases, online courses, etc.) both in Romanian and in a language of international circulation.

After completing the *Evidence-Based Medicine* course, doctoral students will acquire professional and transversal skills:

At the end of the courses the doctoral students will be able to:

- assess the need for information
- to formulate appropriate questions as hypothesis
- to choose the appropriate evidence
- to interpret the results of the studies

Evidence-based medicine prepares doctoral students to assess the need for information, to ask questions to be answered, to identify appropriate evidence, to evaluate this evidence, to interpret the results, and to use the evidence for patient care.

- Demonstrate the ability to ask focused, well-formulated questions when faced with a clinical problem
- Demonstrate the ability to effectively perform a search in the literature using the Pubmed database
- Demonstrate the ability to critically evaluate the published report of a clinical study
- Demonstrate the ability to incorporate evidence assessment into the decision of individual patients
- Acquisition of analytical skills and information integration
- Development of critical judgment
- Efficient use of information sources (Internet portals, databases).

After completing the course *Methodology of writing and publishing scientific articles*, doctoral students will be able to:

- To know the rules for writing scientific articles
- To know the importance of ethics and deontology in the activity of publishing research results
- To know the types of articles that can be published, the types of magazines in which it can be published
- To know the importance of the visibility of published articles (Hirsch index, impact factor, influence factor, etc.)
- To know the steps to be followed in writing and publishing scientific articles
- to be able to communicate the results of their research and to discuss the objectives, results and implications of personal research in medical journals.

B.2.1.4. All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.

Doctoral students in the field of Pharmacy benefit counseling from a committee of guidance, in accordance with the Regulations of the Doctoral School within IOSUD UMF "Victor Babes" from Timisoara, in the Fields of Medicine and Pharmacy. Their activity is detailed in Chapter IV - The doctoral supervisor and the steering committee, of the above-mentioned Regulation. The guiding commission is proposed by the doctoral supervisor, at the enrollment of the doctoral student. (**Annex 49**).



B.2.1.5. For a field of doctoral studies, the ratio between the number of doctoral students and the total number of teachers / researchers providing guidance should not exceed 3: 1.

Within the Pharmacy field of doctoral studies, this number is respected (**Annex 50**).

B.3.1.1. For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.

Within the Field of Pharmacy, two doctoral thesis have been defended so far:

- on the 30.09.2019 - Cîrcioban Denisa Laura (PhD supervisor: Prof. Univ. Dr. Dehelean Cristina Adriana)

- on the 15.07.2020 - Drăghici George Andrei (PhD supervisor: Prof. Univ. Dr. Dehelean Cristina Adriana)

The two doctoral students wrote 4 and 3 ISI indexed articles, respectively, representing original contributions relevant to the field of Pharmacy doctoral studies (**Annex 51**).

Table 20. Scientific articles of the doctoral students who defended the doctoral thesis in Pharmacy

Name and surname of the doctoral student	The title of the doctoral thesis	Publication of research results in national and international publications	Selected article
Cîrcioban Denisa Laura 2019	Biological and physico-chemical complex screening of several derivatives with sesquiterpenic structure. Rating EXCELLENT Presenting date 30.09.2019 CONFIRMED OMEN nr. 5644 din 30.12.2019	1. Cîrcioban D, Ledeti A, Vlase G, Coricovac D, Moaca A, Farcas C, Vlase T, Ledeti I, Dehelean C. Guest–host interactions and complex formation for artemisinin with cyclodextrins: instrumental analysis and evaluation of biological activity. J Therm Anal Calorim. 2018 Nov 4;134(2):1375–84. FI 2.471 2. Cîrcioban D, Ledeti A, Vlase G, Moaca A, Ledeti I, Farcas C, Vlase T, Dehelean C. Thermal degradation, kinetic analysis and evaluation of biological activity on human melanoma for artemisinin. J Therm Anal Calorim. 2018 Oct 29;134(1):741–8. FI 2.471 3. Cîrcioban D, Ledeti I, Vlase G, Ledeti A, Axente C, Vlase T, Dehelean C. Kinetics of heterogeneous-induced degradation for artesunate and artemether. J Therm Anal Calorim. 2018 Oct 16;134(1):749–56. FI 2.471 4. Cîrcioban D, Zinuca Pavel I,	1. Cîrcioban D, Ledeti A, Vlase G, Coricovac D, Moaca A, Farcas C, Vlase T, Ledeti I, Dehelean C. Guest–host interactions and complex formation for artemisinin with cyclodextrins: instrumental analysis and evaluation of biological activity. J Therm Anal Calorim. 2018 Nov 4;134(2):1375–84. FI 2.471



		Ledeti A, Ledeti I, Danciu C, Dehelean C. Cytotoxic activity evaluation on breast cells of guest-host complexes containing artemisinin. Rev. Chim. 2019 Sept 18; 70(8):2843-6. FI 1.60	
Drăghici George Andrei 2020	Toxic effects and observational aspects relating to cadmium and copper on experimental models. Rating EXCELLENT Presenting date 15.07.2020 CONFIRMED OMEN nr. 5748 din 13.10.2020	1. Drăghici, G. A., Dehelean, C., Pinzaru, I., Bordean, D. M., Borozan, A., Tsatsakis, A. M., Kovatsi, Leda & Nica, D. (2019). Soil copper uptake by land snails: A semi-field experiment with juvenile Cantareus aspersus snails. Environmental toxicology and pharmacology, 72, 103243. IF-3.061 2. Draghici, G. A., Dehelean, C. A., Pinzaru, I., Bordean, D. M., Pop, G., & Nica, D. (2019). An 112-Days Experiment on Dietary Cadmium Retention in Hepatopancreas in Adult Cantareus aspersus Snails. REVISTA DE CHIMIE, 70(8), 2803-2804. IF-1.605 3. Draghici, G. A*, Andrica, F. M., Popescu, S., Coricovac, D. E., Dehelean, C. A., Gergen, Iosif. I., Kovatsi, Leda., Coleman, Michael D & Tsatsakis, A. (2019). Short-term effects of very low dose cadmium feeding on copper, manganese and iron homeostasis: A gastropod perspective. Environmental toxicology and pharmacology, 65, 9-13. IF- 3.06	Draghici, G. A*, Andrica, F. M., Popescu, S., Coricovac, D. E., Dehelean, C. A., Gergen, Iosif. I., Kovatsi, Leda., Coleman, Michael D & Tsatsakis, A. (2019). Short-term effects of very low dose cadmium feeding on copper, manganese and iron homeostasis: A gastropod perspective. Environmental toxicology and pharmacology, 65, 9-13. IF- 3.06

***B.3.1.2. The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.**

The two doctoral students who completed their doctoral studies in the field of Pharmacy made 7 presentations at prestigious international events, the report in the indicator being $4/2 = 2$. This ratio, higher than the minimum value of 1 imposed by ARACIS, confirms the fulfillment of the indicator (**Annex 52**).



Table 21. Presentations of the doctoral students who defended the doctoral thesis in the field of Pharmacy

Name and surname of the doctoral student	Presentations of doctoral students
<p>Cîrcioban Denisa Laura</p> <p>Biological and physico-chemical complex screening of several derivatives with sesquiterpenic structure. calificativ EXCELENT</p> <p>Data susținerii: 30.09.2019</p> <p>CONFIRMAT OMEN nr. 5644 din 30.12.2019</p>	<p>Abstracts presented at international conferences on the doctoral thesis as a doctoral student</p> <p>1. Thermal analysis and molecular modelling of inclusion complexes containing artesunate; Denisa Cîrcioban, Ionuț Ledetși, Lenuța-Maria Șuta, Gabriela Vlase, Adriana Ledetși, Titus Vlase, Renata Văruț, Cristina Dehelean 5th Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC5) and 14th Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2019), 27-30 August 2019, Rome, Italy, Book of abstracts, p. 376, ISBN 978-3-940237-59-0.</p> <p>2. Thermal stability and kinetic degradation study for dihydroartemisinin; Denisa Cîrcioban, Adriana Ledetși, Gabriela Vlase, Titus Vlase, Cristina Dehelean, Ionuț Ledetși 5th Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC5) and 14th Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2019), 27-30 August 2019, Rome, Italy, Book of abstracts, p. 384, ISBN 978-3-940237-59-0.</p> <p>3. Physico-chemical and biological evaluation of inclusion complexes containing artesunate; Denisa Cîrcioban, Adriana Ledetși, Gabriela Vlase, Ionuț Ledetși, Titus Vlase, Renata Văruț, Ioana Zinuca Pavel, Cristina Dehelean 28th Symposium on Thermal Analysis and Calorimetry – Eugen Segal – of the Commission for Thermal Analysis and Calorimetry of the Romanian Academy (CATCAR28) & 2nd Symposium on Thermal Analysis and Calorimetry of Moldova (MoldTAC2), 9-10 May 2019, West University of Timișoara, Timisoara, Romania, Book of abstracts, p. 37, ISBN 978-606-675-208-4.</p> <p>Abstracts presented at national conferences on the topic of the doctoral thesis as a doctoral student</p> <p>1. Preliminary synthesis and characterization of artemisinin-resorcinol binary adduct Denisa Cîrcioban, Adriana Ledetși, Sebastian Simu, Ionuț Ledetși, Cristina Dehelean Siguranța produselor pe bază de plante medicinale/Safety of medicinal plants products, Workshop, Timișoara, Romania 22-23 noiembrie 2018, Summary manifestations within the project CNFIS-FDI-2018-0159, p.18. ISBN: 978-606-786-104-4.</p> <p>2. Isolation of artemisinin from pharmaceutical formulations Denisa Cîrcioban, Bianca Baul, Adriana Ledetși, Carmen Axente, Ionuț Ledetși, Cristina Dehelean; Siguranța produselor pe bază de plante medicinale/Safety of medicinal plants products, Workshop, Timișoara, Romania 22-23 noiembrie 2018, Summary manifestations within the project CNFIS-FDI-2018-0159, p.19. ISBN: 978-606-786-104-3;</p> <p>3. Characterization of artemisinin behavior in solution, Denisa Cîrcioban, Laura Sbârcea, Adriana Ledetși, Ionuț Ledetși, Bianca Baul, Cristina Dehelean Siguranța produselor pe bază de plante medicinale/Safety of medicinal plants products, Workshop, Timișoara, Romania 22-23 noiembrie 2018, Summary manifestations within</p>



	the project CNFIS-FDI-2018-0159, p. 20. ISBN: 978-606-786-104-4.
Drăghici George Andrei Toxic effects and observational aspects relating to cadmium and copper on experimental models. Calificativ EXCELENT Data susținerii 15.07.2020 CONFIRMAT OMEN nr. 5748 din 13.10.2020	International conference (poster) Draghici, G.A., Nica, D., Dehelean, C., Susan, R. and Susan, M., 2020, February. DNMT gene expression in <i>Cantareus asperses</i> snails exposed to low cadmium dose. In <i>NAUNYN-SCHMIEDEBERGS ARCHIVES OF PHARMACOLOGY</i> (Vol. 393, No. SUPPL 1, pp. 53-54). ONE NEW YORK PLAZA, SUITE 4600, NEW YORK, NY, UNITED STATES: SPRINGER. 5th German Pharm-Tox Summit and 86th Annual Meeting of the German Society for Experimental and Clinical Pharmacology and Toxicology (DGPT) National Conference Nica, D. V., Draghici, G. A., Andrica, F. M., Popescu, S., Coricovac, D. E., Dehelean, C. A., Tsatsakis, A. (2019). Short-term effects of very low dose cadmium feeding on copper, manganese and iron homeostasis: A gastropod perspective. <i>Environmental toxicology and pharmacology</i> , 65, 9-13. Oral presentation of the scientific session of doctoral students 2018

***B.3.2.1. The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.**

So far, in the field of Pharmacy, two doctoral theses have been defended and confirmed, one each in 2019 and 2020. The number of doctoral theses allocated to a specific referent coming from a higher education institution, other than IOSUD UMFVBT, no exceeded the value in the indicator. The lists of references are attached to the report (**Annex 53**).

***B.3.2.2. The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.**

To date, in the field of Pharmacy, two doctoral theses have been defended and confirmed, one each in the years 2019 and 2020. The lists of referees are attached to the report. (**Annex 53**)



C. QUALITY MANAGEMENT

C.1.1.1. The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:

a) the scientific work of Doctoral advisors

The scientific activity of the doctoral supervisors in the field of Pharmacy is evaluated annually according to the Evaluation Sheet of the doctoral supervisors within IOSUD - UMFVBT (**Annex 45**).

b) the infrastructure and logistics necessary to carry out the research activity

Doctoral students in the field of Pharmacy have at their availability **two advanced research centers and a methodological research center** within the Faculty of Pharmacy of the “Victor Babeș” University of Medicine and Pharmacy in Timișoara. <https://www.umft.ro/cercetare/centre-de-cercetare/>. The doctoral supervisors of the Pharmacy field are affiliated to these centers. The research infrastructure is presented in **Annex 39**. Also, the research infrastructure and the offer of research services are presented publicly through the ERRIS profile platform <https://erris.gov.ro/PHARMACOTOXICOLOGICAL-EVALUA>, <https://eeris.eu/ERIF-2000-000G-1793>. The research infrastructure is constantly being developed, as evidenced by the investment lists (**Annex 39**).

c) the procedures and subsequent rules based on which doctoral studies are organized;

d) the scientific activity of doctoral students

Doctoral studies in the field of Pharmacy of IOSUD-UMFVBT are regulated by the following documents:

- *Institutional Regulation for the organization and functioning of doctoral university studies within the “Victor Babeș” University of Medicine and Pharmacy in Timișoara*
<https://www.umft.ro/reglementari-interne-csud/>

- *Regulation of the Doctoral Schools within the University of Medicine and Pharmacy “Victor Babeș” University of Medicine and Pharmacy from Timișoara*
<https://www.umft.ro/reglementari-interne-csud/>

- *Methodology regarding the appointment and election of the council for doctoral studies and the Council of the Doctoral School in the University of Medicine and Pharmacy “Victor Babeș” from Timișoara*
<https://www.umft.ro/reglementari-interne-csud/>

- *The methodology regarding the election of the directors of the doctoral school councils in the “Victor Babeș” University of Medicine and Pharmacy from Timișoara.*

- <https://www.umft.ro/reglementari-interne-csud/>

- *The procedure for elaborating the doctoral university study programs and the curriculum within the “Victor Babeș” University of Medicine and Pharmacy from Timișoara*
<https://www.umft.ro/reglementari-interne-csud/>



- *Procedure regarding the completion of doctoral studies at the "Victor Babeș" University of Medicine and Pharmacy in Timișoara*

<https://www.umft.ro/reglementari-interne-csud/>

- *Procedure regarding the recognition of the doctoral degree and of the doctoral degree in sciences obtained abroad by the "Victor Babeș" University of Medicine and Pharmacy from Timișoara*

<https://www.umft.ro/reglementari-interne-csud/>

- *The procedure regarding the automatic recognition of the quality of doctoral supervisor / qualification obtained in university educational institutions accredited from abroad by the "Victor Babeș" University of Medicine and Pharmacy from Timișoara*

<https://www.umft.ro/reglementari-interne-csud/>

- *The methodology regarding the organization of the admission in the cycles of doctoral studies within the "Victor Babeș" University of Medicine and Pharmacy from Timișoara 2021-2022* <https://www.umft.ro/wp-content/uploads/2021/04/1.-Metodologia-privind-organizarea-admiterii-in-ciclurile-universitare-de-doctorat.pdf>

- *Methodology for completing doctoral studies at the "Victor Babeș" University of Medicine and Pharmacy from Timișoara*

<https://www.umft.ro/reglementari-interne-csud/>

- *Framework Contract for Doctoral University Studies* http://old.umft.ro/reglementari-cu-privire-la-studiile-doctorale_120

d) the scientific activity of doctoral students;

Doctoral students in the field of Pharmacy have a scientific activity attested by the publication of ISI / BDI indexed articles, participation in national and international scientific events, participation in scientific research projects. (**Annexes 36, 51, 52, 54**)

e) the training program based on advanced academic studies of doctoral students

According to the Curriculum of the Doctoral School of Medicine-Pharmacy, PhD students in the field of Pharmacy follow a series of relevant disciplines for training in scientific research. These include, according to ARACIS specifications, the disciplines of Scientific Research Methodology; Biostatistics; Documentation, writing and publication of scientific articles; Grant design and management; Modern techniques in medical and pharmaceutical research etc (**Annexes 42, 48**).

f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students

Doctoral students in the field of Pharmacy benefit from academic support through the financial funding of research, such as: payment for publishing articles in open access scientific journals with impact factor, awarding articles, funding research projects. **Annex 54** includes a report on the scientific activity of doctoral students in the field of Pharmacy, materialized through publications, trips and projects. The activities financed by UMFVBT are highlighted.

The payment for the publication of the articles is regulated by the Decision of the Senate UMFVBT Nr. 24/7135 / 24.06.2020, by which the University Senate approves the following levels regarding the payment / statement of publication fees in ISI indexed journals, thus (**Annex 55**):



- IF 0.5-0.99 = max 500 euro
- IF 1-1.99 = max 1500 euro
- IF 2-2.99 = max 2000 euro
- IF 3-3.99 = max 2500 euro
- IF 4-5.99 = max 3000 euro
- IF 6-7.99 = max 4000 euro
- IF 8-10 = max 5000 euro
- IF > 10 = up to 8000 euro

According to H.S. Nr. 25/7135 / 24.06.2020 (http://old.umft.ro/data_files/documente-atasate-sectiuni/7074/hs_24.06.2020_unit.pdf)

The University Senate approves the annual financial support for:

a. The article with the highest impact factor.

1st place - 5,000 RON

2nd place - 3,000 ron

3rd place - 1,000 RON

b. The project with the highest funding (projects funded from national and international competitions, non-reimbursable funds)

1st place - 5,000 RON

2nd place - 3,000 ron

3rd place - 1,000 RON

In accordance with the Decision of the Board of Directors dated 13.03.2020, a percentage of 90% of the revenues collected from doctoral students with fee is allocated for the organization and functioning of the Council for Doctoral Studies (CSUD) within the Organizing Institution of University Doctorate Studies - Victor Babeș University of Medicine and Pharmacy from Timișoara. This HCA is approved by H.S. Nr. 3/4579 / 25.03.2020 (http://old.umft.ro/data_files/documente-atasate-sectiuni/6734/hs_25.03.2020_complet.pdf).

The University Senate approves the modification of tuition fees for doctoral studies, according to H.S. Nr. 5/4579 / 25.03.2020

(http://old.umft.ro/data_files/documente-atasate-sectiuni/6734/hs_25.03.2020_complet.pdf).

Reduction of the tuition fee for doctoral university studies from 5000 lei / year to 3000 lei / year.

Establishing the amount of the tuition fee for doctoral university studies, in case of extending the duration of the doctoral university study program to 4000 lei / year.

Introduction of a re-registration fee for doctoral university studies in the amount of 5000 lei / year.

During the UMFVBT Days, in the period 2016 - 2020, merit scholarships, performance scholarships or scholarships of excellence were awarded, as the case may be, to doctoral students with special merits in scientific research who presented publications in extenso in ISI-rated journals with factor impact over 1, oral presentations or posters.

http://old.umft.ro/noutati-cu-privire-la-studiile-doctorale_114



UMFVBT financially supported doctoral students by awarding annual scholarships, according to HCA from 04.12.2018 (**Annex 25**).

Scientific research project funding contracts for doctoral students in the field of Pharmacy are attached (**Annex 55**)

The expenses for the travel and accommodation of the references from the doctoral thesis commissions are reimbursed according to the law, based on the proving documents for transport and accommodation, according to *Regulation on the reimbursement of travel and accommodation expenses of members of doctoral committees* approved by H.S. Nr. 12/9161 / 29.06.2017.

C1.1.2. Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.

The identification of the needs, as well as of the general level of satisfaction of student with the doctoral study program in the field of Pharmacy is made through a questionnaire, given with the aim to improve the teaching, scientific and administrative processes. The results of the questionnaires are analyzed and are the basis of a plan of measures decided in CSUD meetings (**Annex 56**).

C.2.1.1. The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:

a) the Doctoral School regulation

The regulations of the Doctoral School are included in **Annex 27** of this Report.

b) the admission regulation

The Regulation for admission to doctoral studies is included in **Annex 29** of this Report.

c) the doctoral studies contract;

The doctoral study contract is included in **Annex 32**.

d) the study completion regulation including the procedure for the public presentation of the thesis;

These regulations and procedures are subject to **Annex 29**.

e) the content of the training program is based on advanced academic studies

The curriculae of the Doctoral School of Medicine-Pharmacy, which includes the field of Pharmacy are detailed in **Annex 48**. This annex also contains the syllabus sheets.

f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data

Information on the academic and scientific profile, thematic areas and institutional contact data are presented in **Annex 57**.

g) the list of doctoral students within the domain with necessary information (year of registration; advisor)

The list of doctoral students in the field Pharmacy is in **Annex 34**.

h) information on the standards for developing the doctoral thesis



Norms regarding the standards that a doctoral thesis must meet are presented in **Annex 29**.

i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation

The links to the doctoral theses to be defended publicly are published on: http://old.umft.ro/sustinerea-tezei-de-doctorat_122

The IOSUD - UMFVBT website publishes the necessary information regarding the doctoral university study programs, the candidates for these programs, the university community and other interested individuals or legal persons. www.umft.ro, http://old.umft.ro/prezentare-general-a-studii-doctorale_115.

C.2.2.1. All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.

Doctoral students in the field of Pharmacy, as well as those in the fields of Medicine and Dentistry within IOSUD-UMFVBT, are received and supported in the development of academic research and development. The UMFVBT library and agreements with universities allow doctoral students access to platforms with important databases ATU Alliance, Timișoara University Alliance (HS No. 36/6022 / 27.05.2020) and G6 - UMF alliance between the main universities of Medicine and Pharmacy in the country according to HS No.86 / 12188 / 16.09.2020. The UMFVBT contract with the Association of Universities, Research-Development Institutes and Central University Libraries of Romania - Anelis plus is attached to this report. (**Annex 58**).

C.2.2.2. Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific works.

Doctoral students in the field of Pharmacy, as well as the entire academic community of UMFVBT have at their disposal a software for detecting plagiarism (www.sistemantiplagiat.ro). All doctoral theses defended within IOSUD are antiplagiarism evaluated (**Annex 35**).

C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.

Within the Faculty of Pharmacy are organized two advanced research centers and a methodological research center (<https://www.umft.ro/cercetare/centre-de-cercetare/>). The doctoral supervisors of the Pharmacy field are affiliated to these centers, and the doctoral students can carry out their activity in any of these centers. At the Research Center for Pharmacotoxicological Evaluations (FARMTOX), center director Prof. Dr. Cristina Dehelean, are affiliated: Prof.univ. Dehelean Cristina, Prof.univ. Șoica Codruța, Prof.univ. Danciu Corina, Prof.univ. Antal Diana, and the Drug Formulation and Technology Research Center is coordinated by Prof. Dr. Vlaia Lavinia. At the Center for Advanced Instrumental Screening (AISC), director of the center Prof. Dr. Adriana Ledeti, doctoral students in the field of Pharmacy have access based on a protocol. The spaces and material endowment of the PhD students in the Pharmacy field are specified in **Annex 39**.



***C.3.1.1. IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.**

IOSUD-UMFVBT has concluded mobility agreements with various universities abroad aimed at the mobility of doctoral students and teachers, including ERASMUS type agreements. These aim to increase the number of doctoral students who carry out research internships abroad. Doctoral students in the field of Pharmacy have numerous participations in international scientific conferences (**Annex 59**).

A constant strive of PhD students in the domain of Pharmacy is the participation in international scientific conferences. Eleven doctoral students out of 29 (representing 37.9%) participated in various congresses, some even having presentations at multiple conferences (Table 22). The proportion found indicates the fulfillment of this indicator.

Table 22. Participation of doctoral students in the field of Pharmacy at international scientific conferences

No	Doctoral student name, Pharmacy field	Registration year, coordinator	Participation at international conferences
1	Cîrcioban Denisa-Laura	2018, Prof. univ. dr. farm. Dehelean Cristina Adriana	Denisa Cîrcioban , Ionuț Ledetți, Lenuța-Maria Șuta, Gabriela Vlase, Adriana Ledetți, Titus Vlase, Renata Văruț, Cristina Dehelean. Thermal analysis and molecular modelling of inclusion complexes containing artesunate. 5th Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC5) and 14th Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2019), 27-30 August 2019, Rome, Italy, Book of abstracts, p. 376 Denisa Cîrcioban , Adriana Ledetți, Gabriela Vlase, Titus Vlase, Cristina Dehelean, Ionuț Ledetți. Thermal stability and kinetic degradation study for dihydroartemisinin. 5th Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC5) and 14th Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2019), 27-30 August 2019, Rome, Italy, Book of abstracts, p. 384 Denisa Cîrcioban , Adriana Ledetți, Gabriela Vlase, Ionuț Ledetți, Titus Vlase, Renata Văruț, Ioana Zinuca Pavel, Cristina Dehelean. Physico-chemical and biological evaluation of inclusion complexes containing artesunate. 28th Symposium on Thermal Analysis and Calorimetry – Eugen Segal – of the Commission for Thermal Analysis and Calorimetry of the Romanian Academy (CATCAR28) & 2nd Symposium on Thermal Analysis and Calorimetry of Moldova (MoldTAC2), 9-10 May 2019, West University of Timișoara, Timisoara, Romania, Book of abstracts, p. 37



2	Draghici George Andrei	2018, Prof. univ. dr. Cristina Dehelean	Draghici G.A. , Nica, D., Dehelean, C., Susan, R. and Susan, M., 2020, February. DNMT gene expression in Cantareus asperses snails exposed to low cadmium dose. 5th German Pharm-Tox Summit and 86th Annual Meeting of the German Society for Experimental and Clinical Pharmacology and Toxicology (DGPT)
3	Tăculescu (Moacă) Elena-Alina	2018, Prof. univ. dr. Cristina Dehelean	Moacă E.A. , D. Coricovac, C. Dehelean, C. Păcurariu, Oleic Acid Double Coated Iron Oxide Nanoparticles As New Relevant Biocompatible Nanoparticles with a Particular Mechanism of Activity, 10th Congress of Toxicology in Developing Countries (CTDC 10), 12th Congress of the Serbian Society of Toxicology (12th SCT); 18-21 aprilie 2018, Belgrad, Serbia, Book of Abstracts pp. 145; ISBN: 978-86-917867-1-7, Editor: Vesna Matovic, 2018 (poster) Moacă E.A. , Cristina-Adriana Dehelean, Green Biosynthesis and Physico-Chemical Characterization of Magnetic Iron Oxide Nanoparticles (Fe ₃ O ₄) using Artemisia absinthium L. aqueous extract, 4th International Conference on Natural Products Utilization, From Plants to Pharmacy Shelf, 29 mai – 01 iunie 2019, Resort Albena, Bulgaria, Book of Abstracts pp. 254, ISSN: 2682-9487, Editor: Dr. Milen I. Georgiev, 2019 (poster) Moacă E.A. , Ioana-Zinuca Pavel, Cristina-Adriana Dehelean, Artemisia absinthium L. – antioxidant activity and cytotoxic effect on MCF7 and A375 human tumor cell lines, 4th International Conference on Natural Products Utilization, From Plants to Pharmacy Shelf, 29 mai – 01 iunie 2019, Resort Albena, Bulgaria, Book of Abstracts pp. 255, ISSN: 2682-9487, Editor: Dr. Milen I. Georgiev, 2019 (poster) Moacă E.A. , C. Farcaș, D. Coricovac, F. Loghin, C. Dehelean, C. Păcurariu, Citric Acid Coated Magnetic Iron Oxide Nanoparticles (Fe ₃ O ₄): Synthesis, Characterization and Applications, The 5th Edition of Nanotech France 2019, International Conference and Exhibition, 26 – 28 iunie 2019 Palais des Congrès d'Issy, Issy-Les-Moulineaux, Paris, Franța, Book of Abstracts pp. 157; Organizer: Setcor Conferences and Exhibitions, www.setcor.org 2019 (poster)
4	Ghiulai Roxana	2018, Prof. univ. dr. Codruța Soica	Ghiulai Roxana , Mioc Marius, Nistor Gabriela, Racoviceanu Roxana, Șoica Codruța: <i>Design and synthesis of betulinic acid gold nano-particles with enhanced pharmaceutical properties</i> . In: Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, (3). p. 42. (2021)- Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science (3.) (2021) (Szeged)
5	Mioc Marius	2018, Prof. univ. dr. Codruța Soica	Marius Mioc , Roxana Ghiulai, Gabriela Nistor, Roxana Racoviceanu, Codruța Soica. Structural design of triterpenic acid 1,2,4-triazole linked gold nanoparticle bioconjugates, as potential treatment for malignant melanoma. III. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science, January 20-22th 2021. Szeged, Hungary
6	Nistor Gabriela	2018, Prof. univ. dr. Codruța Soica	Gabriela Nistor , Marius Mioc, Roxana Ghiulai, Roxana Racoviceanu, Codruța Soica. Synthesis of betulinic acid 1,2,4-triazole derivatives suitable for cyclodextrin inclusion complex formulation. III. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science January 20-22th 2021. Szeged, Hungary
7	Avramescu (Pînzaru) Iulia	2018, Prof. univ. dr. Dehelean	5th German Pharm-Tox Summit and 86th Annual Meeting of the German Society for Experimental and Clinical Pharmacology and Toxicology (DGPT) , 2-5 March 2020, Leipzig, Germany



		Cristina	6th German Pharm-Tox Summit (87th Annual Meeting of the German Society for Experimental and Clinical Pharmacology and Toxicology (DGPT) – online Conference on Natural Products Utilization: From Plants to Pharmacy Shelf (ICNPU 29-May-01 June 2019, Albena, Bulgaria), Book of Abstract p. 278, 2019 ISSN 2682-9487
8	Buda Valentina - Oana	2019, Prof. univ. Corina Danciu	The 88th European Atherosclerosis Society Congress: Buda VO , Andor M, Tomescu MC, Cristescu C, Cretu O, Voicu M, Suciu L, Mabda MC, Danciu C, Ledeti I, Petrescu L. Decreased sEng plasma levels in hypertensive patients under chronic treatment with candesartan cilexetil. <i>Atherosclerosis</i> . 2020; 315:e260, https://doi.org/10.1016/j.atherosclerosis.2020.10.818 Buda VO , Dalleur O, Prelipcean A, Buda S, Andor M, Baibata DE, Dohou A, Petrescu L, Cristescu C. Statins and beta blockers – the most frequently encountered potential prescribing omissions in rural Romanian elderly population. <i>Atherosclerosis</i> . 2020; 315:e236-e237, https://doi.org/10.1016/j.atherosclerosis.2020.10.745
9	Milan Andreea Maria	2020, Prof. univ. dr. Șoica Codruța	Andreea Milan , Alexandra Ulici, Roxana Racoviceanu, Roxana Ghiulai, Marius Mioc, Codruța Șoica . Docking based drug-cyclodextrin complex design, for pentacyclic triterpenoid acid formulation, using fatty acid ester derivatives, Scholars International Webinar on Pharmacology and Toxicology April 14-15 2021, Poster Presentation
10	Ulici Alexandra Loredana	2020, Prof. univ. dr. Șoica Codruța	Alexandra Ulici , Andreea Milan, Roxana Racoviceanu, Roxana Ghiulai, Marius Mioc, Codruța Șoica. Docking based drug-cyclodextrin complex design, for pentacyclic triterpenes formulation. Scholars International Webinar on Pharmacology and Toxicology April 14-15 2021 Poster Presentation
11	Brigitta Kis	2018, Prof. univ. Corina Danciu	Daliana Minda, Stefana Avram, Pavel Zinuca, Cristina Dehelean, Oana Cioanca, Monica Hancianu, Brigitta Kis , Corina Danciu. Phytochemical analysis and assessment of antiproliferative potential against MCF7 human breast cancer cell line of the hydroalcoholic extract obtained from <i>Petroselinum crispum</i> (Mill) fuss growth in the western part of Romania, p251. Books of Abstracts, ISBN: 2682-9487, 4th International Conference on Natural Products Utilization: From Plants to Pharmacy Shelf, 29 may-1 june, 2019, Albena Resort, Bulgaria

C.3.1.2. In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.

Collaborators from the University of Szeged and Wright University USA (invitations sent by email) were invited to give courses and it is desired to emphasize this academic and scientific development plan. The doctoral research projects from 2019 were evaluated exclusively by international experts. (**Annex 60**).

C.3.1.3. The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.)

UMFVBT supports the internationalization of doctoral studies activities by participating in educational fairs to attract international students. In this sense we can mention the events of the Vocatium2go fair (2018, Stuttgart) (**Annex 61**).

The importance that UMFVBT attaches to the development of quality and objectivity in doctoral students' research is supported by the evaluators exclusively from abroad for the Doctoral Grants Competition 2019. Within this competition, four applications were submitted from the Faculty of Pharmacy. The evaluation of the applications was performed pro bono by evaluators from 17 countries (Figure 1), guaranteeing the objectivity of the evaluation and the selection of the most relevant projects. (**Annex 61**).

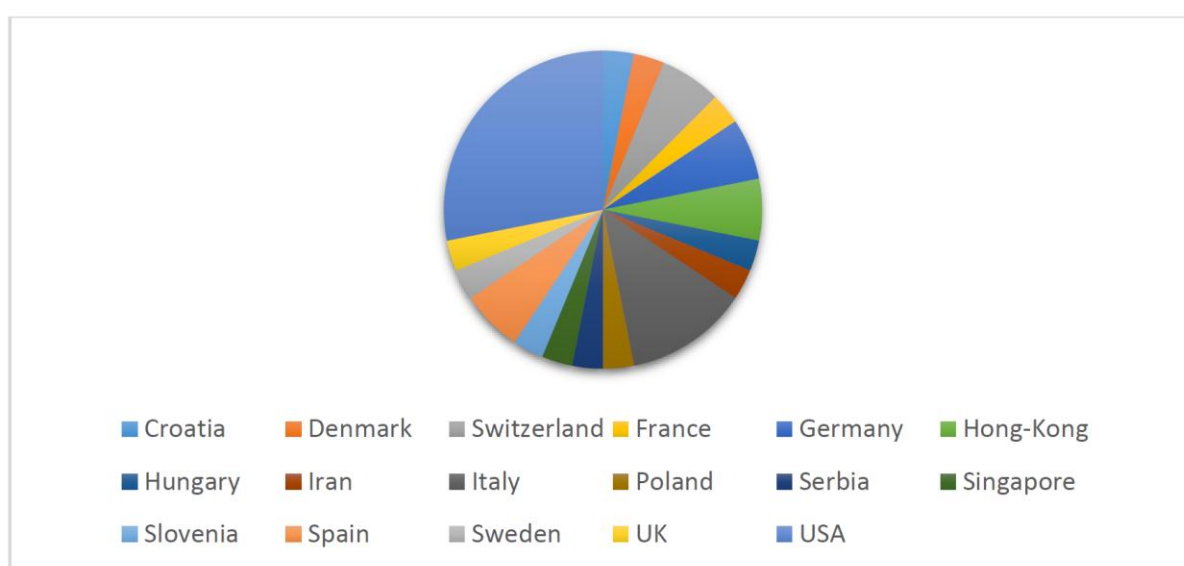


Figure 1. Distribution by countries of evaluators for the doctoral students competition - UMFVBT internal grants, 2019 session (source: «Report on the UMFVBT internal grants competition 2019 session with 2020 funding»)

3. Strategies and procedures implemented at the level of the doctoral field of Pharmacy

The doctoral field of Pharmacy, a structural component of the Doctoral School Medicine-Pharmacy within IOSUD-UMFVBT, aims to achieve the objectives described in the plans started with the validation of the new structures at CSUD / CSD, including the managerial plan proposed for the CSUD Director competition (http://old.umft.ro/concurs-director-csud-2020_853), drawn up on the basis of the recommendations of the European Association of Universities.

As measures to continuously improve the quality of the doctoral study program, in accordance with the development strategies of UMFVBT, the doctoral field Pharmacy proposes the following procedures:

- Applying internationalization policies in practice, developing the orientation:
 - to address issues applicable at international level, increase research capacity and stimulate mobility;



- supporting co-supervised doctoral programs, by involving doctoral supervisors from the faculty and from prestigious foreign universities or renowned research centers;
 - supporting the mobility of doctoral students within national and international programs;
 - identifying solutions to attract as many PhD students from abroad;
 - sustained capitalization of research results through internationally recognized scientific publications or prestigious international scientific events indexed to ISI;
 - the development of the international publishing system, but also the presentation on the institution's website of the multiple achievements with impact in the international research, which will attract international collaborations and projects.
- The development of programs for presenting the offer of doctoral studies through:
- further improvement of the promotional materials of UMFVBT, which should also include information regarding the educational offer of the Doctoral School of Medicine-Pharmacy and the promotion of the doctoral study program Pharmacy on the most used social networks;
 - participation in fairs for doctoral students, concluding concrete protocols with other universities, including through financial support within internal competition projects;
 - increasing the number of scientific events for PhD students in the field of Pharmacy;
- The development of platforms for carrying out a relevant activity.
- The development of funding for research relevant to young PhD students, including participation in major research projects submitted at the level of international competitions, but also the development of Erasmus projects, etc.
- Continuing to improve the quality of doctoral programs;
- Developing and strengthening long-term strategic partnerships with prestigious research organizations;
- Establishing partnerships with economic agents for the elaboration of project proposals in which doctoral students are involved and participation in competitions within the national and international research programs;
- Periodic preparation of self-assessment reports will facilitate the fluency and monitoring of the activity within the doctoral schools.



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