

PRINCIPLES OF THE TRAINING PROGRAMME AT THE DOCTORAL SCHOOL OF THE MEDICAL UNIVERSITY OF WARSAW

I. Training Programme of Doctoral Schools in the light of strategic documents for the area of higher education and science and the Development Strategy of the Medical University of Warsaw.

The document *Salzburg Principles*, initiated by the European University Associations and generally accepted by the European academic community, is of fundamental importance for the development of doctoral education [Salzburg 2005] which formulated 10 recommendations relating to doctoral students training.

Five of these recommendations had the greatest impact on the design of the Doctoral School training programme:

- 1) The core component of doctoral training is the advancement of knowledge through original research;
- 2) Embedding of doctoral strategies in institutions and policies;
- 3) The importance of diversity;
- 4) The promotion of innovative structures;
- 5) Increasing mobility.

The training programme at the Doctoral School is in line with Senate Resolution No. 38 of 10 April 2017 on determining the "Development Strategy of the Warsaw Medical University for 2017-2020 - SWOT Analysis" with the following objectives defined for the area of education and research and development and implementation activities:

- 1) Strengthening the rank and international position of teaching and science conducted at WUM;
- 2) Improving the quality and internationalisation of doctoral studies;
- 3) Increasing innovation in educational programmes and methods;
- 4) An increase in the quantity and quality of research conducted by the University;
- 5) Expanding and improving implementation activities;
- 6) Better adaptation of the offer, programmes and educational results to the needs of the labour market.

The training programme at the Doctoral School is in line with the mission of the Medical University of Warsaw, which strives to achieve the highest possible level of education in medical professions, scientific research and provision of highly specialised health services.

The University strives to bring unique quality to scientific research, updating the research and development offer based on the needs of the socio-economic environment, in particular the needs of patients and healthcare providers.

Through the implementation of its mission, the University wants to have a real impact on developing the health care system by promoting modern standards of prevention and treatment and wants to build lasting relationships with institutions implementing public health tasks at the regional, national and international levels.

I. Specifics of the training programme - general principles

The Doctoral School run by the Warsaw Medical University is an organised form of doctoral training in the following scientific disciplines:

- a) medical science,
- b) pharmaceutical sciences,
- c) health sciences.

Training at the Doctoral School:

- 1) lasts 8 semesters and ends with the submission of a dissertation;
- 2) prepares for the doctoral degree in medical and health sciences, in the following scientific disciplines:
 - a) medical science,
 - b) pharmaceutical sciences,
 - c) health sciences,
- 3) is conducted in three paths intended for Polish citizens corresponding to the disciplines listed in point 2 above and the international path intended for foreigners conducted in all three disciplines listed in point 2 above;
- 4) is conducted on the basis of a training programme and an individual research plan.

The implementation of the training programme at the Doctoral School leads to the achievement of learning outcomes for qualifications at level 8 of the Polish Qualifications Framework, defined on the basis of the Act of 22 December 2015 on the Integrated Qualifications System (i.e. Journal of Laws of 2020, item 226, as amended) and the regulations issued pursuant to Article 7(3) of that Act.

For each profile, the main learning outcomes and the methods for their achievement by doctoral students should be defined.

An important aspect of the developed specification of the training programme in the Doctoral School was the inclusion of content relevant to socio-economic development, including the provision of opportunities for transfer/commercialisation of study results. The created training programmes will also contribute to the development of research and soft skills of doctoral students in the Doctoral School.

Regular research seminars, in which doctoral students report and critically discuss (evaluate) the progress of their own research work, must be an important part of the training programme.

The Doctoral School supports the mobility of doctoral students and the establishment of international contacts by enabling doctoral students to participate in international exchange programmes and international conferences.

The training programme includes activities initiated and coordinated by doctoral students themselves, carried out jointly by outstanding scientists or other recognised specialists (also from the field of management).

The internationalisation of training at the Doctoral School is a key factor in further improving the quality of research conducted by doctoral students, increasing their competences, and leading to an increase in the University's international standing. Conducting the entire training programme in English, the international language of science, is expected to lead to an increase in the attractiveness of the educational offer among foreign doctoral students and to better prepare graduates of the Doctoral School for an international research and teaching career.

Taking into account the high importance of scientific achievements in the admission procedure to the Doctoral School, the training programme aims to further increase the competence of doctoral students to conduct world-class research. Increasing the competence of the Colleges of Scientific Disciplines to annually determine the available optional courses is intended to increase the interdisciplinarity of the education. This solution also allows the training programme to be adapted to changing needs and the results of doctoral students' opinion surveys without the need for revolutionary changes to the training programme.

A series of multidisciplinary seminars in the third and fourth year of training is intended to familiarise doctoral students with the most important, current scientific developments in individual disciplines. These seminars will be conducted by academic teachers with distinguished scientific achievements, who will additionally present to doctoral students the practical aspects of their research path and the most important problems they had to solve. The seminars of distinguished scientists of the Medical University of Warsaw will not only increase the scope of specialist knowledge in particular disciplines, but will also provide an excellent opportunity to present to doctoral students the

ethos of a scientist and the realities of developing a research and teaching career.

II. Main training objectives

The primary objective of training at the Doctoral School is for the doctoral student to prepare and submit a doctoral dissertation and prepare a doctoral student to receive the doctoral degree on the basis of the dissertation.

The objective of the training is the development of a doctoral student, and the result of the training is the development and education of a person possessing a unique set of high-level competences, including primarily, but not exclusively, the skills necessary to conduct research. These competences may be used in professional activities of various nature, as well as in various areas of personal and social activity.

The main training objectives of the Doctoral School also include:

- 1) preparing doctoral students for work of a teaching, research and development nature;
- 2) acquiring by doctoral students the ability to use the world's scientific achievements, identify and solve research problems, plan and carry out scientific research, develop their results in the form of patents, publications or presentations at scientific congresses;
- 3) acquisition by doctoral students of high research competence and scientific independence;
- 4) preparing doctoral students to independently plan their own scientific development and to take up challenges in the professional and public spheres, taking into account their ethical dimension and responsibility, in accordance with the European Charter for Researchers;
- 5) preparing doctoral students to participate in the exchange of scientific experience and ideas, including in an international environment.

III. Description of the expected learning outcomes

The description of the assumed learning outcomes takes into account the second-degree characteristics for qualifications at level 8 of the Polish Qualification Framework, defined in the Regulation of the Minister of Science and Higher Education of 14 November 2018 on the second-degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualification Framework (Dz. U. of 2018, item 2218). The learning outcomes refer to the following scientific disciplines: medical sciences, pharmaceutical sciences, health sciences.

Descriptive category - essential aspects	Description component code	Characteristics of the second cycle studies learning outcomes for qualifications at level 8 of the Polish Qualification Framework
KNOWLEDGE		
Scope and depth - completeness of cognitive perspective and relationships	P8S_WG	He/she: knows and understands: - world-wide body of knowledge covering theoretical foundations and general and selected specific issues appropriate to the discipline concerned to the extent that existing paradigms can be revised, - main development trends in the scientific disciplines in which the training takes place, - research methodology, - rules for dissemination of scientific results, including through
Context - determinants, effects	P8S_WK	He/she - fundamental dilemmas of modern civilisation, - economic, legal, ethical and other relevant considerations of scientific activity, - basic principles for the transfer of knowledge to the economic and social spheres and for the commercialisation of the results of scientific activities and know-how relating to these results.
SKILLS		
Use of knowledge - problems solved and tasks performed	P8S_UW	He/she is able to: - apply knowledge from different fields of science or art to creatively identify, formulate and innovatively solve complex problems or research tasks, and in particular - define the purpose and focus of scientific research, - formulate a research hypothesis, develop research methods, techniques and tools and apply them creatively, - make inferences on the basis of scientific findings, - critically analyse and evaluate the results of research, expert activities and other creative work and their contribution to knowledge, - transfer the results of scientific activities to the economic sphere
Communication - receiving and producing statements, disseminating knowledge in a scientific environment and using a foreign language	P8SJJK	- He/she - communicates on specialised topics to the extent necessary to take an active part in the international scientific community, - disseminates the results of scientific activities, including in popular forms, - initiates a debate, - participates in scientific discourse, - has a command of a foreign language at level B2 of the Common European Framework of Reference for Languages to a degree of

		enabling participation in an international scientific and professional environment.
Work organisation - planning and teamwork	P8S_UO	He/she plans and carries out individual and team research or creative projects, also in an international environment.
Learning - planning his/her own development and that of others	P8SUU	He/she - independently plans and acts for his/her own development and inspires and organises the development of others, - plans a class or group of classes and delivers them using modern methods and tools.
SOCIAL COMPETENCES		
Evaluations - a critical approach	P8S_KK	He/she is ready to: - critically evaluate the achievements within a given scientific discipline, - critically appraise his/her own contribution to the development of a scientific or artistic discipline, - recognise the importance of knowledge in problem solving.
Responsibility - fulfilling social obligations and acting in the public interest	P8SKO	He/she - fulfils the social obligations of researchers and creators, - initiates actions in the public interest, - thinks and acts in an entrepreneurial way.
Professional role - independence and ethos development	P8S KR	He/she - upholds and develops the ethos of the research and creative communities, including: - carrying out scientific activities in an independent manner, - respecting the principle of public ownership of the outcome of scientific activities, taking into account the principles for the protection of intellectual property.

IV. Verification of learning outcomes

After the completion of the cycle of classes in each course/subject provided for in the training programme, the learning outcomes achieved by doctoral students shall be verified by means of examinations, credits or graded credits. The form of course/subject completion shall be determined by the training programme. An academic teacher conducting classes shall inform doctoral students about the method of conducting examinations or credit awarding before the beginning of the cycle of classes.

Examinations and course/subject crediting may take the form of written or oral tests of knowledge and skills; course/subject crediting may be based on written assignments (essays) prepared by doctoral students on a given topic, multimedia projects or presentations.

The learning outcomes achieved by a doctoral student are also verified through the assessment of:

- 1) a presentation of a doctoral student during an open doctoral seminar - a public reporting session; the presentation consists of a presentation of research hypotheses, methods and research results. The assessment of the doctoral student's presentation shall be conducted by the doctoral supervisor and the result shall be included in the doctoral student's annual report;
- 2) an implementation of the individual research plan, including the schedule for the preparation of the doctoral thesis, carried out by the evaluation committee in the form of a mid-term evaluation in the middle of the training period. The mid-term evaluation shall end with a

positive or negative result, and its outcome, together with the reasons for it, shall be made public.

The individual research plan, which is a description of the learning process through research, should specify:

- 1) research topic,
- 2) assumptions of the research project under implementation,
- 3) framework research plan,
- 4) detailed scope and form of the scientific supervision, including an indication of the expected learning outcomes to be achieved under the scientific supervision,
- 5) full names of the supervisor/ auxiliary supervisor and the distribution of tasks between them,
- 6) funding of research and the presentation of its results,
- 7) list of the research infrastructure (workplace) made available to a doctoral student and the rules for access to it.