

## **EDUCATIONAL PROGRAM AT THE DOCTORAL SCHOOL OF THE WARSAW UNIVERSITY OF TECHNOLOGY**

### **§ 1. General provisions**

1. Educational program shared by all PhD students of Doctoral School of the Warsaw University of Technology, hereinafter referred to as the School specifies:
  - 1) learning outcomes, in line with the requirements of the second level learning outcomes characteristics for qualifications at level 8 of the Polish Qualifications Framework;
  - 2) program requirements ensuring the achievement of the learning outcomes not directly related to the implementation of an individual research plan;
  - 3) the offer of courses allowing for meeting the program requirements;
  - 4) model individual educational program.
2. This educational program applies to PhD students who started their education at a Doctoral School from the 2022/2023 academic year and later, subject to section 3.
3. PhD students who started their education at Doctoral Schools 1-5 are covered by the previously determined learning outcomes and program requirements as provided by the Annex to the Resolution No. 353/XLIX/2019 of the Senate of the Warsaw University of Technology of May 29, 2019, unless they notify the Head of the Doctoral School of the Warsaw University of Technology they wish to change learning outcomes and program requirements to these. The notification in a written form, signed by the PhD student and a supervisor shall be submitted no later than December 31, 2022. The template for such notification is attached to this educational program.
4. PhD students wishing to change learning outcomes and program requirements according to section 3, can demonstrate obtaining learning outcomes for the subject Methodology of teaching and the subjects within Researcher's Workshop without the need to complete these subjects. In this case, the number of ECTS credits provided in § 3, section 6 may be increased, whereas points 3 and 4 specified in § 5, section 1 are no longer valid. Such cases will be considered individually.
5. Education at a Doctoral School of the Warsaw University of Technology lasts 8 semesters and ends with submitting PhD thesis. This period may be extended by no more than 2 years, on terms specified in the Regulations of a Doctoral School.
6. The educational program is the basis for designing an individual educational program for each PhD student.

### **§ 2. Learning outcomes**

1. The educational program at a Doctoral School of the Warsaw University of Technology allows for the acquisition of knowledge, skills and social competencies required for level 8 of the Polish Qualifications Framework and prepares PhD students to submit PhD thesis.

2. Learning outcomes can be achieved by:
- 1) implementation of an individual educational program;
  - 2) implementation of an individual research plan;
  - 3) staying in the academic environment of the School and participating in various forms of activities organized by it;
  - 4) participating in the life of the academic community – national and international;
  - 5) self-education.
3. As a result of education at a Doctoral School of the Warsaw University of Technology the following learning outcomes are achieved:

Symbol	Reference to 8PQF	Description
<b>Knowledge-wise</b> – the graduate knows and understands:		
SD_W1	P8S_WK	fundamental dilemmas of a modern society
SD_W2	P8S_WG	global achievements covering theoretical foundations and general issues, as well as selected detailed issues – appropriate to the represented scientific discipline, including the latest scientific achievements in the field of conducted research – to the extent allowing for the revision of the existing paradigms
SD_W3	P8S_WG	the main development trends of the represented scientific discipline with the related research methodology
SD_W4	P8S_WK	economic, legal, ethical, and other significant determinants of scientific activity, including research funding mechanisms
SD_W5	P8S_WG P8S_WK	basic principles of knowledge transfer to the economic and social field, as well as commercialization of the results of scientific activity and know-how related to these results, including protection of intellectual property issues, also in open access
<b>Skill-wise</b> – the graduate can:		
SD_U1	P8S_UW	utilize knowledge from various scientific fields to creatively identify, formulate, and innovatively solve complex problems or perform research tasks, in particular: <ul style="list-style-type: none"> <li>• define the purpose and subject of research, formulate a research hypothesis;</li> <li>• develop research methods, techniques and tools and use them in a creative way;</li> <li>• infer on the basis of the research results</li> </ul>
SD_U2	P8S_UW	perform critical analysis and evaluation of the results of research, expert works, and other creative activities, as well as their contribution to the development of knowledge, in particular - evaluate usefulness and the ways to use the results of theoretical works in practice
SD_U3	P8S_UW	transfer the results of research activity to economic and social field
SD_U4	P8S_UK	communicate within specialized topics, appropriate for the represented scientific discipline to the extent allowing for active participation in national and international scientific environment, including within international scientific university consortiums
SD_U5	P8S_UK	initiate the debate and participate in scientific discourse, present appropriate arguments in scientific discussion and public debates on various topics
SD_U6	P8S_UK	communicate in English at B2+ level of the Common European Framework of Reference for Languages to the extent allowing for participation in international scientific and professional environment

SD_U7	P8S_UO	plan and implement – in a methodologically correct way – individual and group research or artistic undertakings, also in an international environment
SD_U8	P8S_UU	independently plan and act for own development, as well as inspire and organize the developments of others, including through planning and participating in research projects
SD_U9	P8S_UU	plan – in a methodologically correct way – courses or groups of courses and conduct them with the use of modern methods and tools
<b>Social competence-wise</b> – the graduate is ready to:		
SD_K1	P8S_KK	critically assess the achievements within the represented scientific discipline and own contribution to the development of this discipline
SD_K2	P8S_KK	acknowledge the essentiality of knowledge and academic achievements in solving cognitive and practical problems
SD_K3	P8S_KO	fulfil the social obligations of researchers and creators, and initiate actions in favor of the public interest
SD_K4	P8S_KO	think and act in a creative and entrepreneurial way
SD_K5	P8S_KR	behave professionally, obey the rules of professional ethics, maintain and develop the ethos of research and creative environments, including: <ul style="list-style-type: none"> <li>• conducting research activity independently,</li> <li>• respecting the principle of public ownership of the results of scientific activities, including the principles of intellectual property protection</li> </ul>

### § 3. Program requirements

1. Program requirements for Doctoral School of the Warsaw University of Technology, i.e. the requirements to be met by the educational program implemented by each PhD student, define the minimum amount for each of the basic groups of subjects, courses or other obligations.
2. The basic program requirements for the School are determined by the number of ECTS credits necessary to obtain during the entire period of education at the School or the amount of courses or teaching practice, and are provided in the following Table:

A group of subjects, courses or obligations	Subject or additional description	Learning outcomes coverage	Requirement
General subjects	Health and safety training		I semester
	Methodology of teaching (3 ECTS, 45 hours), including co-conducting classes for 15 hours	SD_U9 SD_K3	Obligatory in the I year
	Subjects from the Researcher's Workshops, including:		It is required to obtain at least 9 ECTS from within the Researcher's Workshop scope, including 5 ECTS within the specified subjects
	- Introduction to scientific work (1 ECTS, 10 hours)	SD_W1 SD_W2 SD_K2 SD_K3 SD_K5 SD_U1	
- Methodology of conducting research (2 ECTS, 20 hours)	SD_W3 SD_W4 SD_U1		

	- Presenting the results of research works (2 ECTS, 20 hours)	SD_U3 SD_U6 SD_K1	
	- Writing research applications and carrying out research projects (2 ECTS, 20 hours)	SD_U7 SD_U8 SD_W4	
	- Protection of intellectual property and commercialization of research results	SD_U3 SD_W5 SD_K4 SD_K5	
Specialized subjects	Specialized courses, including:	SD_W2 SD_W3 SD_U1	It is required to obtain at least 15 ECTS
	- Subject from within the represented scientific discipline	SD_U2 SD_U4 SD_K1	It is required to obtain at least 7 ECTS
	- Subjects from other scientific disciplines		It is required to obtain at least 4 ECTS
Courses conducted in English	Courses from within the Researcher's Workshop scope or specialized classes	SD_U6	It is required to obtain at least 6 ECTS
Seminar	Active participation in seminars organized for the School within one or more disciplines	SD_U2 SD_U4 SD_U5 SD_U6	15 hours per year, including own presentation not less than 2 times during the entire educational period
Teaching practice	Conducting or co-conducting classes or theses	SD_U9 SD_K3	105 hours during the entire educational period, but not less than 45 hours before the mid-term evaluation; no more than 30 hours can be implemented in the form of supervision over theses

3. During the seminars, PhD student practices to present own scientific activity and conduct scientific dispute. Seminars for PhD students with nationality other than Polish are conducted in English, for Polish PhD students – in Polish or in English. Detailed rules for conducting seminars are provided by the subject regulations.
4. Subjects from the Researcher's Workshop scope are aimed at perfecting skills necessary for conducting research and publishing their results allowing for active functioning in the academic environment. Due to the nature of the courses, aimed at perfecting practical skills, at least half of the number of hours of the classes from the subjects from within the Researcher's Workshop scope is related to the classes activating the participants – workshops, laboratories, seminars or projects.
5. Program requirements can be met as a result of:

- 1) completing classes from the program offer for PhD students of the Warsaw University of Technology;
  - 2) completing other classes offered for PhD students of the Warsaw University of Technology, including those from the Center for Advanced Studies offer;
  - 3) completing courses or other forms of organized activity (international summer school, conference/seminar/workshops for PhD students etc.) at other university or institution – Polish or foreign; No more than 5 ECTS can be obtained for such activities;
  - 4) recognition of the learning outcomes achieved by the PhD student in a different way – as a result of non-formal education (outside the higher education and science system) as equivalent to the outcomes achieved as a result of the courses included in the program offer for PhD students at the Doctoral School of the Warsaw University of Technology; No more than 3 ECTS can be obtained for such activities.
  - 5) completing second cycle (Master) classes at the Warsaw University of Technology or other university, necessary to supplement knowledge related to the subject of research conducted by a PhD student. No more than 3 ECTS can be obtained for such courses.
  - 6) completing first cycle (Engineer) classes at the Warsaw University of Technology or other universities, necessary to supplement knowledge related to the subject of research conducted by a PhD student. In this case it is required to prove that such knowledge cannot be obtained any other way. No more than 2 ECTS can be obtained for such classes.
6. As part of activities listed in section 5, points 3-6, it is possible to get no more than 10 ECTS.
7. In the case of extending the period of education at the Doctoral School of the Warsaw University of Technology, PhD student is obliged to participate in the doctoral seminar for at least 3 hours per each semester of the extended period of the studies.
8. Each PhD student implements educational program in an individual way, according to the program requirements specified in sections 1-6. The intended way of implementing the educational program is an element of the semester report.
9. During the implementation of the educational program, an exemplary arrangement of the courses can be used, which is presented below. This arrangement is not obligatory.

Semester	Subjects or courses
1	<ul style="list-style-type: none"> <li>• Health and safety training</li> <li>• Methodology of teaching</li> <li>• Researcher's Workshop: Introduction to research work</li> <li>• Subjects from the represented scientific discipline</li> <li>• Doctoral seminar</li> </ul>
2	<ul style="list-style-type: none"> <li>• Researcher's Workshop: Methodology of research</li> <li>• Subjects from the represented scientific discipline</li> <li>• Doctoral seminar</li> </ul>
3	<ul style="list-style-type: none"> <li>• Reseracher's Workshop: Writing scientific papers</li> <li>• Subjects from the represented scientific discipline</li> <li>• Subjects from other scientific disciplines</li> <li>• Doctoral seminar</li> </ul>

4	<ul style="list-style-type: none"> <li>• Researcher's Workshop: Writing project applications and carrying out research projects</li> <li>• Subjects from the represented scientific discipline</li> <li>• Subjects from other scientific disciplines</li> <li>• Doctoral seminar</li> </ul>
5	<ul style="list-style-type: none"> <li>• Researcher's Workshop: Protection of intellectual property and commercialization of the research results</li> <li>• Subjects from different scientific disciplines</li> <li>• Doctoral seminar</li> </ul>
6	<ul style="list-style-type: none"> <li>• Doctoral seminar</li> </ul>
7	<ul style="list-style-type: none"> <li>• Doctoral seminar</li> </ul>
8	<ul style="list-style-type: none"> <li>• Doctoral seminar</li> </ul>

#### **§ 4. Implementation doctorates**

PhD students who are participants of the Implementation doctorate program are obliged to follow the regulations of this educational program, subject to the following:

- 1) Teaching practice can be implemented in the form of:
  - a) conducting classes;
  - b) co-conducting classes;
  - c) supporting academic teachers in preparing materials for the courses, such as:
    - preparing lecture materials,
    - preparing measuring stations,
    - developing remote practical classes,
    - developing laboratory instructions,
    - co-conducting parts of classes'
  - d) supervision over interns in the workplace (confirmed by a person authorized to represent the entity and containing information on the time burden of the PhD student);
  - e) supervision over theses (support in conducting research, writing publications etc.);
  - f) conducting trainings/courses in workplace of the implementation doctorate participants (confirmed by a person authorized to represent the entity and containing information on the time burden of the PhD student)
  - g) coordination of study visits for students in the workplace of the implementation doctorate participants (confirmed by a person authorized to represent the entity and containing information on the time burden of the PhD student)
- 2) As part of activities listed in § 3, section 5, points 3-6 it is possible to obtain no more than 15 ECTS in total.

#### **§ 5. Graduation from the Doctoral School of the Warsaw University of Technology**

1. In order to graduate from the Doctoral School of the Warsaw University of Technology one have to meet the following conditions:
  - 1) completing health and safety training in the I semester of the studies;
  - 2) obtaining all of the learning outcomes specified in § 2, section 3;
  - 3) obtaining at least 27 ECTS credits during the entire period of education at the Doctoral School in the manner specified in § 3, section 5 and 6;
  - 4) completing Methodology of teaching for at least 3 ECTS and 45 hours;
  - 5) completing subjects from within the Researcher's Workshop for at least 5 ECTS;
  - 6) obtaining at least 15 ECTS for subjects from the specialized classes, including:
    - a) at least 7 ECTS for subjects from the represented scientific discipline;
    - b) at least 4 ECTS for subjects from other scientific disciplines;

- 7) obtaining at least 6 ECTS for classes conducted in English;
  - 8) completing at least 60 hours of doctoral seminars;
  - 9) completing 105 hours of teaching practice;
  - 10) submitting PhD thesis.
2. PhD student who met the requirements specified in section 1, points 1-9 obtains a certificate of completion of the educational program of the Doctoral School of the Warsaw University of Technology issued by the Head of the School.
  3. PhD student who met the requirements specified in section 1, points 1-10 obtains a certificate of graduation from the Doctoral School of the Warsaw University of Technology issued by the Head of the School.

### **§ 6. Final provisions**

In disputes and issues not covered by this educational program, decisions are made by the Head of the Doctoral School of the Warsaw University of Technology.

PhD student data

Name and surname.....

Student's ID card number: .....

Number of the Doctoral School as of September 30, 2022: .....

Title and academic degree, name and surname of the supervisor: .....

.....

**Head of the Doctoral School  
of the Warsaw University of Technology**

I hereby ask for changing the learning outcomes and program requirements from the ones previously in force at a Doctoral School No. .... to those applicable at the Doctoral School of the Warsaw University of Technology.

The list of subjects, classes and teaching practice I have completed so far is attached.

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date

.....

legible signature of the PhD student

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date

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legible signature of the supervisor