Resolution No. 61/2020-2024
of the Poznan University of Technology Senate
dated on December 22, 2021

DOCTORAL TRAINING PROGRAM (CURRICULUM) of the Doctoral School at Poznan University of Technology

§ 1 General provisions

1. Education at the Doctoral School is conducted on the basis of a Curriculum and an individual research plan and prepares doctoral students to be awarded a doctoral degree.
2. The Doctoral School provides education in:
   1) the field of science of engineering and technology within the following disciplines:
      - architecture and urban planning,
      - automation, electronic and electrical engineering,
      - information and communication technology,
      - civil engineering and transport,
      - materials engineering,
      - mechanical engineering,
      - environmental engineering, mining and energy;
   2) the field of science of natural sciences within the discipline of chemical sciences;
   3) the field of science of social sciences within the discipline of management and quality studies.
3. Education at the Doctoral School is carried out in English and lasts 8 semesters, with the possibility of early completion provided that the Curriculum is completed and all learning outcomes have been achieved.
4. The Doctoral School creates opportunities for:
   a) carrying out an individual training program, also outside the Doctoral School, in the form of obligatory and elective courses;
   b) conducting, in cooperation with a supervisor or supervisors, independent scientific research in domestic and foreign units and implementing an individual research plan;
   c) developing cooperation between scientific community and socio-economic environment within research teams at home and abroad;
   d) preparing, under the supervision of a supervisor or supervisors, a doctoral dissertation within one of the disciplines in which the Doctoral School provides education;
   e) participating in the life of academic community - both nationally and internationally.
5. Education of a doctoral student ends with the submission of a doctoral dissertation together with a positive opinion of the supervisor or supervisors.

§ 2 Learning outcomes

1. The completion of courses included in the Curriculum and the realization of an individual research plan, including submission of a doctoral dissertation, leads to achieving learning outcomes for qualifications at level 8 of the Polish Qualifications Framework, in which the learning outcomes in terms of the knowledge of a modern foreign language are confirmed by a certificate or diploma confirming the knowledge of that language at a B2 level or higher.
2. The Doctoral School allows for developing overall and specialist competencies in the field of the doctoral discipline as well as outside of its scope, such as, soft, social, didactic, and linguistic competences.
3. As a result of completion of the education at the Doctoral School, a doctoral student achieves the following learning outcomes:

Reference code	Learning outcomes	Symbol
KNOWLEDGE (W)	A doctoral student knows and understands:	
P8S_WG	global achievements, covering theoretical foundations as well as general and selected specific issues that are relevant to scientific disciplines studied at the doctoral school, to the extent that enables revision of existing paradigms,	**SzD_W01**
	key developmental trends of disciplines of science in which education at the doctoral school takes place,	**SzD_W02**
	scientific research methodology in disciplines represented at the doctoral school,	**SzD_W03**
	principles of disseminating results of scientific activity, also in an open access mode,	**SzD_W04**
P8S_WK	fundamental dilemmas of the contemporary civilization,	**SzD_W05**
	economic, legal, ethical and other vital conditions related to scientific activity,	**SzD_W06**
	basic principles of knowledge transfer to the economic and social sphere as well as those of commercialization of results of scientific activities and know-how related to these results.	**SzD_W07**
SKILLS (U)	A doctoral student can:	
P8S_UW	use knowledge from different branches of science to creatively identify, formulate and innovatively solve complex problems or to perform research tasks such as: - define the aim and subject of scientific research, form a research hypothesis, - develop research methods, techniques and tools and use them creatively, - draw conclusions on the basis of research results,	**SzD_U01**
	critically analyze and assess scientific research results, work of experts and other creative activities together with their contribution into knowledge development,	**SzD_U02**
	transfer the results of scientific activity to the economic and social sphere,	**SzD_U03**
P8S_UK	communicate on specialist issues on the level that allows active participation in the international scientific community,	**SzD_U04**
	share results of scientific activity also in a popular form,	**SzD_U05**
	initiate debates,	**SzD_U06**
	take part in scientific discourse,	**SzD_U07**
	use the English language on at least B2 level, according to the Common European Framework of Reference for Languages (CEFR), to a degree which allows active participation in the international scientific and professional community,	**SzD_U08**
P8S_UO	plan and implement individual and team research projects, also in the international community,	**SzD_U09**
P8S_UU	independently plan and act for their self-development as well as inspire and organize development of others,	**SzD_U010**
	plan classes and groups of classes and conduct them with the use of up-to-date methods and tools.	**SzD_U011**
SOCIAL COMPETENCIES (K)	A doctoral student is ready to:	
P8S_KK	critically assess achievements within a given scientific discipline,	**SzD_K01**

	critically evaluate their own contribution to development of a given scientific discipline,	**SzD_K02**
	acknowledge the importance of knowledge in solving cognitive and practical problems,	**SzD_K03**
P8S_KO	fulfilling the social obligations of researchers and creators,	**SzD_K04**
	initiate actions in the public interests,	**SzD_K05**
	think and act in an entrepreneurial manner,	**SzD_K06**
P8S_KR	maintain and develop the ethos of research and creative communities, including: - conducting independent scientific activity, - respecting the principle of public ownership of the results of scientific activities, including the principles of intellectual property protection.	**SzD_K07**

4. The learning outcomes are achieved by doctoral student as a result of:
   a) realization of an individual training program (obtaining at least 49 ECTS points), including obligatory and elective courses, internship and professional practical training;
   b) realization of an individual research plan, in particular scientific research, preparation of scientific publications and doctoral dissertation, participation in conferences and scientific internships;
   c) participation in the life of academic community of the Doctoral School and taking part in different forms of activities organized by the School and Units of Poznan University of Technology;
   d) carrying out education and scientific research in academic community on national and international level.

§ 3 Curriculum

1. The Curriculum framework constitutes the basis for designing an individual training program of an interdisciplinary nature for each doctoral student, determined before each semester for the next semester and agreed with the supervisor or supervisors.
2. The Curriculum framework of the Doctoral School is presented in the table below:

Name of course	No. of hours	ECTS points	Year/ semester	Learning outcomes
OBLIGATORY COURSES				
Occupational Health and Safety (OHS) training	4	-	I/1	SzD_W05, SzD_W06, SzD_U04, SzD_K04
Information skills in science and technology	2	-	I/1	SzD_W01, SzD_W04, SzD_W06, SzD_U02, SzD_K01
Methodology of academic teaching	8	1	I/1	SzD_W01, SzD_W02, SzD_U06, SzD_U10, SzD_U11, SzD_K03, SzD_K05, SzD_K06
Intellectual property and commercialization of research results	6	1	I/1	SzD_W04, SzD_W06, SzD_W07, SzD_U02, SzD_U03, SzD_U10, SzD_K04, SzD_K06, SzD_K07
Research grants – preparation and application	4	1	I/1	SzD_W04, SzD_W06, SzD_U09, SzD_U10, SzD_K01, SzD_K07

English for Academic Purposes	10 10	2 2	I/1 I/2	SzD_W01, SzD_W02, SzD_W04, SzD_U01, SzD_U02, SzD_U03, SzD_K01, SzD_K02, SzD_K03
Economics and contemporary civilization challenges	8	1	I/2	SzD_W01, SzD_W05, SzD_W06, SzD_U02, SzD_U04, SzD_U07, SzD_K01, SzD_K04, SzD_K07
Managing research projects	4	1	I/2	SzD_W03, SzD_U01, SzD_U02, SzD_U04, SzD_U09, SzD_K01
Methodology of scientific research	6	1	I/2	SzD_W01, SzD_W02, SzD_W03, SzD_W04, SzD_U01, SzD_U02, SzD_U03, SzD_U04, SzD_K01, SzD_K02, SzD_K06, SzD_K07
PhD seminar (within given discipline)	10 10 10 10	2 2 2 2	I/2 II/4 III/6 IV/8	SzD_W01, SzD_W02, SzD_W04, SzD_W07, SzD_U01, SzD_U02, SzD_U07, SzD_K01, SzD_K02, SzD_K07
Research workshop	30 60 60 60	3 6 6 6	I II III IV	SzD_W01, SzD_W03, SzD_W04, SzD_W05, SzD_W07, SzD_U01, SzD_U02, SzD_U04, SzD_U05, SzD_U06, SzD_U07, SzD_U09, SzD_U10, SzD_K01, SzD_K02, SzD_K04, SzD_K07
ELECTIVE COURSES				
Series of lectures 1	8	2	II/3	SzD_W01, SzD_W02, SzD_W03, SzD_W04, SzD_W05, SzD_W06, SzD_W07, SzD_U01, SzD_U02, SzD_U03, SzD_U04, SzD_U05, SzD_U06, SzD_U07, SzD_U08, SzD_U09, SzD_U010, SzD_U011, SzD_K01, SzD_K02, SzD_K03, SzD_K04, SzD_K05, SzD_K06, SzD_K07
Series of lectures 2	8	2	II/4	
Series of lectures 3	8	2	III/5	
Series of lectures 4	8	2	III/6	
New scientific trends and development prospects	4 4	1 1	II III	SzD_W01, SzD_W02, SzD_U02, SzD_U07, SzD_U010, SzD_K03, SzD_K04
Total:	**352**	**49**	**-**	**-**

3. In addition, as part of the Curriculum, doctoral students are obliged to complete:
   a) professional practical training - up to 60 hours per academic year;
   b) internship in a selected scientific/research/industrial unit - 2 months.
4. Professional practical training may be conducted in the form of teaching classes or participation in their teaching. Setting the number of hours of professional practical training and providing doctoral students with the opportunity to complete it, is the task of the Unit in which doctoral students conduct research related to the implementation of their doctoral dissertation.

5. The doctoral student who, after a positive mid-term evaluation, will be employed at the University as an academic teacher in the position of a research and teaching or teaching assistant for more than half of the full-time equivalent, will not have to complete professional practical training.
6. The electives include:
   a) series of lectures – lectures (4h) proposed by specialists in 9 scientific disciplines in which the Doctoral School provides education; doctoral student chooses two lectures per semester (one from the discipline which doctoral student represents, one from outside the discipline);
   b) new scientific trends and development prospects - activities (lectures, seminars, trainings) organized by the Doctoral School/Poznan University of Technology units including lectures offered by foreign professors or, with the consent of the supervisor, activities offered by other doctoral schools/research units, including foreign ones or carried out during a research internship at a national/foreign research unit.
7. The Director of the Doctoral School, at written request of a doctoral student co-signed by their supervisor, may recognize an elective subject (sec. 6b) included in the Curriculum and implemented outside the Doctoral School as completed, while the doctoral student is obliged to document the implementation of the subject and achievement of selected learning outcomes as specified in paragraph 2, sec. 2.
8. The Director of the Doctoral School, at a written request of a doctoral student co-signed by their supervisor, may recognize the completion of a part of the individual training program by the doctoral student during a research internship in other research units in the country and abroad, upon presentation of a written certificate from the host institution.
9. A doctoral student is obliged to document the achievement of all learning outcomes and fulfillment of other conditions specified in the Curriculum of the Doctoral School before submitting the doctoral dissertation.

§ 4 Training in cooperation with a foreign partner

1. Education at the Doctoral School may be conducted in cooperation with a foreign entity with which Poznan University of Technology has signed an agreement concerning joint education of doctoral students.
2. In the case referred to in sec. 1, an individual training program is determined in accordance with the provisions of the agreement.

§ 5 Final provisions

The Curriculum comes into force on the day it is passed by the Senate and is valid as of the beginning of the academic year 2022/2023.